PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

SEABROOK STATION

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY

REVISION 2
October 31, 1985

The following members of the Seabrook Environmental Qualification Task Team have reviewed and accepted the results herein;

Richard Bergeron — 10/31/85
Mr. Richard Bergeron - Public Service Co. of New Hampshire — Date

Joseph M. Salvo — 10/31/85
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Prepared by IMPELL CORPORATION

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RECORD OF REVISIONS

REVISION	DESCRIPTION	DATE
0	Original Issue	8/11/83
1	Add EQ Task Force sign-off to title page Add Record of Revisions page Add revision number and date to all pages Revise HELB environment derivation description Update Appendix A with current Equipment List Update Appendix B to current qualification status Replace Appendix D with UE&C Report 9763-006-5-N-2	8/24/83
2	Complete Reissue	10/31/85

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SUMMARY

This report provides a description of the methodology and results of a program to environmentally qualify electrical equipment important to safety, as defined by 10CFR50.49.

Section 1.0 provides background information regarding the purpose and scope of the Environmental Qualification (EQ) Program as well as the Seabrook position on environmental qualification.

Section 2.0 describes the criteria and methodology for selecting specific equipment to be included in this program. The resulting Equipment List is provided in Appendix A.

Section 3.0 describes the derivation of the plant specific environmental conditions. In support of this section, Appendices C and D provide a complete description of thermal hydraulic analyses performed for containment and outside of containment areas, respectively.

Section 4.0 discusses the methodology and acceptance criteria for the qualification of electrical equipment within the scope of this program. The results are summarized on the Qualification Evaluation Worksheets (QEWs) contained in Appendix B. The QEWs are arranged under their respective Purchase Order (P.O.) Numbers by the make/model of equipment.

Section 5.0 describes the specific aspects to be incorporated into the plant preventative maintenance program for maintaining the qualification of electrical equipment important to safety.

Section 6.0 contains a list of references cited in this report.

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1.0 INTRODUCTION

1.1 Purpose

The purpose of the Environmental Qualification (EQ) Program for the Seabrook Station is to provide assurance that all electrical equipment important to safety as defined in 10CFR 50.49(c), will perform its intended function. Specifically, the object of the EQ Program is to:

a. Assess the plant specific environmental qualification of Seabrook electrical equipment important to safety located in potentially harsh environments.

b. Establish additional maintenance/surveillance requirements needed to maintain the environmental qualification of harsh equipment over the life of the plant.

1.2 Scope

The equipment within the scope of this program includes the following:

Class 1E (safety-related) electrical equipment.

b. Nonsafety-Related electric equipment whose failure could prevent the accomplishment of safety functions.

c. Accident monitoring instrumentation as described in Regulatory Guide 1.97 (Design categories 1 and 2).

Only that equipment in the above categories which is contained in a potentially harsh (not-mild) accident environment, as defined in 10 CFR 50.49(c), is within the scope of this program.

1.3 Assignment of Responsibilities

The Seabrook EQ Task Team consists of participants from New Hampshire Yankee Division of Public Service Company of New Hampshire (NHY), Yankee Atomic Electric Company (YAEC), United Engineers & Constructors (UE&C) and the Impell Corporation.

New Hampshire Yankee (NHY) and Yankee Atomic Electric Company

NHY and YAEC were responsible for overall direction and development of a certifiable equipment qualification program. Both were also responsible for developing the operational phase of this program, which involved incorporating environmental qualification requirements into administrative, maintenance, design control and purchasing procedures.

United Engineers & Constructors (UE&C)

UE&C was responsible for developing the plant specific environmental parameters and the Equipment Lists. UE&C was also responsible for the specification, purchase, documentation acquisition, and initial review for the Balance of Plant Equipment (BOP).

Impell Corporation

Impell was responsible for the development and review of qualification documentation to meet the Seabrook plant specific environmental conditions. The NSSS Equipment qualification documentation was supplied by Westinghouse Corporation under a generic program described in WCAP8587 which has been reviewed and approved by the NRC (NRC acceptance letter for Report WCAP8587 dated November 10, 1983). Impell reviewed equipment reports provided in WCAP8587 for qualification to plant specific environmental parameters.

UE&C procured BOP Equipment qualification documentation was supplied to Impell for final review evaluation.

Subsequent to the review and evaluation of the NSSS and BOP qualification documentation, auditable Environmental Qualification Files were prepared.

1.4 Position

The EQ Program for the Seabrook Station meets the requirements of 10 CFR 50.49. All equipment within the scope of this program has been evaluated for compliance with IEEE 323-1974 and NUREG-0588, Category I.

2.0 DEFINITION OF ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY

2.1 Criteria for Selection of Equipment

The Seabrook environmental qualification program addresses all electrical equipment important to safety which is located in a potentially harsh environment. Equipment which would not be exposed to a harsh environment during postulated accident conditions (i.e., mild environment) is not included. A mild environment, as defined in 10 CFR 50.49(c) is, "...an environment that would at no time be significantly more severe than the environment that would occur during normal plant operation, including anticipated operational occurrences."

Seabrook Station defines a harsh environment as those areas of the plant where normal or accident environmental temperatures exceed 130°F, pressures exceed 1 psig, humidity is 100% and condensing, or the total integrated radiation dose exceeds 1×10^4 rads.

Electrical equipment important to safety which were considered for inclusion within the scope of the Seabrook program includes the following:

A. Safety-related (Class 1E) electrical equipment.
B. Nonsafety-Related electric equipment whose failure under postulated environmental conditions could prevent satisfactory accomplishment of safety functions.
C. Post-accident monitoring equipment.

The systems found to contain electric equipment in the above categories are listed in Table 2-1.

2.2 Identification of Equipment

In response to the requirements of 10 CFR 50.49 paragraph (d), a documented review was performed of all applicable design documents to assure that all equipment important to safety [10 CFR 50.49 paragraphs (b)(1), (b)(2), (b)(3)] was identified. The equipment was listed and categorized in accordance with the guidance provided in Appendix E to Regulatory Guide 1.89, Rev. 1.

The identification of equipment which meets the criteria outlined in Section 2.1 above was accomplished by examination of project documentation in accordance with United Engineers & Constructors Technical Procedure TP-24.

2.2.1 Class 1E Equipment

Seabrook Station safety-related equipment was initially identified during initial plant design and licensing. The electrical equipment which was determined to be safety-related was designated as Class 1E and was listed in a computerized document called the Class 1E Equipment List (UE&C Drawing No. 9763-M-505300).

The design documents included in the review are as follows:

a. Electrical Schematic Drawings
b. Flow Diagrams (P&ID's)
c. Loop and Logic Diagrams
d. Electrical Distribution One Line Diagrams
f. Design Specifications
g. Westinghouse System Descriptions, Process Instrumentation and Control Diagrams and Elementary Wiring Diagrams
h. Vendor Drawings and Documents
i. Final Safety Analysis Report

The additions, deletions and changes resulting from this review were reflected in the Class 1E Equipment List (1E List). Additional descriptive information regarding each Equipment ID such as Manufacturer, Model Number, Location, Purchase Order Number, Safety Function, etc., was included in the 1E List. Further, to assure completeness of the 1E List, a verification was made with an independently prepared Safety Class Equipment List.

Concurrent with the equipment identification, the service environments for all plant areas containing Class 1E equipment were re-evaluated. Those areas that were subjected to a significant change in environment due to design bases accidents were defined as "Harsh" and the equipment located in these areas were noted accordingly. The computerized 1E List data base was then processed to extract the harsh equipment. This extraction is called the Harsh Environment Equipment List (UE&C Drawing No. 9763-M-300218) and is provided as Appendix A of this report.

2.2.2 Nonsafety-Related Equipment

During the review of the electrical schematic diagrams for Class 1E equipment, it was determined that various components contained in a 1E circuit did not perform a safety function. Their failure; however, under postulated design bases events could prevent satisfactory accomplishment of safety functions. This nonsafety-related equipment [10 CFR 50.49 paragraph (b)(2)] was added to the 1E List and the note "FUNCTNL NON-1E" added to the "Remarks." The nonsafety-related equipment in a harsh environment is included in Appendix A.

2.2.3 Post-accident Monitoring Equipment

A Seabrook specific review of accident monitoring instrumentation (AMI) was performed utilizing the guidance presented in Regulatory Guide 1.97, Rev. 3. This review determined a list of instruments necessary for monitoring plant conditions and equipment after a design bases accident. As stated in Reg. Guide 1.97, the instrumentation in Categories 1 and 2 require environmental qualification. This AMI equipment [10 CFR 50.49 paragraph (b)(3)] was added to the 1E List and the notes "AMI DSGN CAT 1" or "AMI DSGN CAT 2" added to the "Remarks". The AMI equipment in a harsh environment is included in Appendix A.

All Equipment IDs presented in the Harsh Environment Equipment List are considered in the 10 CFR 50.49 environmental qualification program.

2.3 Harsh Environment Equipment List Data Fields

The Harsh Environment Equipment List (HEEL) consists of nine (9) nuclear safety-related data fields and two (2) information fields. The nuclear safety related data fields are as follows:

a. Equipment Tag No. (EQUIPMENT ID)
b. Manufacturer (MANUFACTURER)
c. Model No. (MODEL NO)
d. Location (BLDG, ENV ZONE)
e. EQ File No. (EQ FILE NO)
f. Purchase Order No. (PO NO)
g. Safety Function (SAFETY FUNCT)
h. Operability Code (OPER CODE)
i. Event Code (EVENT CODE)

The information fields are the Service Legend and Remarks. If the Remarks field is utilized to provide additional data due to lack of space in the above nuclear safety related (NSR) fields then that data is NSR. The following is a discussion of the data fields contained in the HEEL.

2.3.1 Equipment Identification Number

The UE&C assigned tag number of electric equipment important to safety determined in Section 2.2. Generic electrical equipment (e.g., cable, splices, terminal blocks, terminal lugs, etc.) have been assigned arbitrary equipment IDs (e.g., EDE-CBL-1, EDE-TRM-1, etc.). The standards file for Equipment ID's is contained in Appendix A, "System Abbreviation" and "Equipment/Device Abbreviation".

2.3.2 Service Legend

A description of the equipment name or function.

2.3.3 Manufacturer

This can be the original equipment manufacturer (OEM) if a singular device, or the vendor if the Equipment ID contains several devices supplied by different OEM's. This data has also been confirmed by a field walkdown. The standards file for manufacturer is contained in Appendix A, "Manufacturer Abbreviation".

2.3.4 Model Number

The manufacturer/vendor's identification number. This data has also been confirmed by a field walkdown.

2.3.5 Location

The building and environmental zone in which the equipment is located. The environmental zone is determined by reviewing the plant physical drawings (equipment layout, conduit, piping, instrument piping) which locate the device and then comparing this location with the environmental zone boundaries depicted in Calc. Set No. 6.01.000 "Service Environment Chart Calculation - Design Bases". This data has also been confirmed by field walkdown. The standards file for location is contained in Appendix A, "Location Codes".

2.3.6 EQ File Number

The file number assigned to segregate components of similar manufacturer and model number for convenience of environmental qualification review and retrievability. The standards file for EQ File No. is contained in Appendix A, "Equipment Qualification File Number".

2.3.7 Purchase order Number

The UE&C purchase order or Westinghouse NSSS shop order under which the equipment was procured/supplied. The standards file for P.O. No.'s is contained in Appendix A, "Purchase Order Number".

2.3.8 Safety Function

The equipment's process or condition essential to maintain plant parameters within acceptable limits established for a design basis event. Each equipment is determined to have one or more of the Safety Functions listed and described in Appendix A, "Safety Function Codes".

2.3.9 Operability Code

The operability codes are in accordance with the guidance presented in Regulatory Guide 1.89, Revision 1, Appendix E, Section 3. Operability codes may be different for various events. The Operability Codes are listed and described in Appendix A, "Operability Code".

2.3.10 Event Code

Review of the design bases accidents which cause a significant environmental change has determined that limiting environmental conditions are created by loss of coolant accidents, main steam line breaks, high energy line breaks, moderate energy line breaks and fuel handling accidents. Therefore, it is for these events that an Operability Code is determined. The Event codes are listed and described in Appendix A, "Event Codes.

2.3.11 Remarks

The Remarks data field is used for clarifying notes, additional information and to provide an expanded data field for location information, model numbers, safety functions, etc. Remarks are also utilized to denote equipment that is other than Class 1E (i.e., 10 CFR 50.49 (B)(2) and (b)(3) equipment). The appropriate designations for these equipment are noted in Sections 2.2.2 and 2.2.3.

TABLE 2-1

SYSTEMS CONTAINING ELECTRIC EQUIPMENT IMPORTANT TO SAFETY

System	System Designator
Auxiliary Steam	AS
Containment Air Handling	CAH
Containment Air Purge	CAP
Control Building Air Handling	CBA
Containment Building Spray	CBS
Component Cooling Water-Primary	CC
Combustible Gas Control	CGC
Containment On-Line Purge	COP
Rod Control and Position	CP
Chemical and Volume Control	CS
Diesel Generator Air Handling	DAH
Drains - Floor	DF
Diesel Generator	DG
Containment Enclosure Air Handling	EAH
Electrical Distribution	ED
Electrical Distribution - Emergency	EDE
Emergency Feedwater Pump House Air Handling	EPA
Fuel Storage Building Air Handling	FAH
Feedwater	FW
Heat Tracing	HT
In Core Instruments	IC
Miscellaneous Equipment	MM
Main Steam	MS
Main Steam Drain	MSD
Nitrogen Gas	NG
Nuclear Instrumentation	NI
Primary Auxiliary Building Air Handling	PAH
Reactor Coolant	RC
Residual Heat Removal	RH
Radiation Monitoring	RM
Reactor Makeup Water	RMW
Steam Generator Blowdown	SB
Spent Fuel Pool Cooling	SF
Safety Injection	SI
Sampling System	SS
Service Water	SW
Service Water Pumphouse Air Handling	SWA
Vibration Monitoring System	VB
Vents	VG
Waste Processing-Liquid Drains	WLD

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3.0 ENVIRONMENTAL PARAMETERS

The plant was divided into Environmental Zones. The environmental parameters for each of these zones were determined for normal, abnormal and accident service conditions as applicable. This information is provided on a zone basis on the Service Environment Chart (Figure 3-1) and for each specific piece of Seabrook equipment contained in the Equipment List (Appendix A).

3.1 Normal Service Conditions

The plant normal service conditions envelope all aspects of normal operation, including 100% Full Power, Heat-Up, Cool-Down and Refueling. The normal service conditions given in the Service Environment Chart (Figure 3-1) encompass the temperature, pressure, humidity, and radiation conditions postulated to occur over the 40-year life of the plant.

3.2 Abnormal Service Conditions

The development of abnormal service conditions for the Seabrook Station considered the environmental response to Diesel Generator testing, cooling water tunnel heat treatment and a loss of offsite power (LOP) with the plant at 100% full power for a duration of 2 hours. The analyses of these conditions determined the abnormal temperature(s) postulated to occur in the plant. These values are shown in the Service Environment Chart (Figure 3-1).

3.3 Accident Service Conditions

The development of accident service conditions for the Seabrook Station considered the environmental response to the following:

a. Loss-of-Coolant Accident (LOCA) with a loss of offsite power.
b. Main Steam Line Break (MSLB).
c. High Energy Line Break (HELB).
d. Moderate Energy Line Break (MSLB).

e. Hot Water Line Break (HWLB).
f. 100% Full Power with Loss of Cooling Water Intake/Discharge Tunnels.
g. LOCA with Loss of Cooling Water Intake/Discharge Tunnels.
h. Long Term Design Bases LOCA inside the Containment.
i. Seismic Event with 100% Full Power or a LOCA.
j. Fuel Handling Accident (FH ACCID).

The analyses of these postulated accidents address the following environmental parameters:

- Temperature/Pressure
- Humidity
- Radiation
- Chemical Spray
- Submergence

The specific analyses performed and their results are discussed in greater detail below.

3.2.1 Temperature/Pressure

LOCA and MSLB

A description of the analyses performed to determine the containment temperature and pressure response to a LOCA or MSLB is contained within FSAR Section 6.2.1. The resulting time-dependent temperature and pressure profiles appear on the Service Environment Chart (Figure 3-1).

MSLBs and HELBs Outside of Containment

The methodology, assumptions, and results of analyses which determine the temperature/pressure response to MSLBs and HELBs outside of containment is described in UE&C Report 9763-006-S-N-2, "High Energy Line Breaks Outside of Containment," excerpts of which are included in this report as Appendix D.

MELBs, HWLBs, Loss of Power, etc.

The methodology, assumptions, and results of analyses which determine the temperature/pressure response to all other postulated accident conditions are provided in Appendix E.

A further description of the results of moderate energy line breaks are described in UE&C Report TP-7 previously submitted.

3.2.2 Humidity

Unless a saturated environment was determined to occur, 95% relative humidity (RH) was assumed for all plant areas during postulated accident conditions. The plant areas where a saturated environment (100% RH) could occur during accident conditions are:

a. Containment
b. Main Steam and Feedwater Pipe Chase
c. Primary Auxiliary Building
d. Containment Fan Enclosure Area
e. Equipment Vaults
f. Mechanical Penetration Areas
g. Emergency Feedwater Pump Building
h. Certain Areas within the Fuel Storage Building

3.2.3 Radiation

The accident radiation conditons postulated to occur at Seabrook result from a LOCA and were developed based upon the requirements of NUREG-0588. For equipment qualification purposes, the radiation levels outside of containment which would occur as a result of a HELB (10% noble gas and 10% iodine core inventory as specified in NUREG-0737) were considered to be bounded by the radiation levels resulting from recirculating fluids post-LOCA.

A. Source Term

The source terms for the Seabrook plant were developed using the ORIGEN computer code. ORIGEN is a point depletion code which solves the equations of radioactive growth and decay of isotopes with arbitrary coupling using the matrix exponential method. ORIGEN was used to account for both the core fission product inventory at end of core life and the contribution from the decay chain of the isotopes over the one-year accident duration.

Beta doses are based on the average energies for the various isotopes listed in Table 3-1.

B. Radioactive Source Release

The percent of core inventory assumed to be released from the fuel for a LOCA meets the NUREG-0588 requirements of:

100% Noble Gases
50% Iodine
1% Others

C. Source Distribution

Containment

The development of the containment radiation profiles considered the core fission product inventory to be distributed in the following ways:

a. Activity suspended in containment atmosphere.

b. Activity contained in containment sump water.

c. Containment spray removal rate was assumed to be 10.0 $hr.^{-1}$ for elemental iodine, 0.0 $hr.^{-1}$ for organic iodine, and 0.45 $hr.^{-1}$ for particulate iodine.

d. Two compartment spray model with mixing between sprayed and unsprayed regions.

e. No containment leakage was assumed.

Outside Containment

The predominant source of radiation outside of containment is considered to be radioactive recirculating fluids carried in piping. Contributions from gaseous sources were assumed to come from concentrations that accumulated onto filters in the ESF filter trains.

Containment shine was considered only in those areas not containing radioactive piping since it would be an insignificant contributor compared to the recirculating fluids. Current radiation profiles have considered containment shine in the Main Steam/Feedwater Pipe Chase, the Electrical Penetration Areas, and Personnel Hatch. Gamma ray scatter above partial height walls and streaming through HVAC penetrations were considered for radioactive sources outside containment.

D. Models

Containment

Accident gamma doses in containment were conservatively estimated by assuming a dose point at the centerline of a hollow cylinder topped by a hemisphere, representing the containment geometry. Integrated beta doses were calculated using an infinite source model due to the short range of beta radiation. No credit was taken for the shielding effects of containment compartmentation.

Outside Containment

Post accident radiation doses outside of containment are dominated by systems which transport radioactive recirculating fluids from the containment building. Other sources considered includes systems which transport containment air, shine through penetrations into the containment building, and atmospheric cleanup train filters.

Analysis to obtain post accident doses from system sources follows several steps. These steps are:

1. Identify piping/equipment which contains radioactive sources
2. Determine piping/equipment source models for each area of the plant
3. Evaluate doses from the piping source models

A review is done of the Seabrook System P&IDs to determine which specific systems would contain post accident fluids. Specific systems analyzed includes:

Containment Building Spray
Residual Heat Removal
Chemical Volume and Control
- Charging
- Reactor Pump Seal Water

Safety Injection
Sample System

The P&IDs for each of the above systems are marked up for several accident scenarios. Piping lines and equipment which contain post accident sources are identified. Contributions from nonflowing lines are considered up to the first closed isolation valve.

Piping and equipment models for each plant location are generated. Marked up lines and equipment on system PI&D's are translated onto piping composite drawings. Pipe sizes (diameters and lengths) and their location are identified.

Post accident integrated doses are calculated from the models. These calculations utilize precalculated piping and equipment doses from the post accident radiological data base that is discussed below. Doses from each piping source are documented. Pipes which were not considered due to size and distance parameters are clearly identified.

The post accident radiological data base is calculated with the QAD-CG point kernel method computer program. This data base contains doses from a large number of pipe - shield configurations. Doses are also provided for heat exchangers and tanks which contain post accident liquids and air lines which transport containment air. Plant specific parameters (i.e. pipe schedule, poured concrete densities, etc.) are used in the QAD-CG computer runs. The previously discussed ORIGEN generated source terms were used in calculating the dose rates and integrated doses.

E. Results

All accident radiation doses were integrated over a one-year period.

The containment doses appear on Figure 3-1.

The one-year accident radiation doses for the plant areas outside of containment identified in Figure 3-1.

3.2.4 Chemical Spray

The containment spray system is designed to produce a spray composed of a boric acid solution (1.2% by weight) mixed with enough sodium hydroxide solution (20% by weight) to maintain an initial spray pH of about 9.5. The spray additive tank (SAT) is sized to provide the correct amount of sodium hydroxide solution to ensure that the final containment recirculation sump pH after injection will be between 8.5 and 10.5.

The calculations of the spray pH range included such considerations as single failure, the physical piping arrangement between the additive and water storage tanks, variation in relative liquid heights in the tanks due to instrument uncertainties and permissible variations in the concentrations of sodium hydroxide and boron in the spray additive and refueling water storage tanks, respectively. For maximum initial tank level mismatch due to instrument uncertainties, the spray pH could exceed 10.5 for only approximately seven (7) minutes.

For equipment qualification purposes, equipment inside containment must be qualified for a pH range of 7.5 to 10.5.

3.2.5 Submergence

Accumulations of water or process fluid in plant areas could jeopardize safety-related equipment through submergence. Sources of potential flooding are from either High Energy Line Breaks (HELBs) or Moderate Energy Line Breaks (MELBs). The potential flood level as a result of MELB has been reviewed in Report TP-7 "Seabrook Station Moderate Energy Line Break Study". In addition, various plant areas were reviewed for potential flooding due to HELB. A summary of the calculated flood depths following both HELB (including LOCA) and MELB has been compiled and is presented in Table 3-2.

TABLE 3-1

AVERAGE DECAY BETA ENERGIES (MeV)

Radionuclide	Energy (MeV)
Kr-85M	0.284E+0
Kr-85	0.249E+0
Kr-87	0.134E+1
Kr-88	0.367E+0
Kr-89	0.139E+1
I-130	0.276E+0
I-131	0.180E+0
I-132	0.512E+0
I-133	0.418E+0
Xe-133	0.099E+0
I-134	0.663E+0
I-135	0.319E+0
Xe-135	0.307E+0
Xe-138	0.961E+0
Br-82	0.137E+0
Br-83	0.335E+0
Br-84	0.122E+1

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TABLE 3-2

FLOODING

EVENT	LOCA		MELB		HELB	
BUILDING	ELEV. LEVEL	REFERENCE	ELEV. LEVEL	REFERENCE	ELEV. LEVEL	REFERENCE
CONTAINMENT (-)26'-0"	(-)20'-8" 5'-4"	Calc. 4.3.22.7F Rev. 5	N/A	--	N/A	--
EQUIPMENT VAULTS (-)61'-0"	N/A	--	(-)55'-11" 5'-1"	Calc. 9763-F-FS-03 Sheet 5	N/A	--
PAB (-)26'-0"	N/A	--	(-)21'-6" 4'-6"	Calc. 9763-F-FS-01 Summary Item #1	(-)23'-1" 2'-11"	Calc. 9763-F-FS-02 Summary Item #4
D.G. BUILDING (-)16'-0"	N/A	--	(-)6'-6" 9'-6" max.	MELB Study P 36 & Calc. 9763-F-FS-05 Summary Item #4	N/A	--
M.S. & F.W. PIPE CHASE (W) 3'-0"	N/A	--	3'- 9 3/8" 0'- 9 3/8"	MELB Study Rev. 4 Page 50	5'-5" 2'-5"	Calc. 9763-F-FS-04 Summary Item #4
M.S. & F.W. PIPE CHASE (E) 3'-0"	N/A	--	3'-8" 0'- 8"	MELB Study Rev. 4 Page 51	5'-5" 2'-5"	Based on West Chase (Conservative)
MECH. PENET. AREA (-)34'-6"	N/A	--	(-)25'-11" 8'-7"	MELB Study Page 21 Bounded by failure in PAB	--	--
TANK FARM	N/A	--	Diked	MELB Study Rev. 4 Page 60	--	--

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TABLE 3-2

FLOODING

EVENT	LOCA		MELB		HELB	
BUILDING	ELEV. LEVEL	REFERENCE	ELEV. LEVEL	REFERENCE	ELEV. LEVEL	REFERENCE
FUEL STORAGE BLDG.	N/A	--	Not Calculated (Not required)	MELB Study Rev. 4 Page 60	N/A	--
S. W. PUMP HOUSE	N/A	--	0'-2"	MELB Study Rev. 4 Page 45	N/A	--
CONTROL BUILDING	N/A	--	0'-0 1/2"	MELB Study Rev. 4 Page 26	N/A	--
EMERGENCY F.W. PUMP HOUSE 27'-0"	N/A	--	Not Calculated	MELB Study Rev. 4 Page 40	N/A	--
CONDENSATE ST. TANK AREA	N/A	--	N/A	--	N/A	--
S.W. COOLING TOWER	N/A	--	N/A	--	N/A	--

BUILDING	OUTDOOR	CONTAINMENT																																			
AREA/ ELEVATION	-	INCORE INSTRU 1'-44'-9"		REACTOR AREA 1'-26'-0"		REFUEL'G CAVITY 2'0"		REGEN HX 1'-26'-0"		VALVE ROOM 1'-26'-0"		EX LETDOWN HX 1'-26'-0"		RC DR TANK HX 1'-26'-0"		RC DR TANK 1'-26'-0"		STEAM GEN AREA 1'-26'-0"		OUT SEC SHIELD WALL 1'-26'-0"		PRESSURIZER ROOM 0'-0"		OUT SEC SHIELD WALL 0'-0"		OPERATING FLOOR 15'-0"		INSIDE CONTAINMENT, CONTAINMENT STRUCTURE AND PENETRATIONS WITHIN WALLS					
ENVIRONMENTAL ZONE	-	CS-1		CS-2		CS-3		CS-4		CS-5		CS-6		CS-7		CS-8		CS-9		CS-10		CS-11		CS-12		CS-13		ALL ZONES					
CONDITION	NORMAL	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	NORMAL 1	ABNORMAL 2	ACCIDENT 1	ACCIDENT 2	ACCIDENT 3			
TEMPERATURE (°F) MAXIMUM	88 (7)	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	271	312	120			
MINIMUM	0	50 (13)	—	50 (13)	—	50 (13)	—	50 (13)	—	50 (13)	—	50 (13)	—	50 (13)	—	50 (13)	—	50 (13)	—	50 (13)	—	50 (13)	—	50 (13)	—	50 (13)	—	-	-	-			
PRESSURE (PSIG) MAXIMUM		160 (2)	—	160 (2)	—	160 (2)	—	160 (2)	—	160 (2)	—	160 (2)	—	160 (2)	—	160 (2)	—	160 (2)	—	160 (2)	—	160 (2)	—	160 (2)	—	160 (2)	—	96.1	34.5	7			
NORMAL	0	0.5	—	0.5	—	0.5	—	0.5	—	0.5	—	0.5	—	0.5	—	0.5	—	0.5	—	0.5	—	0.5	—	0.5	—	0.5	—	-	-	-			
MINIMUM	-	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—	(-) 3.5 (1)	—						
HUMIDITY (%) MAXIMUM	100	40	—	40	—	40	—	40	—	40	—	40	—	40	—	40	—	40	—	40	—	40	—	40	—	40	—	STEAM/AIR MIXTURE SEE FIGURES 1 & 2					
MINIMUM (14)	10	1.0	—	1.0	—	1.0	—	1.0	—	1.0	—	1.0	—	1.0	—	1.0	—	1.0	—	1.0	—	1.0	—	1.0	—	1.0	—						
RADIATION (RADS) TOTAL INTEGRATED DOSE (8)	100	(2)		(3)		(3)		(3)		(3)		(3)		(3)		(3)		(3)		(3)		(3)		(3)		(3)		(3)					
SPRAY (4)	SEASHORE LEVELS OF SALT WATER IN AIR	NONE																										BORIC ACID 12% WT PH 13-4.5 WHICH USED TO CONTROL PH					

NOTES

1. -3.5 PSIG IS RESULT OF INADVERTENT SPRAY ACTUATION WITH MINIMUM WATER TEMPERATURE
2. 60 PSIG TEST CONDITION SPECIFIED ENVELOPES THE INTEGRATED LEAK RATE TEST AS WELL AS THE STRUCTURAL INTEGRITY TEST. THIS IS REQUIRED TO BE SPECIFIED AS A NON-FUNCTIONAL REQUIREMENT, BUT MAY HAVE IMPACT ON EQUIPMENT DESIGNED DURING TEST. THE DURATION OF PRESSURIZATION AT THIS VALUE WILL RANGE FROM ONE DAY TO ONE WEEK FOR A TOTAL NUMBER OF 20 TIMES DURING A 40-YEAR LIFE OF PLANT.
3. FIGURE 1, THE PRESSURE DESIGN ENVELOPE, IS THE CONTAINMENT STRUCTURE DESIGN PRESSURE OF 52 PSIG WHICH IN ACCORDANCE WITH ICCP/UCGC SO INCLUDES A MARGIN ABOVE THE PEAK ACCIDENT PRESSURE OF 46.1 PSIG.
   FIGURE 2, THE TEMPERATURE DESIGN ENVELOPE INCLUDES AN INITIAL PEAK CORRESPONDING TO THE MAIN STEAM LINE BREAK DESIGN TEMPERATURE OF 375°F AND A LOCA DESIGN TEMPERATURE OF 278°F. THIS IS THE TEMPERATURE OF THE SATURATED STEAM/AIR MIXTURE AT 52 PSIG.
   THE DESIGN ENVELOPES IN BOTH CASES DO NOT INCLUDE MARGINS FOR EQUIPMENT QUALIFICATION AS REQUIRED BY IEEE 323.
4. TOTAL INTEGRATED DOSE IS THE SUM OF 40 YEARS NORMAL DOSE PLUS ONE YEAR DOSE ACCIDENT DOSE WHERE APPLICABLE
5. MINIMUM TEMPERATURE NOTED WILL ONLY BE REACHED AFTER SOME PERIOD OF TIME, AND ONLY IF NO ACTION IS TAKEN TO PROVIDE HEATING TO THE AFFECTED AREA.
6. A TORNADO CAN PRODUCE A -3 PSIG DEVIATION FROM NORMAL ATMOSPHERIC PRESSURE. THE D.G. SHOULD START UNDER THESE CONDITIONS, HOWEVER, OPERATION AT LOAD IS NOT REQUIRED BECAUSE THE DURATION OF THE PRESSURE TRANSIENT IS ONLY 15 SEC WHICH IS LESS THAN STARTING TIME OF THE DIESEL.
7. THE DESIGN BASIS AMBIENT TEMPERATURE RANGE OF 0 TO 88°F USED FOR EQUIPMENT LOCATED WITHIN BUILDINGS IS TAKEN FROM ASHRAE 1967 HANDBOOK OF FUNDAMENTALS, 1985 OF THE TEMPERATURE DATA LIES BETWEEN THESE TWO LIMITS.
   A STATISTICAL ANALYSIS OF REGIONAL EXTREME TEMPERATURE CONDITIONS PREDICTS 100 YEAR MINIMUM AND MAXIMUM HOURLY OUTDOOR TEMPERATURES OF 10°F AND 104°F, RESPECTIVELY. 8 YEAR (27 YRS 2.5 X 3) SAFETY-RELATED EQUIPMENT LOCATED INSIDE SELECTED BUILDINGS HAS BEEN EVALUATED FOR SATISFACTORY PERFORMANCE UNDER 24-HOUR AVERAGE OUTDOOR TEMPERATURE CONDITIONS OF -10°F AND 89°F. THE ANALYSIS SUMMARIZING THE OPERATIONAL CAPABILITY OF THE INDOOR EQUIPMENT FOR THESE EXTREME OUTDOOR TEMPERATURES WAS SUBMITTED TO THE NRC IN A LETTER BY PSNH, DATED JUNE 24, 1983, TO MR. C.W. KNIGHTON FROM MR. JOHN DeVINCENTIS, TASC.
8. N.P.B. EVAPORATOR CUBICLES Tmax 100°F
9. THE INTEGRATED DOSE, WHICH IS THE SUM OF THE FORTY YEAR NORMAL AND ACCIDENT LOCA DOSES IS AS FOLLOWS:
   A. NORMAL FOR GENERAL AREA: 2100 RADS GAMMA
   B. NORMAL FOR REACTOR COOLANT INCLUDING LEAKOFF RADS GAMMA.
   C. NORMAL FOR RC PIPING IN LINE INSTRUMENTATION: 3000 RADS GAMMA.
   D. NORMAL FOR AREA BETWEEN MISSILE SHIELD AND REACTOR PRIMARY SHIELD AND AROUND RC PIPING PENETRATION IN PRIMARY SHIELD: 1000 RADS GAMMA
   E. ACCIDENT: INTEGRATED DOSE AFTER ONE YEAR IN LOCA ENVIRONMENT:
      1) FOR COMPONENTS NOT SUBMERGED FOLLOWING LOCA:
         BETA DOSE = 5,000 RADS; GAMMA DOSE = 1,400 RADS.
      2) FOR COMPONENTS SUBMERGED FOLLOWING LOCA:
         BETA DOSE = 2.5 X 10^6 RADS; GAMMA DOSE = 2,000 RADS.
10. FOR THE FOLLOWING AREAS USE AN INTEGRATED DOSE OF 2000* RADS:
   A. SPENT RESIN SLURRY TANK/TRANSFER PUMP AREA
   B. DEMINERALIZER CUBICLES
      EXCEPT CS MIXED BED AND CATION WHICH ARE 5000*
   C. FILTER CUBICLES
   D. WASTE SOLIDIFICATION HOPPER AREA
   E. GEASAFER AREA (WASTE PROCESS BLDG)
11. DECL - DOUBLE ENDED COLD - LEG GUILLOTINE MINIMUM SAFETY INJECTION
    DEHL - DOUBLE ENDED HOT - LEG GUILLOTINE MINIMUM SAFETY INJECTION
    DEPS - DOUBLE ENDED PUMP SUCTION GUILLOTINE MINIMUM MINIMUM SAFETY INJECTION
    SFPS - SFPS PUMP SUCTION SPLIT MINIMUM SAFETY INJECTION
    MSLB - MAIN STEAM LINE BREAK AT 100% POWER
    LTCT - LONG TERM CONTAINMENT TEMPERATURE/PRESSURE RESPONSE TO DESIGN BASIS LOCA
    GDE - GENERAL DESIGN ENVELOPE
12. MAXIMUM AND MINIMUM HUMIDITIES GIVEN FOR NORMAL CONDITIONS ARE COINCIDENT WITH MAXIMUM AND MINIMUM TEMPERATURE FOR NORMAL CONDITIONS. DURING NORMAL PLANT OPERATION (100% POWER HEATUP AND COOL DOWN, REFUELING AND SHUTDOWN), HUMIDITIES COULD EXCEED THE MAXIMUM NOTED IN THE TABLE. HUMIDITIES ARE NOT CONTROLLED EXCEPT IN THE FOLLOWING ENVIRONMENTAL ZONES:
    CB-1 'MAIN CONTROL ROOM'
    CB-1A, 1B, 1C, 1D, 1E, 1F, 1G 'GENERAL AREAS'
    CB-2 'COMPUTER ROOM'
    OTHER AREA HUMIDITIES MAY REACH 95% RH DURING PLANT SHUTDOWN CONDITIONS (REF. CALC. MS-MISC-32)
13. MINIMUM TEMPERATURE REFLIES TO PLANT SHUTDOWN. MINIMUM TEMPERATURE DURING REFUELING OPERATION IS 70°F
14. SPRAY FOR ZONES SW-1, CT-2, CT-4 AND CIRC WATER PUMP HOUSE PUMP ROOM IS SEASHORE LEVELS OF SALT WATER IN AIR. ALL OTHER AREAS/ZONES NOT APPLICABLE
15. INDICATES AREA PROVIDED W/SAFETY RELATED VENTILATION
16. FOLLOWING A FUEL HANDLING ACCIDENT THE 30 DAY INTEGRATED DOSE EXCEEDS 1×10^3 RADS IN A LOCALIZED AREA WITHIN APPROXIMATELY 10 FEET OF THE CHARCOAL VENTILATION FILTERS. THE MAXIMUM 30 DAY INTEGRATED DOSE ON CONTACT IS APPROXIMATELY 2×10^6 RADS. IT IS ASSUMED THAT THE CHARCOAL FILTERS CAN BE REPLACED WITHIN 30 DAYS. (REF CALC 4.4.14.97F, REV 0)

GENERAL NOTES

A. IN AREAS WHERE SLIGHTLY POSITIVE (SLIGHT POS) OR SLIGHTLY NEGATIVE (SLIGHT NEG) PRESSURES ARE INDICATED, THE INFORMATION IS FOR DESIGN OF HVAC SYSTEMS AND IS NOT REQUIRED TO BE SPECIFIED IN EQUIPMENT SPECIFICATIONS, UNLESS THESE PRESSURES AFFECT THE DESIGN AND/OR OPERATION OF THIS EQUIPMENT.
B. ALL EQUIPMENT LOCATED EXTERNAL TO SECONDARY SHIELD WALL WITHIN CONTAINMENT, AND ALL EQUIPMENT LOCATED EXTERNAL TO CONTAINMENT WILL EXPERIENCE NEUTRON FLUX LESS THAN 10^4 N/CM^2 AND THEREFORE NEUTRON EXPOSURE NEED NOT BE SPECIFIED FOR FERRITE COMPONENTS PURCHASED TO ASME CODE SECTION 3.
C. THIS GRAPHING IS VALID ONLY FOR ENVIRONMENTAL QUALIFICATION OF EQUIPMENT IMPORTANT TO SAFETY AND SHOULD NOT BE UTILIZED FOR ANY OTHER DESIGN PURPOSES.
D. FOR REFERENCE CALCULATIONS WHICH SERVE AS THE BASIS FOR THE NORMAL/ ABNORMAL/ACCIDENT CONDITIONS SHOWN IN THE SERVICE ENVIRONMENT CHART, SEE CALC SET NO 6.0.0.00, "DESIGN BASIS".
E. FOR ENVIRONMENTAL ZONE MAPS, SEE CALC SET NO 6.0.0.00, "DESIGN BASIS".
F. CONDITIONS: ALL NORMAL, ABNORMAL AND ACCIDENT CONDITIONS LISTED BELOW OCCUR SIMULTANEOUSLY WITH THE DESIGN BASIS OUTDOOR AMBIENT TEMPERATURES AND HUMIDITIES. THE WORST NORMAL, ABNORMAL AND ACCIDENT CONDITIONS, AS APPLICABLE FOR EACH BUILDING ZONE, ARE TABULATED IN THE CHART.
   NORMAL 1 - THE MAXIMUM AND MINIMUM TEMPERATURES AND HUMIDITIES OCCURRING DURING 100% FULL POWER.
   NORMAL 2 - THE MAXIMUM AND MINIMUM TEMPERATURES AND HUMIDITIES OCCURRING DURING HEATUP AND COOLDOWN.
   NORMAL 3 - THE MAXIMUM AND MINIMUM TEMPERATURES AND HUMIDITIES OCCURRING DURING REFUELING.
   ABNORMAL 1 - THE MAXIMUM TEMPERATURE OCCURRING DURING DIESEL GENERATOR TESTING.
   ABNORMAL 2 THE MAXIMUM TEMPERATURE OCCURRING DURING TUNNEL HEAT TREATMENT.
   ABNORMAL 3 - THE MAXIMUM TEMPERATURE OCCURRING DURING LOSS OF OFFSITE POWER WITH THE PLANT AT 100% FULL POWER. THE DURATION OF THE LOP EVENT IS 2 HOURS AND WILL OCCUR ONCE DURING THE LIFE OF THE PLANT.
   ACCIDENT 1 - THE MAX TEMP, PRESS, HUMIDITY & RADIATION DOSE OCCURRING DURING A LOSS OF COOLANT ACCIDENT ALONG WITH A LOSS OF OFFSITE POWER. THE DURATION OF THE LOP IS 72 HOURS FOR ALL BUILDINGS OTHER THAN CONTAINMENT. FIGURES 1 & 2 SHOULD BE USED FOR CONTAINMENT.
   ACCIDENT 2 - THE MAXIMUM TEMPERATURE, PRESSURE AND HUMIDITY OCCURRING DURING A MAIN STEAM LINE BREAK WELD EITHER IN CONTAINMENT OR IN THE MAIN STEAM AND FEEDWATER PIPE CHASES.
   ACCIDENT 3 - THE MAXIMUM TEMPERATURE, PRESSURE AND HUMIDITY OCCURRING DURING A HIGH ENERGY LINE BREAK WELD OUTSIDE CONTAINMENT.
   ACCIDENT 4 - THE MAXIMUM TEMPERATURE, PRESSURE AND HUMIDITY OCCURRING DURING A MODERATE ENERGY LINE BREAK WELD.
   ACCIDENT 5 - THE MAXIMUM TEMPERATURE, PRESSURE AND HUMIDITY OCCURRING DURING A HOT WATER LINE BREAK (WELD) HIGH ENERGY LINE.
   ACCIDENT 6 - THE MAXIMUM TEMPERATURE, PRESSURE AND HUMIDITY OCCURRING DURING A 100% FULL POWER WITH A LOSS OF TUNNELS.
   ACCIDENT 7 - THE MAXIMUM TEMPERATURE, PRESSURE AND HUMIDITY OCCURRING DURING A LOSS OF COOLANT ACCIDENT WITH A LOSS OF TUNNELS.
   ACCIDENT 8 - THE MAXIMUM LONG TERM TEMPERATURE, PRESSURE AND HUMIDITY RESULTING FROM A DESIGN BASIS LOCA.
   ACCIDENT 9 - THE MAXIMUM TEMPERATURE OCCURRING DURING A SEASHORE LEVELS WITH 100% FULL POWER OF A LOCA.
   ACCIDENT 10 - THE MAXIMUM TEMPERATURE, PRESSURE AND HUMIDITY OCCURRING DURING A FUEL HANDLING ACCIDENT (FHA ACCIDENT).
   ACCIDENT 11 - PRESSURIZED ACCIDENT R.C.S. REMAINS PRESSURIZED FOLLOWING LOW DAMAGE.
G. MAXIMUM TEMPERATURE, PRESSURE AND HUMIDITY GIVEN FOR THE ACCIDENT CONDITIONS ARE COINCIDENT WITH THE WORST CASE ACCIDENT AS NOTED.
H. MINIMUM TEMPERATURES INDICATED ARE FOR ANY NORMAL MODE OF OPERATION (INCLUDING PLANT SHUTDOWN).
I. DASHED (-) LINE* FOR RADIATION DOSE UNDER ACCIDENT CONDITIONS INDICATES THAT THE ACCIDENT DOSE IS NEGLIGIBLE.
J. DASHED (-) LINE FOR TEMPERATURE PRESSURE AND/OR RELATIVE HUMIDITY UNDER NORMAL, ABNORMAL AND/OR ACCIDENT COLUMNS INDICATES INFORMATION NOT REQUIRED UNDER THIS ANALYSIS.

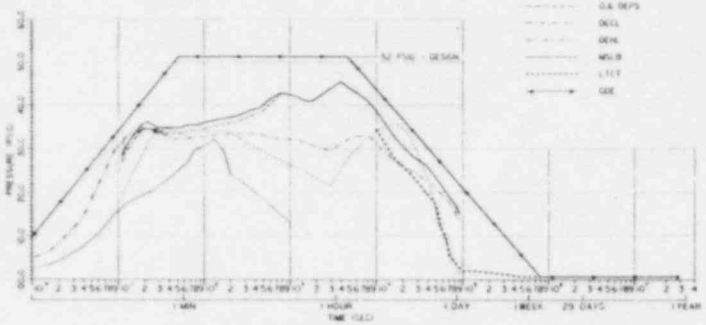

FIGURE 1 (5)
CONTAINMENT ACCIDENT DESIGN ENVELOPE
PRESSURE - TIME

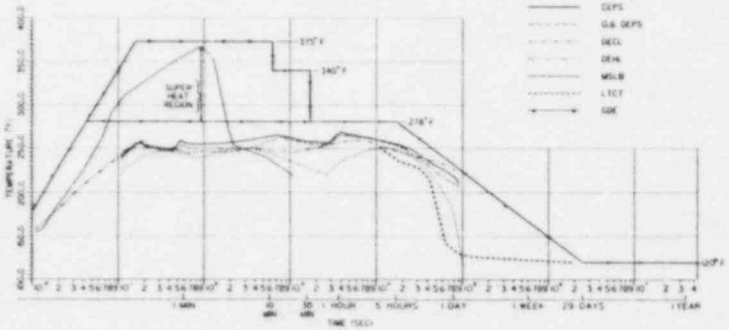

FIGURE 2 (5)
CONTAINMENT ACCIDENT DESIGN ENVELOPE
TEMPERATURE - TIME

REV	DATE	DRAWN	CHKD	APPD	DESCRIPTION
17	12/12/90	JRC	JSB	JSB	UPDATED SERVICE ENVIRONMENT CHART, ADDED NOTES (5,14,15,16) 2 DELETED NOTE 3 AS NOT NEED FOR TL 90-90 QUALIFICATION, UPDATED SERVICE ENVIRONMENT CHART, ADDED SHL 6P3
16	7/11/89	JRC	JSB	JSB	
15	3/1/89	JRC	JSB	JSB	
14	12/1/88	JRC	JSB	JSB	
13	11/1/88	JRC	JSB	JSB	
12	10/1/88	JRC	JSB	JSB	
11	9/1/88	JRC	JSB	JSB	
10	8/1/88	JRC	JSB	JSB	
9	7/1/88	JRC	JSB	JSB	
8	6/1/88	JRC	JSB	JSB	

NUCLEAR SAFETY RELATED

ENGINEER
STATE REGISTERED PROFESSIONAL ENGINEER NO. 3852

SERVICE ENVIRONMENT CHART

PUBLIC SERVICE CO OF NEW HAMPSHIRE
SEABROOK STATION

9163-F-300219 SHEET 1 OF 4

BUILDING	MAIN STEAM & FEEDWATER PIPE CHASES														
AREA/ ELEVATION	WEST PIPE CHASE 3'-0"			WEST PIPE CHASE 12'-0"			WEST PIPE CHASE 28'-0"			WEST PIPE CHASE STAIRWELL 3'-0"			PERSONNEL ACCESS HATCH 21'-0"		
ENVIRONMENTAL ZONE	PCW-1			PCW-2			PCW-3			PCW-4			PCW-5		
CONDITION	NORMAL 1	ABNORMAL 5	ACCIDENT 2	NORMAL 1	ABNORMAL 5	ACCIDENT 2	NORMAL 1	ABNORMAL 5	ACCIDENT 2	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 2
TEMPERATURE (°F) MAXIMUM MINIMUM	130 0 ⑤	206 —	325 —	130 0 ⑤	206 —	325 —	130 0 ⑤	206 —	325 —	130 28	128 —	144 —	130 50	120 —	325 —
PRESSURE (PSIG) MAXIMUM NORMAL MINIMUM	SLIGHT POS SLIGHT POS (-)3	— — —	4.8 — —	SLIGHT POS SLIGHT POS (-)3	— — —	4.8 — —	SLIGHT POS SLIGHT POS (-)3	— — —	4.8 — —	0 0 (-)3	— — —	0 — —	SLIGHT POS SLIGHT POS (-)3	— — —	4.8 — —
HUMIDITY (%) MAXIMUM MINIMUM ⑫	30 5	— —	100 —	30 5	— —	100 —	30 5	— —	100 —	30 8	— —	20 —	30 3	— —	100 —
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		ACCIDENT 1 8.2×10^4	1×10^3		ACCIDENT 1 8.2×10^4	1×10^3		ACCIDENT 1 8.2×10^4	1×10^3		ACCIDENT 1 2×10^3	5.3×10^3		ACCIDENT 1 5.9×10^4

BUILDING	MAIN STEAM & FEEDWATER PIPE CHASES														
AREA/ ELEVATION	EAST PIPE CHASE 3'-0"			EAST PIPE CHASE 12'-0"			EAST PIPE CHASE 26'-0"			PIPE TUNNEL 10'-0"			ELECTRICAL ROOM 3'-0"		
ENVIRONMENTAL ZONE	PCE-1			PCE-2			PCE-3			PCE-4			PCE-5		
CONDITION	NORMAL 1	ABNORMAL 5	ACCIDENT 2	NORMAL 1	ABNORMAL 5	ACCIDENT 2	NORMAL 1	ABNORMAL 5	ACCIDENT 2	NORMAL 1	ABNORMAL 5	ACCIDENT 2	NORMAL 1	ABNORMAL 5	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM MINIMUM	130 0 ⑤	185 —	325 —	130 0 ⑤	185 —	325 —	130 0 ⑤	185 —	325 —	130 50	243 —	325 —	104 50	104 —	130 —
PRESSURE (PSIG) MAXIMUM NORMAL MINIMUM	SLIGHT POS SLIGHT POS (-)3	— — —	4.8 — —	SLIGHT POS SLIGHT POS (-)3	— — —	4.8 — —	SLIGHT POS SLIGHT POS (-)3	— — —	4.8 — —	0 0 (-)3	— — —	4.8 — —	SLIGHT NEG SLIGHT NEG (-)3	— — —	0 — —
HUMIDITY (%) MAXIMUM MINIMUM ⑫	30 5	— —	100 —	30 5	— —	100 —	30 5	— —	100 —	30 3	— —	100 —	60 3	— —	30 —
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		ACCIDENT 1 8.2×10^4	1×10^3		ACCIDENT 1 8.2×10^4	1×10^3		ACCIDENT 1 8.2×10^4	1×10^3		—	1×10^3		—

BUILDING	MAIN STEAM & FEEDWATER PIPE CHASES			MECHANICAL PENETRATION AREA											
AREA/ ELEVATION	HYDROGEN ANALYZER ROOM 22'-0"			RADIOACTIVE TUNNEL (-)34'-6"			RADIOACTIVE TUNNEL (-)26'-6"			RADIOACTIVE TUNNEL (-)34'-6"			RADIOACTIVE TUNNEL (-)26'-6"		
ENVIRONMENTAL ZONE	PCE-6			MPA-1			MPA-2			MPA-3			MPA-5		
CONDITION	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 2	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 2	ABNORMAL 5	ACCIDENT 1	NORMAL 2	ABNORMAL 5	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM MINIMUM	104 50	104 —	130 —	104 50	100 —	166 —	104 50	108 —	160 —	104 50	101 —	167 —	104 50	105 —	188 —
PRESSURE (PSIG) MAXIMUM NORMAL MINIMUM	SLIGHT NEG SLIGHT NEG P13	— — —	0 — —	SLIGHT POS SLIGHT POS 0	— — —	ACCIDENT 4 1.0 — —	SLIGHT POS SLIGHT POS 0	— — —	ACCIDENT 4 1.0 — —	SLIGHT POS SLIGHT POS 0	— — —	ACCIDENT 4 1.0 — —	0 0 0	— — —	ACCIDENT 4 1.0 — —
HUMIDITY (%) MAXIMUM MINIMUM ⑫	80 3	— —	30 —	60 3	— —	ACCIDENT 4 100 —	60 3	— —	ACCIDENT 4 100 —	60 3	— —	ACCIDENT 4 100 —	60 3	— —	ACCIDENT 4 100 —
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		ACCIDENT 1 2.2×10^7	2×10^7		ACCIDENT 11 7.5×10^7	2×10^7		ACCIDENT 11 2.8×10^7	2×10^7		ACCIDENT 11 3.9×10^7	2×10^3		ACCIDENT 11 2.2×10^7

BUILDING	MECHANICAL PENETRATION AREA						DIESEL GENERATOR BUILDING								
AREA/ ELEVATION	NON-RADIOACTIVE TUNNEL (-)18'-0"						MECHANICAL EQUIPMENT ROOM 51'-6"			AIR INTAKES 51'-6"					
ENVIRONMENTAL ZONE	MPA-4						DB-1			DB-2A			DB-2B		
CONDITION	NORMAL 2	ABNORMAL 5	ACCIDENT 1				NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM MINIMUM	104 50	115 —	179 —				104 0 ⑤	89 —	89 —	104 0 ⑤	114 —	114 —	104 0 ⑤	114 —	114 —
PRESSURE (PSIG) MAXIMUM NORMAL MINIMUM	0 0 0	— — —	ACCIDENT 4 1.0 — —				0 0 (-)3	— — —	0 — —	0 0 (-)3	— — —	SLIGHT NEG — —	0 0 (-)3	— — —	SLIGHT NEG — —
HUMIDITY (%) MAXIMUM MINIMUM ⑫	60 3	— —	ACCIDENT 4 100 —				60 30	— —	97 —	63 30	— —	45 —	33 30	— —	45 —
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		ACCIDENT 11 3.9×10^7				1×10^2		—	1×10^2		—	1×10^3		—

BUILDING	DIESEL GENERATOR BUILDING														
AREA/ ELEVATION	DAY TANK ROOMS 51'-6"						DIESEL GENERATOR ROOMS 21'-6"						TANK ROOMS (-)16'-0"		
ENVIRONMENTAL ZONE	DB-3A			DB-3B			DB-4A			DB-4B			DB-5A		
CONDITION	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM MINIMUM	104 [illegible]	108 —	108 —	104 50	108 —	108 —	104 50	120 —	120 —	104 50	120 —	120 —	104 41	114 —	114 —
PRESSURE (PSIG) MAXIMUM NORMAL MINIMUM	0 SLIGHT NEG (-)3	— — —	0 — —	0 SLIGHT NEG (-)3	— — —	0 — —	SLIGHT POS 0 (-)3	— — —	0 — —	SLIGHT POS 0 (-)3	— — —	0 — —	0 0 (-)3	— — —	0 — —
HUMIDITY (%) MAXIMUM MINIMUM ⑫	60 3	— —	55 —	60 3	— —	55 —	60 3	— —	38 —	60 3	— —	38 —	60 5	— —	45 —
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—

BUILDING	DIESEL GENERATOR BUILDING														
AREA/ ELEVATION	TANK ROOMS (-)16'-0"			STAIRWELLS (-)16'-0"						EXHAUST AREA FANS 51'-6"					
ENVIRONMENTAL ZONE	DB-5B			DB-6A			DB-6B			DB-7A			DB-7B		
CONDITION	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM MINIMUM	104 41	113 —	113 —	104 50	107 —	107 —	104 50	104 —	104 —	104 0 ⑤	121 —	121 —	104 0 ⑤	121 —	121 —
PRESSURE (PSIG) MAXIMUM NORMAL MINIMUM	0 0 (-)3	— — —	0 — —	0 (-)3	— — —	0 — —	0 0 (-)3	— — —	0 — —	0 0 (-)3	— — —	0 — —	0 0 (-)3	— — —	* 0 — —
HUMIDITY (%) MAXIMUM MINIMUM ⑫	60 5	— —	45 —	60 3	— —	55 —	60 3	— —	60 —	60 30	— —	38 —	60 30	— —	38 —
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—

BUILDING	COOLING TOWER														
AREA/ ELEVATION	ELECTRICAL SWITCHGEAR ROOMS 22'-0"						MECHANICAL EQUIPMENT ROOM 46'-0"			PUMP ROOM 46'-0"			FAN/FILL AREA 50'-0"		
ENVIRONMENTAL ZONE	CT-1A			CT-1B			CT-3			CT-2			CT-4		
CONDITION	NORMAL 1	ABNORMAL 2	ACCIDENT 6	NORMAL 1	ABNORMAL 2	ACCIDENT 6	NORMAL 1	ABNORMAL 2	ACCIDENT 6	NORMAL 1	ABNORMAL 2	ACCIDENT 6	NORMAL 1	ABNORMAL 2	ACCIDENT 6
TEMPERATURE (°F) MAXIMUM MINIMUM	104 50	104 —	104 —	104 50	104 —	104 —	104 0 ⑤	90 —	90 —	104 0 ⑤	127 —	127 —	104 0	88 —	88 —
PRESSURE (PSIG) MAXIMUM NORMAL MINIMUM	SLIGHT POS SLIGHT POS 0	— — —	SLIGHT POS — —	SLIGHT POS SLIGHT POS 0	— — —	SLIGHT POS — —	0 SLIGHT NEG SLIGHT NEG	— — —	0 — —	0 SLIGHT NEG SLIGHT NEG	— — —	0 — —	0 0 0	— — —	0 — —
HUMIDITY (%) MAXIMUM MINIMUM ⑫	60 2	— —	95 —	60 2	— —	95 —	60 30	— —	35 —	60 30	— —	35 —	60 30	— —	100 —
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—
SPRAY	NONE									SEASHORE LEVELS OF SALT WATER IN AIR			SEASHORE LEVELS OF SALT WATER IN AIR		

BUILDING	SERVICE WATER PUMP HOUSE											
AREA/ ELEVATION	PUMP ROOM 21'-0"			ELECTRICAL CONTROL ROOMS 21'-0"						FAN ROOM 21'-0"		
ENVIRONMENTAL ZONE	SW-1			SW-2			SW-3			SW-4		
CONDITION	NORMAL 1	ABNORMAL 2	ACCIDENT 5	NORMAL 1	ABNORMAL 2	ACCIDENT 3	NORMAL 1	ABNORMAL 2	ACCIDENT 3	NORMAL 1	ABNORMAL 2	ACCIDENT 3
TEMPERATURE (°F) MAXIMUM MINIMUM	104 50	104 —	90 —	104 50	104 —	90 —	104 50	104 —	90 —	104 0	104 —	90 —
PRESSURE (PSIG) MAXIMUM NORMAL MINIMUM	0 SLIGHT NEG SLIGHT NEG	— — —	SLIGHT POS — —	SLIGHT POS SLIGHT POS 0	— — —	SLIGHT POS — —	SLIGHT POS SLIGHT POS 0	— — —	SLIGHT POS — —	SLIGHT POS SLIGHT POS 0	— — —	SLIGHT POS — —
HUMIDITY (%) MAXIMUM MINIMUM ⑫	60 3	— —	90 —	60 3	— —	90 —	60 3	— —	90 —	60 30	— —	90 —
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—
SPRAY	SEASHORE LEVELS OF SALT WATER IN AIR											

NOTE:
FOR NOTES & GENERAL NOTES THIS DRAWING SHEET 1 OF 4.

17		UPDATED SERVICE ENVIRONMENT CHART. ADDED NOTES ... & DELETED SH. 3 OF 5 AS NOT REQ'D FOR IE EQUIP. QUALIFICATION.
16		UPDATED SERVICE ENVIRONMENT CHART. ADDED SH. 4&5

NUCLEAR SAFETY RELATED

ENGINEER
STATE REG. NEW HAMPSHIRE NO. 5842

SERVICE
ENVIRONMENT CHART
PUBLIC SERVICE CO OF NEW HAMPSHIRE
SEABROOK STATION
UNITED ENGINEERS & CONSTRUCTORS INC.

9763-F-300219 SHEET 2 OF 4

BUILDING	PRIMARY AUXILIARY BUILDING														
AREA/ ELEVATION	HVAC EQUIPMENT ROOM 81'-0"			VALVE AISLE 53'-0"			SUPPLY FAN AREA 53'-0"			CHEMICAL VOLUME CONTROL TANK 53'-0"			EXHAUST FAN AREA 53'-0"		
ENVIRONMENTAL ZONE	PB-1			PB-2			PB-3			PB-4			PB-5		
CONDITION	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 3
TEMPERATURE (°F) MAXIMUM	104	106	109	104	113	158	104	115	158	104	119	158	104	116	165
MINIMUM	50	—	—	50	—	—	50	—	—	50	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	0	—	0	0	—	0.5	0	—	0.5	0	—	0.5	0	—	0.5
NORMAL	SLIGHT NEG	—	—	SLIGHT NEG	—	—	1-1.2" WG	—	—	SLIGHT NEG	—	—	1-1.2" WG	—	—
MINIMUM	1-1.3	—	—	SLIGHT NEG	—	—	1-1.2" WG	—	—	SLIGHT NEG	—	—	1-1.2" WG	—	—
HUMIDITY (%) MAXIMUM	60	—	56	60	—	100	60	—	100	60	—	100	60	—	100
MINIMUM ⑫	3	—	—	3	—	—	3	—	—	3	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^{3}		ACCIDENT 11 1.4×10^{6}	2×10^{3}		ACCIDENT 11 2.1×10^{3}	1×10^{3}		ACCIDENT 11 1.8×10^{2}	2×10^{8}		ACCIDENT 11 4.5×10^{3}	1×10^{3}		ACCIDENT 11 1.8×10^{2}

BUILDING	PRIMARY AUXILIARY BUILDING														
AREA/ ELEVATION	PAB HEAT EQUIPMENT AREA 53'-0"			BORIC ACID STORAGE AREA 53'-0"			COMPONENT COOLING HX 53'-0"			BORIC ACID TANK ROOM 25'-0"			SAMPLE HX ROOM 25'-0"		
ENVIRONMENTAL ZONE	PB-6			PB-7			PB-8			PB-9			PB-10		
CONDITION	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 2	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM	104	107	158	104	107	158	104	125	165	104	125	136	106	164	179
MINIMUM	50	—	—	65	—	—	50	—	—	65	—	—	65	—	—
PRESSURE (PSIG) MAXIMUM	0	—	0.5	SLIGHT POS	—	0.5	0	—	0.5	SLIGHT POS	—	ACCIDENT 3 0.4	0	—	ACCIDENT 3 2.4
NORMAL	SLIGHT NEG	—	—	SLIGHT POS	—	—	SLIGHT NEG	—	—	SLIGHT POS	—	—	SLIGHT NEG	—	—
MINIMUM	SLIGHT NEG	—	—	0	—	—	SLIGHT NEG	—	—	0	—	—	SLIGHT NEG	—	—
HUMIDITY (%) MAXIMUM	60	—	100	60	—	100	60	—	100	60	—	ACCIDENT 3 100	60	—	ACCIDENT 3 100
MINIMUM ⑫	3	—	—	2	—	—	3	—	—	2	—	—	2	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^{3}		—	1×10^{3}		—	1×10^{3}		—	1×10^{3}		ACCIDENT 11 5.8×10^{2}	2×10^{3}		ACCIDENT 11 2.1×10^{3}

BUILDING	PRIMARY AUXILIARY BUILDING														
AREA/ ELEVATION	PCCW PUMP AREA 25'-0"			LETDOWN DEGAS AREA 25'-0"			RAACT PIPE TR AREA "A" 7'-0"			REACTOR MAKE-UP WATER PUMP 7'-0"			CHARGING PUMP CONTROL ACCESS CORR 7'-0"		
ENVIRONMENTAL ZONE	PB-11			PB-12			PB-13			PB-14			PB-14A		
CONDITION	NORMAL 2	ABNORMAL 5	ACCIDENT 1	NORMAL 2	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 3
TEMPERATURE (°F) MAXIMUM	104	118	135	104	125	147	104	118	163	104	129	165	104	116	163
MINIMUM	60	—	—	60	—	—	50	—	—	50	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	0	—	ACCIDENT 3 0.4	SLIGHT POS	—	ACCIDENT 3 0.4	SLIGHT POS	—	0.4	SLIGHT POS	—	ACCIDENT 3 0.4	0	—	0.4
NORMAL	SLIGHT NEG	—	—	SLIGHT POS	—	—	SLIGHT POS	—	—	SLIGHT POS	—	—	0	—	—
MINIMUM	SLIGHT NEG	—	—	0	—	—	0	—	—	0	—	—	0	—	—
HUMIDITY (%) MAXIMUM	60	—	ACCIDENT 3 100	60 2	—	ACCIDENT 3 100	60	—	100	60	—	ACCIDENT 3 100	60	—	100
MINIMUM ⑫	2	—	—	2	—	—	3	—	—	3	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	4.7×10^{4}		ACCIDENT 11 1.9×10^{5}	1×10^{3}		ACCIDENT 11 5.8×10^{2}	2×10^{7}		ACCIDENT 11 2.1×10^{7}	3.5×10^{4}		—	3.5×10^{4}		ACCIDENT 11 7.1×10^{5}

BUILDING	PRIMARY AUXILIARY BUILDING														
AREA/ ELEVATION	LETDOWN DEGAS ROOM 7'-0"			SEAL SUPPLY TANK 25'-0"			LETDOWN DEGAS RECIRC PUMPS 7'-0"			CHILLER PUMP AREA 7'-0"			VALVE MAINTENANCE PLATFORM 7'-0"		
ENVIRONMENTAL ZONE	PB-15A			PB-15B			PB-15C			PB-16			PB-17		
CONDITION	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 2	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM	104	121	300	104	127	300	104	119	300	104	130	162	104	144	201
MINIMUM	50	—	—	50	—	—	50	—	—	50	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	0	—	0.4	0	—	0.4	0	—	0.4	SLIGHT POS	—	ACCIDENT 3 0.4	0	—	ACCIDENT 3 0.4
NORMAL	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT POS	—	—	SLIGHT NEG	—	—
MINIMUM	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	0	—	—	SLIGHT NEG	—	—
HUMIDITY (%) MAXIMUM	60	—	100	60	—	100	60	—	100	60	—	ACCIDENT 3 100	60	—	ACCIDENT 3 100
MINIMUM ⑫	3	—	—	3	—	—	3	—	—	3	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	2×10^{4}		—	1×10^{3}		ACCIDENT 11 5.8×10^{2}	2×10^{1}		—	8.4×10^{3}		ACCIDENT 11 2.4×10^{5}	2×10^{1}		ACCIDENT 11 2.4×10^{5}

BUILDING	PRIMARY AUXILIARY BUILDING														
AREA/ ELEVATION	HA/FILTER CUBICLES 7'-0"			REGEN DEMIN CUBICLES 7'-0"			CHARGING PUMP ROOMS 7'-0"			DEGAS COND RECEIVER (-)16'-0"			RAACT PIPE AREA & AREA "A" (-)16'-0"		
ENVIRONMENTAL ZONE	PB-18			PB-19			PB-20 (A,B,C)			PB-21			PB-22		
CONDITION	NORMAL 2	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 1	ABNORMAL 5	ACCIDENT 3
TEMPERATURE (°F) MAXIMUM	104	124	185	125	149	196	104	105	144	104	151	229	104	152	220
MINIMUM	50	—	—	50	—	—	50		—	50	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	0	—	0.4	0	—	ACCIDENT 3 0.4	0	—	ACCIDENT 4 1.0	SLIGHT POS	—	ACCIDENT 3 0.4	0	—	0.4
NORMAL	SLIGHT NEG	—	—	0	—	—	0	—	—	SLIGHT POS	—	—	SLIGHT NEG	—	—
MINIMUM	SLIGHT NEG	—	—	0	—	—	0	—	—	0	—	—	SLIGHT NEG	—	—
HUMIDITY (%) MAXIMUM	60	—	100	34	—	ACCIDENT 3 100	60	—	ACCIDENT 4 100	60	—	ACCIDENT 3 100	60	—	100
MINIMUM ⑫	3	—	—	3	—	—	3	—	—	3	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	2×10^{8}		—	2×10^{8}		—	4.7×10^{4}		ACCIDENT 11 2.9×10^{7}	2×10^{1}		ACCIDENT 11 3.4×10^{7}	2×10^{1}		ACCIDENT 11 2.2×10^{7}

BUILDING	PRIMARY AUXILIARY BUILDING														
AREA/ ELEVATION	REACTOR P-E TUNNEL (-)23'-0"			COND RECEIVER PUMP ROOM (-)26'-0"			ELECTRICAL PIPE CHASE (-)26'-0"			STAIRWELL NO 2 (-)26'-0"			STAIRWELL NO 1 7'-0"		
ENVIRONMENTAL ZONE	PB-23			PB-24			PB-25			PB-26			PB-27		
CONDITION	NORMAL 2	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 3
TEMPERATURE (°F) MAXIMUM	104	153	220	104	128	220	104	135	220	104	119	220	104	107	163
MINIMUM	50	—	—	50	—	—	50	—	—	50	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	SLIGHT POS	—	0.4	SLIGHT POS	—	0.4	0	—	0.4	0	—	0.4	0	—	0.4
NORMAL	SLIGHT POS	—	—	SLIGHT POS	—	—	0	—	—	0	—	—	0	—	—
MINIMUM	0	—	—	0	—	—	0	—	—	0	—	—	0	—	—
HUMIDITY (%) MAXIMUM	60	—	100	60	—	100	60	—	100	60	—	100	60	—	100
MINIMUM ⑫	3	—	—	3	—	—	3	—	—	3	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	2×10^{1}		ACCIDENT 11 2.2×10^{7}	2×10^{1}		ACCIDENT 11 2.0×10^{7}	1×10^{3}		ACCIDENT 11 3.1×10^{5}	2×10^{1}		ACCIDENT 11 2.2×10^{7}	1×10^{3}		—

BUILDING	PRIMARY AUXILIARY BUILDING												FUEL STORAGE BUILDING		
AREA/ ELEVATION	RAD WDM AND WPB ACCESS AREA 25'-0"/53'-0"			HVAC PLENUM 39'-0"			RADIOACTIVE PIPE CHASE 25'-0"			SAMPLE HX ROOM 2'-0"			SPENT FUEL PUMP AREA 7'-0"		
ENVIRONMENTAL ZONE	PB-28			PB-29			PB-17A			PB-18A			FSB-1		
CONDITION	NORMAL 1	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 2	ABNORMAL 5	ACCIDENT 3	NORMAL 1	ABNORMAL 5	ACCIDENT 1	NORMAL 3	ABNORMAL 5	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM	104	116	175	104	118	127	104	134	185	104	197	190	104	137	186
MINIMUM	50	—	—	0	—	—	60	—	—	50	—	—	60	—	—
PRESSURE (PSIG) MAXIMUM	0	—	0.05	0	—	0	0	—	0.4	0	—	ACCIDENT 3 0.4	0	—	ACCIDENT 5 SLIGHT POS
NORMAL	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—
MINIMUM	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	1-1.3	—	—
HUMIDITY (%) MAXIMUM	60	—	100	60	—	37	60	—	100	60	—	ACCIDENT 3 100	60	—	ACCIDENT 5 100
MINIMUM ⑫	3	—	—	30	—	—	2	—	—	3	—	—	2	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^{3}		—	1×10^{3}		—	2×10^{1}		ACCIDENT 11 2.4×10^{7}	2×10^{2}		ACCIDENT 11 2.1×10^{7}	1×10^{3}		

BUILDING	FUEL STORAGE BUILDING												CONTAINMENT ENCLOSURE		
AREA/ ELEVATION	FUEL POOL AREA 7'-0"			SPENT FUEL STORAGE 25'-0"			SPENT FUEL HX 21'-6"			FILTER ROOM 64'-0"			FAN AREA 21'-0"		
ENVIRONMENTAL ZONE	FSB-2			FSB-3			FSB-4			FSB-5			CE-1		
CONDITION	NORMAL 3	ABNORMAL 5	ACCIDENT 1	NORMAL 3	ABNORMAL 5	ACCIDENT 1	NORMAL 3	ABNORMAL 5	ACCIDENT 1	NORMAL 3	ABNORMAL 5	ACCIDENT 1	NORMAL 2	ABNORMAL 5	ACCIDENT 4
TEMPERATURE (°F) MAXIMUM	104	104	138	104	104	138	104	104	138	104	104	136	104	97	150
MINIMUM	60	—	—	60	—	—	60	—	—	60	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	0	—	ACCIDENT 5 SLIGHT POS	0	—	ACCIDENT 5 SLIGHT POS	0	—	ACCIDENT 5 SLIGHT POS	0	—	ACCIDENT 5 SLIGHT POS	0	—	5.0
NORMAL	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—
MINIMUM	1-1.3	—	—	1-1.3	—	—	1-1.3	—	—	1-1.3	—	—	SLIGHT NEG	—	—
HUMIDITY (%) MAXIMUM	60	—	ACCIDENT 5 100	60	—	ACCIDENT 5 100	60	—	ACCIDENT 5 100	60	—	ACCIDENT 5 100	60	—	100
MINIMUM ⑫	2	—	—	[illegible]	—	—	2	—	—	2	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^{3}			1×10^{3}			1×10^{3}			1×10^{3}		⑯	4.7×10^{4}		ACCIDENT 11 3.6×10^{8}

NOTE
FOR NOTES AND GENERAL NOTES SEE THIS DRAWING SHEET 1 OF 4

17	7-22-83	UPDATED SERVICE ENVIRONMENT CHART ADDED NOTES 13,14,15,16 & DELETED SHEET 5 AS NOT REQ'D FOR IE EQUIP QUALIFICATION							
16	4-12-83	UPDATED SERVICE ENVIRONMENT CHART ADDED SH. 4 & 5							

NUCLEAR SAFETY RELATED
ENGINEER
STATE REG NEW HAMPSHIRE NO 5842

SERVICE
ENVIRONMENT CHART
PUBLIC SERVICE CO OF NEW HAMPSHIRE
SEABROOK STATION
UNITED ENGINEERS

9763-F-300219 SHEET 3 OF 4

BUILDING	EQUIP														
AREA/ ELEVATION	CBS VAULTS (-)61'-0"			CBS VAULTS (-)61'-0"			CBS VAULTS (-)31'-10"			CBS VAULTS (-)31'-10"			RHR VAULTS (-)61'-0"		
ENVIRONMENTAL ZONE	EV-1A			EV-1B			EV-2A			EV-2B			EV-3A		
CONDITION	NORMAL 2	ABNORMAL 3	ACCIDENT 4	NORMAL 2	ABNORMAL 3	ACCIDENT 4	NORMAL 2	ABNORMAL 3	ACCIDENT 4	NORMAL 2	ABNORMAL 3	ACCIDENT 4	NORMAL 2	ABNORMAL 3	ACCIDENT 4
TEMPERATURE (°F) MAXIMUM	104	92	189	104	92	189	104	93	189	104	93	189	104	92	189
MINIMUM	50	—	—	50	—	—	50	—	—	50	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	SLIGHT POS	—	1.00	SLIGHT POS	—	1.00	0	—	1.00	0	—	1.00	0	—	1.00
NORMAL	SLIGHT POS	—	—	SLIGHT POS	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—
MINIMUM	0	—	—	0	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—
HUMIDITY (%) MAXIMUM	60	—	100	60	—	100	60	—	100	60	—	100	60	—	100
MINIMUM ⑫	3	—	—	3	—	—	3	—	—	3	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	4.7×10^6		ACCIDENT 1 9.6×10^8	4.7×10^6		ACCIDENT 1 9.6×10^6	4.7×10^6		ACCIDENT 1 5.8×10^6	4.7×10^6		ACCIDENT 1 5.8×10^6	4.7×10^6		ACCIDENT 11 4.7×10^7

BUILDING															
AREA/ ELEVATION	RHR VAULTS (-)61'-0"			RHR VAULTS (-)50'-0"			RHR VAULTS (-)50'-0"			RHR VAULTS (-)31'-10"			RHR VAULTS (-)31'-10"		
ENVIRONMENTAL ZONE	EV-3B			EV-4A			EV-4B			EV-5A			EV-5B		
CONDITION	NORMAL 2	ABNORMAL 3	ACCIDENT 4	NORMAL 2	ABNORMAL 3	ACCIDENT 4	NORMAL 2	ABNORMAL 3	ACCIDENT 4	NORMAL 2	ABNORMAL 3	ACCIDENT 4	NORMAL 2	ABNORMAL 3	ACCIDENT 4
TEMPERATURE (°F) MAXIMUM	104	92	189	104	93	189	104	92	189	104	93	189	104	93	189
MINIMUM	50	—	—	50	—	—	50	—	—	50	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	0	—	1.00	0	—	1.00	0	—	1.00	0	—	1.00	0	—	1.00
NORMAL	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—
MINIMUM	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—
HUMIDITY (%) MAXIMUM	60	—	100	60	—	100	60	—	100	60	—	100	60	—	100
MINIMUM ⑫	3	—	—	3	—	—	3	—	—	3	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	4.7×10^6		ACCIDENT 11 4.7×10^7	4.7×10^6		ACCIDENT 8 3×10^7	4.7×10^6		ACCIDENT 11 3×10^7	4.7×10^6		ACCIDENT 11 6×10^7	4.7×10^6		ACCIDENT 11 6×10^7

BUILDING	EQUIPMENT VAULTS						ELECTRICAL TUNNELS								
AREA/ ELEVATION	STAIRWELLS (-)61'-0"						CONTROL BUILDING TO PAB 30'-8"			TRAIN A 0'-0"			TRAIN B (-)120'-0"		
ENVIRONMENTAL ZONE	EV-6A			EV-6B			ET-1			ET-2A			ET-2B		
CONDITION	NORMAL 2	ABNORMAL 3	ACCIDENT 1	NORMAL 2	ABNORMAL 3	ACCIDENT 4	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM	104	114	196	104	117	189	104	125	144	104	105	105	104	112	121
MINIMUM	50	—	—	50	—	—	18	—	—	50	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	0	—	ACCIDENT 4 1.00	0	—	1.00	0	—	0	0	—	SLIGHT POS	0	—	SLIGHT POS
NORMAL	0	—	—	0	—	—	0	—	—	0	—	—	0	—	—
MINIMUM	0	—	—	0	—	—	0	—	—	0	—	—	0	—	—
HUMIDITY (%) MAXIMUM	60	—	ACCIDENT 4 100	60	—	100	60	—	9	60	—	58	60	—	35
MINIMUM ⑫	3	—	—	3	—	—	5	—	—	3	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	4.7×10^6		ACCIDENT 11 6×10^7	4.7×10^6		ACCIDENT 11 6×10^7	1×10^3		—	1×10^3		—	1×10^3		—

BUILDING	ELECTRICAL TUNNELS									ELECTRICAL PENETRATION AREA					
AREA/ ELEVATION	TRAIN A AIRLOCK 0'-0"			TRAIN B AIRLOCK (-)120'-0"			DUCT BANK PENETRATION (-)126'-0"			TRAIN A 0'-0"			TRAIN B (-)126'-0"		
ENVIRONMENTAL ZONE	ET-4A			ET-4B			ET-5B			ET-3A			ET-3B		
CONDITION	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 9	NORMAL 1	ABNORMAL 3	ACCIDENT 9
TEMPERATURE (°F) MAXIMUM	104	111	112	104	111	115	104	104	105	98	113	113	85	111	111
MINIMUM	50	—	—	50	—	—	50	—	—	50	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	SLIGHT POS	—	SLIGHT POS	SLIGHT POS	—	SLIGHT POS	0	—	—	0	—	—	0	—	—
NORMAL	0	—	—	0	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—
MINIMUM	0	—	—	0	—	—	SLIGHT NEG	—	(-)0.25"WG	SLIGHT NEG	—	(-)0.25"WG	SLIGHT NEG	—	(-)0.25"WG
HUMIDITY (%) MAXIMUM	60	—	48	60	—	45	60	—	58	35	—	48	24	—	50
MINIMUM ⑫	3	—	—	3	—	—	50	—	—	3	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		ACCIDENT 1 8.4×10^3	1×10^3		ACCIDENT 1 3.4×10^4

BUILDING	CONTROL BUILDING														
AREA/ ELEVATION	MAIN CONTROL ROOM 75'-0"			GENERAL AREAS 75'-0"			COMPUTER ROOM 75'-0"			HVAC ROOM 75'-0"			CABLE SPREADING ROOM 50'-0"		
ENVIRONMENTAL ZONE	CB-1			CB-A,B,C,D,E,F,G			CB-2			CB-3			CB-4		
CONDITION	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL	ACCIDENT	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM	75	75⑮	75	75	75⑮	75	72	—	—	83	83⑮	83	104	95	95
MINIMUM	70	—	—	70	—	—	72	—	—	72	—	—	55	—	—
PRESSURE (PSIG) MAXIMUM	SLIGHT POS	—	SLIGHT POS	SLIGHT POS	—	SLIGHT POS	SLIGHT POS	—	—	SLIGHT NEG	—	SLIGHT NEG	0	—	0
NORMAL	SLIGHT POS	—	—	SLIGHT POS	—	—	SLIGHT POS	—	—	SLIGHT NEG	—	—	0	—	—
MINIMUM	SLIGHT POS	—	—	SLIGHT POS	—	—	SLIGHT POS	—	—	SLIGHT NEG	—	—	0	—	—
HUMIDITY (%) MAXIMUM	60	—	60	60	—	60	60	—	—	38	—	38	60	—	60
MINIMUM ⑫	30	—	—	30	—	—	30	—	—	30	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—

BUILDING	CONTROL BUILDING														
AREA/ ELEVATION	MECHANICAL EQUIPMENT ROOM 50'-0"						TRAIN A SWITCHGEAR ROOM 21'-6"			TRAIN B SWITCHGEAR ROOM 21'-6"			STAIRWELL 21'-6"		
ENVIRONMENTAL ZONE	CB-5A			CB-5B			CB-6A			CB-6B			CB-9		
CONDITION	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL	ACCIDENT
TEMPERATURE (°F) MAXIMUM	89	89⑮	89	89	89⑮	88	104	104⑮	104	104	104⑮	104	107	—	—
MINIMUM	55	—	—	55	—	—	55	—	—	55	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	SLIGHT NEG	—	SLIGHT NEG	SLIGHT NEG	—	SLIGHT NEG	SLIGHT POS	—	SLIGHT POS	SLIGHT POS	—	SLIGHT POS	SLIGHT POS	—	—
NORMAL	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT POS	—	—	SLIGHT POS	—	—	0	—	—
MINIMUM	SLIGHT NEG	—	—	SLIGHT NEG	—	—	0	—	—	0	—	—	0	—	—
HUMIDITY (%) MAXIMUM	50	—	50	50	—	50	60	—	60	60	—	60	55	—	—
MINIMUM ⑫	3	—	—	3	—	—	3	—	—	3	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—

BUILDING	CONTROL BUILDING														
AREA/ ELEVATION	BATTERY ROOMS 21'-6"												MG SETS 21'-6"		
ENVIRONMENTAL ZONE	CB-7A			CB-7B			CB-8A			CB-8B			CB-5J0		
CONDITION	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1	NORMAL 1	ABNORMAL 3	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM	95	95⑮	95	95	95⑮	95	95	95⑮	95	95	95⑮	95	104	104	104
MINIMUM	65	—	—	65	—	—	65	—	—	65	—	—	55	—	—
PRESSURE (PSIG) MAXIMUM	SLIGHT NEG	—	SLIGHT NEG	SLIGHT NEG	—	SLIGHT NEG	SLIGHT NEG	—	SLIGHT NEG	SLIGHT NEG	—	SLIGHT NEG	0	—	0
NORMAL	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	0	—	—
MINIMUM	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	SLIGHT NEG	—	—	0	—	—
HUMIDITY (%) MAXIMUM	50	—	50	50	—	50	50	—	50	50	—	50	60	—	60
MINIMUM ⑫	2	—	—	2	—	—	2	—	—	2	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—	1×10^3		—

BUILDING	TANK FARM						AIR INTAKE			EMERGENCY FEEDWATER PUMP BUILDING					
AREA/ ELEVATION	REFUELING WATER STORAGE 20'-0"			REACTOR MAKE UP STORAGE 20'-0"			CONTROL BUILDING VENT MAKE UP AIR INTAKE 8'-6"			PUMP HOUSE 27'-0"			STAIRWELL (+) 26'-0"		
ENVIRONMENTAL ZONE	TF-1			TF-2			MUA-1			EFW-1			EFW-2		
CONDITION	NORMAL 1	ABNORMAL 3	ACCIDENT 3	NORMAL 1	ABNORMAL 3	ACCIDENT 3	NORMAL 1	ABNORMAL	ACCIDENT	NORMAL 1	ABNORMAL	ACCIDENT 1	NORMAL 1	ABNORMAL	ACCIDENT 1
TEMPERATURE (°F) MAXIMUM	104	109	290	104	109	290	104	—	—	104	—	104	104	—	104
MINIMUM	0 ⑤	—	—	0 ⑤	—	—	46	—	—	50	—	—	50	—	—
PRESSURE (PSIG) MAXIMUM	0	—	12	0	—	12	0	—	—	SLIGHT POS	—	ACCIDENT 5 SLIGHT POS	0	—	ACCIDENT 5 SLIGHT POS
NORMAL	SLIGHT NEG	—	—	SLIGHT NEG	—	—	0	—	—	SLIGHT POS	—	—	SLIGHT NEG	—	—
MINIMUM	(-)1.5	—	—	(-)1.5	—	—	0	—	—	0	—	—	SLIGHT NEG	—	—
HUMIDITY (%) MAXIMUM	60	—	100	60	—	100	60	—	—	60	—	ACCIDENT 5 100	50	—	ACCIDENT 5 100
MINIMUM ⑫	3	—	—	3	—	—	5	—	—	2	—	—	3	—	—
RADIATION (RADS) TOTAL INTEGRATED DOSE ④	2.3×10^4		—	2.3×10^4		—	1×10^3		—	1×10^3		—	1×10^3		—

NOTES:
FOR NOTES AND GENERAL NOTES SEE
THIS DRAWING SHEET 1 OF 4

17		UPDATED SERVICE ENVIRONMENT CHART ADDED NOTES (3,4,7,5,6,8) DELETED NOTES AS NOT REQ'D FOR 1E EQUIP QUALIFICATION						
16		UPDATED SERVICE ENVIRONMENT CHART ADDED SH. 4 & 5						

NUCLEAR SAFETY RELATED

ENGINEER
STATE REG NEW HAMPSHIRE NO 2842

SERVICE
ENVIRONMENT CHART

PUBLIC SERVICE CO OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

9763-F-300219 SHEET 4 OF 4

4.0 QUALIFICATION OF EQUIPMENT

4.1 Acceptance Criteria

Electrical equipment was evaluated to ensure that it will function as required after exposure to its normal and postulated accident environments. All testing and analysis conformed to the requirements of IEEE 323-1974 and addressed each of the parameters discussed below.

4.1.1 Functional Criteria

The performance of equipment before, during and after environmental testing must meet the functional requirements contained within its associated Seabrook Equipment Specification.

4.1.2 Sequence

The sequence and combination of environments applied to a test specimen must conform to that required by IEEE 323-1974 and related daughter standards, unless otherwise justified. Examples of acceptable justification for deviation from the IEEE 323-1974 test sequence requirements were; (a) elimination of the requirement to age a device prior to seismic testing if previous testing had demonstrated that pre-aging did not have a significant effect upon the device; (b) elimination of the requirement for steam testing if the only harsh accident environment the equipment would be exposed to is elevated radiation, or; (c) the chosen sequence is more severe than that required by IEEE 323-1974.

4.1.3 Normal Service Conditions - Aging Methodology

The purpose of pre-aging equipment as part of qualification testing is to put the test specimen in its end-of-life condition prior to subjecting it to a Design Basis Event (DBE) environment. The Seabrook EQ Program considered the aging mechanisms discussed below to account for equipment deterioration due to exposure to normal plant operating service conditions.

A. Thermal Aging

Thermal aging is the deterioration of equipment due to its exposure to elevated temperatures over extended periods of time. As Seabrook's design life is 40 years, natural aging of test specimens is not practical unless it is part of an ongoing program. Therefore, for most equipment, accelerated thermal aging techniques within the limitation of state-of-the-art technology are considered acceptable for placing test specimens in an end-of-life condition.

The goal of the Seabrook aging program is to simulate the 40-year plant life at the maximum normal ambient temperature to which the equipment will be exposed. However, this goal is sometimes impractical due to equipment and/or aging data limitations. In these cases, it was considered acceptable to determine a qualified life based upon some duration less than 40 years. For qualified lives less than 40 years, appropriate actions to extend the qualified life (e.g., change-out of elastomers, replace equipment, etc.) are input to the plant maintenance/surveillance program to ensure that no equipment would exceed its qualified life.

The accelerated aging methodologies utilized in the Seabrook EQ Program are the Arrhenius equation or the 10-Degree Rule, if shown to be more conservative.

Arrhenius Methodology

The preferred model for establishing accelerated thermal aging test conditions is the Arrhenius equation:

$$\ln(ts/ta) = \frac{\theta}{k}\left(\frac{1}{Ts} - \frac{1}{Ta}\right)$$ [EPRI NP-1558, Eq. 4-16]

Where t_s = Service Time
t_a = Test Time
θ = Activation Energy (eV)
k = Boltzmann's constant = 8.617 x 10^{-5} eV/molecule - °K
T_s = Service Temperature (°K)
T_a = Test Temperature (°K)

Basically, the Arrhenius model uses chemical reaction rates to determine the amount of time at the normal plant service temperatures which will result in the equivalent amount of degradation which a device experienced due to exposure to elevated test temperatures over a relatively short test time.

The activation energy is an empirical constant which was determined for equipment by either of two techniques. The first method is based upon the guidelines developed in IEEE 101-1972, "Guide for Statistical Analysis of Thermal Life Data." This technique utilizes a regression analysis based upon the time, at different temperatures, required for a device to reach a pre-defined endpoint.

If sufficient data was not available to perform regression analysis for an assembled device, the activation energy was determined by examination of the component materials of construction within the device. When performing this type of analysis, it is necessary to look only at non-metallic and organic materials of construction since the rigid structure and relatively high melting points of metallic and inorganic materials makes them insensitive to thermal aging in the range of temperatures expected to occur in the plant.

When determining the activation energy of a device by this method, the activation energy for each material of construction was determined from appropriate manufacturer's data and industry reports. The lowest activation energy determined, indicating the material most sensitive to thermal aging, was then assumed to be the "weak-link" and assigned to the device as a whole. Once the activation energy was known, test parameters could be determined using the Arrhenius correlation.

10-Degree Rule

Depending on the equipment vendor, the 10-degree rule rather than Arrhenius techniques was used to determine aging parameters. This model for thermal degradation is also based upon chemical reaction rates and states that for each 10-degree (°C or K) rise in temperature, the specific reaction rate doubles. For example, 40 years at 40°C results in the same amount of degradation as 20 years at 50°C, 10 years at 60°C, etc. The 10-degree rule was used only when shown to be more conservative than Arrhenius methodology.

B. Radiation Aging

An important consideration for equipment aging is the effects of radiation on the degradation of non-metallic materials. For Seabrook, this aging mechanism was accounted for by irradiating equipment to at least the 40 year normal plus 1 year accident total integrated dose (TID) as part of the IEEE 323-1974 test sequence.

The exception to this was that equipment located outside containment which will not experience an adverse change in the radiation fields as a result of postulated accident conditions. Equipment in this category typically will experience a 40-year-plus accident TID of less than 10^4 rads. Analysis of existing literature on the effects of radiation on non-metallic materials (WCAP-8587, Appendix C) demonstrates that materials typical to nuclear power plant equipment construction would not be significantly affected by radiation doses less than 10^4 rads. Therefore, qualification for these low doses was not necessary.

In order to properly simulate normal radiation conditions, it was considered necessary to address gamma radiation only. However, during accident conditions, plant equipment inside containment could be exposed to both gamma and beta radiation. Therefore, the postulated accident radiation doses to which this equipment was evaluated are the combined gamma and beta doses in equivalent rads, accounting for the full amount of possible energy deposition to the equipment. The use of gamma radiation alone during testing is considered conservative for simulating the effects of beta radiation since gamma rays are so much more penetrating than beta particles. Also, because of the limited penetration power of beta particles, equipment contained within a sealed enclosure which would not permit the entrance of beta emitters need not include the equivalent beta dose as part of the postulated accident TID, since the beta radiation would not penetrate the enclosure.

C. Humidity Aging

Aging due to long-term exposure to humidity was not evaluated as part of this program. According to 10 CFR 50.49 (E.2), humidity during design basis accidents only needs to be considered.

D. Cycle Aging

Cycle aging was evaluated for electro-mechanical equipment only, that is to say electrical equipment which has moving parts or functions in some repeatable manner. This equipment must be cycled to at least the number of operations postulated to occur over the equipment's plant life, including postulated accident operability requirements. Typically, this type of testing is performed as part of the baseline functional or design testing performed on a device prior to other aging simulations.

E. Seismic

The final step in the aging process is to expose the device to the seismic conditions postulated to occur at Seabrook. The only concern regarding seismic qualification addressed in this program is that it was performed in its proper IEEE 323-1974 sequence, unless otherwise justified by the manufacturer. The adequacy of the seismic testing and/or analysis used to seismically qualify equipment is not part of this report.

F. Special Considerations

All aging applied to equipment within the scope of the Seabrook EQ Program was performed to the current state-of-the-art for aging methodologies. However, the state-of-the-art does not currently allow for a quantitative evaluation of dose-rate or other synergistic effects resulting from the different sequence of applying radiation in conjunction with elevated temperature, though it is recognized that these effects have been detected to some degree in current limited research work.

The conservatisms and margins used to calculate the postulated accident environments, derive accelerated aging parameters, and DBE test levels provide sufficient assurance that these effects have been enveloped.

As part of Seabrook's commitment to maintaining the environmental qualification of its equipment with respect to known synergistic effects, the information and results of an equipment aging study conducted by the University of Connecticut's Institute of Materials Sciences under the sponsorship and management of the Electric Power Research Institute (EPRI Program 1707-13), will be obtained and evaluated for applicability to Seabrook equipment. Participation in this aging study is through the Yankee Atomic Electric Company which will have access to all results through Maine Yankee's direct participation.

In addition, Seabrook has in place a rigorous equipment preventative maintenance program which will detect any equipment deterioration in a timely manner to ensure equipment performance during both normal and accident conditions. In this manner, aging beyond that predicted by the models and mechanisms utilized by the Seabrook EQ Program will not affect plant safety. The Seabrook Maintenance/Surveillance Program is discussed further in Section 5.0.

4.1.4 Accident Environments

Each piece of equipment entered into the Seabrook Program was evaluated to determine if it would function as required during exposure to postulated accident conditions. The specific environmental parameters evaluated are discussed in detail below.

A. Operating Time

All equipment in this program which is required to function in a harsh environment will be qualified for the postulated post-accident duration of one year, unless a time of less than one year can be justified. Justification(s) for time of less than one year are provided as part of the supporting qualification documentation for specific plant equipment.

In order to meet this one year operating time, Seabrook equipment must be qualified to the forty year normal plus one year accident total integrated radiation dose; and must demonstrate qualification in the harsh environment it could be exposed to for at least the one year duration.

Should it be determined that specific pieces of equipment cannot be qualified for one year, the required operating time for that component will be determined and the component will be qualified for at least that duration plus margin.

B. DBE Testing - Temperature/Pressure/Humidity

All equipment which could be subjected to a steam (i.e., 100% relative humidity) environment during a postulated accident has been tested to demonstrate that it will function as required when exposed to the accident temperature, pressure and humidity conditions. To ensure qualification, the test time-temperature profile must envelope the postulated accident profile. In those cases where the actual test duration was less than one year, a comparison of the test time-temperature profile to the plant postulated accident profile was made by extrapolation using Arrhenius Methodology.

The test temperature and pressure conditions should demonstrate that the test was conducted at saturated steam conditions as a minimum, in order to qualify the equipment for 100% relative humidity, and that the peak test pressure envelopes the peak postulated accident pressure plus margin.

C. Radiation

Accident radiation exposure is accounted for during equipment pre-aging as discussed in Section 4.1.3.B above.

D. Chemical Spray

For equipment inside of containment, the concentration and pH used for qualification was shown to be at least as severe as that used in the plant. The chemical spray must be applied during DBE (steam) testing in order to accurately simulate actual plant conditions.

E. Submergence

All electrical equipment required to perform a safety function or which may fail in a manner detrimental to plant safety subsequent to submergence as a result of postulated design basis events is qualified by testing in a submerged condition. Operability is demonstrated for the duration required.

4.1.5 Margins

Equipment within the scope of the Seabrook EQ Program was qualified to accident environmental profiles which enveloped the plant parameters discussed in Section 4.1.4 above plus appropriate margins.

The suggested values in Section 6.3.1.5, "Margin", of IEEE 323-1974 were used to establish this qualification except as discussed below.

For environmental transients, the preferred method used to apply margin is by adding the temperature and pressure margins suggested in Section 6.3.1.5 of IEEE 323-1974. If these margins could not be met, then temperature and pressure margin was accounted for by applying the peak test transient without temperature and pressure margin twice as suggested in IEEE 323-1983, Section 6.3.1.5, "Margin".

The plus 10 percent equipment operating time margin suggested in IEEE 323-1974 is only applied in those cases where the period of time the equipment is required to be operational following the start of the DBE is justified to be less than the conservative one year Seabrook requirement.

The Seabrook one year post DBE equipment operating time requirement is considered to be a very conservative value which, when demonstrated, assures that all equipment will perform its safety function as required.

4.1.6 Connection Interfaces

The actual Seabrook electrical equipment installation and connection is evaluated with respect to the tested equipment to ensure that the tested configuration adequately simulates the as installed condition. This evaluation includes the identification of all pieces of equipment which must be sealed to prevent moisture intrusion from impairing the equipment's ability to perform its safety function(s). Equipment which must be sealed to prevent moisture intrusion when exposed to steam conditions coincident with significantly elevated pressure is provided with environmentally qualified seals. Equipment located in those areas of the plant where it will experience a condensing humidity environment is installed utilizing a down slope conduit and junction box with drain hole system.

Interconnecting equipment (e.g. cable, splices, terminal blocks, etc.) is evaluated and qualified on a generic worst-case bases for all harsh environmental plant areas.

4.2 Documentation

Documentation supporting the environmental qualification of electrical equipment is contained in Environmental Qualification Files (EQF).

The results of the qualification efforts are summarized on the Qualification Evaluation Worksheets (QEW) contained in Appendix B.

A list of electrical equipment for which qualification is incomplete and the actions initiated to resolve outstanding qualification items is provided in Appendix C.

4.2.1 Environmental Qualification Files (EQF)

Documentation which supports the environmental qualification of electrical equipment important to safety is evaluated and assembled into auditable Environmental Qualification Files (EQF). The EQF format is provided herein as Figure 4-1.

An EQF is prepared for each similar make and model type of equipment by UE&C Purchase Order/Reference Number. For example, UE&C Purchase Order No. 9763-006-248-5 is for butterfly valves and governs the procurement of such important to safety electrical equipment as motor and air operated valves, and associated limit switches and solenoid valve air operators. Therefore, EQF No. 248-5-01 is for Limitorque valve actuators, EQF No. 248-5-02 is for ASCO solenoid valves, and EQF No. 248-5-03 is for NAMCO position switches. This format is followed for all UE&C Purchase Orders which contain electrical equipment important to safety. Westinghouse equipment within the NSSS scope of supply is also assigned a UE&C Reference Number which begins with a designation of NSS.

The EQF is a complete, auditable, and controlled document. Each contains an Environmental Qualification Assessment Report (checklist) which provides a consistent basis for evaluating all supporting qualification documentation to the criteria of NUREG-0588. The supporting documentation cited on this Checklist is included as References within the EQF. this documentation includes equipment specifications, test reports, correspondence, drawings, calculations, etc., as appropriate.

The specific equipment for which each EQF provides the supporting qualification documentation is shown on an extraction by EQF No. of the Harsh Equipment List (Section 2.2.1) provided in the front of each file.

The environmental qualification of the specific equipment within the scope of each EQF is evaluated to the worst case compilation of environmental conditions for the individual plant location(s) of this equipment at Seabrook Station.

The environmental qualification of Westinghouse supplied NSSS equipment was performed in accordance with the methodology outlined in WCAP 8587, Revision 6-A (NP), "Methodology for Qualifying Westinghouse WRD Supplied NSSS Safety Related Electrical Equipment". The qualification program established by WCAP 8587 is generic to Westinghouse supplied NSSS's; however, the results of this program are compared and accepted for Seabrook Station specific environmental conditions through the EQF format.

The results of the environmental qualification efforts are summarized on the Qualification Evaluation Worksheets contained in each EQF and provided herein as Appendix B.

4.2.2 Qualification Evaluation Worksheet (QEW)

The results of completed qualification documentation efforts are summarized on the Qualification Evaluation Worksheets (QEW) contained in Appendix B.

Each QEW contains the following information:

a. The EQF and Purchase Order Number;

b. Equipment Description - including the equipment Identification (Tag) No(s)., type, manufacturer, and model number, specified and demonstrated accuracy;

c. The plant location(s) and environmental zone(s) considered to exhibit the limiting (worst case) environmental parameters for which qualification is evaluated;

d. The peak postulated normal and accident environmental conditions based upon the limiting plant areas described in (c) above (i.e., temperature, pressure, humidity, chemical spray, radiation and thermal aging temperature and time), and the specific references from which the data was obtained;

e. The equipment's required post accident operating time;

f. The peak qualified environmental conditions and demonstrated operating time, and the specific qualification documentation references from which this data was obtained; and

g. The flood level, equipment elevation and a summary of submergence qualification, if applicable.

4.2.3 Electrical Equipment With Incomplete Qualification Documentation

As a result of the Seabrook Station environmental qualification evaluation efforts, qualification documentation is incomplete for several specific equipment items. Examples of incomplete qualification documentation include final test reports for equipment still undergoing testing in accordance with IEEE Standard 323-1974 and the evaluation of documentation for equipment which has not yet been purchased.

A summary of outstanding qualification items and the actions initiated to ensure qualification to Seabrook Station program objectives is provided in Appendix C.

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
SEABROOK STATION
ENVIRONMENTAL QUALIFICATION OF
ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY

FIGURE 4-1

ELECTRICAL EQUIPMENT QUALIFICATION FILE (EQF)

FIGURE 4-1

Public Service Company Of New Hampshire

SEABROOK STATION

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

Electrical Equipment Qualification File No. 225-03-01

Revision 0

Purchase Order No.: 9763-006-225-3

Manufacturer: NAMCO Controls

Model Number: EA 180 Series

Equipment Type: Limit Switch

Prepared By	Date	Checked By	Date

Impell Approval	Date

YAEC Approval	Date

Impell Job No. 0570-032-1661

IMPELL CORPORATION

Record of Revisions

Revision	Description	Date
0	Original Issue	

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LIST OF ATTACHMENTS

Reference	Title
	(Supporting qualification documentation)

Harsh Equipment List

(Sorted by EQF No.)

EQUIPMENT SUMMARY EVALUATION

1.0 Description

(Make/model description of evaluated equipment; similarity of tested to installed equipment, and traceability of qualification documentation to installed equipment.)

2.0 Conclusion

(Statement of environmental parameters for which qualification is required and qualification method used; statement of qualified life, and statement of qualification level achieved.)

3.0 Limitations

(Required maintenance to maintain qualified life; limitations and unique interface requirments for installed equipment to ensure applicability of qualification documentation.)

4.0 Discussion

(Brief summary discussion of test anomalies, any unique analyses used for qualification, and qualification items which are not clearly apparent in the supporting qualification documentation.)

FIGURE 4-3

REVIEW PACKAGE (BOP)

(SEE PAGE 69 OF THIS DOCUMENT FOR QEW)

ENVIRONMENTAL QUALIFICATION ASSESSMENT REPORT

Manufacturer: _____

Model Number: _____

Component: _____

Reviewer's Conclusion

|___| Acceptable (i.e., this equipment meets the requirements of NUREG-0588, Category I)

|___| Acceptable, providing the following comments are addressed

Special Conditions/Comments:

Prepared By: _____ Signature _____ Date

Checked By: _____ Signature _____ Date

Approved By: _____ Signature _____ Date

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LIST OF FIGURES

MAINTENANCE REQUIRED TO MAINTAIN QUALIFIED LIFE

DOCUMENTS REVIEWED FOR THIS REPORT

NUREG-0588, CATEGORY I QUALIFICATION REPORT REVIEW CHECKLIST

	YES	NO	NA	REFERENCE
I. SIMILARITY				
1. Have all Equipment ID's on the Master List associated with this EQ File number been addressed in the documentation?				
2. Is the documentation traceable to the plant equipment?				
II. SIMULATED SERVICE CONDITIONS AND TEST DURATION				
3. Do the temperature/pressure/humidity test parameters meet or exceed the postulated accident environmental conditions? Make a copy of the test temperature envelope and superimpose it on the required accident environmental envelope. Assure that deviations between the two are justified in the documentation.				See Figure 1
4. Do the margins of the test profiles over the plant specific profiles conform to those suggested by IEEE 323-1974 and any applicable daughter standard for this equipment.				
5. Does the test operating time under the harsh environment equal or exceed the equipment's required operating time?				

NUREG-0588, CATEGORY I QUALIFICATION REPORT REVIEW CHECKLIST

(continued)

	YES	NO	NA	REFERENCE
III. RADIATION				
6. Does the radiation dose, i.e., integrated dose, for normal operations and accident dose for the plant, fall within the envelope used in qualification?				
7. Does the total integrated dose include Beta radiation? (Is Beta radiation addressed?)				
IV. AGING				
8. Are the thermal aging parameters chosen and used in the test supported by adequate documentation or references?				
9. Was mechanical and/or electrical cycling addressed?				
10. Is the qualified life (QL) explicitly stated?				
11. Does the qualified life take into account the normal operating state of the equipment (i.e., energized)?				
V. CHEMICAL SPRAY				
12. Does the DBE qualification testing include chemical spray?				
13. Does the spray concentration and pH used in tests meet or exceed those to be used for the plant?				

NUREG-0588, CATEGORY I QUALIFICATION REPORT REVIEW CHECKLIST

(continued)

	YES	NO	NA	REFERENCE
14. Was the spray testing done while under the extremes of pressure and temperature?				
VI. SUBMERGENCE				
15. Does the test program include submergence tests?				
VII. SEISMIC				
16. Was the seismic testing/analysis done on aged component or equipment?				
17. Did the seismic testing/analysis address effects on age?				
VIII. FUNCTIONAL REQUIREMENTS				
18. Does the test plan/report specify an acceptance criteria for equipment performance?				
19. Was an initial base line test done to establish reference performance characteristics?				
20. Is the accuracy demonstrated during testing equal to or better than that specified?				
21. Has the test/analysis established that this equipment can meet plant application specific performance requirements? (e.g. accuracy response time)				

NUREG-0588, CATEGORY I QUALIFICATION REPORT REVIEW CHECKLIST

(continued)

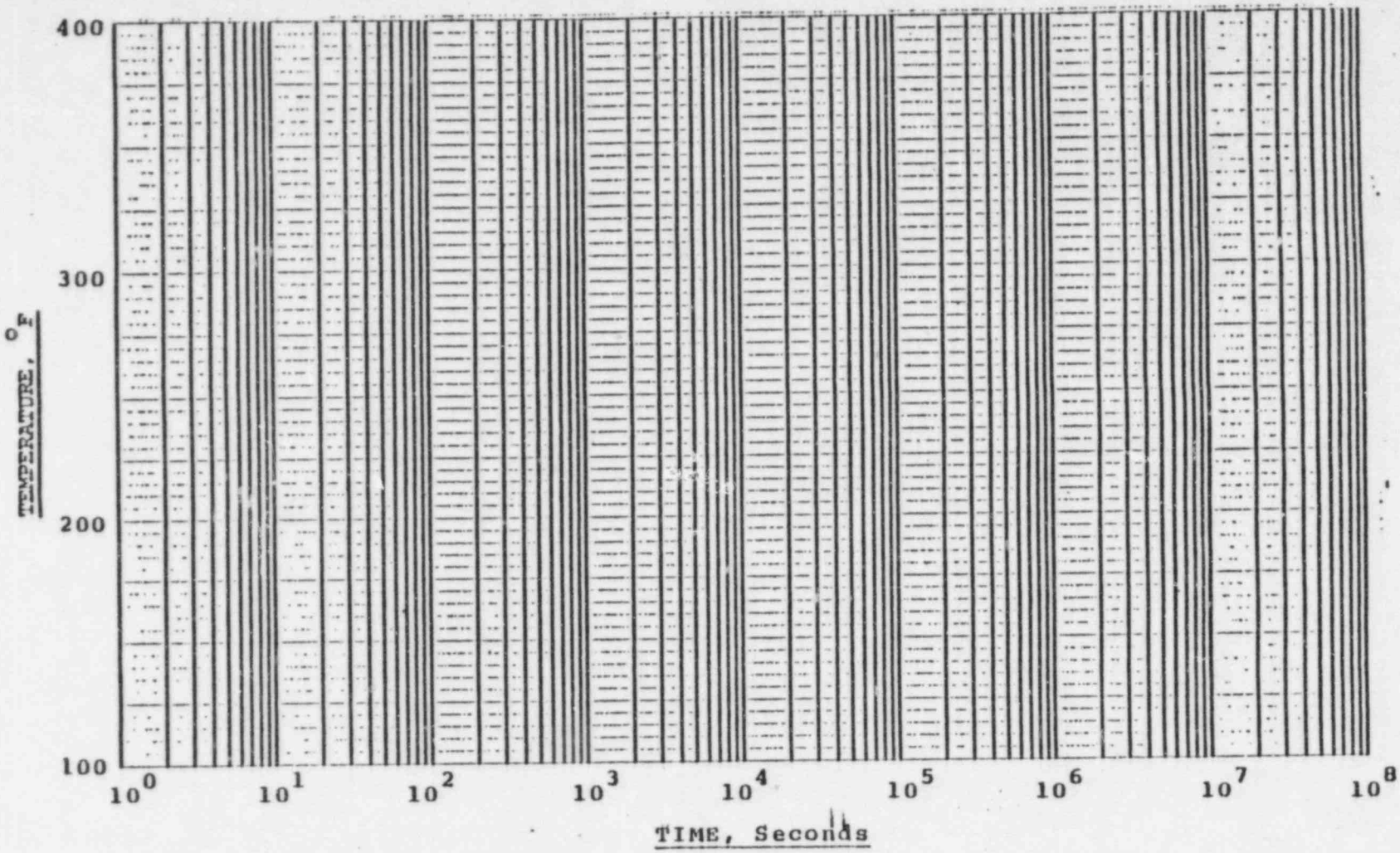
	YES	NO	NA	REFERENCE
22. Review the test results on a relative comparison basis (i.e., performance parameters of the baseline tests versus those during the various tests). Were there any anomalies or major discrepancies?				
23. If so, was it satisfactorily explained in the report?				
IX. SEQUENCE				
24. Was the same test specimen subject to the entire test sequence including aging tests?				
25. Compare the test sequence performed for this report against your understanding of what test and procedures are required as per IEEE 323-1974 and any applicable daughter standard for this equipment. Do you believe the report meets the intent of these standards?				
X. TEST SET-UP				
26. Was the test measuring equipment (TME) calibration addressed in the report?				
XI. MAINTENANCE REQUIREMENTS				
27. Are maintenance requirements and component replacement intervals specified to maintain qualified life?				

NUREG-0588, CATEGORY I QUALIFICATION REPORT REVIEW CHECKLIST

(continued)

	YES	NO	NA	REFERENCE
XII. INSTALLATION INTERFACES				
28. Have installation interfaces required to maintain qualification been identified in the test report? If yes, explain in a note.				
29. Has the actual plant installation been identified and evaluated?				

NOTES



KEY

——— Qualification Test

- - - - - Postulated Accident

Seabrook Station: EQ Assessment Report		
Figure 1: Temperature Profile Comparison		
IMPELL CORPORATION	JOB NO EQ FILE NO	PAGE OF

5.0 NEW HAMPSHIRE YANKEE OPERATIONS AND MAINTENANCE ENVIRONMENTAL QUALIFICATION PROGRAM

The purpose of the Seabrook Station Equipment Qualification Program is the preservation of the qualification of safety related systems, structures and components. The station program is based on the implementation of the station approved Design Control, Procurement and Maintenance Programs as described below.

5.1 Design Control

5.1.1 Scope

Equipment Qualification Design Control applies to the design of mechanical and electrical equipment, including subcomponents, power/control, and qualified support systems, required for safe shutdown and post accident monitoring as applicable under design basis accident conditions.

5.1.2 Instructions

A. Design changes involving safe shutdown equipment are developed in accordance with the provisions of the Nuclear Design Control Manual (NPDC).

B. Systems, components, and structures involving or interfacing with safe shutdown equipment are evaluated using the Equipment Qualification Evaluation Checklist, NPDC Form 3-1H.

C. The Nuclear Production Corporate Engineering Group maintains the environmental and seismic design basis for the life of the plant.

D. Work activities affecting safe shutdown activities are reviewed by Engineering Services personnel to verify that the equipment design configuration is maintained.

E. Abnormal plant environmental (or seismic) conditions are evaluated on a case basis to ensure equipment remains within its design parameter envelope.

F. New purchases or revisions to existing equipment within the equipment qualification scope receive an engineering evaluation to determine the need for initating a Design Coordination Report. DCRs are processed per 3.1 above.

5.2 Procurement Program

5.2.1 Scope

Equipment Qualification Procurement Control applies to the purchase, receipt inspection, storage, and handling of equipment. The controls described in this chapter apply to the operational phase and the construction phase for the purchase of operating spare parts by NHY.

5.2.2 Instructions

A. Safe Shutdown components and replacement parts/materials for safe shutdown components are procured in accordance with the provisions of the Seabrook Station Procurement and Materials Manual (SSPM).

B. Spare parts/components are ordered as "replacement in kind" (equipment to or better than the original). The procurement documents are prepared by skilled personnel familiar with the use and application of the equipment and receive a technical review by trained personnel knowledgeable in technical aspects of equipment qualification and procurement.

C. Special requirements such as test documentation, vendor certificates, analytical calculations, shelf life considerations, etc. are considered and applied to procurement documents as appropriate.

D. Amplified floor response spectra applicable to the particular equipment locations and enveloping environmental data are included as a part of specifications when applicable.

E. Receipt inspection of spare parts/components is conducted in accordance with the SSPM. The following attributes are stressed of 1E equipment:

1. Shipping damage to seals, packaging, and other items that could affect environmental integrity.

2. Review of test documentation or vendor certificates.

3. Identification/marking.

4. Shelf life.

5.3 Equipment Qualification Documentation

5.3.1 Scope

Equipment qualification documentation applies to all design inputs, test reports, calculations and analyses which support and document compliance to the requirements of 10 CFR 50.49 criteria. This includes but shall not be limited to the following:

a. Safety related specifications
b. Service environment chart
c. Class 1E equipment list
d. Mechanical equipment master list
e. Seismic equipment master list
f. Equipment qualification test reports
g. Equipment qualification documentation files

5.3.2 Instructions

A. Equipment qualification documentation is controlled and maintained in accordance to the guidance and instructions provided in the Nuclear Production Records Management Program. It is the responsibility of the station Document Control Department to implement the requirements defined in the Records Management Program Manual to insure that qualification documentation is controlled and archived in a suitable manner.

B. Controlled copies of environmental and seismic qualification documentation is maintained by the Engineering Services Department (ESD). It is the responsibility of the ESD to update the qualification documentation to reflect any changes in system requirements or application and insure that it is maintained in an auditable manner for the life of the plant. This will permit the verification that all safety related systems and components are qualified for its application and meet its specific performance requirements.

C. All station design inputs which document and support equipment qualification are controlled and maintained in accordance to the requirements and provisions of the Nuclear Production Design Control Manual. Equipment lists are controlled and updated by the Engineering Services Department in accordance to the instructions and guidance provided in department procedure ES0820.13.

D. All qualification documentation required to support and verify the qualification of safety related equipment is reviewed/assessed by the Engineering Services Department. Qualification documentation is reviewed/assessed according to the instructions and guidance provided in chapter 3 of the Nuclear Production Design Control Manual. It is the responsibility of ESD to develop and issue equipment qualification maintenance requirements data sheets according to the instructions and guidance provided in ES department procedure identifying specific EQ maintenance requirements for all Class 1E equipment.

5.4 Seabrook Station Maintenance Program

5.4.1 It is the policy of Seabrook Station to maintain facilities, equipment, systems, and components at the quality required for them to perform their intended function through preventive and corrective maintenance. The station Maintenance Program Manual provides the administrative controls, guidance and instructions to implement the programs. Preventive maintenance provides the timely detection of common mode failures due to equipment aging and maintenance of the qualified life of equipment. Corrective maintenance provides for the repair, rework modification and adjustment or replacement to return station equipment to their original operating and qualified condition. This program is based on the requirements of 10 CFR 50 Appendix B and the guidance of Regulatory Guide 1.33 (Rev. 2) as defined in the Seabrook Station Operational Quality Assurance Program. This program in conjunction with the station Design Control and Procurement Programs are utilized to achieve the above stated goals.

5.4.2 Station procedure MA2.1 Preventive and Corrective Maintenance provides the necessary instructions and guidance to develop and implement the station preventive and corrective maintenance activities. The station maintenance department supervisors determine which station systems, components and structures require preventive maintenance. Department procedures control and define the preventive and corrective maintenance record and scheduling systems. This system includes preapproved PM instructions, procedures, frequencies equipment, data and history requirements. All preventive and corrective maintenance is performed per procedure MA3.2 Repetitive Task Sheets and MA3.1 Work Requests respectively. All maintenance records are periodically review/evaluated by Maintenance department supervisors to revise maintenance requirements as required. It is the responsibility of the station maintenance department to insure that all EQ maintenance requirements are reflected in their preventive and corrective maintenance programs.

5.5 Preventive Maintenance

5.5.1 Scope

Equipment qualification preventive maintenance applies to the request, approval, and documentation of preventive maintenance performed on electrical and mechanical equipment. This includes inspections, verification examinations, and tests or calibrations performed on a routine basis on safety related systems, structures and components.

5.5.2 Instructions

A. Preventive maintenance is established according to the requirements and guidance provided in the station procedure MA2.1, Preventive and Corrective Maintenance. All routine preventive maintenance is performed and documented according to the guidance and instructions provided in station procedure MA3.2, Repetitive Task Sheets. As delineated in MA3.2, it is the responsibility of the Maintenance Department Supervisor to perform an evaluation of all completed repetitive task sheets ensuring that the qualification of safety related equipment is maintained.

B. Non-routine preventive is unscheduled one time maintenance and is controlled according to the instructions and guidance provided in station procedure MA2.2, Non Routine Maintenance. As delineated in MA2.2, a maintenance step list must be generated approved by SORC and its use shall be in conjunction with an approved repetitive task sheet as specified in station procedure MA3.2. These requirements ensure that sufficient Maintenance Department reviews/evaluations are performed to maintain equipment qualification.

5.6 Corrective Maintenance

5.6.1 Scope

Equipment qualification corrective maintenance applies to the request, approval and documentation of all corrective maintenance performed on electrical and mechanical equipment. This includes:

a) Modifications approved in accordance with the NPDC program
b) Corrective actions required for non-conforming conditions
c) Corrective maintenance and rework activities

5.6.2 Instructions

A. Corrective maintenance is established according to the requirements and guidance provided in station procedure MA2.1, Preventive and Corrective Maintenance. All work performed on station systems, structures and components is performed in accordance with the instructions and guidance provided in station procedure MA3.1, Work Requests. As delineated in MA3.1, it is the responsibility of the Engineering Services Department to perform an engineering evaluation of all work requests. Additional guidance and instructions for the performance of engineering evaluations is provided in department procedure ES810.012 ensuring that the qualification of safety related equipment is maintained.

B. Non-routine corrective maintenance is performed and controlled according to the requirements specified in station procedure MA2.2 and its use shall be in conjunction with an approved work request as delineated in station procedure MA3.1. These requirements ensure that sufficient maintenance and engineering department reviews/evaluations are performed ensuring that equipment qualification is maintained.

5.6.3 Material Control

A. All preventive and corrective maintenance requiring the replacement of components requires the generation of a material issue authorization. Station procedure MA6.1, Material Issues and Returns provides the guidance and instructions for the preparation, approval and control of spare part issues and returns. The authorizations are included as part of the work request or repetitive task sheet work package receiving engineering and maintenance department reviews/evaluations as defined in station procedures MA3.1 and MA3.2. The reviews verify replacement in kind thereby ensuring the equipment qualification is maintained.

B. Corrective maintenance requiring component replacements which are not replacement in kind require an engineering evaluation to determine their acceptability. Engineering evaluations are performed according to the guidance and instructions provided in chapter 3 of the NPDC manual determining if a design change is required and if the replacement component is equal to or better than the original supplied component. This review ensures that equipment qualification of safety related equipment is maintained.

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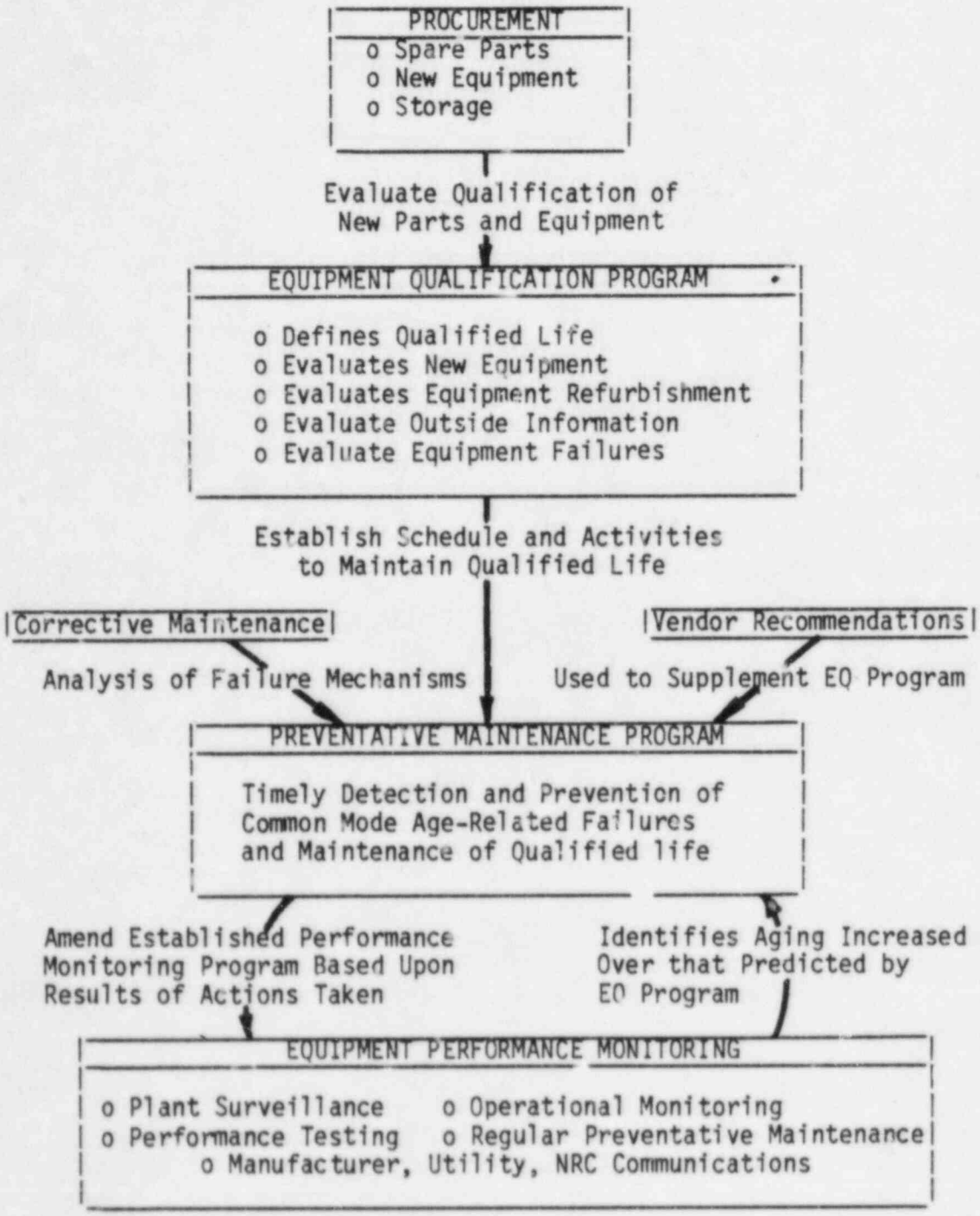
FIGURE 5-1

ELEMENTS OF PREVENTATIVE MAINTENANCE PROGRAM



Revision 0
8/11/83

6.0 REFERENCES

1. Code of Federal Regulations--Title 10, Part 50, Paragraph 49 (10 CFR 50.49), "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants."

2. NUREG-0737, "Clarification of Three Mile Island Action Plan Requirements," 1980.

3. NUREG-0588, Revision 1, "Interim Staff Position on Environmental Qualification of Safety Related Electrical Equipment, 1981.

4. UE&C Drawing No. 9763-M-505300, Rev. 16 "Class 1E Equipment List."

5. UE&C Drawing No. 9763-M-300218, Rev. 1, "Harsh Environment Equipment List".

6. Final Safety Analysis Report, Seabrook Station, Units 1 and 2, Amendment 53.

7. ORIGEN: Isotope Generation and Depletion Code-Matrix Exponential Method; Oak Ridge National Laboratory, Oak Ridge, Tennessee.

8. QAD-CG: A Combination Geometry Version of QAP-P5A, A Point Kernel Code for Neutron and Gamma-Ray Shielding Calculations; Oak Ridge National Laboratory, Oak Ridge, Tennessee.

9. Carfagno, S.P. and R.J. Gibson, "A Review of Equipment Aging Theory and Technology," EPRI NP-1558, September, 1980.

10. WCAP 8587, Revision 6-A (NP), "Methodology for Qualifying Westinghouse WRD Supplies NSSS Safety Related Electrical Equipment," March 1983.

11. UE&C Drawing No. 9763-F-300219, Rev. 17, "Service Environment Chart".

12. UE&C Calculation Set No. 6.01.000, Rev. 0, "Service Environment Chart Calculation - Design Bases".

13. U&EC Technical Procedure TP-24, Rev. 1, "Procedure for Class 1E Equipment List".

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
SEABROOK STATION
ENVIRONMENTAL QUALIFICATION OF
ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY

APPENDIX A

HARSH ENVIRONMENT EQUIPMENT LIST

Revision 2
10/31/85

DISCIPLINE	CKD. BY	DATE	DISCIPLINE	CKD. BY	DATE
STRUCT.			INST. & CONTR.		
PIPING			ELECT.		
NUCLEAR			MECH. SVCS.		

HARSH ENVIRONMENT EQUIPMENT LIST

UNIT I

GENERAL NOTE

THE FOLLOWING INFORMATION IS NUCLEAR SAFETY RELATED AND WAS INDEPENDENTLY VERIFIED FOR CORRECTNESS:

1. EQUIPMENT TAG NUMBER
2. MANUFACTURER
3. MODEL NUMBER
4. LOCATION
5. SAFETY FUNCTION
6. PURCHASE ORDER NUMBER
7. EQ FILE NUMBER
8. OPERABILITY CODE
9. EVENT CODE

ECA & DCN LIST

ECA 03 110294A
05 100209B
05 101844B
05 108141A
06 801439A
DCN 65 0259 A
65 0269 A
68 0297 A
ECA 99 1974B

REV NO.	DATE	DESCRIPTION	PE	DWN. BY	CKD. BY	RES. ENG.	BOE	QAE	PEM
1	10-7-85	REV. PER ECA & DCN LIST		EAC	CDG	EAC	CDG	SER	
0	5-31-85	ISSUED FOR COMMENT		EAC	CDG	EAC	CDG	SER	

NUCLEAR SAFETY RELATED

THE STATE OF NEW HAMPSHIRE
GIRISH M. AGGARWAL
No. 3448
REGISTERED
PROFESSIONAL ENGINEER

HARSH ENVIRONMENT EQUIPMENT LIST UNIT I
SORT NO. I (SYSTEM)

PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION

united engineers

9763-M-300218

9763-M-300218

GENERAL COMMENTS

1. The Class 1E Equipment List includes all electrical equipment within the scope of 10 CFR 50.49 Paragraphs (b) (1), (b) (2) and (b) (3) defined as follows:

   (a) Class 1E Equipment [10 CFR 50.49 Paragraph (b) (1)]

   Safety-related electric (Class 1E) equipment relied upon to remain functional during and following design basis accidents to ensure (1) the integrity of the reactor coolant pressure boundary, (2) the capability to shutdown the reactor and maintain it in a safe shutdown condition and (3) the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the 10 CFR Part 100 guidelines.

   (b) Non-Class 1E Equipment [10 CFR 50.49 Paragrah (b) (2)]

   Non safety-related electric (Non-Class 1E) equipment whose failure under postulated environmental conditions could prevent satisfactory accomplishment of safety functions specified in Paragrah (b) (1) above.

   (c) Accident Monitoring Instrumenttion [10 CFR 50.49 Paragraph (b) (3)]

   Certain post-accident monitoring equipment designated "Seabrook Categories 1 and 2". (These categories equate to Regulatory Guide 1.97, Revision 3, Categories 1 and 2).

   (d) Certain other electrical equipment which due to its importance to safety for Seabrook Station has been specified, purchased, designed and installed as Class 1E.

2. The Harsh Environment Equipment List is an extraction from the Class 1E Equipment List. It includes only those equipment ID's with "Harsh" environment designations.

3. For complete description of the Class 1E Equipment List, refer to UE&C Technical Procedure TP-24 "Procedure for Class 1E Equipment List".

4. For normal, abnormal and accident environmental conditions for the listed environmental zones, refer to UE&C Drawing 9763-F-300219 "Service Environment Chart".

5. Definition of abbreviations and notes used in the equipment lists:

R, RMK	-	See Remarks for information
N/A	-	None or Not applicable
L, LTR	-	(Later) Information not available
AMI	-	Accident Monitoring Instrumentation
FUNCTNL NON-IE	-	denotes the equipment has no safety function but it is wired in a nuclear safety-related circuit. This is a Paragraph 50.49 (b) (2) equipment.
RVIEW IF CL-IE	-	denotes the equipment requires review to determine if it is Class IE or functionally non-Class IE.

SYSTEM ABBREVIATION

CODE	DESCRIPTION
AS	AUXILIARY STEAM
CAH	CONTAINMENT AIR HANDLING
CAP	CONTAINMENT AIR PURGE
CBA	CONTROL BLDG. AIR HANDLING
CBS	CONTAINMENT BLDG. SPRAY
CC	COMPONENT COOLING WATER-PRIMARY
CGC	COMBUSTIBLE GAS CONTROL
COP	CONTAINMENT ON-LINE PURGE
CP	ROD CONTROL AND POSITION
CS	CHEMICAL AND VOLUME CONTROL
DAH	DIESEL GENERATOR AIR HANDLING
DF	DRAINS - FLOOR
DG	DIESEL GENERATOR
DGA	DIESEL GENERATOR A
DGB	DIESEL GENERATOR B
EAH	CONTAINMENT ENCLOSURE AIR HANDLING
ED	ELECTRICAL DISTRIBUTION
EDE	ELECTRICAL DISTRIBUTION - EMERGENCY
EPA	EMERG FW PUMP HOUSE AIR HANDLING
FAH	FUEL STORAGE BLDG. AIR HANDLING
FW	FEEDWATER
HT	HEAT TRACING
IC	INCORE INSTRUMENTATION
MM	MISCELLANEOUS EQUIPMENT
MS	MAIN STEAM
MSD	MAIN STEAM DRAIN
NG	NITROGEN GAS
NI	NUCLEAR INSTRUMENTATION
PAH	PAB AIR HANDLING
RC	REACTOR COOLANT
RH	RESIDUAL HEAT REMOVAL
RM	RADIATION MONITORING
RMW	REACTOR MAKE-UP WATER
SB	STEAM GENERATOR BLOWDOWN
SF	SPENT FUEL POOL COOLING
SI	SAFETY INJECTION
SS	SAMPLING SYSTEM
SW	SERVICE WATER
SWA	SERVICE WATER PUMPHOUSE AIR HANDLING
VB	VIBRATION MONITORING SYSTEM
VG	VENTS
WLD	WP-LIQUID DRAINS

EQUIPMENT/DEVICE ABBREVIATION

CODE	DESCRIPTION
AC	AIR CONDITIONER MOTOR
AI	ANALYSIS INDICATOR
AIT	ANALYSIS INDICATING TRANSMITTER
AM	AMMETER
AQY	ANALYSIS LOOP POWER SUPPLY & I/E CONVERTER
AR	ANALYSIS RECORDER
ASY	ANALYSIS LOOP CHANNEL TEST CARD
ATR	CURRENT TRANSDUCER
AY	ANALYSIS RELAY OR COMPUTING DEVICE OR CONVERTOR
B	BATTERY
BC	BATTERY CHARGER
BD	BUS DUCT
CBL	CABLE
CONN	CONNECTOR
CP	CONTROL PANEL
CS	CONTROL SWITCH
DG	DIESEL GENERATOR
DP	AIR DAMPER
ECSA	ELECTRICAL CONNECTION SEAL ASSEMBLIES
F	FILTER
FB	FLOW BISTABLE
FCV	FLOW CONTROL VALVE ACTUATOR
FI	FLOW INDICATOR
FIS	FLOW INDICATING SWITCH
FISH	FLOW INDICATING SWITCH HIGH
FIT	FLOW INDICATING TRANMITTER
FM	FREQUENCY METER
FN	FAN MOTOR
FQY	FLOW LOOP POWER SUPPLY & I/E CONVERTOR
FR	FLOW RECORDER
FS	FLOW SWITCH
FS/	FLOW LOOP CHANNEL TEST SWITCH OR COMPARATOR OUT TRIP
FSY	FLOW LOOP CHANNEL TEST SWITCH OR COMPARATOR OUT TRIP
FT	FLOW TRANSMITTER
FTR	FREQUENCY TRANSDUCER
FV	FLOW VALVE
FX	FLOW SOLENOID CONTROL BOX
FY	FLOW RELAY OR COMPUTING DEVICE OR CONVERTOR OR TRANSDUCER OR SOLENOID PILOT VALVE
FY/	FLOW LOOP RELAY AFTER A BISTABLE
FYY	FLOW LOOP RELAY AFTER A BISTABLE
H	HEATER
HCV	HAND OPERATED CONTROL VALVE

EQUIPMENT/DEVICE ABBREVIATION

CODE	DESCRIPTION
HY	SOLENOID PILOT VALVE
I	INVERTER
I/N	BISTABLE RESET
IR	INSTRUMENT RACK
LB	LEVEL BISTABLE
LCV	LEVEL CONTROL VALVE ACTUATOR
LE	LEVEL SENSING ELEMENT
LI	LEVEL INDICATOR
LIS	LEVEL INDICATING SWITCH
LIT	LEVEL INDICATING TRANSMITTER
LQY	LEVEL LOOP POWER SUPPLY & I/E CONVERTOR
LR	LEVEL RECORDER
LS	LEVEL SWITCH
LS/	LEVEL LOOP CHANNEL TEST SWITCH OR COMPARATOR OUT TRIP
LSY	LEVEL LOOP CHANNEL TEST SWITCH OR COMPARATOR OUT TRIP
LT	LEVEL TRANSMITTER
LV	LEVEL VALVE
LY	LEVEL RELAY OR COMPUTING DEVICE OR CONVERTOR OR SOLENOID PILOT VALVE
LY/	LEVEL LOOP RELAY AFTER A BISTABLE
LYY	LEVEL LOOP RELAY AFTER A BISTABLE
MCB	MAIN CONTROL BOARD
MCC	MOTOR CONTROL CENTER
MM	SKID OR ELEC. PENETRATION
MST	MOISTURE SWITCH TRANSMITTER
NC	NEUTROM FLUX CONTROLLER
NE	NEUTRON FLUX ELEMENT
NI	NEUTRON FLUX INDICATOR
NM	NEUTRON FLUX MONITOR
NMI	NEUTRON FLUX ION CHAMBER INDICATOR
NQ	NEUTRON FLUX POWER SUPPLY
NS/	NEUTRON FLUX LOOP CHANNEL TEST SWITCH OR COMPARATOR OUT TRIP
NSY	NEUTRON FLUX LOOP CHANNEL TEST SWITCH OR COMPARATOR OUT TRIP
NT	NEUTRON FLUX TRANSMITTERS
NY	NEUTRON FLUX RELAY OR COMPUTING DEVICE OR CONVERTOR TRANSDUCER OR SOLENOID PILOT VALVE
NY/	NEUTRON FLUX LOOP RELAY AFTER A BISTABLE
NYY	NEUTRON FLUX LOOP RELAY AFTER A BISTABLE
P	PUMP MOTOR
PB	PRESSURE BISTABLE
PCV	PRESSURE OR VACUUM CONTROL VALVE

EQUIPMENT/DEVICE ABBREVIATION

CODE	DESCRIPTION
PDI	PRESSURE DIFFERENTIAL INDICATOR
PDIS	PRESSURE DIFFERENTIAL INDICATING SWITCH
PDQY	PRESSURE DIFFERENTIAL LOOP POWER SUPPLY & I/E CONVERTOR
PDS	PRESSURE DIFFERENTIAL SWITCH
PDSH	PRESSURE DIFFERENTIAL SWITCH HIGH
PDSL	PRESSURE DIFFERENTIAL SWITCH LOW
PDSY	PRESSURE DIFFERENTIAL LOOP CHANNEL TEST SWITCH & COMPARATOR OUT TRIP
PDT	PRESSURE DIFFERENTIAL TRANSMITTER
PI	PRESSURE INDICATOR
PP	POWER PANEL
PQY	PRESSURE LOOP POWER SUPPLY & I/E CONVERTOR
PR	PRESSURE RECORDER
PS	PRESSURE SWITCH
PS/	PRESSURE LOOP CHANNEL TEST SWITCH OR PRESSURE COMPARATOR OUT TRIP
PSL	PRESSURE SWITCH LOW
PSY	PRESSURE LOOP CHANNEL TEST SWITCH OR PRESSURE COMPARATOR OUT TRIP
PT	PRESSURE TRANSMITTER
PV	PRESSURE VALVE
PY	PRESSURE RELAY OR COMPUTING DEVICE OR CONVERTOR OR TRANSDUCER OR SOLENOID PILOT VALVE
PY/	PRESSURE LOOP RELAY AFTER A BISTABLE
PYY	PRESSURE LOOP RELAY AFTER A BISTABLE
RC	RADIATION MONITOR SKID CONTROLLER
RE	RADIATION ELEMENT
REL	RELAY
RI	RADIATION INDICATOR
RK	RADIATION SET POINT MODULE
RM	RADIATION MONITOR
RR	RADIATION RECORDER
SKD	SKID
SNS	SYNCHRONIZING SWITCH
SPL	SPLICES
SS	SELECTOR SWITCH
SWG	SWITCHGEAR
SYN	SYNCHRONIZING METER
TB	TEMPERATURE BISTABLE
TBX	TERMINAL BOXES
TC	TEMPERATURE CONTROLLER
TCY	TEMPERATURE CONTROLLER TRACK DRIVER
TE	TEMPERATURE ELEMENT (THERMOCOUPLE OR RESISTANCE TEMPERATURE DETECTOR)

EQUIPMENT/DEVICE ABBREVIATION

CODE	DESCRIPTION
TERM	TERMINAL BLOCK
TI	TEMPERATURE INDICATOR
TISH	TEMPERATURE INDICATING SWITCH HIGH
TK	TEMPERATURE CONTROL STATION OR TANK
TR	TEMPERATURE RECORDER
TRM	TERMINATIONS
TS	TEMPERATURE SWITCH
TS/	TEMPERATURE LOOP CHANNEL TEST SWITCH OR TEMPERATURE COMPARATOR OUT TRIP
TSH	TEMPERATURE SWITCH HIGH
TSHL	TEMPERATURE SWITCH HIGH-LOW
TSL	TEMPERATURE SWITCH LOW
TSY	TEMPERATURE LOOP CHANNEL TEST SWITCH OR TEMPERATURE COMPARATOR OUT TRIP
TV	TEMPERATURE VALVE
TY	TEMPERATURE RELAY OR COMPUTING DEVICE OR CONVERTOR OR TEMPERATURE TRANSDUCER OR SOLENOID PILOT VALVE
TY/	TEMPERATURE LOOP RELAY AFTER A BISTABLE
TYY	TEMPERATURE LOOP RELAY AFTER A BISTABLE
UQ	MULTIVARIABLE POWER SUPPLY
UQY	MULTIVARIABLE POWER SUPPLY CONVERTER
US	UNIT SUBSTATION
V	VALVE ACTUATOR
VM	VOLT METER
VSY	VOLTAGE LOOP CHANNEL RESET SWITCH OR COMPARATOR OUT TRIP
VTR	VOLTAGE TRANSDUCER
VY	VOLTAGE RELAY OR CONVERTOR
WM	WATT METER
WSY	WATT LOOP CHANNEL TEST SWITCH OR COMPARATOR OUT TRIP
WTR	WATTS TRANSDUCER
WY	POWER CONVERTOR
X	TRANSFORMER
XL	INDICATING LIGHT
XM	UNCLASSIFIED MONITOR
XR	UNCLASSIFIED RECORDER
XX	UNCLASSIFIED EQUIPMENT
YE	VIBRATION ELEMENT
YM	VIBRATION MONITORS
YT	VIBRATION TRANSMITTER
ZL	MONITORING LIGHT
ZS	POSITION SWITCH
ZT	POSITION TRANSMITTER

LOCATION CODES

CODE	BUILDING	ENV ZONE	AREA DESCRIPTION	ELEVATION
ALL	ALL		ALL LOCATIONS	
CB 1	CTL BLDG	CB-1	MAIN CONTROL ROOM	75'-0"
CB 1A	CTL BLDG	CB-1A	GENERAL AREAS	75'-0"
CB 1B	CTL BLDG	CB-1B	GENERAL AREAS	75'-0"
CB 1C	CTL BLDG	CB-1C	GENERAL AREAS	75'-0"
CB 1D	CTL BLDG	CB-1D	GENERAL AREAS	75'-0"
CB 1E	CTL BLDG	CB-1E	GENERAL AREAS	75'-0"
CB 1F	CTL BLDG	CB-1F	GENERAL AREAS	75'-0"
CB 1G	CTL BLDG	CB-1G	GENERAL AREAS	75'-0"
CB 2	CTL BLDG	CB-2	COMPUTER ROOM	75'-0"
CB 3	CTL BLDG	CB-3	HVAC ROOM	75'-0"
CB 4	CTL BLDG	CB-4	CABLE SPREADING ROOM	50'-0"
CB 5A	CTL BLDG	CB-5A	MECHANICAL EQUIPMENT ROOM - TRAIN A	50'-0"
CB 5B	CTL BLDG	CB-5B	MECHANICAL EQUIPMENT ROOM - TRAIN B	50'-0"
CB 6A	CTL BLDG	CB-6A	TRAIN A SWITCHGEAR ROOM	21'-6"
CB 6B	CTL BLDG	CB-6B	TRAIN B SWITCHGEAR ROOM	21'-6"
CB 7A	CTL BLDG	CB-7A	BATTERY ROOM	21'-6"
CB 7B	CTL BLDG	CB-7B	BATTERY ROOM	21'-6"
CB 8A	CTL BLDG	CB-8A	BATTERY ROOM	21'-6"
CB 8B	CTL BLDG	CB-8B	BATTERY ROOM	21'-6"
CB 9	CTL BLDG	CB-9	MOTOR-GENERATOR SETS	21'-6"
CB10	CTL BLDG	CB-10	MOTOR-GENERATOR SETS	21'-6"
CB11	CTL BLDG	CB-11	STAIRWELL	21'-6"
CE 1	CNT ENCL	CE-1	CONTAINMENT ENCLOSURE FAN AREA	21'-6"
CS 1	CNT BLDG	CS-1	INCORE INSTRUMENTATION	(-)44'-9"
CS 2	CNT BLDG	CS-2	REACTOR AREA	(-)26'-0"
CS 3	CNT BLDG	CS-3	REFUELING CAVITY	0'-0"
CS 4	CNT BLDG	CS-4	REGENERATIVE HEAT EXCHANGER	(-)26'-0"
CS 5	CNT BLDG	CS-5	VALVE ROOM	(-)26'-0"
CS 6	CNT BLDG	CS-6	EXCESS LETDOWN HEAT EXCHANGER	(-)26'-0"
CS 7	CNT BLDG	CS-7	REACTOR COOLANT DRN TAND HEAT EXCHANGER	(-)26'-0
CS 8	CNT BLDG	CS-8	REACTOR COOLANT DRAIN TANK	(-)26'-0"
CS 9	CNT BLDG	CS-9	STEAM GENERATOR AREA	(-)26'-0"
CS10	CNT BLDG	CS-10	OUTSIDE SECONDARY SHIELD WALL	(-)26'-0"
CS11	CNT BLDG	CS-11	PRESSURIZER ROOM	0'-0"
CS12	CNT BLDG	CS-12	OUTSIDE SECONDARY SHIELD WALL	0'-0"
CS13	CNT BLDG	CS-13	OPERATING FLOOR	25'-0"
CT 1A	CLG TWR	CT-1A	ELECTRICAL SWITCHGEAR ROOM TRAIN A	22'-0"
CT 1B	CLG TWR	CT-1B	ELECTRICAL SWITCHGEAR ROOM TRAIN B	22'-0"
CT 2	CLG TWR	CT-2	PUMP ROOM	46'-0"
CT 3	CLG TWR	CT-3	MECHANICAL EQUIPMENT ROOM	46'-0"
CT 4	CLG TWR	CT-4	FAN/FILL AREA	50'-0"
DB 1	DG BLDG	DB-1	MECHANICAL EQUIPMENT ROOM	51'-6"
DB 2A	DB BLDG	DB-2A	DIESEL GENERATOR A AIR INTAKE	51'-6"
DB 2B	DB BLDG	DB-2B	DIESEL GENERATOR B AIR INTAKE	51'-6"

LOCATION CODES

CODE	BUILDING	ENV ZONE	AREA DESCRIPTION	ELEVATION
DB 3A	DB BLDG	DB-3A	DIESEL GENERATOR A DAY TANK ROOM	51'-6"
DB 3B	DB BLDG	DB-3B	DIESEL GENERATOR B DAY TANK ROOM	51'-6"
DB 4A	DB BLDG	DB-4A	DIESEL GENERATOR A ROOM	21'-6"
DB 4B	DG BLDG	DB-4B	DIESEL GENERATOR B ROOM	21'-6"
DB 5A	DG BLDG	DB-5A	DIESEL GENERATOR A TANK ROOM	(-)16'-0"
DB 5B	DG BLDG	DB-5B	DIESEL GENERATOR B TANK ROOM	(-)16'-0"
DB 6A	DG BLDG	DB-6A	DIESEL GENERATOR A STAIRWELL	(-)16'-0"
DB 6B	DG BLDG	DB-6B	DIESEL GENERATOR B STAIRWELL	(-)16'-0"
DB 7A	DG BLDG	DB-7A	DIESEL GENERATOR A EXHAUST FAN AREA	51'-6"
DB 7B	DG BLDG	DB-7B	DIESEL GENERATOR B EXHAUST FAN AREA	51'-6"
EFW 1	EFW BLDG	EFW-1	EMERGENCY FEEDWATER PUMP HOUSE	27'-0"
EFW 2	EFW BLDG	EFW-2	STAIRWELL	27'-0"
ET 1	EL TUNNL	ET-1	CONTROL BLDG TO PRIM AUX BLDG TUNNEL	30'-8"
ET 2A	EL TUNNL	ET-2A	TRAIN A ELECTRIC TUNNEL	0'-0"
ET 2B	EL TUNNL	ET-2B	TRAIN B ELECTRIC TUNNEL	(-)20'-0"
ET 3A	EL PENET	ET-3A	TRAIN A ELECTRIC PENETRATION AREA	0'-0"
ET 3B	EL PENET	ET-3B	TRAIN B ELECTRIC PENETRATION AREA	(-)26'-0"
ET 4A	EL TUNNL	ET-4A	TRAIN A AIRLOCK	0'-0"
ET 4B	EL TUNNL	ET-4B	TRAIN B AIRLOCK	(-)20'-0"
ET 5B	EL TUNNL	ET-5B	DUCT BANK PENETRATION	(-)26'-0"
EV 1A	EQ VAULT	EV-1A	CBS VAULT - TRAIN A	(-)61'-0"
EV 1B	EQ VAULT	EV-1B	CBS VAULT - TRAIN B	(-)61'-0"
EV 2A	EQ VAULT	EV-2A	CBS VAULT - TRAIN A	(-)31'-0"
EV 2B	EQ VAULT	EV-2B	CBS VAULT - TRAIN B	(-)31'-0"
EV 3A	EQ VAULT	EV-3A	RHR VAULT - TRAIN A	(-)61'-0"
EV 3B	EQ VAULT	EV-3B	RHR VAULT - TRAIN B	(-)61'-0"
EV 4A	EQ VAULT	EV-4A	RHR VAULT - TRAIN A	(-)50'-0"
EV 4B	EQ VAULT	EV-4B	RHR VAULT - TRAIN B	(-)50'-0"
EV 5A	EQ VAULT	EV-5A	RHR VAULT - TRAIN A	(-)31'-0"
EV 5B	EQ VAULT	EV-5B	RHR VAULT - TRAIN B	(-)31'-0"
EV 6A	EQ VAULT	EV-6A	STAIRWELL - TRAIN A	(-)61'-0"
EV 6B	EQ VAULT	EV-6B	STAIRWELL - TRAIN B	(-)61'-0"
FSB 1	FS BLDG	FSB-1	SPENT FUEL PUMP AREA	7'-0"
FSB 2	FS BLDG	FSB-2	FUEL POOL AREA	7'-0"
FSB 3	FS BLDG	FSB-3	SPENT FUEL STORAGE	25'-0"
FSB 4	FS BLDG	FSB-4	SPENT FUEL HEAT EXCHANGER	21'-6"
FSB 5	FS BLDG	FSB-5	FILTER ROOM	64'-0"
MPA 1	ME PENET	MPA-1	RADIOACTIVE TUNNEL	(-)34'-6"
MPA 2	ME PENET	MPA-2	RADIOACTIVE TUNNEL	(-)26'-0"
MPA 3	ME PENET	MPA-3	RADIOACTIVE TUNNEL	(-)34'-6"
MPA 4	ME PENET	MPA-4	NON-RADIOACTIVE TUNNEL	(-) 8'-0"
MPA 5	ME PENET	MPA-5	RADIOACTIVE TUNNEL	(-)26'-0"
MUA 1	AIR INTK	MUA-1	CONTROL BLDG VENT MAKE-UP AIR INTAKE	11'-6"
PB 1	PA BLDG	PB-1	HVAC EQUIPMENT ROOM	81'-0"
PB 2	PA BLDG	PB-2	VALVE AISLE	53'-0"

LOCATION CODES

CODE	BUILDING	ENV ZONE	AREA DESCRIPTION	ELEVATION
PB 3	PA BLDG	PB-3	SUPPLY FAN AREA	53'-0"
PB 4	PA BLDG	PB-4	CHEMICAL & VOLUME CONTROL TANK	53'-0"
PB 5	PA BLDG	PB-5	EXHAUST FAN AREA	53'-0"
PB 6	PA BLDG	PB-6	PAB HEAT EQUIPMENT AREA	53'-0"
PB 7	PA BLDG	PB-7	BORIC ACID STORAGE AREA	53'-0"
PB 8	PA BLDG	PB-8	COMPONENT COOLING HEAT EXCHANGER	53'-0"
PB 9	PA BLDG	PB-9	BORIC ACID TANK ROOM	25'-0"
PB10	PA BLDG	PB-10	SAMPLE HEAT EXCHANGER ROOM	25'-0"
PB11	PA BLDG	PB-11	PCCW PUMP AREA	25'-0"
PB12	PA BLDG	PB-12	LETDOWN DEGASIFIER AREA	25'-0"
PB13	PA BLDG	PB-13	RADIOACTIVE PIPE TRENCH - AREA A	7'-0"
PB14	PA BLDG	PB-14	REACTOR MAKE-UP WATER PUMP	7'-0"
PB14A	PA BLDG	PB-14A	CHARGING PUMP CONTROL ACCESS CORRIDOR	7'-0"
PB15A	PA BLDG	PB-15A	LETDOWN DEGASIFIER ROOM	7'-0"
PB15B	PA BLDG	PB-15B	SEAL SUPPLY TANK	25'-0"
PB15C	PA BLDG	PB-15C	LETDOWN DEGASIFIER RECIRCULATION PUMPS	7'-0"
PB16	PA BLDG	PB-16	CHILLER PUMP AREA	7'-0"
PB17	PA BLDG	PB-17	VALVE MAINTENANCE PLATFORM	7'-0"
PB17A	PA BLDG	PB-17A	RADIOACTIVE PIPE CHASE	23'-0"
PB18	PA BLDG	PB-18	HEAT EXCHANGER/FILTER CUBICLES	7'-0"
PB19	PA BLDG	PB-19	REGENERATIVE DEMINERALIZER CUBICLES	7'-0"
PB19A	PA BLDG	PB-19A	SAMPLE HEAT EXCHANGER ROOM	2'-0"
PB20A	PA BLDG	PB-20A	CHARGING PUMP ROOM CS-P-2A	7'-0"
PB20B	PA BLDG	PB-20B	CHARGING PUMP ROOM CS-P-2B	7'-0"
PB20C	PA BLDG	PB-20C	CHARGING PUMP ROOM CS-P-128	7'-0"
PB21	PA BLDG	PB-21	DEGASIFIER CONDENSATE RECEIVER	(-) 6'-0"
PB22	PA BLDG	PB-22	RADIOACTIVE PIPE AREA & AREA A	(-)6'-0"
PB23	PA BLDG	PB-23	REACTOR PIPE TUNNEL	(-)26'-0"
PB24	PA BLDG	PB-24	CONDENSATE RECEIVER PUMP ROOM	(-)26'-0"
PB25	PA BLDG	PB-25	ELECTICAL CHASE	(-)26'-0"
PB26	PA BLDG	PB-26	STAIRWELL #2	(-)26'-0"
PB27	PA BLDG	PB-27	STAIRWELL #1	7'-0"
PB28	PA BLDG	PB-28	RADIATION MONITORS & WPB ACCESS AREA	25'-0"/53'-0"
PB29	PA BLDG	PB-29	HVAC PLENUM	39'-0"
PCE 1	MSFW PC	PCE-1	EAST PIPE CHASE	3'-0"
PCE 2	MSFW PC	PCE-2	EAST PIPE CHASE	12'-0"
PCE 3	MSFW PC	PCE-3	EAST PIPE CHASE	28'-0"
PCE 4	MSFW PC	PCE-4	PIPE TUNNEL	3'-0"
PCE 5	MSFW PC	PCE-5	ELECTRICAL ROOM	3'-0"
PCE 6	MSFW PC	PCE-6	HYDROGEN ANALYZER ROOM	22'-0"
PCW 1	MSFW PC	PCW-1	WEST PIPE CHASE	3'-0"
PCW 2	MSFW PC	PCW-2	WEST PIPE CHASE	12'-0"
PCW 3	MSFW PC	PCW-3	WEST PIPE CHASE	28'-0"
PCW 4	MSFW PC	PCW-4	WEST PIPE CHASE STAIRWELL	3'-0"
PCW 5	MSFW PC	PCW-5	PERSONNEL ACCESS HATCH AREA	21'-0"

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HARSH ENVIRONMENT EQUIPT LIST | SEABROOK STATION | REV 001

UNIT 1 | DATE 10/07/85

LOCATION CODES | (SHEET 4 OF 4)

CODE	BUILDING	ENV ZONE	AREA DESCRIPTION	ELEVATION
SW 1	SW PMHSE	SW-1	PUMP ROOM	21'-0"
SW 2	SW PMHSE	SW-2	ELECTRICAL CONTROL ROOM - TRAIN A	21'-0"
SW 3	SW PMHSE	SW-3	ELECTRICAL CONTROL ROOM - TRAIN B	21'-0"
SW 4	SW PMHSE	SW-4	FAN ROOM	21'-0"
TB 1	TB BLDG	TB-1	TURBINE HALL/HEATER BAY	22'-0"
TB 2	TB BLDG	TB-2	TURBINE HALL	46'-0"/50'-0"
TB 3	TB BLDG	TB-3	TURBINE HALL	75'-0"
TB 4	TB BLDG	TB-4	ROOF TRUSS TURBINE HALL	131'-0"
TB 5	TB BLDG	TB-5	HEATER BAY	50'-0"
TB 6	TB BLDG	TB-6	ROOF TRUSS HEATER BAY	91'-0"
TB 7	TB BLDG	TB-7	ELEVATOR MACHINERY ROOM	90'-0"
TB 8	TB BLDG	TB-8	PLANT BATTERY ROOM	21'-0"
TB 9	TB BLDG	TB-9	RELAY ROOM	21'-0"
TB10	TB BLDG	TB-10	RELAY BATTERY ROOM	21'-0"
TB11	TB BLDG	TB-11	RELAY BATTERY ROOM	21'-0"
TB12	TB BLDG	TB-12	ELECTRICAL WORK ROOM,SU RM,SAS RM,OFFICE	75'-0"
TB13	TB BLDG	TB-13	TURBINE LUBE OIL RESERVOIR ROOM	21'-0"
TB14	TB BLDG	TB-14	TURBINE LUBE OIL STORAGE TANK ROOM	21'-0"
TB15	TB BLDG	TB-15	STEAM GENERATOR FEED PUMP ROOM	21'-0"
TB16	TB BLDG	TB-16	STEAM GENERATOR FEED PUMP ROOM	21'-0"
TB17	TB BLDG	TB-17	SAS COMPUTER ROOM	75'-0"
TF 1	TK FARM	TF-1	REFUELING WATER STORAGE TANK AREA	20'-0"
TF 2	TK FARM	TF-2	REFUELING WATER STORAGE TANK AREA	20'-0"
VAR	VARIOUS		VARIOUS LOCATIONS OUTSIDE CONTAINMENT	
ZRMK	SEE	REMARKS	LOCATION AS INDICATED IN REMARKS	

ACCIDENT CODES

CODE	DESCRIPTION
00	INFORMATION NOT AVAILABLE
31	SMALL PRIMARY SYSTEM PIPE RUPTURE
32	SMALL SECONDARY SYSTEM PIPE RUPTURE
33	IMPROPER FUEL ASSEMBLY LOADING
34	COMPLETE LOSS OF FORCED REACTOR COOLANT FLOW
36	SINGLE ROD CLUSTER CONTROL ASSEMBLY (WITHDRAWAL AT FULL POWER)
37	ACCIDENT CODES 31.32
41	LOSS OF COOLANT ACCIDENT (LOCA) WITH CONT. SPRAY
42	MAJOR SECONDARY SYSTEM PIPE RUPTURE
43	STEAM GENERATOR TUBE RUPTURE
44	SINGLE REACTOR COOLANT PUMP (RCP) LOCKED ROTOR
45	FUEL HANDLING ACCIDENT
46	RUPTURE OF A CONTROL ROD DRIVE MECH (CRDM) HOUSING
51	ALL ACCIDENTS(CODES 31 THRU 36,41 THRU 46)
52	ALL ACCIDENTS(ACCIDENT CODE 51) EXCEPT 41
53	ALL ACCIDENT CODES EXCEPT 93
60	LOSS OF COOLANT ACCIDENT (LOCA) WITHOUT CONT. SPRAY (ACCIDENT CODES 31,43,46)
61	ACCIDENT CODES 37,41,42
63	ACCIDENT CODES 41,42
64	ACCIDENT CODES 42,43
65	ACCIDENT CODES 41,42,43
66	ACCIDENT CODES 41,42,91
67	ACCIDENT CODES 41,60
68	ACCIDENT CODES 41,43,71
69	ACCIDENT CODES 41,71,93
71	LOSS OF OFFSITE POWER
81	STEAM GENERATOR LEVEL HI-HI
82	TURBINE TRIP
91	PCC SYSTEM PIPE BREAK
92	RCP THERMAL BARRIER COOLING COIL RUPTURE
93	LOSS OF SERVICE WATER TUNNEL FLOW
94	RCP COOLERS MALFUNCTION

MANUFACTURER ABBREVIATION

CODE	DESCRIPTION
AB	ALLEN BRADLEY
ALOYCO	ALOYCO(WALWORTH)
AMP	AMP, INC.
ANCNDA	ANACONDA-ERICSSON INC. WIRE & CABLE DIVISION
ASCO	AUTOMATIC SWITCH CO
AWV	AMERICAN WARMING & VENTILATING CO.
AYDIN	AYDIN CONTROLS
B-W	BINGHAM WILLAMETTE
BARKSD	BARKSDALE
BBEI	BROWN BOVERI ELECTRIC INC.
BETTIS	BETTIS
BF	BUFFALO FORGE
BORG-W	BORG WARNER
BPS	BELOIT POWER SYSTEMS
BRNDRX	BRAND-REX COMPANY
BROOKS	BROOKS INSTRUMENT DIV.,EMERSON ELECTRIC
BRTN	ITT BARTON
CARR	CARRIER
CC	CONSOLIDATED CONTROLS
CCI	CONTROL COMPONENTS INC.
CIRCLE	CIRCLE SEAL
COLT	COLT INDUSTRIES
COMSIP	COMSIP INC.
CONAX	CONAX CORP.
COPVUL	COPES-VULCAN
DET SW	DETROIT SWITCH
DIALCO	DIALIGHT CORPORATION
ELGAR	ELGAR CORP
ENDEVC	ENDEVCO
FISHER	FISHER CONTROLS
FOX	FOXBORO
GA	GA TECHNOLOGIES INC.
GAMMA	GAMMA-METRICS
GE	GENERAL ELECTRIC
GEM	TRANSAMERICA DELAVAL
GORDOS	GORDOS,REED SWITCH DIVISION
GOULD	GOULD INC. CONTROL AND SYSTEMS DIVISION
HAST	HASTINGS
HONEYW	HONEYWELL
HUBELL	HARVEY HUBELL
HYCAL	HY-CAL ENGINEERING
II	INTERNATIONAL INSTRUMENTS,SIGMA
INDEEC	INDEECO
INGER	INGERSOL RAND
ITT-S	ITT SURPRENANT DIVISION

MANUFACTURER ABBREVIATION

CODE	DESCRIPTION
KEANE	KEANE
LMTQ	LIMITORQUE
M&M	MCDONNELL & MILLER
MAGINT	MAGNETROL INT'L
MARPAC	MCC MARK CONTROLS CORPORATION
MASON	MASONEILAN
MERC	MERCURY
MICRO	MICROSWITCH
MSC	MASTER SPECIALTIES
NAMC	NATIONAL ACME CO
OKONIT	THE OKONITE COMPANY
PAPCO	PACIFIC AIR PRODUCT CO.
PCP	POWER CONVERSION PRODUCTS INC.
PENN	PENN / JOHNSON CONTROL
POSI	POSISEAL
POWELL	POWELL ELECTRICAL MANUFACTURING COMPANY
QAD	QUALITY AIR DESIGN
RAYCHM	RAYCHEM CORP.
REL	RELIANCE
RMK	SEE REMARKS FOR MANUFACTURER
ROCHESTER IN	ROCHESTER INSTRUMENTS
ROCKBS	ROCKBESTOS COMPANY
ROCKWL	ROCKWELL INTERNATIONAL
RONAN	RONAN ENGINEERING COMPANY
ROTORK	ROTORK CONTROLS DIVISION
RSMT	ROSEMOUNT
SCIENTIFIC	SCIENTIFIC COLUMBUS
SP	SPORLAN (SOLENOID VALVE)
SQUARD	SQUARE D COMPANY
SYSTEM	SYSTEMS CONTROL
TEC	TECNOLOGY FOR ENERGY CORPORATION
THERMN	THERMON MANUFACTURING CO
THERMO	THERMO ELECTRIC
THOMAS	THOMAS INDUSTRIES INC.
TUFL	TUFLINE
VALCOR	VALCOR
VELAN	VELAN
VERI	VERITRAK
VITRO	VITRO LABORATORIES DIV.- AUTOMATION LABORATORIES INC
W	WESTINGHOUSE (NSS SCOPE)
W ASCO	WESTINGHOUSE / AUTOMATIC SWITCH CO
W BRTN	WESTINGHOUSE / BARTON
W CHEM	WESTINGHOUSE/CHEMICAL PUMP
W CONX	WESTINGHOUSE/CONAX CORP.
W DRSR	WESTINGHOUSE / DRESSER

MANUFACTURER ABBREVIATION

CODE	DESCRIPTION
W FOX	WESTINGHOUSE / FOXBORO
W GARR	WESTINGHOUSE/GARRETT
W II	WESTINGHOUSE / INTERNATIONAL INSTRUMENTS
W INGR	WESTINGHOUSE / INGERSOLL RAND
W LEWIS	WESTINGHOUSE/LEWIS ENGINEERING. CO.
W LMTQ	WESTINGHOUSE / LIMITORQUE
W MNCO	WESTINGHOUSE / MINCO PRODUCTS
W NAMC	WESTINGHOUSE / NATIONAL ACME CO
W RDF	WESTINGHOUSE/RDF CORP.
W UECO	WESTINGHOUSE / UNITED ELECTRIC CO.
W VERI	WESTINGHOUSE / VERITRAK
WATT	WATTLOW
WEED	WEED INSTRUMENT CO
WEIDM	WEIDMULLER TERMINATIONS,INC.
WEIGMANN	WEIGMANN
WEST	WESTINGHOUSE
YORK	YORK ELECTRO-PANEL CONTROL

CODE	DESCRIPTION
015-01	CONTAINMENT EQUIPMENT HATCH AND PERSONNEL AIR LOCKS
045-01	CENTRIFUGAL FANS
045-02	VANE AXIAL FANS
045-05	CONTROL BUILDING AIR CONDITIONING EQUIPMENT
106-02	CLASS 1E UNINTERRUPTIBLE POWER SUPPLIES
113-01	5000 VOLT POWER CABLE
113-03	600 VOLT POWER CABLE
113-05	SPECIALTY CABLE
113-06	300 VOLT INSTRUMENTATION CABLE
113-17	CONTROL CABLE
113-18	300 VOLT INSTRUMENTATION CABLE
113-19	SPECIALTY CABLE
113-20	300 VOLT INSTRUMENTATION CABLE
118-01	CONTAINMENT ELECTRICAL PENETRATIONS
118-03	CONAX ENVIRONMENTAL SEALS
118-04	SEAL TABLE CONNECTOR ASSEMBLIES
119-03	EMERGENCY POWER SEQUENCING SYSTEMS
119-05	125VDC SWITCHBOARDS AND BATTERY FUSE CABINETS
120-01	POWER DISTRIBUTION PANELS
120-09	REACTOR COOLANT PUMP FUSE CABINETS
120-11	ISOLATION CABINETS
129-01	CONTROL PANELS AND TERMINAL BOXES
137-01	STORAGE BATTERIES
137-02	BATTERY CHARGERS
143-01	460 VOLT MOTOR CONTROL CENTERS
144-01	5KV AND 15KV NON-SEGREATED PHASE BUS DUCT
145-02	5KV SWITCHGEAR
145-03	480 VOLT UNIT SUBSTATION
162-01	ELECTRIC HEAT TRACING
170-01	MAIN CONTROL BOARD
170-04	PANEL-MOUNTED SMALL CASE RECORDERS
170-05	PANEL-MOUNTED INDICATORS
170-06	MISCELLANEOUS INSTRUMENTATION AND CONTROL PANELS
170-13	EXCORE NEUTRON FLUX MONITORING
170-15	METER SALES & CALIBRATION - PANEL MOUNTED ANALOG METERS
171-01	INSTRUMENT RACKS
172-01	RADIATION DATA MANAGEMENT SYSTEM
173-01	CONTROL VALVES - NUCLEAR CLASSES 1,2, AND 3
173-03	NON-NUCLEAR CONTROL VALVES
173-04	SOLENOID VALVES
173-05	NUCLEAR CONTROL VALVES
173-07	SOLENOID VALVES
174-00	FOXBORO RECORDERS & TRANSMITTERS
174-01	ELECTRONIC TRNASMITTERS

PURCHASE ORDER NUMBER

CODE	DESCRIPTION
174-02	ELECTRONIC CONTROLLERS AND ACCESSORIES
174-08	CLASS 1E ELECTRONIC LOGIC SYSTEM
174-13	ELECTRONIC TRANSMITTERS (CLASS 1E)
174-14	EXPOSED-TIP THERMOCOUPLER (CLASS 1E)
174-15	LEVEL TRANSMITTERS (CLASS 1E)
201-01	EMERGENCY DIESEL GENERATOR SETS
209-01	SERVICE WATER COOLING TOWER
225-03	DAMPERS
225-05	TORNADO CHECK DAMPERS
236-11	AIR CLEANING UNITS
238-02	SERVICE WATER COOLING TOWER PUMPS
238-03	CONTAINMENT SPRAY PUMPS
238-05	PRIMARY COMPONENT COOLING WATER PUMPS
238-10	EMERGENCY FEEDWATER PUMPS
238-15	SPENT FUEL PUMPS
238-19	DIESEL GENERATOR FUEL TRANSFER PUMPS
238-34	THERMAL BARRIER CIRCULATING WATER PUMPS
248-05	BUTTERFLY VALVES
248-29	PLUG VALVES
248-36	FEEDWATER ISOLATION VALVES
248-37	GENERAL VALVES (GATE, GLOBE AND CHECK)
248-38	GENERAL VALVES (GATE, GLOBE AND CHECK)
248-41	GENERAL VALVES (GATE, GLOBE AND CHECK)
248-45	BUTTERFLY VALVES
248-47	CONTAINMENT RECIRCULATION SUMP ISOLATION VALVE ENCAPSULATIONS
248-65	MAIN STEAM ISOLATION VALVES
252-16	DIFFERENTIAL PRESSURE INSTRUMENTATION
252-30	NSSS LOOSE PARTS/MAIN STM & PRESSURIZER SAFETY VALVE MONITORING SYSTEMS
252-38	TEMPERATURE SWITCHES (CLASS 1E)
501-01	CONTAINMENT HYDROGEN ANALYZERS (CLASS 1E)
522-01	COOLING UNITS
600-01	RAYCHEM SPLICES
600-02	WEIDMUELLER TERMINAL BLOCKS
600-03	AMP TERMINATIONS
FLDPUR	FIELD PURCHASED ITEMS
NSS-080	INCORE THERMOCOUPLES
NSS-205	LARGE PUMPS
NSS-220	VALVES AND OPERATORS
NSS-312	REACTOR VESSEL LEVEL INSTRUMENTATION SYSTEM
NSS-320	PROCESS. CONTROL INSTRUMENTATION
NSS-325	TRANSMITTERS
NSS-330	NUCLEAR INSTRUMENTATION
NSS-386	REACTOR TRIP SWITCHGEAR AND INVERTER

JOB NO. 9763.102

HARSH ENVIRONMENT EQUIPT LIST

PUBLIC SERVICE OF NEW HAMPSHIRE

SEABROOK STATION

UNIT 1

DWG. 9763-M-300218

REV 001

DATE 10/07/85

(SHEET 3 OF 3)

PURCHASE ORDER NUMBER

CODE	DESCRIPTION
NSS-387	SOLID STATE PROTECTION SYSTEM & SAFEGUARD TEST CABINET
NSS-917	HYDROGEN RECOMBINERS

EQUIPMENT QUALIFICATION FILE NUMBER

CODE	DESCRIPTION
015-01-01	CONAX N-11000 PENETRATION
045-02-01	WESTINGHOUSE CLASS 1E MED. AC FAN MOTOR
113-01-01	ANACONDA 5KV POWER CABLE
113-03-01	OKONITE 600V POWER CABLE
113-03-02	LATER
113-05-01	ROCKBESTOS SPECIALTY & PRZR HEATER CABLE
113-06-01	BRAND-REX ULTROL COAXIAL CABLE
113-06-02	BRAND-REX 300V INSTRUMENT & T/C CABLE
113-17-01	ANACONDA 600V CONTROL CABLE
113-18-01	ANACONDA 300V INSTRUMENT CABLE
113-19-01	ITT-SURPRENANT SPECIALTY & INSTR CABLE
113-20-01	ITT-SURPRENANT 300V INSTRUMENT CABLE
113-20-02	ITT-SURPRENANT 300V THERMOCOUPLE CABLE
118-01-01	WESTINGHOUSE LOW VOLTAGE ELECTRICAL PENETRATION
118-01-02	WESTINGHOUSE MEDIUM VOLTAGE ELECTRICAL PENETRATION
118-03-01	CONAX N-11000 SERIES ESCA
118-04-01	CONAX INCORE CONNECTOR ASSEMBLIES
120-01-01	BROWN BOVERI/GOULD POWER DISTRIBUTION AND PRZR HEATER PANELS
120-09-01	POWELL ELECTRICAL FUSE CABINET & RCP FUSE CABINET
129-01-01	SYSTEMS CONTROLS FUSE PANELS
129-01-02	SYSTEMS CONTROLS TERMINAL BOX/BLOCK
170-06-01	COMSIP CONTROL PANEL RADIATION AND MONITORING CONTROL PANEL
170-13-01	GAMMA-METRICS DETECTOR ASSEMBLY NEUTRON FLUX MONITORING
170-13-02	GAMMA-METRICS WIDE RANGE AMPLIFIER ASSEMBLY NEUTRON FLUX MONITORING
170-13-03	GAMMA-METRICS/CONAX PENETRATION NEUTRON FLUX MONITORING
171-01-01	MERCURY CO. INSTRUMENT RACK
172-01-01	GENERAL ATOMIC CO. RADIATION DETECTOR & MONITOR RADIATION DATA MANAGEMENT
173-01-01	CONTROL COMPONENTS/NAMCO EA180 VALVE POSITION SWITCH
173-04-01	ASCO 206-381 SOLENOID VALVE
173-05-01	NAMCO EA750 LIMIT SWITCH
173-05-02	ROTORK 11NAI VALVE MOTOR OPERATOR
173-07-01	VALCOR V526 SERIES SOLENOID VALVE
173-07-02	VALCOR V526 SERIES SOLENOID VALVE
174-00-01	FOXBORO TRANSMITTERS
174-13-01	ROSEMOUNT 1153D SERIES ELECTRONIC XMTR

EQUIPMENT QUALIFICATION FILE NUMBER

CODE	DESCRIPTION
174-13-02	ROSEMOUNT 1153B SERIES ELECTRONIC XMTR
174-14-01	WEED N-9015S-E HELB DETECTORS
174-15-01	GEMS LEVEL TRANSMITTERS
225-03-01	PACIFIC AIR PRODUCTS/ASCO NP8320A184 SOLENOID VALVE
225-03-02	PAFIFIC AIR PRODUCTS/NAMCO EA170 LIMIT SWITCH
225-03-03	PACIFIC AIR PRODUCTS/NAMCO EA180 LIMIT SWITCH
225-05-01	QUALILTY AIR DESIGN/ASCO NP8321A5V SOLENOID VALVE
225-05-02	QUALITY AIR DESIGN/NAMCO EA180 POSITION SWITCH
236-11-01	CVI/ASCO VARIOUS SOLENOID VALVE
236-11-02	CVI/NAMCO EA170 LIMIT SWITCH
236-11-03	CVI/WESTINGHOUSE 460V AC FAN MOTOR
236-11-04	CVI/VARIOUS MISC. ELECTRICAL ASSESSORIES
236-11-05	CVI/NAMCO EA180 LIMIT SWITCH
236-11-06	RELIANCE ELECTRIC 460V AC FAN MOTOR
238-03-01	BINGHAM-WILLIAMETTE/WESTINGHOUSE HSDP/5809H CSP MOTOR
238-05-01	INGERSOLL-RAND/WESTINGHOUSE HSDP/5810L PCCW MOTOR
238-10-01	INGERSOLL-RAND/WESTINGHOUSE HSDP/5810H EFWP MOTOR
238-15-01	BINGHAM-WILLIAMETTE/WESTINGHOUSE TYPE LLT/286T SFPP MOTOR
238-34-01	BINGHAM-WILLIAMETTE/RELIANCE 326TS TBCWP MOTOR
248-05-01	FISHER CONTROLS/LIMITORQUE SMB SERIES VALVE MOTOR OPERATOR
248-05-02	FISHER CONTROLS/ASCO NP8320A185 SOLENOID VALVE
248-05-03	FISHER CONTROLS/NAMCO EA180 POSITIONS SW
248-29-01	XOMOX/ASCO NP8320A184E SOLENOID VALVE
248-29-02	XOMOX/NAMCO EA740 POSITION SWITCH
248-36-01	BORG-WARNER GTU/HYDRAULIC VALVE OPERATOR
248-37-01	VELAN/LIMITORQUE SBM SERIES VALVE MOTOR OPERATOR
248-37-02	VELAN/NAMCO EA180 POSITION SWITCH
248-37-03	VELAN/ASCO NP SERIES SOLENOID VALVE
248-38-01	YARWAY/LIMITORQUE SMB-000 VALVE MOTOR OPERATOR
248-41-01	WALWORTH/LIMITORQUE VARIOUS VALVE MOTOR OPERATOR

EQUIPMENT QUALIFICATION FILE NUMBER

CODE	DESCRIPTION
248-41-02	WALWORTH/NAMCO EA180 POSITION SWITCH
248-41-03	WALWORTH/ASCO NP831664E SOLENOID VALVE
248-45-01	POSI-SEAL/LIMITORQUE SMB-000 VALVE MOTOR OPERATOR
248-45-02	POSI-SEAL/ASCO VARIOUS SOLENOID VALVES
248-45-03	POSI-SEAL/NAMCO EA740 POSITION SWITCH
248-47-01	PX ENGINEERING/CONAX 7873 PENETRATION
248-65-01	ROCKWELL/LIMITORQUE SMB-00-10 VALVE ACTUATOR
248-65-02	ROCKWELL/NAMCO EA740 LIMIT SWITCH
248-65-03	ROCKWELL/ASCO NP831666E SOLENOID VALVE
248-65-04	ROCKWELL A-260 VALVE ACTUATOR
252-16-01	ITT BARTON 580 SERIES DP SWITCH
252-16-02	ITT BARTON 580A SERIES DP SWITCHES
252-16-03	ITT BARTON 765 DP TRANSMITTERS
252-30-01	TEC VARIOUS PORV MONITORING SYSTEM
252-38-01	IVES/ASCO SA11AKMR TEMPERATURE SWITCH
522-01-01	BUFFALO FORGE/WESTINGHOUSE 449TS FAN MOTOR
522-01-02	BUFFALO FORGE/NAMCO EA180 LIMIT SWITCH
600-01-01	RAYCHEM WCSF-N HEAT SHRINK SLEEVE
600-01-02	RAYCHEM NCBK CABLE BREAKOUT KIT
600-01-03	RAYCHEM NMCK MOTOR CONN. KIT
600-01-04	RAYCHEM NMCK8 8K MOTOR CONN. KIT
600-01-05	RAYCHEM NPKV 120V MOTOR CONN. KIT
600-01-06	RAYCHEM NJRS CABLE JACKET REPAIR SLEEVE
600-02-01	WEIDMULLER SAK-6N TERMINAL BLOCK
600-03-01	AMP PIDG ELECTRICAL TERMINATION
600-X	PENN JOHNSON A19BAC6 TEMP. SWITCH
N/A	NOT APPLICABLE
NSS-205-01	WESTINGHOUSE MEDIUM AC MOTORS OUTSIDE CONTAINMENT
NSS-205-02	WESTINGHOUS LARGE AC MOTORS OUTSIDE CONTAINMENT
NSS-205-04	WESTINGHOUSE CANNED PUMP MOTOR INSIDE CONTAINMENT
NSS-220-01	LIMITORQUE VARIOUS VALVE MOTOR OPERATOR (INSIDE CONTAINMENT)
NSS-220-02	ASCO NP SERIES SOLENOID VALVES
NSS-220-03	NAMCO EA SERIES LIMIT SWITCHES
NSS-220-04	LIMITORQUE VARIOUS VALVE MOTOR OPERATOR (OUTSIDE CONTAINMENT)
NSS-220-05	CONAX ECSA SERIES SEAL ASSEMBLIES
NSS-220-06	GARRETT 3750029 PORV
NSS-325-01	BARTON 763 PRESSURE TRANSMITTER

EQUIPMENT QUALIFICATION FILE NUMBER

CODE	DESCRIPTION
NSS-325-02	WESTINGHOUSE/VERITRAK 76PH2 PRESS XMTR
NSS-325-03	WESTINGHOUSE/VERITRAK 76PG1 PRESS XMTR
NSS-325-04	WESTINGHOUSE/VERITRAK 76DP2 D/P XMTR
NSS-325-05	BARTON 752 D/P TRANSMITTER
NSS-325-06	WESTINGHOUSE/VERITRAK 76DP1 D/P XMTR
NSS-325-07	RDF 21204 RTD
NSS-325-08	RDF 21205 RTD
NSS-325-09	MINCO 58809/58810 RTD
NSS-325-10	BARTON 581 DP SWITCH
NSS-917-01	WESTINGHOUSE MODEL B HYDROGEN RECOMBINER SYSTEM

TRAIN/CHANNEL DESIGNATIONS

CODE	DESCRIPTION
1	CHANNEL I
2	CHANNEL II
3	CHANNEL III
4	CHANNEL IV
A	TRAIN A
AA	TRAIN A ASSOCIATED
ALL	ALL TRAINS AND CHANNELS
B	TRAIN B
BA	TRAIN B ASSOCIATED

EVENT CODES

CODE	DESCRIPTION
ALL	ALL ACCIDENTS
B	MODERATE ENERGY LINE BREAK (MELB)
F	FUEL HANDLING ACIDENT (FHACCD)
H	HIGH ENERGY LINE BREAK (HELB)
L	LOSS OF COOLANT ACCIDENT (LOCA)
M	MAIN STEAM LINE BREAK (MSLB)
N	NON-ENVIRONMENTAL EVENT

ENVIRONMENT CODES

CODE	DESCRIPTION
HARSH	HARSH ENVIRONMENT
MILD	MILD ENVIRONMENT
NOT APPL	NOT APPLICABLE(MECHANICAL/NON 1E EQUIPT)

SAFETY FUNCTION CODES

CODE	PLANT SAFETY FUNCTION	FUNCTION DESCRIPTION
BLOWDOWN	SECONDARY SYSTEM ISOLATION	ISOLATION OF ALL OR PART OF THE SECONDARY SYSTEM TO PREVENT OR REDUCE THE DISCHARGE OF SECONDARY SYSTEM COOLANT INTO THE CONTAINMENT, SO THAT CONTAINMENT TEMPERATURE AND PRESSURE ARE MAINTAINED WITHIN ALLOWABLE LIMITS.
CGC	COMBUSTIBLE GAS CONTROL	CONTROL AND MEASUREMENT OF CONTAINMENT HYDROGEN CONCENTRATION TO MAINTAIN IT BELOW COMBUSTIBLE LIMITS BY USE OF REDUNDANT ELECTRIC THERMAL HYDROGEN RECOMBINERS OR THE BACKUP PURGE SYSTEM.
CNT P/T CNTL	CONTAINMENT PRESSURE TEMPERATURE CONTROL	MAINTENANCE OF CONTAINMENT PRESSURE AND TEMPERATURE WITHIN ALLOWABLE LIMITS WHEN CONTAINMENT INTEGRITY IS REQUIRED.
CNTL RM ENV	CONTROL STATION HABITABILITY	CONDITIONING OF THE POST-EVENT CONTROL STATION ATMOSPHERE TO ENSURE HABITABILITY AND CONTROL OF PERSONNEL RADIATION EXPOSURE.
CNTMT ISOL	CONTAINMENT ISOLATION	TRAPPING OF RADIOACTIVITY INSIDE THE CONTAINMENT TO PREVENT ESCAPE TO THE ENVIRONS.
DETECTION	DETECTION	DETECTION OF TRANSIENTS FOR AUTOMATIC ACTUATION.
ECCS-INJ	EMERGENCY CORE COOLING - INJECTION PHASE	PROVISION OF ADEQUATE COOLANT TO THE REACTOR CORE IMMEDIATELY FOLLOWING AN ACCIDENT AND PRIOR TO THE TIME THAT MANUAL ACTION CAN BE TAKEN.
ECCS-RECIRC	EMERGENCY CORE COOLING - RECIRCULATION PHASE	PROVISION OF ADEQUATE COOLANT TO THE REACTOR CORE SOME TIME AFTER THE ACCIDENT HAS OCCURRED AND AT A TIME WHEN MANUAL ACTION CAN BE TAKEN AND IN SUCH A WAY THAT THE CORE COOLANT IS RECIRCULATED BACK INTO THE PRIMARY SYSTEM AFTER IT LEAKS OUT.
HEAT SINK	SECONDARY SYSTEM ISOLATION	ISOLATION OF ALL OR PART OF THE SECONDARY SYSTEM TO PREVENT OR REDUCE THE DISCHARGE OF SECONDARY COOLANT, SO THAT AT LEAST ONE STEAM

SAFETY FUNCTION CODES

CODE	PLANT SAFETY FUNCTION	FUNCTION DESCRIPTION
		GENERATOR CAN FUNCTION AS A HEAT SINK FOR PRIMARY SYSTEM ENERGY.
HELB ISOL	HELB ISOLATION	ISOLATION OF HIGH ENERGY LINES OUTSIDE CONTAINMENT TO REDUCE DISCHARGE SO THAT SAFETY RELATED EQUIPMENT AREAS' TEMPERATURE AND PRESSURE ARE MAINTAINED WITHIN ALLOWABLE LIMITS.
N/A	NONE	EQUIPMENT NOT REQUIRED TO PERFORM A SAFETY FUNCTION
PAM	POST ACCIDENT (EVENT) MONITORING	PROVISION OF INSTRUMENTATION NECESSARY TO MONITOR PLANT VARIABLES AND SYSTEMS DURING AND FOLLOWING AN EVENT IN ORDER TO: 1. DETERMINE NATURE OF THE EVENT 2. PREDICT COURSE OF THE EVENT 3. EVALUATE SYSTEM PERFORMANCE 4. EVALUATE RESPONSE 5. DETERMINE ACTION NECESSARY TO PROTECT THE PUBLIC 6. PROVIDE DATA FOR MANUAL ACTIONS 7. PROVIDE DAMAGE ASSESSMENT INFORMATION 8. PROVIDE POST ACCIDENT EVIDENCE
PLANT COOLNG	PLANT COOLING	MAINTAIN EQUIPMENT COOLING AND SUPPORT SUBSEQUENT RHR OPERATION (PCCW AND SERVICE WATER SYSTEMS)
PRI P/L CNTL	PRESSURE/LEVEL CONTROL - PRIMARY SYSTEM	MAINTENANCE OF PRIMARY SYSTEM PRESSURE AND LEVEL WITHIN ALLOWABLE LIMITS AND ENSURING THAT THE PRIMARY SYSTEM PRESSURE IS MAINTAINED GREATER THAN SATURATION PRESSURE ASSOCIATED WITH THE TEMPERATURE AT THE HOTTEST POINT IN THE PRIMARY SYSTEM.
PWR	AC AND DC POWER	PROVISION OR TRANSMISSION OF AC OR DC POWER AND PROTECTION OF ELECTRICAL PENETRATIONS.
RAD TREATMNT	RADIOACTIVE MATERIAL TREATMENT	MECHANICAL OR CHEMICAL TREATMENT OF RADIOACTIVE MATERIALS TO REDUCE THE QUANTITY THAT ESCAPE OR ARE DISCHARGED TO THE ENVRONMENTS.
RADIOACTIVTY	SECONDARY	ISOLATION OF ALL OR PART OF THE

SAFETY FUNCTION CODES

CODE	PLANT SAFETY FUNCTION	FUNCTION DESCRIPTION
	SYSTEM ISOLATION	SECONDARY SYSTEM TO PREVENT THE DISCHARGE OF RADIOACTIVE MATERIALS TO THE ENVIRONS.
RCS ISOL	PRIMARY SYSTEM ISOLATION	ISOLATION OF ALL OR PART OF THE PRIMARY SYSTEM TO PREVENT COOLANT LOSS OR RADIOACTIVITY DISCHARGE.
REACTIVITY	REACTIVITY	RAPID INSERTION OF NEGATIVE REACTIVITY INTO THE CORE TO PRODUCE SUBCRITICALITY IMMEDIATELY FOLLOWING AN EVALUATED EVENT. ESTABLISHMENT OF A SUFFICIENT BORON CONCENTRATION IN THE CORE SUCH THAT THE REACTOR IS MAINTAINED SUBCRITICAL FOLLOWING THE EVENT AND COMPENSATES FOR POSITIVE REACTIVITY ADDITION RESULTING FROM THE EVENT.
RHR	REACTOR HEAT REMOVAL	COOLING OF THE CORE BY OTHER THAN ECCS INJECTION OF COOLANT DIRECTLY TO THE CORE.
RSS	REMOTE SAFE SHUTDOWN	PROVISION OF CONTROL EQUIPMENT AND INSTRUMENTATION NECESSARY TO SAFELY SHUT DOWN THE PLANT FROM OUTSIDE THE MAIN CONTROL ROOM.
SEC P/L CNTL	PRESSURE/LEVEL CONTROL - SECONDARY SYSTEM	MAINTENANCE OF SECONDARY SYSTEM PRESSURE AND WATER LEVEL WITHIN ALLOWABLE LIMITS
SR AREA ENV	SAFETY-RELATED AREA COOLING	HVAC REQUIRED TO MAINTAIN SAFETY EQUIPMENT IN ACCEPTABLE ENVIRONMENT FOR OPERATION.

OPERABILITY CODE

CODE	DESCRIPTION
A	EQUIPMENT THAT WILL EXPERIENCE THE ENVIRONMENTAL CONDITIONS OF DESIGN BASIS ACCIDENTS THROUGH WHICH IT MUST FUNCTION TO MITIGATE SUCH ACCIDENTS.
B	EQUIPMENT THAT WILL EXPERIENCE ENVIRONMENTAL CONDITIONS OF DESIGN BASIS ACCIDENTS THROUGH WHICH IT NEED NOT FUNCTION FOR MITIGATION OF SUCH ACCIDENTS BUT THROUGH WHICH IT MUST NOT FAIL IN A MANNER DETRIMENTAL TO PLANT SAFETY OR ACCIDENT MITIGATION.
C	EQUIPMENT THAT WILL EXPERIENCE ENVIRONMENTAL CONDITIONS OF DESIGN BASIS ACCIDENTS THROUGH WHICH IT NEED NOT FUNCTION FOR MITIGATION OF SUCH ACCIDENTS AND WHOSE FAILURE (IN ANY MODE) IS DEEMED NOT DETRIMENTAL TO PLANT SAFETY OR ACCIDENT MITIGATION.
D	EQUIPMENT THAT HAS PERFORMED ITS SAFETY FUNCTION PRIOR TO THE EXPOSURE TO AN ACCIDENT ENVIRONMENT AND WHOSE FAILURE (IN ANY MODE) IS DEEMED NOT DETRIMENTAL TO PLANT SAFETY AND WILL NOT MISLEAD THE OPERATOR.
E	EQUIPMENT LOCATED IN PLANT AREAS WITH MILD ENVIRONMENT (I.E., EQUIPMENT WILL NOT EXPERIENCE ANY DESIGN BASIS ACCIDENT ENVIRONMENTAL CONDITIONS).

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 1 UNIT 1 DATE 10/07/85

SYSTEM: AS AUXILIARY STEAM

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT'	OPER CODE	EVENT CODE
001	AS -V - 175	AUX STEAM ISOL VLV	LMTQ SB1-40	MSFW PC PCW-3	248-37-01 248-37	HELB ISOL	A C	H LM
001	AS -V - 176	AUX. STEAM ISOL. VLV	LMTQ SB1-40	MSFW PC PCW-3	248-37-01 248-37	HELB ISOL	A C	H LM
001	AS -ZS - 175	AS-V-175 POS. SW PART OF AS-V175	LMTQ SB1-40	MSFW PC PCW-3	248-37-01 248-37	HELB ISOL	A C	H LM
001	AS -ZS - 176	AS-V-176 POS. SW PART OF AS-V176	LMTQ SB1-40	MSFW PC PCW-3	248-37-01 248-37	HELB ISOL	A C	H LM

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 2 UNIT 1 DATE 10/07/85

SYSTEM: CAH CONTAINMENT AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CAH-CP - 462A	RM ISOL VLVS FV-6572/4 CTL SFTY FUCT-PAM. TO BE DOWNGRADED TO OP. CODE "C" BY ANALYSIS	COMSIP FP73367	ME PENET MPA-4	170-06-01 170-06	CNTMT ISOL	B C	L HB
001	CAH-CP - 462B	RM ISOL VLV FV-6573 CTL SFTY FUCT-PAM. TO BE DOWNGRADED TO OP. CODE "C" BY ANALYSIS	COMSIP FP73367	ME PENET MPA-4	170-06-01 170-06	CNTMT ISOL	B C	L HB
001	CAH-CS -6572	CAH-FV-6572 CTL SFTY FUCT PAM	WEST OT2	ME PENET MPA-4	170-06-02 170-06	CNTMT ISOL	C	LHB
001	CAH-CS -6573	CAH-FV-6573 CTL SFTY FUCT PAM	WEST OT2	ME PENET MPA-4	170-06-02 170-06	CNTMT ISOL	C	LHB
001	CAH-CS -6574	CAH-FV-6574 CTL SFTY FUCT PAM	WEST OT2	ME PENET MPA-4	170-06-02 170-06	CNTMT ISOL	C	LHB
001	CAH-FN - 3A	CNTN FILTER/ RECIRC FAN MFR ORDER NO. 1YF-882704	REL FRAME 326TCZ	CNT BLDG CS-13	236-11-06 236-11	CGC	A	LM
001	CAH-FN - 3B	CNTN FILTER/ RECIRC FAN MFR ORDER NO. 1YF-882704	REL FRAME 326TCZ	CNT BLDG CS-13	236-11-06 236-11	CGC	A	LM
001	CAH-FV -6572	CNTN AIRBORNE MONITOR ISOL SFTY FUCT PAM	VALCOR V526-5940-16	ME PENET MPA-4	173-07-01 173-07	CNTMT ISOL	A C	L HB
001	CAH-FV -6573	CNTN AIRBORNE MONITOR ISOL SFTY FUCT PAM	VALCOR V526-5940-16	ME PENET MPA-4	173-07-01 173-07	CNTMT ISOL	A C	L HB
001	CAH-FV -6574	CNTN AIRBORNE MONITOR ISOL SFTY FUCT PAM	VALCOR V526-5940-16	ME PENET MPA-4	173-07-01 173-07	CNTMT ISOL	A C	L HB
001	CAH-FY - 34A	CAH-DP-3A SOV	ASCO 206-380-3VF	CNT BLDG CS-13	236-11-01 236-11	CGC	A	LM

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 3 UNIT 1 DATE 10/07/85

SYSTEM: CAH CONTAINMENT AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CAH-FY - 34B	CAH-DP-34B SOV	ASCO 206-380-3VF	CNT BLDG CS-13	236-11-01 236-11	CGC	A	LM
001	CAH-FY - 34C	CAH-DP-34C SOV	ASCO 206-380-3VF	CNT BLDG CS-13	236-11-01 236-11	CGC	A	LM
001	CAH-FY - 34D	CAH-DP-34D SOV	ASCO 206-380-3VF	CNT BLDG CS-13	236-11-01 236-11	CGC	A	LM
001	CAH-ZS - 34A	CAH-DP-34A POS SW MODEL NO. EA-180-32302	NAMC EA-180-31302	CNT BLDG CS-13	236-11-05 236-11	PAM	A	LM
001	CAH-ZS - 34B	CAH-DP-34B POS SW MODEL NO. EA-180-32302	NAMC EA-180-31302	CNT BLDG CS-13	236-11-05 236-11	PAM	A	LM
001	CAH-ZS - 34C	CAH-DP-34C POS SW MODEL NO. EA-180-32302	NAMC EA-180-31302	CNT BLDG CS-13	236-11-05 236-11	PAM	A	LM
001	CAH-ZS - 34D	CAH-DP-34D POS SW MODEL NO. EA-180-32302	NAMC EA-180-31302	CNT BLDG CS-13	236-11-05 236-11	PAM	A	LM
001	CAH-ZS -6572	CAH-FV-6572 POS SW INTG CAH-FV-6572	GOMDOS MR8901	ME PENET MPA-4	173-07-01 173-07	CNTMT ISOL	A C	L HB
001	CAH-ZS -6573	CAH-FV-6573 POS SW INTG CAH-FV-6573	GORDOS MR8901	ME PENET MPA-4	173-07-01 173-07	CNTMT ISOL	A C	L HB
001	CAH-ZS -6574	CAH-FV-6574 POS SW INTG CAH-FV-6574	GORDOS MR8901	ME PENET MPA-4	173-07-01 173-07	CNTMT ISOL	A C	L HB

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 4 UNIT 1 DATE 10/07/85

SYSTEM: CAP CONTAINMENT AIR PURGE

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CAP-FY - 1	CAP-V-1 SOV	ASCO 206-381-6	CNT ENCL CE-1	248-45-02 248-45	CNTMT ISOL	A C	LM HB
001	CAP-FY - 2	CAP-V-2 SOV	ASCO 206-381-6	CNT BLDG CS-12	248-45-02 248-45	CNTMT ISOL	A	LM
001	CAP-FY - 3	CAP-V-3 SOV	ASCO 206-381-6	CNT BLDG CS-12	248-45-02 248-45	CNTMT ISOL	A	LM
001	CAP-FY - 4	CAP-V-4 SOV	ASCO 206-381-6	CNT ENCL CE-1	248-45-02 248-45	CNTMT ISOL	A C	LM HB
001	CAP-PDSH-5497	CAP-V-1/4 CONTROL	BRTN 581-1	PA BLDG PB-3	252-16-01 252-16	CNTMT ISOL	B C	LM H
001	CAP-PDSH-5498	CAP-V-2/3 CONTROL	BRTN 581-1	PA BLDG PB-5	252-16-01 252-16	CNTMT ISOL	B C	LM H
001	CAP-PDSL-5495	CAP-V-1/4 CONTROL	BRTN 583A-1	CNT ENCL CE-1	252-16-02 252-16	CNTMT ISOL	B C	LM HB
001	CAP-PDSL-5496	CAP-V-2/3 CONTROL	BRTN 583A-1	CNT ENCL CE-1	252-16-02 252-16	CNTMT ISOL	B C	LM HB
001	CAP-ZS - 1	CAP-V-1 POS SW	NAMC EA740-50100	CNT ENCL CE-1	248-45-03 248-45	CNTMT ISOL	A C	LM HB
001	CAP-ZS - 2	CAP-V-2 POS SW	NAMC EA740-50100	CNT BLDG CS-12	248-45-03 248-45	CNTMT ISOL	A	LM
001	CAP-ZS - 3	CAP-V-3 POS SW	NAMC EA740-50100	CNT BLDG CS-12	248-45-03 248-45	CNTMT ISOL	A	LM

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 5 UNIT 1 DATE 10/07/85

SYSTEM: CAP CONTAINMENT AIR PURGE

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CAP-ZS - 4	CAP-V-4 POS SW	NAMC EA740-50100	CNT ENCL CE-1	248-45-03 248-45	CNTMT ISOL	A C	LM HB

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 6 UNIT 1 DATE 10/07/85

SYSTEM: CBS CONTAINMENT BLDG. SPRAY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CBS-FY - 31	CBS TEST RECIRC V31 SOV SFTY FUCT-RAD	ASCO 206-381-6 TREATMNT	ME PENET MPA-3	248-45-02 248-45	CNT P/T CNTL	A C	LM HB
001	CBS-FY - 32	CBS TEST RECIRC V32 SOV SFTY FUCT-RAD	ASCO 206-381-6 TREATMNT	ME PENET MPA-1	248-45-02 248-45	CNT P/T CNTL	A C	LM HB
001	CBS-FY - 33	CBS TEST RECIRC V33 SOV SFTY FUCT-RAD	ASCO 206-381-6 TREATMNT	ME PENET MPA-3	248-45-02 248-45	CNT P/T CNTL	A C	LM HB
001	CBS-LE -2384-1	CNTN BLDG LVL LOWER SENSOR	GEM 111622 XM-54852	CNT BLDG CS-10	174-15-01 174-15	PAM	A	LM
001	CBS-LE -2384-2	CNTN BLDG LVL UPPER SENSOR	GEM 111623 XM-54853	CNT BLDG CS-10	174-15-01 174-15	PAM	A	LM
001	CBS-LE -2385-1	CNTN BLDG LVL LOWER SENSOR	GEM 111622 XM-54852	CNT BLDG CS-10	174-15-01 174-15	PAM	A	LM
001	CBS-LE -2385-2	CNTN BLDG LVL UPPER SENSOR	GEM 111623 XM-54853	CNT BLDG CS-10	174-15-01 174-15	PAM	A	LM
001	CBS-LT - 930	REFUELING WTR STG TK LVL MODEL NO-76DP11132/43232-A2-D4.SFTY FUCT-PRI P/L CNTL.	W VERI REMARK	TK FARM TF-1	NSS-325-06 NSS-325	ECCS-RECIRC	A C	LM H
001	CBS-LT - 931	REFUELING WTR STG TK LVL MODEL NO-76DP11132/43232-A2-D4.SFTY FUCT-PRI P/L CNTL.	W VERI REMARK	TK FARM TF-1	NSS-325-06 NSS-325	ECCS-RECIRC	A C	LM H
001	CBS-LT - 932	REFUELING WTR STG TK LVL MODEL NO-76DP11132/43232-A2-D4.SFTY FUCT-PRI P/L CNTL.	W VERI REMARK	TK FARM TF-1	NSS-325-06 NSS-325	ECCS-RECIRC	A C	LM H
001	CBS-LT - 933	REFUELING WTR STG TK LVL MODEL NO-76DP11132/43232-A2-D4.SFTY FUCT-PRI P/L CNTL.	W VERI REMARK	TK FARM TF-1	NSS-325-06 NSS-325	ECCS-RECIRC	A C	LM H

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 7 UNIT 1 DATE 10/07/85

SYSTEM: CBS CONTAINMENT BLDG. SPRAY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CBS-LT -2380	REFUELING WTR STG TK LVL	W VERI REMARK	TK FARM TF-1	NSS-325-06 NSS-325	PAM	A C	LM H
		MODEL NO-76DP11132/43232-A2-D4.						
001	CBS-LT -2383	REFUELING WTR STG TK LVL	W VERI REMARK	TK FARM TF-1	NSS-325-06 NSS-325	PAM	A C	LM H
		MODEL NO-76DP11132/43232-A2-D4.						
001	CBS-P - 9A	CBS PUMP 9A	W HSDP	EQ VAULT EV-1A	238-03-01 238-03	CNT P/T CNTL	A C	LM HB
		SFTY FUCT-RAD TREATMNT						
001	CBS-P - 9B	CBS PUMP 9B	W HSDP	EQ VAULT EV-1B	238-03-01 238-03	CNT P/T CNTL	A C	LM HB
		SFTY FUCT-RAD TREATMNT						
001	CBS-PT -2312	CBS-P-9A SUCT PRESS	FOX N-E11GM-IAB	EQ VAULT EV-6A	174-01-01 174-01	PAM	A C	LM HB
					AMI DSGN CAT2			
001	CBS-PT -2313	CBS-P-9A DISCH PRESS	FOX N-E11GM-IAB	EQ VAULT EV-6A	174-01-01 174-01	PAM	A C	LM HB
					AMI DSGN CAT2			
001	CBS-PT -2314	CBS-P-9B SUCT PRESS	FOX N-E11GM-IAB	EQ VAULT EV-6B	174-01-01 174-01	PAM	A C	LM HB
					AMI DSGN CAT2			
001	CBS-PT -2315	CBS-P-9B DISCH PRESS	FOX N-E11GM-IAB	EQ VAULT EV-6B	174-01-01 174-01	PAM	A C	LM HB
					AMI DSGN CAT2			
001	CBS-TK - 101A	ELEC PEN	CONAX 7873-10000-01	ME PENET MPA-1	248-47-01 248-47	CNTMT ISOL	A C	LM HB
		SFTY FUCT PWR. MODEL NO. 7873-10000-02						
001	CBS-TK - 101B	ELEC PEN	CONAX 7873-10000-01	ME PENET MPA-3	248-47-01 248-47	CNTMT ISOL	A C	LM HB
		SFTY FUCT PWR. MODEL NO. 7873-10000-02						
001	CBS-V - 2	CBS-P-9A RWS-TK-8 ISOL	W LMTQ SB-1-60	EQ VAULT EV-6A	NSS-220-04 NSS-220	ECCS-INJ	A C	LM HB
		SFTY FUCT ECCS-RECIRC, CNT P/T CNTL						

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 8 UNIT 1 DATE 10/07/85

SYSTEM: CBS CONTAINMENT BLDG. SPRAY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CBS-V - 5	CBS-P-9B	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		RWS-TK-8 ISOL	SB-1-60	EV-6B	NSS-220		C	HB
		SFTY FUCT ECCS-RECIRC, CNT P/T CNTL						
001	CBS-V - 8	CBS-TK-101A	LMTQ	ME PENET	248-37-01	ECCS-RECIRC	A	LM
		SUMP ISOLATION	SMB015	MPA-1	248-37		C	HB
		SFTY FUCT-CNT P/T CNTL						
001	CBS-V - 11	CONTN SPRAY	LMTQ	ME PENET	248-41-01	CNT P/T CNTL	A	LM
		ISOLATION	SB025	MPA-1	248-41		C	HB
		SFTY FUCT-RAD TREATMNT, CNTMT ISOL						
001	CBS-V - 14	CBS-TK-101B	LMTQ	ME PENET	248-37-01	ECCS-RECIRC	A	LM
		SUMP ISOLATION	SMB015	MPA-3	248-37		C	HB
		SFTY FUCT-CNT P/T CNTL						
001	CBS-V - 17	CONTN SPRAY	LMTQ	ME PENET	248-41-01	CNT P/T CNTL	A	LM
		ISOLATION	SB025	MPA-3	248-41		C	HB
		SFTY FUCT-RAD TREATMNT, CNTMT ISOL						
001	CBS-V - 38	CBS-TK-13 OUT	LMTQ	TK FARM	248-41-01	ECCS-INJ	A	LM
		ADD RWS-TK-8	SMB000-5	TF-1	248-41		C	H
		SFTY FUCT REACTIVITY, RAD TREATMNT						
001	CBS-V - 43	CBS-TK-13 OUT	LMTQ	TK FARM	248-41-01	ECCS-INJ	A	LM
		ADD RWS-TK-8	SMB000-5	TF-1	248-41		C	H
		SFTY FUCT REACTIVITY, RAD TREATMNT						
001	CBS-V - 47	SI-P-6A SUCT	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		BLOCK	SMB-00-10	EV-4A	NSS-220		C	HB
		SFTY FUCT ECCS-RECIRC, REACTIVITY						
001	CBS-V - 49	SI-P-6A SUCT	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		BLOCK	SMB-000-5	EV-4A	NSS-220		C	HB
		SFTY FUCT ECCS-RECIRC, REACTIVITY						
001	CBS-V - 51	SI-P-6B SUCT	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		BLOCK	SMB-00-10	EV-4B	NSS-220		C	HB
		SFTY FUCT ECCS-RECIRC, REACTIVITY						
001	CBS-V - 53	SI-P-6B SUCT	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		BLOCK	SMB-000-5	EV-4B	NSS-220		C	HB
		SFTY FUCT ECCS-RECIRC, REACTIVITY						

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 9 UNIT 1 DATE 10/07/85

SYSTEM: CBS CONTAINMENT BLDG. SPRAY

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
		REMARKS						
001	CBS-ZS - 11	CBS-V-11	LMTQ	ME PENET	248-41-01	CNT P/T CNTL	A	LM
		POS SW	SB025	MPA-1	248-41		C	HB
		PART OF CBS-V11						
001	CBS-ZS - 17	CBS-V-17	LMTQ	ME PENET	248-41-01	CNT P/T CNTL	A	LM
		POS SW	SB025	MPA-3	248-41		C	HB
		PART OF CBS-V17						
001	CBS-ZS - 31	CBS-V-31	NAMC	ME PENET	248-45-03	CNT P/T CNTL	A	LM
		POS SW	EA740-50100	MPA-3	248-45		C	HB
001	CBS-ZS - 32	CBS-V-32	NAMC	ME PENET	248-45-03	CNT P/T CNTL	A	LM
		POS SW	EA740-50100	MPA-1	248-45		C	HB
001	CBS-ZS - 33	CBS-V-33	NAMC	ME PENET	248-45-03	CNT P/T CNTL	A	LM
		POS SW	EA740-50100	MPA-3	248-45		C	HB
001	CBS-ZS - 38	CBS-V-38	LMTQ	TK FARM	248-41-01	ECCS-INJ	A	LM
		POS SW	SMB000-5	TF-1	248-41		C	H
		PART OF CBS-V38, SFTY FUCT REACTIVITY						
001	CBS-ZS - 43	CBS-V-43	LMTQ	TK FARM	248-41-01	ECCS-INJ	A	LM
		POS SW	SMB000-5	TF-1	248-41		C	H
		PART OF CBS-V43, SFTY FUCT REACTIVITY						
001	CBS-ZS - 47	CBS-V-47	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		POS SW	SMB-00-10	EV-4A	NSS-220		C	HB
		PART OF CBS-V-47. SFTY FUCT ECCS-RECIRC						
001	CBS-ZS - 49	CBS-V-49	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		POS SW	SMB-00-5	EV-4A	NSS-220		C	HB
		PART OF CBS-V-49 SFTY FUCT ECCS-RECIRC						
001	CBS-ZS - 51	CBS-V-51	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		POS SW	SMB-00-10	EV-4B	NSS-220		C	HB
		PART OF CBS-V-51. SFTY FUCT ECCS-RECIRC						
001	CBS-ZS - 53	CBS-V-53	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		POS SW	SMB-00-5	EV-4B	NSS-220		C	HB
		PART OF CBS-V-53. SFTY FUCT ECCS-RECIRC						

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 10 UNIT 1 DATE 10/07/85

SYSTEM: CBS CONTAINMENT BLDG. SPRAY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CBS-ZS -2302-1	CBS-V-2	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		POS SW	SB-1-60	EV-6A	NSS-220		C	HB
		PART OF CBS-V-2 SFTY FUCT ECCS-RECIRC						
001	CBS-ZS -2302-2	CBS-V-2	W NAMC	EQ VAULT	NSS-220-03	PAM	A	LM
		POS SW	EA170-12302	EV-6A	NSS-220		C	HB
001	CBS-ZS -2303-1	CBS-V-5	W NAMC	EQ VAULT	NSS-220-03	PAM	A	LM
		POS SW	EA170-12302	EV-6B	NSS-220		C	HB
001	CBS-ZS -2303-2	CBS-V-5	W LMTQ	EQ VAULT	NSS-220-04	ECCS-INJ	A	LM
		POS SW	SB-1-60	EV-6B	NSS-220		C	HB
		PART OF CBS-V-5 SFTY FUCT ECCS-RECIRC						
001	CBS-ZS -2306-1	CBS-V-8	LMTQ	ME PENET	248-37-01	ECCS-RECIRC	A	LM
		POS SW	SMB015	MPA-1	248-37		C	HB
		PART OF CBS-V-8 SFTY FUCT CNT P/T CNTL						
001	CBS-ZS -2306-2	CBS-V-8	NAMC	ME PENET	248-37-02	PAM	A	LM
		POS SW	EA180-11302	MPA-1	248-37		C	HB
		MODEL NO. - EA180-12302						
001	CBS-ZS -2307-1	CBS-V-14	NAMC	ME PENET	248-37-02	PAM	A	LM
		POS SW	EA180-11302	MPA-3	248-37		C	HB
		MODEL NO. - EA180-12302						
001	CBS-ZS -2307-2	CBS-V-14	LMTQ	ME PENET	248-37-01	ECCS-RECIRC	A	LM
		POS SW	SMB015	MPA-3	248-37		C	HB
		PART OF CBS-V-14 SFTY FUCT CNT P/T CNTL						

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 11 UNIT 1 DATE 10/07/85

SYSTEM: CC COMPONENT COOLING WATER-PRIMARY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CC -CP - 443A	CC-V-975 CONTROL PANEL TO BE DOWNGRADED TO OP. CODE "C" BY ANALYSIS	COMSIP 7637-57	PA BLDG PB-11	170-06-01 170-06	PLANT COOLNG	B C	L H
001	CC -CP - 443B	CC-V-986 CONTROL PANEL TO BE DOWNGRADED TO OP. CODE "C" BY ANALYSIS	COMSIP 7637-57	PA BLDG PB-11	170-06-01 170-06	PLANT COOLNG	B C	L H
001	CC -CS -2070	CC-V-975 CTL	WEST OT2	PA BLDG PB-11	170-06-02 170-06	PLANT COOLNG	C	LH
001	CC -CS -2071	CC-V-986 CTL	WEST OT2	PA BLDG PB-11	170-06-02 170-06	PLANT COOLNG	C	LH
001	CC -FISH-2147	CC-V-428 CTL SIS TAG NUMBER CC-FISHL-2147	BRTN 581A-O	CNT BLDG CS-12	252-16-02 252-16	RCS ISOL	A C	N LM
001	CC -FISH-2148	CC-V-438 CTL SIS TAG NUMBER CC-FISHL-2148	BRTN 581A-O	CNT BLDG CS-12	252-16-02 252-16	RCS ISOL	A C	N LM
001	CC -FISH-2247	CC-V-395 CTL SIS TAG NUMBER CC-FISHL-2247	BRTN 581A-O	CNT BLDG CS-12	252-16-02 252-16	RCS ISOL	A C	N LM
001	CC -FISH-2248	CC-V-439 CTL SIS TAG NUMBER CC-FISHL-2248	BRTN 581A-O	CNT BLDG CS-12	252-16-02 252-16	RCS ISOL	A C	N LM
001	CC -FT -2091-1	RC-P-1A/D COOLERS OUTLET	RSMT 1153DD3PB	CNT BLDG CS-12	174-13-01 174-13	N/A	C	LM
001	CC -FT -2091-2	RC-P-1A/D COOLERS OUTLET	RSMT 1153DD3PB	CNT BLDG CS-12	174-13-01 174-13	N/A	C	LM
001	CC -FT -2103	PCCW LOOP A SUPP HDR FLOW	FOX E13DM	PA BLDG PB-14	174-01 AMI DSGN CAT2	PAM	A	ALL

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 12 UNIT 1 DATE 10/07/85

SYSTEM: CC COMPONENT COOLING WATER-PRIMARY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CC -FT -2175A	THERMAL BARR PUMP DISCH	RSMT 1153DD5PB	CNT BLDG CS-10	174-13-01 174-13	DETECTION	A C	MHB L
001	CC -FT -2175B	THERMAL BARR PUMP DISCH	RSMT 1153DD5PB	CNT BLDG CS-10	174-13-01 174-13	DETECTION	A C	MHB L
001	CC -FT -2203	PCCW LOOP B SUPP HDR FLOW	FOX E13DM	PA BLDG PB-14	174-01 AMI DSGN CAT2	PAM	A	ALL
001	CC -FT -2291-1	RC-P-1B/C COOLERS OUTLET	RSMT 1153DD3PB	CNT BLDG CS-12	174-13-01 174-13	N/A	C	LM
001	CC -FT -2291-2	RC-P-1B/C COOLERS OUTLET	RSMT 1153DD3PB	CNT BLDG CS-12	174-13-01 174-13	N/A	C	LM
001	CC -FY - 57	CC-V-57 SOV SFTY FUCT CNTMT ISOL	ASCO NP8342B23E	CNT BLDG CS-12	248-45-04 248-45	PLANT COOLNG	A	ALL
001	CC -FY - 121	CC-V-121 SOV SFTY FUCT CNTMT ISOL	ASCO NP8342B23E	CNT BLDG CS-12	248-45-04 248-45	PLANT COOLNG	A	ALL
001	CC -FY - 122	CC-V-122 SOV	ASCO NP8342B23E	ME PENET MPA-4	248-45-04 248-45	CNTMT ISOL	A	ALL
001	CC -FY - 168	CC-V-168 SOV	ASCO NP8342B23E	ME PENET MPA-4	248-45-04 248-45	CNTMT ISOL	A	ALL
001	CC -FY - 175	CC-V-175 SOV	ASCO NP8342B23E	ME PENET MPA-4	248-45-04 248-45	CNTMT ISOL	A	ALL
001	CC -FY - 176	CC-V-176 SOV SFTY FUCT CNTMT ISOL	ASCO NP854B23F	CNT BLDG CS-12	248-45-04 248-45	PLANT COOLNG	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 13 UNIT 1 DATE 10/07/85

SYSTEM: CC COMPONENT COOLING WATER-PRIMARY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CC -FY - 256	CC-V-256 SOV SFTY FUCT CNTMT ISOL	ASCO NP8342B23E	CNT BLDG CS-12	248-45-04 248-45	PLANT COOLNG	A	ALL
001	CC -FY - 257	CC-V-257 SOV	ASCO 206-381-6	ME PENET MPA-4	248-45-02 248-45	CNTMT ISOL	A	ALL
001	CC -FY - 341	CC-V-341 SOV	ASCO 206-381-6	PA BLDG PB-16	248-45-02 248-45	PLANT COOLNG	A	ALL
001	CC -FY - 426	CC-V-426 SOV	ASCO 206-381-6	PA BLDG PB-16	248-45-02 248-45	PLANT COOLNG	A	ALL
001	CC -FY - 427	CC-V-427 SOV	ASCO 206-381-6	PA BLDG PB-16	248-45-02 248-45	PLANT COOLNG	A	ALL
001	CC -FY - 447	CC-V-447 SOV	ASCO 206-381-6	PA BLDG PB-16	248-45-02 248-45	PLANT COOLNG	A	ALL
001	CC -FY - 448	CC-V-448 SOV	ASCO 206-381-6	PA BLDG PB-16	248-45-02 248-45	PLANT COOLNG	A	ALL
001	CC -FY - 975	CC-V-975 SOV	ASCO NP8320A184E	PA BLDG PB-11	248-29-01 248-29	PLANT COOLNG	A	ALL
001	CC -FY - 986	CC-V-986 SOV	ASCO NP8320A184E	PA BLDG PB-11	248-29-01 248-29	PLANT COOLNG	A	ALL
001	CC -FY -2020	CC-V-32 SOV	ASCO 206-381-6	FS BLDG FSB-4	248-45-02 248-45	PLANT COOLNG	A	ALL
001	CC -FY -2040	CC-V-445 SOV	ASCO 206-381-6	FS BLDG FSB-4	248-45-02 248-45	PLANT COOLNG	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 14 UNIT 1 DATE 10/07/85

SYSTEM: CC COMPONENT COOLING WATER-PRIMARY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CC -LT -2172-1	PCCW HEAD TANK CC-TK-19A LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-8	174-13-02 174-13	DETECTION	A	ALL
001	CC -LT -2172-2	PCCW HEAD TANK CC-TK-19A LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-8	174-13-02 174-13	DETECTION	A	ALL
001	CC -LT -2172-3	PCCW HEAD TANK CC-TK-19A LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-8	174-13-02 174-13	DETECTION	A	ALL
001	CC -LT -2192-1	PCCW HEAD TANK CC-TK-19A LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-8	174-13-02 174-13	DETECTION	A	ALL
001	CC -LT -2192-2	PCCW HEAD TANK CC-TK-19A LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-8	174-13-02 174-13	DETECTION	A	ALL
001	CC -LT -2192-3	PCCW HEAD TANK CC-TK-19A LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-8	174-13-02 174-13	DETECTION	A	ALL
001	CC -LT -2272-1	PCCW HEAD TANK CC-TK-19B LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-5	174-13-02 174-13	DETECTION	A	ALL
001	CC -LT -2272-2	PCCW HEAD TANK CC-TK-19B LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-5	174-13-02 174-13	DETECTION	A	ALL
001	CC -LT -2272-3	PCCW HEAD TANK CC-TK-19B LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-5	174-13-02 174-13	DETECTION	A	ALL
001	CC -LT -2292-1	PCCW HEAD TANK CC-TK-19B LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-5	174-13-02 174-13	DETECTION	A	ALL
001	CC -LT -2292-2	PCCW HEAD TANK CC-TK-19B LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-5	174-13-02 174-13	DETECTION	A	ALL

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 15 UNIT 1 DATE 10/07/85

SYSTEM: CC COMPONENT COOLING WATER-PRIMARY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CC -LT -2292-3	PCCW HEAD TANK CC-TK-198 LVL SFTY FUCT-PLANT COOLNG	RSMT 1153DB4PB	PA BLDG PB-5	174-13-02 174-13	DETECTION	A	ALL
001	CC -P - 11A	PCCW PUMP 11A MODEL HSDP, TYPE LLD DP	WEST SFB685	PA BLDG PB-11	238-05-01 238-05	PLANT COOLNG	A	ALL
001	CC -P - 11B	PCCW PUMP 11B MODEL HSDP, TYPE LLD DP	WEST SFB685	PA BLDG PB-11	238-05-01 238-05	PLANT COOLNG	A	ALL
001	CC -P - 11C	PCCW PUMP 11C MODEL HSDP, TYPE LLD DP	WEST SFB685	PA BLDG PB-11	238-05-01 238-05	PLANT COOLNG	A	ALL
001	CC -P - 11D	PCCW PUMP 11D MODEL HSDP, TYPE LLD DP	WEST SFB685	PA BLDG PB-11	238-05-01 238-05	PLANT COOLNG	A	ALL
001	CC -P - 322A	THERM BARR CIRC WTR PUMP MODEL DUTY MASTER FRAME 326TS, TEFC-XT ENCL	REL B-3645-2	CNT BLDG CS-10	238-34-01 238-34	PLANT COOLNG	A C	MHB L
001	CC -P - 322B	THERM BARR CIRC WTR PUMP MODEL DUTY MASTER FRAME 326TS, TEFC-XT ENCL	REL B-3645-2	CNT BLDG CS-10	238-34-01 238-34	PLANT COOLNG	A C	MHB L
001	CC -TE -2171	PCCW LOOP A SUPP HDR TEMP SFTY FUCT-PAM	WEED NE4B250G-18.75AS	PA BLDG PB-11	174-14	PLANT COOLNG	A	ALL
001	CC -TE -2271	PCCW LOOP B SUPP HDR TEMP SFTY FUCT-PAM	WEED NE4B250G-18.75AS	PA BLDG PB-11	174-14	PLANT COOLNG	A	ALL
001	CC -TY -2171-1	CC-TV-2171-1 SOV	ASCO 206-381-2RVU	PA BLDG PB-11	173-04-01 173-04	PLANT COOLNG	A	ALL
001	CC -TY -2171-2	CC-TV-2171-2 SOV	ASCO 206-381-2RVU	PA BLDG PB-11	173-04-01 173-04	PLANT COOLNG	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 16 UNIT 1 DATE 10/07/85

SYSTEM: CC COMPONENT COOLING WATER-PRIMARY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CC -TY -2171-4	PCCW LOOP A SUPP HDR TEMP		PA BLDG PB-11	 173-05	PLANT COOLNG	A	ALL
001	CC -TY -2171-5	PCCW LOOP A SUPP HDR TEMP		PA BLDG PB-11	 173-05	PLANT COOLNG	A	ALL
001	CC -TY -2271-1	CC-TV-2271-1 SOV	ASCO 206-381-2RVU	PA BLDG PB-11	173-04-01 173-04	PLANT COOLNG	A	ALL
001	CC -TY -2271-2	CC-TV-2271-2 SOV	ASCO 206-381-2RVU	PA BLDG PB-11	173-04-01 173-04	PLANT COOLNG	A	ALL
001	CC -TY -2271-4	PCCW LOOP B SUPP HDR TEMP		PA BLDG PB-11	 173-05	PLANT COOLNG	A	ALL
001	CC -TY -2271-5	PCCW LOOP B SUPP HDR TEMP		PA BLDG PB-11	 173-05	PLANT COOLNG	A	ALL
001	CC -V - 137	CBS-E-16A RTN HDR ISOL	LMTQ SMB0005	EQ VAULT EV-2A	248-45-01 248-45	PLANT COOLNG	A	ALL
001	CC -V - 145	RH-E-9A RTN HDR ISOL	LMTQ SMB0005	EQ VAULT EV-5A	248-45-01 248-45	PLANT COOLNG	A	ALL
001	CC -V - 266	CBS-E-16B RTN HDR ISOL	LMTQ SMB0005	EQ VAULT EV-2B	248-45-01 248-45	PLANT COOLNG	A	ALL
001	CC -V - 272	RH-E-9B RTN HDR ISOL	LMTQ SMB0005	EQ VAULT EV-5B	248-45-01 248-45	PLANT COOLNG	A	ALL
001	CC -V - 395	RC-P-1B THERM BARR ISOL	LMTQ SMB015	CNT BLDG CS-12	248-37-01 248-37	RCS ISOL	A C	N LM

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 17 UNIT 1 DATE 10/07/85

SYSTEM: CC COMPONENT COOLING WATER-PRIMARY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CC -V - 428	RC-P-1A THERM BARR ISOL	LMTQ SMB015	CNT BLDG CS-12	248-37-01 248-37	RCS ISOL	A C	N LM
001	CC -V - 438	RC-P-1C THERM BARR ISOL	LMTQ SMB015	CNT BLDG CS-12	248-37-01 248-37	RCS ISOL	A C	N LM
001	CC -V - 439	RC-P-1D THERM BARR ISOL	LMTQ SMB015	CNT BLDG CS-12	248-37-01 248-37	RCS ISOL	A C	N LM
001	CC -V -1092	CC-E-153B SUPPLY ISOL SFTY FUCT PLANT COOLNG	LMTQ SMB0002	ME PENET MPA-3	248-45-01 248-45	CNTMT ISOL	A	LMHB
001	CC -V -1095	CC-E-153B RET ISOL SFTY FUCT PLANT COOLNG	LMTQ SMB0002	ME PENET MPA-3	248-45-01 248-45	CNTMT ISOL	A	LMHB
001	CC -V -1101	CC-E-153A SUPPLY ISOL SFTY FUCT PLANT COOLNG	LMTQ SMB0002	ME PENET MPA-1	248-45-01 248-45	CNTMT ISOL	A	LMHB
001	CC -V -1109	CC-E-153A RET ISOL SFTY FUCT PLANT COOLNG	LMTQ SMB0002	ME PENET MPA-1	248-45-01 248-45	CNTMT ISOL	A	LMHB
001	CC -ZS - 32	CC-V-32 POS SW	NAMC EA740-50100	FS BLDG FSB-4	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 57	CC-V-57 POS SW SFTY FUCT CNTMT ISOL	NAMC EA740-50100	CNT BLDG CS-12	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 121	CC-V-121 POS SW SFTY FUCT CNTMT ISOL	NAMC EA740-50100	CNT ELDG CS-12	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 122	CC-V-122 POS SW	NAMC EA740-50100	ME PENET MPA-4	248-45-03 248-45	CNTMT ISOL	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 18 UNIT 1 DATE 10/07/85

SYSTEM: CC COMPONENT COOLING WATER-PRIMARY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CC -ZS - 137	CC-V-137 POS SW PART OF CC-V-137	LMTQ SMB0005	EQ VAULT EV-2A	248-45-01 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 145	CC-V-145 POS SW PART OF CC-V-145	LMTQ SMB0005	EQ VAULT EV-5A	248-45-01 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 168	CC-V-168 POS SW	NAMC EA740-50100	ME PENET MPA-4	248-45-03 248-45	CNTMT ISOL	A	ALL
001	CC -ZS - 175	CC-V-175 POS SW	NAMC EA740-50100	ME PENET MPA-4	248-45-03 248-45	CNTMT ISOL	A	ALL
001	CC -ZS - 176	CC-V-176 POS SW SFTY FUCT CNTMT ISOL	NAMC EA740-50100	CNT BLDG CS-12	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 256	CC-V-256 POS SW SFTY FUCT CNTMT ISOL	NAMC EA740-50100	CNT BLDG CS-12	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 257	CC-V-257 POS SW	NAMC EA740-50100	ME PENET MPA-4	248-45-03 248-45	CNTMT ISOL	A	ALL
001	CC -ZS - 266	CC-V-266 POS SW PART OF CC-V-266	LMTQ SMB0005	EQ VAULT EV-2B	248-45-01 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 272	CC-V-272 POS SW PART OF CC-V-272	LMTQ SMB0005	EQ VAULT EV-5B	248-45-01 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 341	CC-V-341 POS SW	NAMC EA740-50100	PA BLDG PB-16	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 395	CC-V-395 POS SW PART OF CC-V-395	LMTQ SMB015	CNT BLDG CS-12	248-37-01 248-37	RCS ISOL	A C	N LM

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 19 UNIT 1 DATE 10/07/85

SYSTEM CC COMPONENT COOLING WATER-PRIMARY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CC -ZS - 426	CC-V-426 POS SW	NAMC EA740-50100	PA BLDG PB-16	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 427	CC-V-427 POS SW	NAMC EA740-50100	PA BLDG PB-16	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 428	CC-V-428 POS SW PART OF CC-V-428	LMTQ SMB015	CNT BLDG CS-12	248-37-01 248-37	RCS ISOL	A C	N LM
001	CC -ZS - 438	CC-V-438 POS SW PART OF CC-V-438	LMTQ SMB015	CNT BLDG CS-12	248-37-01 248-37	RCS ISOL	A C	N LM
001	CC -ZS - 439	CC-V-439 POS SW PART OF CC-V-439	LMTQ SMB015	CNT BLDG CS-12	248-37-01 248-37	RCS ISOL	A C	N LM
001	CC -ZS - 445	CC-V-445 POS SW	NAMC EA740-50100	FS BLDG FSB-4	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 447	CC-V-447 POS SW	NAMC EA740-50100	PA BLDG PB-16	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS - 448	CC-V-448 POS SW	NAMC EA740-50100	PA BLDG PB-16	248-45-03 248-45	PLANT COOLNG	A	ALL
001	CC -ZS -1092	CC-V-1092 POS SW PART OF CC-V-1092, SFTY FUCT PLANT COOLNG	LMTQ SMB0002	ME PENET MPA-3	248-45-01 248-45	CNTMT ISOL	A	LMHB
001	CC -ZS -1095	CC-V-1095 POS SW PART OF CC-V-1095, SFTY FUCT PLANT COOLNG	LMTQ SMB0002	ME PENET MPA-3	248-45-01 248-45	CNTMT ISOL	A	LMHB
001	CC -ZS -1101	CC-V-1101 POS SW PART OF CC-V-1101, SFTY FUCT PLANT COOLNG	LMTQ SMB0002	ME PENET MPA-1	248-45-01 248-45	CNTMT ISOL	A	LMHB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 20 UNIT 1 DATE 10/07/85

SYSTEM: CC COMPONENT COOLING WATER-PRIMARY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CC -ZS -1109	CC-V-1109 POS SW PART OF CC-V-1109, SFTY FUCT	LMTQ SMB0002 PLANT COOLNG	ME PENET MPA-1	248-45-01 248-45	CNTMT ISOL	A	LMHB
001	CC -ZS -2070-1	CC-V-975 POS SW	NAMC EA-740-80100	PA BLDG PB-11	248-29-02 248-29	PLANT COOLNG	A	ALL
001	CC -ZS -2071-1	CC-V-986 POS SW	NAMC EA-740-80100	PA BLDG PB-11	248-29-02 248-29	PLANT COOLNG	A	ALL
001	CC -ZS -2071-2	CC-V-986 POS SW	NAMC EA-740-80100	PA BLDG PB-11	248-29-02 248-29	PLANT COOLNG	A	ALL
001	CC -ZS -2171-1	CC-TV-2171-1 POS SW	NAMC EA-750-80100	PA BLDG PB-11	173-05-01 173-05	PLANT COOLNG	A	ALL
001	CC -ZS -2171-2	CC-TV-2171-2 POS SW	NAMC EA-750-80100	PA BLDG PB-11	173-05-01 173-05	PLANT COOLNG	A	ALL
001	CC -ZS -2271-1	CC-TV-2271-1 POS SW	NAMC EA-750-80100	PA BLDG PB-11	173-05-01 173-05	PLANT COOLNG	A	ALL
001	CC -ZS -2271-2	CC-TV-2271-2 POS SW	NAMC EA-750-80100	PA BLDG PB-11	173-05-01 173-05	PLANT COOLNG	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 21 UNIT 1 DATE 10/07/85

SYSTEM: CGC COMBUSTIBLE GAS CONTROL

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CGC-MM - 284A	H2 RECOMBINER	W B	CNT BLDG CS-13	NSS-917-01 NSS-917	CGC	A C	L M
001	CGC-MM - 284B	H2 RECOMBINER	W B	CNT BLDG CS-13	NSS-917-01 NSS-917	CGC	A C	L M
001	CGC-TE -2703A	HYDRO RECOMB TEMP TRN A	W NA	CNT BLDG CS-13	NSS-917-01 NSS-917 AMI DSGN CAT2	PAM	A C	L M
001	CGC-TE -2703B	HYDRO. RECOMB TEMP TRN A	W NA	CNT BLDG CS-13	NSS-917-01 NSS-917 AMI DSGN CAT2	PAM	A C	L M
001	CGC-TE -2703C	HYDRO RECOMB TEMP TRN A	W NA	CNT BLDG CS-13	NSS-917-01 NSS-917 AMI DSGN CAT2	PAM	A C	L M
001	CGC-TE -2706A	HYDRO RECOMB TEMP TRN B	W NA	CNT BLDG CS-13	NSS-917-01 NSS-917 AMI DSGN CAT2	PAM	A C	L M
001	CGC-TE -2706B	HYDRO. RECOMB TEMP TRN B	W N/A	CNT BLDG CS-13	NSS-917-01 NSS-917 AMI DSGN CAT2	PAM	A C	L M
001	CGC-TE -2706C	HYDRO RECOMB TEMP. TRN B	W N/A	CNT BLDG CS-13	NSS-917-01 NSS-917 AMI DSGN CAT2	PAM	A C	L M
001	CGC-V - 14	CNTN EXH FLTR SUCT ISOL SFTY FUCT-CGC	LMTQ SMB000-5	CNT BLDG CS-13	248-37-01 248-37	CNTMT ISOL	A	LM
001	CGC-V - 28	CNTN EXH FLTR SUCT ISOL SFTY FUCT-CGC	LMTQ SMB000-5	CNT BLDG CS-13	248-37-01 248-37	CNTMT ISOL	A	LM
001	CGC-ZS - 14	CGC-V-14 POS SW PART OF CGC-V14, SFTY FUCT-CGC	LMTQ SMB000-5	CNT BLDG CS-13	248-37-01 248-37	CNTMT ISOL	A	LM

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 22 UNIT 1 DATE 10/07/85

SYSTEM: CGC COMBUSTIBLE GAS CONTROL

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER MODEL NO	BLDG ENV ZONE	EQ FILE NO PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
		REMARKS						
001	CGC-ZS - 23	CGC-V-28 POS SW	LMTQ SMB000-5	CNT BLDG CS-13	248-37-01 248-37	CNTMT ISOL	A	LM
		PART OF CGC-V28, SFTY FUCT-CGC						

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 23 UNIT 1 DATE 10/07/85

SYSTEM: COP CONTAINMENT ON-LINE PURGE

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	COP-FY - 1	COP-V-1 SOV	ASCO V206381-6	ME PENET MPA-2	248-45-02 248-45	CNTMT ISOL	A C	LM HB
001	COP-FY - 2	COP-V-2 SOV	ASCO V206381-6	CNT BLDG CS-10	248-45-02 248-45	CNTMT ISOL	A	LM
001	COP-FY - 3	COP-V-3 SOV	ASCO V206381-6	CNT BLDG CS-10	248-45-02 248-45	CNTMT ISOL	A	LM
001	COP-FY - 4	COP-V-4 SOV	ASCO V206381-6	ME PENET MPA-2	248-45-02 248-45	CNTMT ISOL	A C	LM HB
001	COP-PDS -1788	COP-V-1/4 CONTROL	BRTN 581-1	PA BLDG PB-3	252-16-01 252-16	CNTMT ISOL	B C	LM H
001	COP-PDS -1789	COP-V-2/3 CONTROL	BRTN 581-1	PA BLDG PB-3	252-16-01 252-16	CNTMT ISOL	B C	LM H
001	COP-ZS - 1	COP-V-1 POS SW	NAMC EA740-50100	ME PENET MPA-2	248-45-03 248-45	CNTMT ISOL	A C	LM HB
001	COP-ZS - 2	COP-V-2 POS SW	NAMC EA740-50100	CNT BLDG CS-10	248-45-03 248-45	CNTMT ISOL	A	LM
001	COP-ZS - 3	COP-V-3 POS SW	NAMC EA740-50100	CNT BLDG CS-10	248-45-03 248-45	CNTMT ISOL	A	LM
001	COP-ZS - 4	COP-V-4 POS SW	NAMC EA740-50100	ME PENET MPA-2	248-45-03 248-45	CNTMT ISOL	A C	LM HB

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 24 UNIT 1 DATE 10/07/85

SYSTEM: CS CHEMICAL AND VOLUME CONTROL

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CS -FT - 183	EMERG BORATION FLOW	W VERI 75DP	PA BLDG PB-14	NSS-325-05 NSS-325 AMI DSGN CAT2	PAM	A	LMHB
001	CS -FT -7325	CHARG PMP 2A DISCH FLOW	RSMT 1153HB4PB	PA BLDG PB-14	174-13-02 174-13	DETECTION	A	LMHB
001	CS -FT -7326	CHARG PMP 2B DISCH FLOW	RSMT 1153HB4PB	PA BLDG PB-14	174-13-02 174-13	DETECTION	A	LMHB
001	CS -FY -7416	CS-V-150 SOV SFTY FUCT - RCS ISOL	W ASCO NP831654E	ME PENET MPA-5	NSS-220-02 NSS-220	CNTMT ISOL	A	LMHB
001	CS -LCV - 112B	CS-TK-1 CHARG PMP SUCT HDR SFTY FUCT ECCS-RECIRC	W LMTQ SB-00-15	PA BLDG PB-2	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	CS -LCV - 112C	CS-TK-1 CHARG PMP SUCT HDR SFTY FUCT ECCS-RECIRC	W LMTQ SB-00-15	PA BLDG PB-17A	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	CS -LCV - 112D	CS-P-2A SUCT RWS-TK-8 SFTY FUCT - REACTIVITY	W LMTQ SMB-00-10	TK FARM TF-1	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	CS -LCV - 112E	CS-P-2B SUCT RWS-TK-8 SFTY FUCT - REACTIVITY	W LMTQ SMB-00-10	TK FARM TF-1	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	CS -LT - 102	BORIC ACID TANK 4A LVL MODEL NO-76DP11132/43232-A2-D4.	W VERI REMARK	PA BLDG PB-9	NSS-325-06 NSS-325	PAM	A	LMHB
001	CS -LT - 106	BORIC ACID TANK 4B LVL MODEL NO-76DP11132/43232-A2-D4.	W VERI REMARK	PA BLDG PB-9	NSS-325-06 NSS-325	PAM	A	LMHB
001	CS -P - 2A	CHARGING PUMP 2A SFTY FUCT ECCS-RECIRC	W LA 18791-L7	PA BLDG PB-20A	NSS-205-01 NSS-205	ECCS-INJ	A	LMHB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 25 UNIT 1 DATE 10/07/85

SYSTEM: CS CHEMICAL AND VOLUME CONTROL

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CS -P - 2B	CHARGING PUMP 2B SFTY FUCT ECCS-RECIRC	W LA 18791-L7	PA BLDG PB-20B	NSS-205-01 NSS-205	ECCS-INJ	A	LMHB
001	CS -P - 3A	BORIC ACID XFR PUMP 3A SFTY FUCT SUMP PH CONTROL	W CHEM GVH	PA BLDG PB-9	NSS-205-02 NSS-205	REACTIVITY	A	LMHB
001	CS -P - 3B	BORIC ACID XFR PUMP 3B SFTY FUCT SUMP PH CONTROL	W CHEM GVH	PA BLDG PB-9	NSS-205-02 NSS-205	REACTIVITY	A	LMHB
001	CS -PS -7467	CS-P-2A LUBE OIL PRESS SFTY FUCT ECCS-RECIRC	W UECO J6D	PA BLDG PB-20A	NSS-205-04 NSS-205 FUNCTNL NON-1E	ECCS-INJ	B	LMHB
001	CS -PS -7468	CS-P-2B LUBE OIL PRESS SFTY FUCT ECCS-RECIRC	W UECO J6D	PA BLDG PB-20B	NSS-205-04 NSS-205 FUNCTNL NON-1E	ECCS-INJ	B	LMHB
001	CS -V - 142	RCS CHG LINE	W LMTQ SB-00-15	ME PENET MPA-1	NSS-220-04 NSS-220	N/A	C	LMHB
001	CS -V - 143	RCS CHG LINE ORC-OUTBD SFTY FUCT ECCS-INJ	W LMTQ SB-00-15	ME PENET MPA-1	NSS-220-04 NSS-220	RCS ISOL	A	LMHB
001	CS -V - 149	CS-E-2 LETDOWN LINE IRC SFTY FUCT - CNTMT ISOL	W LMTQ SMB-000-10	CNT BLDG CS-5	NSS-220-01 NSS-220	RCS ISOL	A	LMHB
001	CS -V - 154	RC-P-1D SEAL INJ ISOL	W LMTQ SMB-00-10	ME PENET MPA-5	NSS-220-04 NSS-220	N/A	C	HB
001	CS -V - 158	RC-P-1C SEAL INJ ISOL	W LMTQ SMB-00-10	ME PENET MPA-5	NSS-220-04 NSS-220	N/A	C	HB
001	CS -V - 162	RC-P-1B SEAL INJ ISOL	W LMTQ SMB-00-10	ME PENET MPA-1	NSS-220-04 NSS-220	N/A	C	HB

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 26 UNIT 1 DATE 10/07/85

SYSTEM: CS CHEMICAL AND VOLUME CONTROL

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CS -V - 166	RC-P-1A SEAL INJ ISOL	W LMTQ SMB-00-10	ME PENET MPA-1	NSS-220-04 NSS-220	N/A	C	HB
001	CS -V - 167	RC PUMPS SEAL LEAKOFF ORC SFTY FUCT - RCS ISOL	W LMTQ SMB-00-10	ME PENET MPA-5	NSS-220-04 NSS-220	CNTMT ISOL	A B	LM H
001	CS -V - 168	RC PUMPS SEAL LEAKOFF IRC SFTY FUCT - RCS ISOL	W LMTQ SMB-00-10	CNT BLDG CS-10	NSS-220-01 NSS-220	CNTMT ISOL	A	LM
001	CS -V - 196	CS-P-2A MIN FLOW ISOL SFTY FUCT - ECCS-RECIRC	W LMTQ SMB-00-10	PA BLDG PB-21	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	CS -V - 197	CS-P-2B MIN FLOW ISOL SFTY FUCT - ECCS-RECIRC	W LMTQ SMB-00-10	PA BLDG PB-21	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	CS -V - 426	CS-F-5 TO BLENDER SFTY FUCT-SUMP PH CONTROL, PRI P/L CNTL	W LMTQ SMB-00-10	PA BLDG PB-9	NSS-220-04 NSS-220	REACTIVITY	A	LMHB
001	CS -V - 460	SI-P-6A SUCT BLOCK SFTY FUCT - ECCS-INJ	W LMTQ SMB-000-5	EQ VAULT EV-4A	NSS-220-04 NSS-220	ECCS-RECIRC	A C	LM HB
001	CS -V - 461	SI-P-6A SUCT BLOCK SFTY FUCT - ECCS-INJ	W LMTQ SMB-000-5	EQ VAULT EV-4A	NSS-220-04 NSS-220	ECCS-RECIRC	A C	LM HB
001	CS -V - 475	SI-P-6A SUCT BLOCK SFTY FUCT - ECCS-INJ	W LMTQ SMB-000-5	EQ VAULT EV-4A	NSS-220-04 NSS-220	ECCS-RECIRC	A C	LM HB
001	CS -ZS - 112B	CS-LCV-112B POS SW PART OF CS-LCV-112B	W LMTQ SMB-00	PA BLDG PB-2	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	CS -ZS - 112C	CS-LCV-112C POS SW PART OF CS-LCV-112C	W LMTQ SMB-00	PA BLDG PB-17A	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 27 UNIT 1 DATE 10/07/85

SYSTEM: CS CHEMICAL AND VOLUME CONTROL

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CS -ZS - 112D	CS-LCV-112D POS SW PART OF CS-LCV-112D	W LMTQ SMB-00-10	TK FARM TF-1	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	CS -ZS - 112E	CS-LCV-112E POS SW PART OF CS-LCV-112E	W LMTQ SMB-00-10	TK FARM TF-1	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	CS -ZS - 142	CS-V-142 POS SW	W LMTQ SMB-00	ME PENET MPA-1	NSS-220-04 NSS-220	N/A	C	LMHB
001	CS -ZS - 143	CS-V-143 POS SW PART OF CS-V-143	W LMTQ SMB-00	ME PENET MPA-1	NSS-220-04 NSS-220	RCS ISOL	A	LMHB
001	CS -ZS - 149	CS-V-149 POS SW PART OF CS-V-149. SFTY FUCT - RCS ISOL	W LMTQ SMB-000-10	CNT BLDG CS-5	NSS-220-01 NSS-220	CNTMT ISOL	A	LMHB
001	CS -ZS - 150	CS-V-150 POS SW SFTY FUCT - RCS ISOL	W NAMC EA 180-11303	ME PENET MPA-5	NSS-220-03 NSS-220	CNTMT ISOL	A	LMHB
001	CS -ZS - 154	CS-V-154 POS SW PART OF CS-V-154	W LMTQ SMB-00-10	ME PENET MPA-5	NSS-220-04 NSS-220	N/A	C	HB
001	CS -ZS - 158	CS-V-158 POS SW PART OF CS-V-158	W LMTQ SMB-00-10	ME PENET MPA-5	NSS-220-04 NSS-220	N/A	C	HB
001	CS -ZS - 162	CS-V-162 POS SW PART OF CS-V-162	W LMTQ SMB-00-10	ME PENET MPA-1	NSS-220-04 NSS-220	N/A	C	HB
001	CS -ZS - 166	CS-V-166 POS SW PART OF CS-V-166	W LMTQ SMB-00-10	ME PENET MPA-1	NSS-220-04 NSS-220	N/A	C	HB
001	CS -ZS - 167	CS-V-167 POS SW PART OF CS-V-167. SFTY FUCT - RCS ISOL	W LMTQ SMB-00-10	ME PENET MPA-5	NSS-220-04 NSS-220	CNTMT ISOL	A B	LM H

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 28 UNIT 1 DATE 10/07/85

SYSTEM: CS CHEMICAL AND VOLUME CONTROL

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	CS -ZS - 168	CS-V-168	W LMTQ	CNT BLDG	NSS-220-01	CNTMT ISOL	A	LM
		POS SW	SMB-00-10	CS-10	NSS-220			
		PART OF CS-V-168. SFTY FUCT - RCS ISOL						
001	CS -ZS - 196	CS-V-196	W LMTQ	PA BLDG	NSS-220-04	ECCS-INJ	A	LMHB
		POS SW	SMB-00-10	PB-21	NSS-220			
		PART OF CS-V-196						
001	CS -ZS - 197	CS-V-197	W LMTQ	PA BLDG	NSS-220-04	ECCS-INJ	A	LMHB
		POS SW	SMB-00-10	PB-21	NSS-220			
		PART OF CS-V-197						
001	CS -ZS - 426	CS-V-426	W LMTQ	PA BLDG	NSS-220-04	REACTIVITY	A	LMHB
		POS SW	SMB-00-10	PB-9	NSS-220			
		SFTY FUCT SUMP PH CONTROL, PART OF CS-V-426						
001	CS -ZS - 460	CS-V-460	W LMTQ	EQ VAULT	NSS-220-04	ECCS-RECIRC	A	LM
		POS SW	SMB-000-5	EV-4A	NSS-220		C	HB
		PART OF CS-V-460						
001	CS -ZS - 461	CS-V-461	W LMTQ	EQ VAULT	NSS-220-04	ECCS-RECIRC	A	LM
		POS SW	SMB-000-5	EV-4A	NSS-220		C	HB
		PART OF CS-V-461						
001	CS -ZS - 475	CS-V-475	W LMTQ	EQ VAULT	NSS-220-04	ECCS-RECIRC	A	LM
		POS SW	SMB-000-5	EV-4A	NSS-220		C	HB
		PART OF CS-V-475						

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SORT NO. 01 SHEET 29 UNIT 1 DATE 10/07/85

SYSTEM: EAH CONTAINMENT ENCLOSURE AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EAH-FIT -5791	EAH-FN-4A DISCH. FLOW	BRTN 765	CNT ENCL CE-1	252-16-03 252-16 AMI DSGN CAT2	PAM	A C	L HB
001	EAH-FN - 4A	CNTN ENCL EMER EXH FAN	WEST TAFC	CNT ENCL CE-1	236-11-03 236-11	RAD TREATMNT	A C	L HB
001	EAH-FN - 4B	CNTN ENCL EMER EXH FAN	WEST TAFC	CNT ENCL CE-1	236-11-03 236-11	RAD TREATMNT	A C	L HB
001	EAH-FN - 5A	EAH-AC-2A SUPPLY FAN MODEL NO BF.S.O.78L26105	WEST WEST. BU-01882	CNT ENCL CE-1	522-01-01 522-01	SP AREA ENV	A	ALL
001	EAH-FN - 5B	EAH-AC-2B SUPPLY FAN MODEL NO BF.S.O.78L26106	WEST WEST. BU-01882	CNT ENCL CE-1	522-01-01 522-01	SR AREA ENV	A	ALL
001	EAH-FN - 31A	CNTN ENCL RET FAN MODEL NO BF.S.O.76J-844B	WEST WEST. BU-02323	CNT ENCL CE-1	045-02-01 045-02	SR AREA ENV	A	ALL
001	EAH-FN - 31B	CNTN ENCL RET FAN MODEL NO BF.S.O.76J-845B	WEST WEST. BU-02323	CNT ENCL CE-1	045-02-01 045-02	SR AREA ENV	A	ALL
001	EAH-FY - 30A	EAH-DP-30A SOV	ASCO NP8320A186V	CNT ENCL CE-1	236-11-01 236-11	RAD TREATMNT	A C	L HB
001	EAH-FY - 30B	EAH-DP-30B SOV	ASCO NP8320A186V	CNT ENCL CE-1	236-11-01 236-11	RAD TREATMNT	A C	L HB
001	EAH-FY - 37A	EAH-DP-37A SOV SFTY FUCT-SR AREA ENV	ASCO NP8320A184V	CNT ENCL CE-1	225-03-01 225-03	RAD TREATMNT	A C	L HB
001	EAH-FY - 37B	EAH-DP-37B SOV SFTY FUCT-SR AREA ENV	ASCO NP8320A184V	CNT ENCL CE-1	225-03-01 225-03	RAD TREATMNT	A C	L HB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 30 UNIT 1 DATE 10/07/85

SYSTEM: EAH CONTAINMENT ENCLOSURE AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EAH-PDIS-5767	EAH-FN-5A CTL	BRTN 583A-1	CNT ENCL CE-1	252-16-02 252-16	SR AREA ENV	A	ALL
001	EAH-PDIS-5768	EAH-FN-5B CTL	BRTN 583A-1	CNT ENCL CE-1	252-16-02 252-16	SR AREA ENV	A	ALL
001	EAH-PDT -5782	CE/OUTSIDE ATMOS DP	W BRTN 765	CNT ENCL CE-1	NSS-325	PAM	A C	L HB
001	EAH-PDT -5783	CE/PAB ATMOS DP	W BRTN 765	CNT ENCL CE-1	NSS-325	PAM	A C	L HB
001	EAH-PDT -5789	CE/OUTSIDE ATMOS DP	W BRTN 765	CNT ENCL CE-1	NSS-325	PAM	A C	L HB
001	EAH-PDT -5790	CE/PAB ATMOS DP	W BRTN 765	CNT ENCL CE-1	NSS-325	PAM	A C	L HB
001	EAH-ZS - 3A	EAH-DP-3A POS SW MODEL NO. -EA180-12302	NAMC EA180-11302	CNT ENCL CE-1	522-01-02 522-01	PAM	A	ALL
001	EAH-ZS - 3B	EAH-DP-3B POS SW MODEL NO.-EA180-12302	NAMC EA180-11302	CNT ENCL CE-1	522-01-02 522-01	PAM	A	ALL
001	EAH-ZS - 25A	EAH-DP-25A POS SW	NAMC EA180-33302	CNT ENCL CE-1	225-03-03 225-03	PAM	A	ALL
001	EAH-ZS - 25B	EAH-DP-25B POS SW	NAMC EA180-33302	CNT ENCL CE-1	225-03-03 225-03	PAM	A	ALL
001	EAH-ZS - 30A	EAH-DP-30A POS SW MODEL NO.-EA180-32302	NAMC EA180-31302	CNT ENCL CE-1	236-11-05 236-11	PAM	A C	L HB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 31 UNIT 1 DATE 10/07/85

SYSTEM: EAH CONTAINMENT ENCLOSURE AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EAH-ZS - 30B	EAH-DP-30B POS SW MODEL NO.-EA180-32302	NAMC EA180-31302	CNT ENCL CE-1	236-11-05 236-11	PAM	A C	L HB
001	EAH-ZS - 37A	EAH-DP-37A POS SW MODEL NO.-EA180-32302	NAMC EA180-31302	CNT ENCL CE-1	225-03-03 225-03	PAM	A C	L HB
001	EAH-ZS - 37B	EAH-DP-37B POS SW MODEL NO.-EA180-32302	NAMC EA180-31302	CNT ENCL CE-1	225-03-03 225-03	PAM	A C	L HB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 32 UNIT 1 DATE 10/07/85

SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-CBL - 1	600 VOLT POWER CABLE	OKONIT OKONITE,OKOLON	ALL	113-03-01 113-03	PWR	A	ALL
001	EDE-CBL - 2	600 VOLT CONTROL CABLE	ANCNDA FR-EP	ALL	113-17-01 113-17	PWR	A	ALL
001	EDE-CBL - 3	INSTRUMENT CABLE	ANCNDA FR-EP	ALL	113-18-01 113-18	PWR	A	ALL
001	EDE-CBL - 4	COAXIAL CABLE	BRNDRX ULTROL	ALL	113-06-01 113-06	PWR	A	ALL
001	EDE-CBL - 4A	INSTRUMENT & T/C CABLE	BRNDRX ULTROL	ALL	113-06-02 113-06	PWR	A	ALL
001	EDE-CBL - 5	5KV CABLE	ANCNDA UNIBLEND EP	VARIOUS	113-01-01 113-01	PWR	A	ALL
001	EDE-CBL - 6	INSTRUMENT CABLE	ITT-S N/A	ALL	113-19-01 113-19	PWR	A	ALL
001	EDE-CBL - 7	INSTRUMENT CABLE	ITT-S EXANE	ALL	113-20-01 113-20	PWR	A	ALL
001	EDE-CBL - 7A	THERMOCOUPLE CABLE	ITT-S EXANE	ALL	113-20-02 113-20	PWR	A	ALL
001	EDE-CBL - 8	PRESSURIZER HEATER CABLE LOC-CS9 AND CS10	ROCKBS FIREWALL S.R.	SEE REMARKS	113-05-01 113-05	PWR	A	LMH
001	EDE-ECSA- 1	ELECT CONNECT ENVIRON SEALS MODEL NO N-11075, N-11126, N-11085, N-11046, N-11121, N-11129	CONAX REMARK	ALL	118-03-01 118-03	PWR	A	ALL

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 33 UNIT 1 DATE 10/07/85

SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-ECSA- 2	ELECT CONNECT ENVIRON SEALS	W CONX N-11007	ALL	NSS-220-05 NSS-220	PWR	A	ALL
001	EDE-MM - 77	ELEC PEN H01	WEST WX-33520	CNT BLDG CS-10	118-01-02 118-01	PWR	B	LM
001	EDE-MM - 78	ELEC PEN H02	WEST WX-33520	CNT BLDG CS-10	118-01-02 118-01	PWR	B	LM
001	EDE-MM - 79	ELEC PEN H03	WEST WX-33520	CNT BLDG CS-10	118-01-02 118-01	PWR	B	LM
001	EDE-MM - 80	ELEC PEN H04	WEST WX-33520	CNT BLDG CS-10	118-01-02 118-01	PWR	B	LM
001	EDE-MM - 81	ELEC PEN H05	WEST WX-33520	CNT BLDG CS-10	118-01-02 118-01	PWR	B	LM
001	EDE-MM - 83	ELEC PEN H07	WEST WX-33511	CNT BLDG CS-12	118-01-01 118-01	PWR	B	LM
001	EDE-MM - 84	ELEC PEN H08	WEST WX-33511	CNT BLDG CS-12	118-01-01 118-01	PWR	B	LM
001	EDE-MM - 85	ELEC PEN H09	WEST WX-33511	CNT BLDG CS-10	118-01-01 118-01	PWR	B	LM
001	EDE-MM - 86	ELEC PEN H10	WEST WX-33512	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 89	ELEC PEN H13	WEST WX-33511	CNT BLDG CS-10	118-01-01 118-01	PWR	B	LM

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 34 UNIT 1 DATE 10/07/85

SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-MM - 90	ELEC PEN H14	WEST WX-33512	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 91	ELEC PEN H15	WEST WX-33514	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 94	ELEC PEN H18	WEST WX-33514	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 95	ELEC PEN H19	WEST WX-33514	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 96	ELEC PEN H20	WEST WX-33512	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 97	ELEC PEN H21	CONAX 7C85-10001-01	CNT BLDG CS-10	170-13-03 170-13	PWR	A	LMHB
001	EDE-MM - 100	ELEC PEN H24	WEST WX-33514	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 101	ELEC PEN H25	WEST WX-33512	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 104	ELEC PEN H28	WEST WX-33513	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 105	ELEC PEN H29	WEST WX-33513	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 106	ELEC PEN H30	WEST WX-33513	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 35 UNIT 1 DATE 10/07/85

SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-MM - 107	ELEC PEN H31	WEST WX-33513	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 109	ELEC PEN H33	WEST WX-33516	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 110	ELEC PEN H34	WEST WX-33515	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 111	ELEC PEN H35	WEST WX-33515	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 112	ELEC PEN H36	WEST WX-33515	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 113	ELEC PEN H37	WEST WX-33515	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 115	ELEC PEN H39	WEST WX-33515	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 116	ELEC PEN H40	CONAX 7C85-10001-01	CNT BLDG CS-12	170-13-03 170-13	PWR	A	LMHB
001	EDE-MM - 117	ELEC PEN H41	WEST WX-33515	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 118	ELEC PEN H42	WEST WX-33515	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 119	ELEC PEN H43	WEST WX-33515	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB

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SORT NO. 01 SHEET 36 UNIT 1 DATE 10/07/85

SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-MM - 120	ELEC PEN H44	WEST WX-33521	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 121	ELEC PEN H45	WEST WX-33516	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 122	ELEC PEN H46	WEST WX-33516	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 123	ELEC PEN H47	WEST WX-33516	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 124	ELEC PEN H48	WEST WX-33522	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 125	ELEC PEN H49	WEST WX-33516	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 126	ELEC PEN H50	WEST WX-33517	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 128	ELEC PEN H52	WEST WX-33516	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 130	ELEC PEN H54	WEST WX-33522	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 131	ELEC PEN H55	WEST WX-33815	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 133	ELEC PEN H57	WEST WX-33518	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB

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SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-MM - 135	ELEC PEN H59	WEST WX-33518	CNT BLDG CS-12	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 137	ELEC PEN H61	WEST WX-33518	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 139	ELEC PEN H63	WEST WX-33518	CNT BLDG CS-10	118-01-01 118-01	PWR	A	LMHB
001	EDE-MM - 295A	RCP 1A FUSE CAB	POWELL S.O.62560	EL PENET ET-3B	120-09-01 120-09	PWR	A	LM
001	EDE-MM - 295B	RCP 1B FUSE CAB	POWELL S.O.62560	EL PENET ET-3B	120-09-01 120-09	PWR	A	LM
001	EDE-MM - 295C	RCP 1C FUSE CAB	POWELL S.O.62560	EL PENET ET-3B	120-09-01 120-09	PWR	A	LM
001	EDE-MM - 295D	RCP 1D FUSE CAB	POWELL S.O.62560	EL PENET ET-3B	120-09-01 120-09	PWR	A	LM
001	EDE-MM - 584	FUSE PANEL E4G	SYSTEM N/A	EL PENET ET-3B	129-01-01 129-01	PWR	A	ALL
001	EDE-SPL - 1	ELECTRICAL SPLICES	RAYCHM WCSF-N, WCSF-U	ALL	600-01-01 600-01	PWR	A	ALL
001	EDE-SPL - 2	ELECTRICAL SPLICES	RAYCHM NCBK-3	ALL	600-01-02 600-01	PWR	A	ALL
001	EDE-SPL - 3	ELECTRICAL SPLICES	RAYCHM NMCK-35-00	ALL	600-01-03 600-01	PWR	A	ALL

JOB NO. 9763.102 | PUBLIC SERVICE OF NEW HAMPSHIRE | DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST | SEABROOK STATION | REV. 001

SORT NO. 01 SHEET 38 | UNIT 1 | DATE 10/07/85

SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-SPL - 4	ELECTRICAL SPLICES	RAYCHM NMCK8	ALL	600-01-04 600-01	PWR	A	ALL
001	EDE-SPL - 5	ELECTRICAL SPLICES	RAYCHM NPKV-2	ALL	600-01-05 600-01	PWR	A	ALL
001	EDE-SPL - 6	ELECTRICAL SPLICES	RAYCHM NJRS	ALL	600-01-06 600-01	PWR	A	ALL
001	EDE-TBX - X14	TERMINAL BOX	SYSTEM REMARK	CNT BLDG CS-9	600-02-01 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						
001	EDE-TBX - X35	TERMINAL BOX	SYSTEM REMARK	CNT BLDG CS-13	600-02-01 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N (REF PO 600-02)						
001	EDE-TBX - X37	TERMINAL BOX	SYSTEM REMARK	CNT BLDG CS-9	600-02-01 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						
001	EDE-TBX - X38	TERMINAL BOX	SYSTEM REMARK	CNT BLDG CS-9	600-02-01 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						
001	EDE-TBX - X40	TERMINAL BOX	SYSTEM REMARK	CNT BLDG CS 9	600-02-01 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						
001	EDE-TBX - X48	TERMINAL BOX	SYSTEM REMARK	CNT BLDG CS-9	600-02-01 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						
001	EDE-TBX - X52	TERMINAL BOX	SYSTEM REMARK	CNT BLDG CS-9	600-02-01 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						
001	EDE-TBX - X53	TERMINAL BOX	SYSTEM REMARK	CNT BLDG CS-9	600-02-01 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						

SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-TBX - X56	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-13	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N (REF PO 600-02)						
001	EDE-TBX - X62	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-13	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						
001	EDE-TBX - X67	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-13	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						
001	EDE-TBX - X69	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-9	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						
001	EDE-TBX - X85	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-9	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK (REF PO 600-02)						
001	EDE-TBX - X86	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-9	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK(REF PO 600-02)						
001	EDE-TBX - X92	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-9	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK(REF PO 600-02)						
001	EDE-TBX - X93	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-9	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK(REF PO 600-02)						
001	EDE-TBX - X94	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-9	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK(REF PO 600-02)						
001	EDE-TBX - XA6	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-13	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK(REF PO 600-02)						
001	EDE-TBX - XA7	TERMINAL BOX	SYSTEM / REMARK	CNT BLDG / CS-13	600-02-01 / 600-02	PWR	A	ALL
		MODEL-WEIDM SAK-6N TERMINAL BLOCK(REF PO 600-02)						

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 40 UNIT 1 DATE 10/07/85

SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER MODEL NO	BLDG ENV ZONE	EQ FILE NO PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-TBX - XP8	JUNCTION BOX & CABLE ASSY	GAMMA 200113-107	CNT BLDG CS-10	170-13-01 170-13	PWR	A	LMHB
		REMARKS MODEL-200113-108						
001	EDE-TBX - XP9	JUNCTION BOX & CABLE ASSY	GAMMA 200113-107	CNT BLDG CS-10	170-13-01 170-13	PWR	A	LMHB
		REMARKS MODEL-200113-108						
001	EDE-TBX - Y31	TERMINAL BOX	SYSTEM REMARK	ME PENET MPA-1	129-01-01 129-01	PWR	A	ALL
		REMARKS MODEL-STATES ZWM-25012 TERM BLOCK						
001	EDE-TBX - Y32	TERMINAL BOX	SYSTEM REMARK	ME PENET MPA-1	129-01-01 129-01	PWR	A	ALL
		REMARKS MODEL-STATES ZWM-25012 TERM BLOCK						
001	EDE-TBX - Y33	TERMINAL BOX	SYSTEM REMARK	ME PENET MPA-1	129-01-01 129-01	PWR	A	ALL
		REMARKS MODEL-WESTINGHOUSE TBAL 90 TERM BLOCK						
001	EDE-TBX - Y34	TERMINAL BOX	SYSTEM REMARK	ME PENET MPA-3	129-01-01 129-01	PWR	A	ALL
		REMARKS MODEL-STATES ZWM-25012 TERM BLOCK						
001	EDE-TBX - Y35	TERMINAL BOX	SYSTEM REMARK	ME PENET MPA-3	129-01-01 129-01	PWR	A	ALL
		REMARKS MODEL-STATES ZWM-25012 TERM BLOCK						
001	EDE-TBX - Y36	TERMINAL BOX	SYSTEM REMARK	ME PENET MPA-3	129-01-01 129-01	PWR	A	ALL
		REMARKS MODEL-WESTINGHOUSE TBAL 90 TERM BLOCK						
001	EDE-TBX - YB3	TERMINAL BOX	SYSTEM REMARK	CNT ENCL CE-1	129-01-01 129-01	PWR	A	ALL
		REMARKS MODEL-STATES ZWM-25012 TERM BLOCK						
001	EDE-TBX - YC3	TERMINAL BOX	SYSTEM REMARK	CNT ENCL CE-1	129-01-01 129-01	PWR	A	ALL
		REMARKS MODEL-STATES ZWM-25012 TERM BLOCK						
001	EDE-TBX - YH4	TERMINAL BOX	SYSTEM REMARK	PA BLDG PB-8	129-01-01 129-01	PWR	A	ALL
		REMARKS MODEL-STATES ZWM-25012 TERM BLOCK						

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 41 UNIT 1 DATE 10/07/85

SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-TBX - YH5	TERMINAL BOX	SYSTEM	PA BLDG	129-01-01	PWR	A	ALL
			REMARK	PB-8	129-01			
		MODEL-STATES	ZWM-25012 TERM BLOCK					
001	EDE-TBX - YN1	TERMINAL BOX	SYSTEM	EQ VAULT	129-01-01	PWR	A	ALL
			REMARK	EV-6A	129-01			
		MODEL-STATES	ZWM-2502 TERM BLOCK					
001	EDE-TBX - YN2	TERMINAL BOX	SYSTEM	EQ VAULT	129-01-01	PWR	A	ALL
			REMARK	EV-6B	129-01			
		MODEL-STATES	ZWM-25012 TERM BLOCK					
001	EDE-TBX - YN3	TERMINAL BOX	SYSTEM	ME PENET	129-01-01	PWR	A	ALL
			REMARK	MPA-1	129-01			
		MODEL-STATES	ZWM-25012 TERM BLOCK					
001	EDE-TBX - YN4	TERMINAL BOX	SYSTEM	ME PENET	129-01-01	PWR	A	ALL
			REMARK	MPA-2	129-01			
		MODEL-STATES	ZWM-25012 TERM BLOCK					
001	EDE-TBX - YN5	TERMINAL BOX	SYSTEM	PA BLDG	129-01-01	PWR	A	ALL
			REMARK	PB-14	129-01			
		MODEL-STATES	ZWM-25012 TERM BLOCK					
001	EDE-TBX - YN6	TERMINAL BOX	SYSTEM	PA BLDG	129-01-01	PWR	A	ALL
			REMARK	PB-14	129-01			
		MODEL-STATES	ZWM-25012 TERM BLOCK					
001	EDE-TBX - YN7	TERMINAL BOX	SYSTEM	PA BLDG	129-01-01	PWR	A	ALL
			REMARK	PB-11	129-01			
		MODEL-STATES	ZWM-25012 TERM BLOCK					
001	EDE-TBX - YN8	TERMINAL BOX	SYSTEM	PA BLDG	129-01-01	PWR	A	ALL
			REMARK	PB-11	129-01			
		MODEL-STATES	ZWM-25012 TERM BLOCK					
001	EDE-TBX - ZK1	TERMINAL BOX	SYSTEM	MSFW PC	129-01-01	PWR	A	ALL
			REMARK	PCW-2	129-01			
		MODEL-STATES	ZWM-25012 TERM BLOCK					
001	EDE-TBX - ZK2	TERMINAL BOX	SYSTEM	MSFW PC	129-01-01	PWR	A	ALL
			REMARK	PCW-2	129-01			
		MODEL-STATES	ZWM-25012 TERM BLOCK					

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 42 UNIT 1 DATE 10/07/85

SYSTEM: EDE ELECTRICAL DISTRIBUTION - EMERGENCY

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EDE-TBX - ZK3	TERMINAL BOX	SYSTEM REMARK	MSFW PC PCE-2	129-01-01 129-01	PWR	A	ALL
		REMARKS	MODEL-STATES ZWM-25012 TERM BLOCK					
001	EDE-TBX - ZK4	TERMINAL BOX	SYSTEM REMARK	MSFW PC PCE-2	129-01-01 129-01	PWR	A	ALL
		REMARKS	MODEL-STATES ZWM-25012 TERM BLOCK					
001	EDE-TERM- 1	TERMINAL BLOCKS	WEIDM SAK-6N	ALL	600-02-01 600-02	PWR	A	ALL
001	EDE-TRM - 1	ELECTRICAL TERMINATIONS	AMP PIDG	ALL	600-03-01 600-03	PWR	A	ALL

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 43 UNIT 1 DATE 10/07/85

SYSTEM: EPA EMERG FW PUMP HOUSE AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EPA-FN - 47A	EMERG FW PUMP HSE SUPPLY FAN	WEST TBAM	EFW BLDG EFW-1	045-02-01 045-02	SR AREA ENV	A	LMH
001	EPA-FN - 47B	EMERG FW PUMP HSE SUPPLY FAN	WEST TBAM	EFW BLDG EFW-1	045-02-01 045-02	SR AREA ENV	A	LMH
001	EPA-FY - 373	EPA-DP-373 SOV	ASCO NP8321A5V	EFW BLDG EFW-1	225-05-01 225-05	SR AREA ENV	A	LMH
001	EPA-FY - 374	EPA-DP-374 SOV	ASCO NP8321A5V	EFW BLDG EFW-1	225-05-01 225-05	SR AREA ENV	A	LMH
001	EPA-TSH -5430	EPA-FN-47A CTL	ASCO SA11AKMR/QF10A4R	EFW BLDG EFW-1	252-38-01 252-38	SR AREA ENV	A	LMH
001	EPA-TSH -5431	EPA-FN-47B CTL	ASCO SA11AKMR/QF10A4R	EFW BLDG EFW-1	252-38-01 252-38	SR AREA ENV	A	LMH
001	EPA-TSH -5434	EMER FW PP HSE TEMP	PENN A19BAC6	EFW BLDG EFW-1	FLDPUR AMI DSGN CAT2	PAM	A	LMH
001	EPA-ZS - 371-1	EPA-DP-371 POS SW SIS TAG NO. EPA-ZS-371	NAMC EA180-31302	EFW BLDG EFW-1	225-05-02 225-05	PAM	A	LMH
001	EPA-ZS - 371-2	EPA-DP-371 POS SW SIS TAG NO. EPA-ZS-371	NAMC EA180-32302	EFW BLDG EFW-1	225-05-02 225-05	PAM	A	LMH
001	EPA-ZS - 372-1	EPA-DP-372 POS SW SIS TAG NO. EPA-ZS-372	NAMC EA180-32302	EFW BLDG EFW-1	225-05-02 225-05	PAM	A	LMH
001	EPA-ZS - 372-2	EPA-DP-372 POS SW SIS TAG NO. EPA-ZS-372	NAMC EA180-31302	EFW BLDG EFW-1	225-05-02 225-05	PAM	A	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 44 UNIT 1 DATE 10/07/85

SYSTEM: EPA EMERG FW PUMP HOUSE AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	EPA-ZS - 373-1	EPA-DP-373 POS SW SIS TAG NO. EPA-ZS-373	NAMC EA180-31302	EFW BLDG EFW-1	225-05-02 225-05	SR AREA ENV	A	LMH
001	EPA-ZS - 373-2	EPA-DP-373 POS SW SIS TAG NO. EPA-ZS-373	NAMC EA180-32302	EFW BLDG EFW-1	225-05-02 225-05	SR AREA ENV	A	LMH
001	EPA-ZS - 373-3	EPA-DP-373 POS SW SIS TAG NO. EPA-ZS-373	NAMC EA180-31302	EFW BLDG EFW-1	225-05-02 225-05	SR AREA ENV	A	LMH
001	EPA-ZS - 373-4	EPA-DP-373 POS SW SIS TAG NO. EPA-ZS-373	NAMC EA180-32302	EFW BLDG EFW-1	225-05-02 225-05	SR AREA ENV	A	LMH
001	EPA-ZS - 374-1	EPA-DP-374 POS SW SIS TAG NO. EPA-ZS-374	NAMC EA180-31302	EFW BLDG EFW-1	225-05-02 225-05	SR AREA ENV	A	LMH
001	EPA-ZS - 374-2	EPA-DP-374 POS SW SIS TAG NO. EPA-ZS-374	NAMC EA180-31302	EFW BLDG EFW-1	225-05-02 225-05	SR AREA ENV	A	LMH
001	EPA-ZS - 374-3	EPA-DP-374 POS SW SIS TAG NO. EPA-ZS-374	NAMC EA180-31302	EFW BLDG EFW-1	225-05-02 225-05	SR AREA ENV	A	LMH
001	EPA-ZS - 374-4	EPA-DP-374 POS SW SIS TAG NO. EPA-ZS-374	NAMC EA180-32302	EFW BLDG EFW-1	225-05-02 225-05	SR AREA ENV	A	LMH

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 45 UNIT 1 DATE 10/07/85

SYSTEM: FAH FUEL STORAGE BLDG. AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FAH-CS -5436-2	FAH-H-58 CTL	AB 800T-J2-A	FS BLDG FSB-5	236-11-04 236-11	SR AREA ENV	A	ALL
		TO BE CHANGED TO GE #304A3287P034 BY ECA						
001	FAH-CS -5437-2	FAH-H-60 CTL	AB 800T-J2-A	FS BLDG FSB-5	236-11-04 236-11	SR AREA ENV	A	ALL
		TO BE CHANGED TO GE #304A3287P034 BY ECA						
001	FAH-F - 41	HEATER CTL PNL FOR FAH-F-41	WEIGMANN NP6036	FS BLDG FSB-5	236-11-04 236-11	RAD TREATMNT	A	ALL
		MODEL NO.ABN12-603710						
001	FAH-F - 74	HEATER CTL PNL FOR FAH-F-74	WEIGMANN NP6036	FS BLDG FSB-5	236-11-04 236-11	RAD TREATMNT	A	ALL
		MODEL NO.ABN12-603710						
001	FAH-FN - 11A	FSB FILT UNIT F-41 FAN	WEST TAFC	FS BLDG FSB-5	236-11-03 236-11	RAD TREATMNT	A	ALL
001	FAH-FN - 11B	FSB FILT UNIT F-74 FAN	WEST TAFC	FS BLDG FSB-5	236-11-03 236-11	RAD TREATMNT	A	ALL
001	FAH-FY - 12B	FAH-DP-12B SOV	ASCO NP8320184V	FS BLDG FSB-5	236-11-01 236-11	RAD TREATMNT	A	ALL
001	FAH-FY - 366	FAH-DP-366 SOV	ASCO NP8321A5V	FS BLDG FSB-5	225-05-01 225-05	RAD TREATMNT	A	ALL
001	FAH-FY -5442-1	FAH-DP-13A SOV	ASCO NP8320A184E	CNT ENCL CE-1	225-03-01 225-03	RAD TREATMNT	A C	F LHB
001	FAH-FY -5442-2	FAH-DP-13A SOV	ASCO NP8320A184E	CNT ENCL CE-1	225-03-01 225-03	RAD TREATMNT	A C	F LHB
001	FAH-FY -5443-1	FAH-DP-13B SOV	ASCO NP8320A184E	CNT ENCL CE-1	225-03-01 225-03	RAD TREATMNT	A C	F LHB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 46 UNIT 1 DATE 10/07/85

SYSTEM: FAH FUEL STORAGE BLDG. AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FAH-FY -5443-2	FAH-DP-13B SOV	ASCO NP8320A184E	CNT ENCL CE-1	225-03-01 225-03	RAD TREATMNT	A C	F LHB
001	FAH-FY -5444A	FAH-DP-14 SOV	ASCO NP8320184V	FS BLDG FSB-5	225-03-01 225-03	SR AREA ENV	A C	F LH
001	FAH-FY -5444B	FAH-DP-14 SOV	ASCO NP8320184V	FS BLDG FSB-5	225-03-01 225-03	SR AREA ENV	A C	F LH
001	FAH-H - 57	FSB FAH-F41 90 KW HEATER HTR ELEMENT - 6000W-51-7-5	WATT RMK	FS BLDG FSB-5	236-11-04 236-11	RAD TREATMNT	A C	FH L
001	FAH-H - 58	FSB FAH-F41 SPACE HEATER HTR ELEMENT # 6-51-7-6	WATT RMK	FS BLDG FSB-5	236-11-04 236-11	SR AREA ENV	A C	F LH
001	FAH-H - 59	FSB FAH-F74 90 KW HEATER HTR ELEMENT 6000W-51-7-5	WATT RMK	FS BLDG FSB-5	236-11-04 236-11	RAD TREATMNT	A C	FH L
001	FAH-H - 60	FSB FAH-F74 SPACE HEATER HTR ELEMENT # 6-51-7-6	WATT RMK	FS BLDG FSB-5	236-11-04 236-11	SR AREA ENV	A C	F LH
001	FAH-MST -5436	FAH-H-58 CTL SFTY FUCT - SR AREA ENV	HYCAL CT822HL	FS BLDG FSB-5	236-11-04 236-11	RAD TREATMNT	A C	F LH
001	FAH-MST -5437	FAH-H-60 CTL SFTY FUCT - SR AREA ENV	HYCAL CT822HL	FS BLDG FSB-5	236-11-04 236-11	RAD TREATMNT	A C	F LH
001	FAH-PDIS-5442	FSB EXH FN-124 DISCH PRESS	BRTN 583A-1	FS BLDG FSB-5	252-16-02 252-16	RAD TREATMNT	A	ALL
001	FAH-PDIS-5443	FSB EXH FN-124 DISCH PRESS	BRTN 583A-1	FS BLDG FSB-5	252-16-02 252-16	RAD TREATMNT	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 47 UNIT 1 DATE 10/07/85

SYSTEM: FAH FUEL STORAGE BLDG. AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FAH-TSL - F41-1	FAH-H-57 CTL	PENN A19ABB	FS BLDG FSB-5	236-11-04 236-11	RAD TREATMNT	A C	FH L
001	FAH-TSL - F41-2	FAH-H-58 CTL	PENN A19AAC	FS BLDG FSB-5	236-11-04 236-11	SR AREA ENV	A C	F LH
001	FAH-TSL - F41-3	FAH-H-57 CTL	PENN A19AAC	FS BLDG FSB-5	236-11-04 236-11	RAD TREATMNT	A C	FH L
001	FAH-TSL - F41-4	FAH-H-58 CTL	PENN A19ABB	FS BLDG FSB-5	236-11-04 236-11	SR AREA ENV	A C	F LH
001	FAH-TSL - F74-1	FAH-H-59 CTL	PENN A19ABB	FS BLDG FSB-5	236-11-04 236-11	RAD TREATMNT	A C	FH L
001	FAH-TSL - F74-2	FAH-H-60 CTL	PENN A19AAC	FS BLDG FSB-5	236-11-04 236-11	SR AREA ENV	A C	F LH
001	FAH-TSL - F74-3	FAH-H-59 CTL	PENN A19ABB	FS BLDG FSB-5	236-11-04 236-11	RAD TREATMNT	A C	FH L
001	FAH-TSL - F74-4	FAH-H-60 CTL	PENN A19ABB	FS BLDG FSB-5	236-11-04 236-11	SR AREA ENV	A C	F LH
001	FAH-ZS - 12B	FAH-DP-12B POS MODEL NO.-EA170-32302	NAMC EA170-31302	FS BLDG FSB-5	236-11-02 236-11	RAD TREATMNT	A	ALL
001	FAH-ZS - 13A	FAH-DP-13A POS SW	NAMC EA180	CNT ENCL CE-1	225-03-03 225-03	PAM	A C	F LHB
001	FAH-ZS - 13B	FAH-DP-13B POS SW	NAMC EA180	CNT ENCL CE-1	225-03-03 225-03	PAM	A C	F LHB

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 48 UNIT 1 DATE 10/07/85

SYSTEM: FAH FUEL STORAGE BLDG. AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FAH-ZS - 14	FAH-DP-14 POS SW	NAMC EA170	FS BLDG FSB-5	225-03-02 225-03	SR AREA ENV	A C	F LH
001	FAH-ZS - 366-1	FAH-DP-366 POS SIS TAG NO. FAH-ZS-366	NAMC EA180-31302	FS BLDG FSB-5	225-05-02 225-05	RAD TREATMNT	A	ALL
001	FAH-ZS - 366-2	FAH-DP-366 POS SIS TAG NO. FAH-ZS-366	NAMC EA180-32302	FS BLDG FSB-5	225-05-02 225-05	PAM	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 49 UNIT 1 DATE 10/07/85

SYSTEM: FW FEEDWATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FW -FT -4214-2	RC-E-11A EMERG FW HEADER FLOW SFTY FUCT - SEC P/L CNTL, PAM	RSMT 1153D85PB	EFW BLDG EFW-1	174-13-02 174-13	DETECTION	A	LMH
001	FW -FT -4214-4	RC-E-11A EMERG FW HEADER FLOW SFTY FUCT - SEC P/L CNTL	RSMT 1153D85PB	EFW BLDG EFW-1	174-13-02 174-13	DETECTION	A	LMH
001	FW -FT -4224-2	RC-E-11B EMERG FW HEADER FLOW SFTY FUCT - SEC P/L CNTL, PAM	RSMT 1153D85PB	EFW BLDG EFW-1	174-13-02 174-13	DETECTION	A	LMH
001	FW -FT -4224-4	RC-E-11B EMERG FW HEADER FLOW SFTY FUCT - SEC P/L CNTL	RSMT 1153D85PB	EFW BLDG EFW-1	174-13-02 174-13	DETECTION	A	LMH
001	FW -FT -4234-2	RC-E-11C EMERG FW HEADER FLOW SFTY FUCT - SEC P/L CNTL, PAM	RSMT 1153D85PB	EFW BLDG EFW-1	174-13-02 174-13	DETECTION	A	LMH
001	FW -FT -4234-4	RC-E-11C EMERG FW HEADER FLOW SFTY FUCT - SEC P/L CNTL	RSMT 1153D85PB	EFW BLDG EFW-1	174-13-02 174-13	DETECTION	A	LMH
001	FW -FT -4244-2	RC-E-11D EMERG FW HEADER FLOW SFTY FUCT-SEC P/L CNTL,PAM	RSMT 1153D85PB	EFW BLDG EFW-1	174-13-02 174-13	DETECTION	A	LMH
001	FW -FT -4244-4	RC-E-11D EMERG FW HEADER FLOW SFTY FUCT - SEC P/L CNTL	RSMT 1153D85PB	EFW BLDG EFW-1	174-13-02 174-13	DETECTION	A	LMH
001	FW -FV -4214A	STM GEN A EMER FW CTL	ROTORK 11NAI	EFW BLDG EFW-1	173-05-02 173-05	SEC P/L CNTL	A	LMH
001	FW -FV -4214B	STM GEN A EMER FW CTL	ROTORK 11NAI	EFW BLDG EFW-1	173-05-02 173-05	SEC P/L CNTL	A	LMH
001	FW -FV -4224A	STM GEN B EMER FW CTL	ROTORK 11NAI	EFW BLDG EFW-1	173-05-02 173-05	SEC P/L CNTL	A	LMH

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 50 UNIT 1 DATE 10/07/85

SYSTEM: FW FEEDWATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FW -FV -4224B	STM GEN B EMER FW CTL	ROTORK 11NAI	EFW BLDG EFW-1	173-05-02 173-05	SEC P/L CNTL	A	LMH
001	FW -FV -4234A	STM GEN C EMER FW CTL	ROTORK 11NAI	EFW BLDG EFW-1	173-05-02 173-05	SEC P/L CNTL	A	LMH
001	FW -FV -4234B	STM GEN C EMER FW CTL	ROTORK 11NAI	EFW BLDG EFW-1	173-05-02 173-05	SEC P/L CNTL	A	LMH
001	FW -FV -4244A	STM GEN D EMER FW CTL	ROTORK 11NAI	EFW BLDG EFW-1	173-05-02 173-05	SEC P/L CNTL	A	LMH
001	FW -FV -4244B	STM GEN D EMER FW CTL	ROTORK 11NAI	EFW BLDG EFW-1	173-05-02 173-05	SEC P/L CNTL	A	LMH
001	FW -FY - V1A1	FW-V-30 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V1A2	FW-V-39 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V1A3	FW-V-48 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V1A4	FW-V-57 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V2B1	FW-V-30 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V2B2	FW-V-39 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 51 UNIT 1 DATE 10/07/85

SYSTEM: FW FEEDWATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FW -FY - V2B3	FW-V-48 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V2B4	FW-V-57 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V3A1	FW-V-30 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V3A2	FW-V-39 SOV SFTY FUCT-BLOWDOWN,CNTMT ISOL	BORG-W 38878	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V3A3	FW-V-48 SOV SFTY FUCT-BLOWDOWN,CNTMT ISOL	BORG-W 38878	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V3A4	FW-V-57 SOV SFTY FUCT-BLOWDOWN,CNTMT ISOL	BORG-W 38878	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V4B1	FW-V-30 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V4B2	FW-V-39 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V4B3	FW-V-48 SOL SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -FY - V4B4	FW-V-57 SOV SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38878	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -LT - 501	SG LOOP 1 WIDE RNG LEVEL MODEL NO-76DP24333/54312-A2.	W VERI REMARK	CNT BLDG. CS-10	NSS-325-04 * NSS-325	PAM	A	LMH

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 52 UNIT 1 DATE 10/07/85

SYSTEM: FW FEEDWATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FW -LT - 502	SG LOOP 2	W VERI	CNT BLDG	NSS-325-04	PAM	A	LMH
		WIDE RNG LEVEL	REMARK	CS-10	NSS-325			
		MODEL NO-76DP24333/54312-A2.						
001	FW -LT - 503	SG LOOP 3	W VERI	CNT BLDG	NSS-325-04	PAM	A	LMH
		WIDE RNG LEVEL	REMARK	CS-10	NSS-325			
		MODEL NO-76DP24333/54312-A2.						
001	FW -LT - 504	SG LOOP 4	W VERI	CNT BLDG	NSS-325-04	PAM	A	LMH
		WIDE RNG LEVEL	REMARK	CS-10	NSS-325			
		MODEL NO-76DP24333/54312-A2.						
001	FW -LT - 517	SG LOOP 1	W VERI	CNT BLDG	NSS-325-04	DETECTION	A	LMH
		LEVEL	REMARK	CS-12	NSS-325			
		MODEL NO-76DP24333/43312-A2.SFTY FUCT-PAM.						
001	FW -LT - 518	SG LOOP 1	W VERI	CNT BLDG	NSS-325-04	DETECTION	A	LMH
		LEVEL	REMARK	CS-12	NSS-325			
		MODEL NO-76DP24333/43312-A2. SFTY FUCT-PAM						
001	FW -LT - 519	SG LOOP 1	W VERI	CNT BLDG	NSS-325-04	DETECTION	A	LMH
		LEVEL	REMARK	CS-12	NSS-325			
		MODEL NO-76DP24333/43312-A2. SFTY FUCT-PAM						
001	FW -LT - 527	SG LOOP 2	W VERI	CNT BLDG	NSS-325-04	DETECTION	A	LMH
		LEVEL	REMARK	CS-12	NSS-325			
		MODEL NO-76DP24333/43312-A2. SFTY FUCT-PAM						
001	FW -LT - 528	SG LOOP 2	W VERI	CNT BLDG	NSS-325-04	DETECTION	A	LMH
		LEVEL	REMARK	CS-12	NSS-325			
		MODEL NO-76DP24333/43312-A2. SFTY FUCT-PAM						
001	FW -LT - 529	SG LOOP 2	W VERI	CNT BLDG	NSS-325-04	DETECTION	A	LMH
		LEVEL	REMARK	CS-12	NSS-325			
		MODEL NO-76DP24333/43312-A2. SFTY FUCT-PAM						
001	FW -LT - 537	SG LOOP 3	W VERI	CNT BLDG	NSS-325-04	DETECTION	A	LMH
		LEVEL	REMARK	CS-12	NSS-325			
		MODEL NO-76DP24333/43312-A2. SFTY FUCT-PAM						
001	FW -LT - 538	SG LOOP 3	W VERI	CNT BLDG	NSS-325-04	DETECTION	A	LMH
		LEVEL	REMARK	CS-12	NSS-325			
		MODEL NO-76DP24333/43312-A2. SFTY FUCT-PAM						

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 53 UNIT 1 DATE 10/07/85

SYSTEM: FW FEEDWATER

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FW -LT - 539	SG LOOP 3 LEVEL	W VERI REMARK	CNT BLDG CS-12	NSS-325-04 NSS-325	DETECTION	A	LMH
		MODEL NO-76DP24333/43312-A2. SFTY FUCT-PAM						
001	FW -LT - 547	SG LOOP 4 LEVEL	W VERI REMARK	CNT BLDG CS-12	NSS-325-04 NSS-325	DETECTION	A	LMH
		MODEL NO-76DP24333/43312-A2. SFTY FUCT-PAM						
001	FW -LT - 548	SG LOOP 4 LEVEL	W VERI REMARK	CNT BLDG CS-12	NSS-325-04 NSS-325	DETECTION	A	LMH
		MODEL NO-76DP24333/43312/A2.SFTY FUCT-PAM						
001	FW -LT - 549	SG LOOP 4 LEVEL	W VERI REMARK	CNT BLDG CS-12	NSS-325-04 NSS-325	DETECTION	A	LMH
		MODEL NO-76DP24333/43312-A2.SFTY FUCT-PAM						
001	FW -LT - 551	SG LOOP 1 LEVEL	W VERI REMARK	CNT BLDG CS-10	NSS-325-04 NSS-325	DETECTION	A	LMH
		MODEL NO-76DP24333/43312-A2.SFTY FUCT-PAM						
001	FW -LT - 552	SG LOOP 2 LEVEL	W VERI REMARK	CNT BLDG CS-10	NSS-325-04 NSS-325	DETECTION	A	LMH
		MODEL NO-76DP24333/43312-A2.SFTY FUCT-PAM						
001	FW -LT - 553	SG LOOP 3 LEVEL	W VERI REMARK	CNT BLDG CS-10	NSS-325-04 NSS-325	DETECTION	A	LMH
		MODEL NO-76DP24333/43312-A2.SFTY FUCT-PAM						
001	FW -LT - 554	SG LOOP 4 LEVEL	W VERI REMARK	CNT BLDG CS-10	NSS-325-04 NSS-325	DETECTION	A	LMH
		MODEL NO-76DP24333/43312-A2.SFTY FUCT-PAM.						
001	FW -P - 37B	EMERG FW PUMP	WEST HSDP	EFW BLDG EFW-1	238-10-01 238-10	SEC P/L CNTL	A	LMH
		SFTY FUCT - RHR						
001	FW -PS - PS1A1	FW-V-30 HYDR PRESS	BORG-W 39406	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
		SFTY FUCT-BLOWDOWN, CNTMT ISOL						
001	FW -PS - PS1A2	FW-V-39 HYDR PRESS	BORG-W 39406	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
		SFTY FUCT-BLOWDOWN, CNTMT ISOL						

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 54 UNIT 1 DATE 10/07/85

SYSTEM: FW FEEDWATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FW -PS - PS1A3	FW-V-48 HYDR PRESS SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 39406	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -PS - PS1A4	FW-V-57 HYDR PRESS SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 39406	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -PS - PS1B1	FW-V-30 HYDR PRESS SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 39406	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -PS - PS1B2	FW-V-39 HYDR PRESS SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 39406	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -PS - PS1B3	FW-V-48 HYDR PRESS SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 39406	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -PS - PS1B4	FW-V-57 HYDR PRESS SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 39406	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -PT - 514	SG LOOP 1 STEAM PRESS SFTY FUCT - PAM	W VERI 76PG1	MSFW PC PCW-4	NSS-325-03 NSS-325	DETECTION	A	LMH
001	FW -PT - 515	SG LOOP 1 STEAM PRESS SFTY FUCT - PAM	W VERI 76PG1	MSFW PC PCW-4	NSS-325-03 NSS-325	DETECTION	A	LMH
001	FW -PT - 516	SG LOOP 1 STEAM PRESS SFTY FUCT - PAM	W VERI 76PG1	MSFW PC PCW-4	NSS-325-03 NSS-325	DETECTION	A	LMH
001	FW -PT - 544	SG LOOP 4 STEAM PRESS SFTY FUCT - PAM	W VERI 76PG1	MSFW PC PCW-4	NSS-325-03 NSS-325	DETECTION	A	LMH
001	FW -PT - 545	SG LOOP 4 STEAM PRESS SFTY FUCT - PAM	W VERI 76PG1	MSFW PC PCW-4	NSS-325-03 NSS-325	DETECTION	A	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 55 UNIT 1 DATE 10/07/85

SYSTEM: FW FEEDWATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001*	FW -PT - 546	SG LOOP 4 STEAM PRESS SFTY FUCT - PAM	W VERI 76PG1	MSFW PC PCW-4	NSS-325-03 NSS-325	DETECTION	A	LMH
001	FW -PT -4252	EMERG FW PUMP 37A SUCT PRESS	RSMT 1153GB5RA	EFW BLDG EFW-1	174-13-02 174-13	PAM	A	LMH
001	FW -PT -4257	EMERG FW PUMP 37B SUCT PRESS	RSMT 1153GB5RA	EFW BLDG EFW-1	174-13-02 174-13	PAM	A	LMH
001	FW -V - 30	MAIN FW ISOL VALVE SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38991	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -V - 39	MAIN FW ISOL VALVE SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38991	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -V - 48	MAIN FW ISOL VALVE SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38991	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -V - 57	MAIN FW ISOL VALVE SFTY FUCT-BLOWDOWN, CNTMT ISOL	BORG-W 38991	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -ZS - PS3A1	FW-V-30 POS SW SFTY FUCT-BLOWDOWN, CNTMT ISOL. MODEL NO-EA17014302,EA17045302.	NAMC EA180	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -ZS - PS3A2	FW-V-39 POS SW SFTY FUCT-BLOWDOWN, CNTMT ISOL. MODEL NO-EA17014302,EA17045302.	NAMC EA180	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -ZS - PS3A3	FW-V-48 POS SW SFTY FUCT-BLOWDOWN, CNTMT ISOL. MODEL NO-EA17014302,EA17045302	NAMC EA180	MSFW PC PCE-1	248-36-01 248-36	HEAT SINK	A	LMH
001	FW -ZS - PS3A4	FW-V-57 POS SW SFTY FUCT-BLOWDOWN, CNTMT ISOL. MODEL NO-EA17014302,EA17045302	NAMC EA180	MSFW PC PCW-1	248-36-01 248-36	HEAT SINK	A	LMH

SYSTEM: FW FEEDWATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FW -ZS - PS3B1	FW-V-30	NAMC	MSFW PC	248-36-01	HEAT SINK	A	LMH
		POS SW	EA17014302	PCW-1	248-36			
		SFTY FUCT-BLOWDOWN, CNTMT ISOL. MODEL NO-EA17015302,EA17044302						
001	FW -ZS - PS3B2	FW-V-39	NAMC	MSFW PC	248-36-01	HEAT SINK	A	LMH
		POS SW	EA17014302	PCE-1	248-36			
		SFTY FUCT-BLOWDOWN, CNTMT ISOL. MODEL NO-EA17015302,EA17044302.						
001	FW -ZS - PS3B3	FW-V-48	NAMC	MSFW PC	248-36-01	HEAT SINK	A	LMH
		POS SW	EA17014302	PCE-1	248-36			
		SFTY FUCT-BLOWDOWN, CNTMT ISOL. MODEL NO-EA17015302,EA17044302						
001	FW -ZS - PS3B4	FW-V-57	NAMC	MSFW PC	248-36-01	HEAT SINK	A	LMH
		POS SW	EA17014302	PCW-1	248-36			
		SFTY FUCT-BLOWDOWN, CNTMT ISOL. MODEL NO-EA17015302,EA17044302						
001	FW -ZS -4214A	FW-FV-4214A	ROTORK	EFW BLDG	173-05-02	SEC P/L CNTL	A	LMH
		POS SW	REMARK	EFW-1	173-05			
		PART OF FW-FV-4214A						
001	FW -ZS -4214B	FW-FV-4214B	ROTORK	EFW BLDG	173-05-02	SEC P/L CNTL	A	LMH
		POS SW	REMARK	EFW-1	173-05			
		PART OF FW-FV-4214B						
001	FW -ZS -4224A	FW-FV-4224A	ROTORK	EFW BLDG	173-05-02	SEC P/L CNTL	A	LMH
		POS SW	REMARK	EFW-1	173-05			
		PART OF FW-FV-4224A						
001	FW -ZS -4224B	FW-FV-4224B	ROTORK	EFW BLDG	173-05-02	SEC P/L CNTL	A	LMH
		POS SW	REMARK	EFW-1	173-05			
		PART OF FW-FV-4224B						
001	FW -ZS -4234A	FW-FV-4234A	ROTORK	EFW BLDG	173-05-02	SEC P/L CNTL	A	LMH
		POS SW	REMARK	EFW-1	173-05			
		PART OF FW-FV-4234A						
001	FW -ZS -4234B	FW-FV-4234B	ROTORK	EFW BLDG	173-05-02	SEC P/L CNTL	A	LMH
		POS SW	REMARK	EFW-1	173-05			
		PART OF FW-FV-4234B						
001	FW -ZS -4244A	FW-FV-4244A	ROTORK	EFW BLDG	173-05-02	SEC P/L CNTL	A	LMH
		POS SW	REMARK	EFW-1	173-05			
		PART OF FW-FV-4244A						

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 57 UNIT 1 DATE 10/07/85

SYSTEM: FW FEEDWATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	FW -ZS -4244B	FW-FV-4244B POS SW PART OF FW-FV-4244B	ROTORK REMARK	EFW BLDG EFW-1	173-05-02 173-05	SEC P/L CNTL	A	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 58 UNIT 1 DATE 10/07/85

SYSTEM: IC INCORE INSTRUMENTATION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	IC -CONN- 1	INCORE INSTR CONN ASSMBLIES	CONAX	CNT BLDG CS-12	118-04-01 118-04	PAM	B	LMH
001	IC -TE - 1	INCR TEMP E-6 CORE LOC J-8	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 2	INCR TEMP C-10 CORE LOC E-5	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 3	INCR TEMP C-1 CORE LOC G-9	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 4	INCR TEMP A-5 CORE LOC H-6	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 5	INCR TEMP E-8 CORE LOC F-8	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 6	INCR TEMP CAL CORE LOC J-10	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 7	INCR TEMP B-5 CORE LOC F-7	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 8	INCR TEMP B-3 CORE LOC K-6	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 9	INCR TEMP C-5 CORE LOC H-11	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 10	INCR TEMP C-8 CORE LOC L-8	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 59 UNIT 1 DATE 10/07/85

SYSTEM: IC INCORE INSTRUMENTATION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	IC -TE - 11	INCR TEMP D-7 CORE LOC G-5	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 12	INCR TEMP A-8 CORE LOC E-9	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 13	INCR TEMP A-3 CORE LOC L-10	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 14	INCR TEMP E-3 CORE LOC H-4	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 15	INCR TEMP F-1 CORE LOC D-8	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 16	INCR TEMP E-4 CORE LOC M-7	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 17	INCR TEMP F-6 CORE LOC G-12	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 18	INCR TEMP D-10 CORE LOC L-11	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 19	INCR TEMP A-10 CORE LOC L-5	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 20	INCR TEMP C-10 CORE LOC E-5	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 21	INCR TEMP B-10 CORE LOC E-11	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 60 UNIT 1 DATE 10/07/85

SYSTEM: IC INCORE INSTRUMENTATION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	IC -TE - 22	INCR TEMP E-1 CORE LOC K-12	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 23	INCR TEMP B-1 CORE LOC D-10	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 24	INCR TEMP B-9 CORE LOC H-13	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 25	INCR TEMP F-9 CORE LOC N-8	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 26	INCR TEMP A-9 CORE LOC H-3	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 27	INCR TEMP E-9 CORE LOC C-8	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 28	INCR TEMP E-7 CORE LOC C-7	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 29	INCR TEMP F-5 CORE LOC N-6	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 30	INCR TEMP C-9 CORE LOC E-3	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 31	INCR TEMP A-6 CORE LOC D-12	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 32	INCR TEMP D-4 CORE LOC L-13	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 61 UNIT 1 DATE 10/07/85

SYSTEM: IC INCORE INSTRUMENTATION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	IC -TE - 33	INCR TEMP C-3 CORE LOC C-5	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 34	INCR TEMP F-2 CORE LOC H-2	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 35	INCR TEMP D-3 CORE LOC B-8	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 36	INCR TEMP C-6 CORE LOC J-14	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 37	INCR TEMP F-8 CORE LOC P-9	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 38	INCR TEMP A-2 CORE LOC K-2	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 39	INCR TEMP A-7 CORE LOC B-6	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 40	INCR TEMP E-2 CORE LOC F-14	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 41	INCR TEMP D-5 CORE LOC	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 42	INCR TEMP D-8 CORE LOC D-3	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 43	INCR TEMP A-1 CORE LOC H-15	WEST WL-24026	CNT BLDG CS 2	NSS-090	PAM	B	LMH

SYSTEM: IC INCORE INSTRUMENTATION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	IC -TE - 44	INCR TEMP C-2 CORE LOC R-8	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 45	INCR TEMP E-5 CORE LOC N-13	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 46	INCR TEMP C-7 CORE LOC J-1	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 47	INCR TEMP F-7 CORE LOC A-9	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 48	INCR TEMP A-4 CORE LOC P-4	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 49	INCR TEMP D-6 CORE LOC D-14	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 50	INCR TEMP R-6 CORE LOC R-6	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 51	INCR TEMP B-4 CORE LOC F-1	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 52	INCR TEMP F-4 CORE LOC L-15	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 53	INCR TEMP D-2 CORE LOC R-11	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH
001	IC -TE - 54	INCR TEMP B-2 CORE LOC A-11	WEST WL-24026	CNT BLDG CS-2	NSS-090	PAM	B	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 63 UNIT 1 DATE 10/07/85

SYSTEM: IC INCORE INSTRUMENTATION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	IC -TE - 55	INCR TEMP B-7 CORE LOC N-14	WEST WL-24026	CNT BLDG CS-2	 NSS-090	PAM	B	LMH
001	IC -TE - 56	INCR TEMP B-8 CORE LOC N-2	WEST WL-24026	CNT BLDG CS-2	 NSS-090	PAM	B	LMH
001	IC -TE - 57	INCR TEMP F-3 CORE LOC B-3	WEST WL-24026	CNT BLDG CS-2	 NSS-090	PAM	B	LMH
001	IC -TE - 58	INCR TEMP C-4 CORE LOC B-13	WEST WL-24026	CNT BLDG CS-2	 NSS-090	PAM	B	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 64 UNIT 1 DATE 10/07/85

SYSTEM: MM MISCELLANEOUS EQUIPMENT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	MM -IR - 1	INSTRUMENT RACK	MERC N/A	CNT BLDG CS-10	171-01-01 171-01	PWR	A	LM
001	MM -IR - 4	INSTRUMENT RACK	MERC N/A	CNT BLDG CS-10	171-01-01 171-01	PWR	A	LM
001	MM -IR - 6	INSTRUMENT RACK	MERC N/A	CNT BLDG CS-12	171-01-01 171-01	PWR	A	LM
001	MM -IR - 7	INSTRUMENT RACK	MERC N/A	CNT BLDG CS-12	171-01-01 171-01	PWR	A	LM
001	MM -IR - 8	INSTRUMENT RACK CHANNEL 2,3,4	MERC N/A	CNT BLDG CS-12	171-01-01 171-01	PWR	A	LM
001	MM -IR - 12	INSTRUMENT RACK	MERC N/A	ME PENET MPA-1	171-01-01 171-01	PWR	A	LMHB
001	MM -IR - 13A	INSTRUMENT RACK	MERC N/A	ME PENET MPA-2	171-01-01 171-01	PWR	A C	LM HB
001	MM -IR - 14	INSTRUMENT RACK	MERC N/A	EQ VAULT EV-6A	171-01-01 171-01	PWR	A	ALL
001	MM -IR - 15	INSTRUMENT RACK SFTY FUCT PAM	MERC N/A	EQ VAULT EV-6A	171-01-01 171-01 AMI DSGN CAT2	PWR	A	ALL
001	MM -IR - 17	INSTRUMENT RACK	MERC N/A	PA BLDG PB-14	171-01-01 171-01	PWR	A	ALL
001	MM -IR - 19B	INSTRUMENT RACK SFTY FUCT PAM	MERC N/A	PA BLDG PB-14	171-01-01 171-01 AMI DSGN CAT2	PWR	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 65 UNIT 1 DATE 10/07/85

SYSTEM: MM MISCELLANEOUS EQUIPMENT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	MM -IR - 23	INSTRUMENT RACK SFTY FUCT PAM	MERC N/A	EQ VAULT EV-6B	171-01-01 171-01 AMI DSGN CAT2	PWR	A	ALL
001	MM -IR - 49	INSTRUMENT RACK	MERC N/A	EFW BLDG EFW-1	171-01-01 171-01	PWR	A	ALL
001	MM -IR - 50	INSTRUMENT RACK	MERC N/A	EFW BLDG EFW-1	171-01-01 171-01	PWR	A	ALL
001	MM -IR - 52A	INSTRUMENT RACK	MERC N/A	MSFW PC PCW-4	171-01-01 171-01	PWR	A	ALL
001	MM -IR - 52B	INSTRUMENT RACK	MERC N/A	MSFW PC PCW-4	171-01-01 171-01	PWR	A	ALL
001	MM -IR - 93	INSTRUMENT RACK	MERC N/A	PA BLDG PB-11	171-01-01 171-01	PWR	A	ALL
001	MM -IR - 94	INSTRUMENT RACK	MERC N/A	CNT ENCL CE-1	171-01-01 171-01	PWR	A	ALL
001	MM -MM - 29	ELEC PEN PERSO NNEL AIR LOCKS	CONAX N-11000	CNT BLDG CS-13	015-01-01 015-01	PWR	B	LMH
001	MM -MM - 30	ELEC PEN PERSO NNEL AIR LOCKS	CONAX N-11000	CNT BLDG CS-13	015-01-01 015-01	PWR	B	LMH
001	MM -TE -1000A	HELB TEMP DETECTOR	WEED N9015S-E	PA BLDG PB-13	174-14-01 174-14	HELB ISOL	A C	H L
001	MM -TE -1000B	HELB TEMP DETECTOR	WEED N9015S-E	PA BLDG PB-13	174-14-01 174-14	HELB ISOL	A C	H L

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 66 UNIT 1 DATE 10/07/85

SYSTEM: MM MISCELLANEOUS EQUIPMENT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	MM -TE -1001A	HELB TEMP DETECTOR	WEED N-9015S-E	PA BLDG PB-21	174-14-01 174-14	HELB ISOL	A C	H L
001	MM -TE -1001B	HELB TEMP DETECTOR	WEED N-9015S-E	PA BLDG PB-21	174-14-01 174-14	HELB ISOL	A C	H L
001	MM -TE -1002A	HELB TEMP DETECTOR	WEED N-9015S-E	ME PENET MPA-2	174-14-01 174-14	HELB ISOL	A C	H LB
001	MM -TE -1002B	HELB TEMP DETECTOR	WEED N-9015S-E	ME PENET MPA-2	174-14-01 174-14	HELB ISOL	A C	H LB
001	MM -TE -1003A	HELB TEMP DETECTOR	WEED N-9015S-E	PA BLDG PB-11	174-14-01 174-14	HELB ISOL	A C	H L
001	MM -TE -1003B	HELB TEMP DETECTOR	WEED N-9015S-E	PA BLDG PB-11	174-14-01 174-14	HELB ISOL	A C	H L
001	MM -TE -1004A	HELB TEMP DETECTOR	WEED N-9015S-E	PA BLDG PB-8	174-14-01 174-14	HELB ISOL	A C	H L
001	MM -TE -1004B	HELB TEMP DETECTOR	WEED N-9015S-E	PA BLDG PB-8	174-14-01 174-14	HELB ISOL	A C	H L
001	MM -TE -1005A	HELB TEMP DETECTOR	WEED N-9015S-E	PA BLDG PB-6	174-14-01 174-14	HELB ISOL	A C	H L
001	MM -TE -1005B	HELB TEMP DETECTOR	WEED N-9015S-E	PA BLDG PB-6	174-14-01 174-14	HELB ISOL	A C	H L

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 67 UNIT 1 DATE 10/07/85

SYSTEM: MS MAIN STEAM

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	MS -FY - 10A-1	MS-V-86 SOV SFTY FUCT - CNTMT ISOL,	KEANE 4082-51-178	MSFW PC PCW-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -FY - 10A-2	MS-V-88 SOV SFTY FUCT - CNTMT ISOL,	KEANE 4082-51-178	MSFW PC PCE-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -FY - 10A-3	MS-V-90 SOV SFTY FUCT - CNTMT ISOL,	KEANE 4082-51-178	MSFW PC PCE-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -FY - 10A-4	MS-V-92 SOV SFTY FUCT - CNTMT ISOL,	KEANE 4082-51-178	MSFW PC PCW-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -FY - 10B-1	MS-V-86 SOV SFTY FUCT - CNTMT ISOL,	KEANE 4082-51-178	MSFW PC PCW-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -FY - 10B-2	MS-V-88 SOV SFTY FUCT - CNTMT ISOL,	KEANE 4082-51-178	MSFW PC PCE-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -FY - 10B-3	MS-V-90 SOV SFTY FUCT - CNTMT ISOL,	KEANE 4082-51-178	MSFW PC PCE-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -FY - 10B-4	MS-V-92 SOV SFTY FUCT - CNTMT ISOL,	KEANE 4082-51-178	MSFW PC PCW-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -FY - 127	MS-V-127 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831655E	MSFW PC PCW-2	248-37-03 248-37	SEC P/L CNTL	A	LMH
001	MS -FY - 128	MS-V-128 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831655E	MSFW PC PCE-2	248-37-03 248-37	SEC P/L CNTL	A	LMH
001	MS -FY - 89A-1	MS-V-86 SOV SFTY FUCT - CNTMT ISOL	KEANE 4082-51-177	MSFW PC PCW-2	248-65-04 248-65	RADIOACTIVTY	A	LMH

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 68 UNIT 1 DATE 10/07/85

SYSTEM: MS MAIN STEAM

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	MS -FY - 89A-2	MS-V-88 SOV SFTY FUCT - CNTMT ISOL	KEANE 4082-51-177	MSFW PC PCE-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -FY - 89A-3	MS-V-90 SOV SFTY FUCT - CNTMT ISOL	KEANE 4082-51-177	MSFW PC PCE-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -FY - 89A-4	MS-V-92 SOV SFTY FUCT - CNTMT ISOL	KEANE 4082-51-177	MSFW PC PCW-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -FY - 89B-1	MS-V-86 SOV VLVS LOOP 1 SFTY FUCT - CNTMT ISOL	KEANE 4082-51-177	MSFW PC PCW-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -FY - 89B-2	MS-V-88 SOV SFTY FUCT - CNTMT ISOL	KEANE 4082-51-177	MSFW PC PCE-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -FY - 89B-3	MS-V-90 SOV SFTY FUCT - CNTMT ISOL	KEANE 4082-51-177	MSFW PC PCE-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -FY - 89B-4	MS-V-92 SOV SFTY FUCT - CNTMT ISOL	KEANE 4082-51-177	MSFW PC PCW-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -102A-1	MS-V-86 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCW-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -102A-2	MS-V-88 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCE-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -102A-3	MS-V-90 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCE-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -102A-4	MS-V-92 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCW-2	248-65-03 248-65	RADIOACTIVTY	A	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 69 UNIT 1 DATE 10/07/85

SYSTEM: MS MAIN STEAM

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	MS -FY -102B-1	MS-V-86 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCW-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -102B-2	MS-V-88 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCE-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -102B-3	MS-V-90 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCE-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -102B-4	MS-V-92 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCW-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -117A-1	MS-V-86 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCW-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -117A-2	MS-V-88 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCE-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -117A-3	MS-V-90 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCE-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -117A-4	MS-V-92 SOV VLVS LOOP 4 SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCW-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -117B-1	MS-V-86 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCW-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -117B-2	MS-V-88 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCE-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -FY -117B-3	MS-V-90 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCE-2	248-65-03 248-65	RADIOACTIVTY	A	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 70 UNIT 1 DATE 10/07/85

SYSTEM: MS MAIN STEAM

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	MS -FY -117B-4	MS-V-92 SOV SFTY FUCT - CNTMT ISOL	ASCO NP831666E	MSFW PC PCW-2	248-65-03 248-65	RADIOACTIVTY	A	LMH
001	MS -V - 86	RC-E-11A MS ISOLATION SFTY FUCT CNTMT ISOL	ROCKWL A-260-C-EX-22	MSFW PC PCW-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -V - 88	RC-E-11B MS ISOLATION SFTY FUCT CNTMT ISOL	ROCKWL A-260-C-EX-22	MSFW PC PCE-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -V - 90	RC-E-11C MS ISOLATION SFTY FUCT CNTMT ISOL	ROCKWL A-260-C-EX-22	MSFW PC PCE-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -V - 92	RC-E-11D MS ISOLATION SFTY FUCT CNTMT ISOL	ROCKWL A-260-C-EX-22	MSFW PC PCW-2	248-65-04 248-65	RADIOACTIVTY	A	LMH
001	MS -V - 204	BYPASS ON MS-V-86 SFTY FUCT-CNTMT ISOL	LMTQ SMB-00-10	MSFW PC PCW-2	248-65-01 248-65	RADIOACTIVTY	A	LMH
001	MS -V - 205	BYPASS ON MS-V-88 SFTY FUCT-CNTMT ISOL	LMTQ SMB-00-10	MSFW PC PCE-2	248-65-01 248-65	RADIOACTIVTY	A	LMH
001	MS -V - 206	BYPASS ON MS-V-90 SFTY FUCT-CNTMT ISOL	LMTQ SMB-00-10	MSFW PC PCE-2	248-65-01 248-65	RADIOACTIVTY	A	LMH
001	MS -V - 207	BYPASS ON MS-V-92 SFTY FUCT-CNTMT ISOL	LMTQ SMB-00-10	MSFW PC PCW-2	248-65-01 248-65	RADIOACTIVTY	A	LMH
001	MS -ZS - 86A	MS-V-86 POS SFTY FUCT-CNTMT ISOL.	NAMC EA-740-80100	MSFW PC PCW-2	248-65-02 248-65	RADIOACTIVTY	A	LMH
001	MS -ZS - 86B	MS-V-86 POS SFTY FUCT-CNTMT ISOL.	NAMC EA-740-80100	MSFW PC PCW-2	248-65-02 248-65	RADIOACTIVTY	A	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 71 UNIT 1 DATE 10/07/85

SYSTEM: MS MAIN STEAM

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER MODEL NO	BLDG ENV ZONE	EQ FILE NO PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
		REMARKS						
001	MS -ZS - 88A	MS-V-88 POS	NAMC EA-740-80100	MSFW PC PCE-2	248-65-02 248-65	RADIOACTIVTY	A	LMH
		SFTY FUCT-CNTMT ISOL,						
001	MS -ZS - 88B	MS-V-88 POS	NAMC EA-740-80100	MSFW PC PCE-2	248-65-02 248-65	RADIOACTIVTY	A	LMH
		SFTY FUCT - CNTMT ISOL,						
001	MS -ZS - 90A	MS-V-90 POS	NAMC EA-740-80100	MSFW PC PCE-2	248-65-02 248-65	RADIOACTIVTY	A	LMH
		SFTY FUCT - CNTMT ISOL,						
001	MS -ZS - 90B	MS-V-90 POS	NAMC EA-740-80100	MSFW PC PCE-2	248-65-02 248-65	RADIOACTIVTY	A	LMH
		SFTY FUCT - CNTMT ISOL,						
001	MS -ZS - 92A	MS-V-92 POS	NAMC EA-740	MSFW PC PCW-2	248-65-02 248-65	RADIOACTIVTY	A	LMH
		SFTY FUCT - CNTMT ISOL,						
001	MS -ZS - 92B	MS-V-92 POS	NAMC EA-740-80100	MSFW PC PCW-2	248-65-02 248-65	RADIOACTIVTY	A	LMH
		SFTY FUCT - CNTMT ISOL,						
001	MS -ZS - 127	MS-V-127 POS	NAMC EA180-11303	MSFW PC PCW-2	248-37-02 248-37	SEC P/L CNTL	A	LMH
		SFTY FUCT-CNTMT ISOL						
001	MS -ZS - 128	MS-V-128 POS	NAMC EA180-11303	MSFW PC PCE-2	248-37-02 248-37	SEC P/L CNTL	A	LMH
		SFTY FUCT-CNTMT ISOL.						
001	MS -ZS - 204	MS-V-204 POS SW	LMTQ SMB-00-10	MSFW PC PCW-2	248-65-01 248-65	RADIOACTIVTY	A	LMH
		PART OF MS-V-204. SFTY FUCT-CNTMT ISOL						
001	MS -ZS - 205	MS-V-205 POS SW	LMTQ SMB-00-10	MSFW PC PCE-2	248-65-01 248-65	RADIOACTIVTY	A	LMH
		PART OF MS-V-204. SFTY FUCT-CNTMT ISOL.						
001	MS -ZS - 206	MS-V-206 POS SW	LMTQ SMB-00-10	MSFW PC PCE-2	248-65-01 248-65	RADIOACTIVTY	A	LMH
		PART OF MS-V-206. SFTY FUCT-CNTMT ISOL						

SYSTEM: MS MAIN STEAM

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	MS -ZS - 207	MS-V-207 POS SW PART OF MS-V-207. SFTY FUCT-CNTMT ISOL	LMTQ SMB-00-10	MSFW PC PCW-2	248-65-01 248-65	RADIOACTIVTY	A	LMH
001	MS -ZS - 27A-1	MS-FY-50A-1 POS SW TO BE DELETED BY DCN.	HONEYW LSYHC3K-1B	MSFW PC PCW-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -ZS - 27A-2	MS-FY-50A-2 POS SW TO BE DELETED BY DCN.	HONEYW LSYHC3K-1B	MSFW PC PCE-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -ZS - 27A-3	MS-FY-50A-3 POS SW TO BE DELETED BY DCN.	HONEYW LSYHC3K-1B	MSFW PC PCE-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -ZS - 27A-4	MS-FY-50A-4 POS SW TO BE DELETED BY DCN.	HONEYW LSYHC3K-1B	MSFW PC PCW-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -ZS - 27B-1	MS-FY-50B-1 POS SW TO BE DELETED BY DCN.	HONEYW LSYHC3K-1B	MSFW PC PCW-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -ZS - 27B-2	MS-FY-50B-2 POS SW TO BE DELETED BY DCN.	HONEYW LSYHC3K-1B	MSFW PC PCE-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -ZS - 27B-3	MS-FY-50B-3 POS SW TO BE DELETED BY DCN.	HONEYW LSYHC3K-1B	MSFW PC PCE-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -ZS - 27B-4	MS-FY-50B-4 POS SW TO BE DELETED BY DCN.	HONEYW LSYHC3K-1B	MSFW PC PCW-2	248-65-04 248-65 FUNCTNL NON-1E	RADIOACTIVTY	B	LMH
001	MS -ZS -3001-A	MS-PV-3001 POS SW	NAMC EA-180	MSFW PC PCW-2	173-01-01 173-01	PAM	A	LMH
001	MS -ZS -3002-B	MS-PV-3002 POS SW	NAMC EA-180	MSFW PC PCE-2	173-01-01 173-01	PAM	A	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 73 UNIT 1 DATE 10/07/85

SYSTEM: MS MAIN STEAM

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	MS -ZS -3003-A	MS-PV-3003 POS SW	NAMC EA-180	MSFW PC PCE-2	173-01-01 173-01	PAM	A	LMH
001	MS -ZS -3004-B	MS-PV-3004 POS SW	NAMC EA-180	MSFW PC PCW-2	173-01-01 173-01	PAM	A	LMH

SYSTEM: MSD MAIN STEAM DRAIN

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	MSD-V - 44	UPSTRM MS-V-86 MS LINE DRAIN SFTY FUCT CNTMT ISOL	LMTQ SMB000-2	MSFW PC PCW-1	248-38-01 248-38	HEAT SINK	A	LMH
001	MSD-V - 45	UPSTRM MS-V-88 MS LINE SFTY FUCT CNTMT ISOL	LMTQ SMB000-2	MSFW PC PCE-1	248-38-01 248-38	HEAT SINK	A	LMH
001	MSD-V - 46	UPSTRM MS-V-90 MS LINE DRAIN SFTY FUCT CNTMT ISOL	LMTQ SMB000-2	MSFW PC PCE-1	248-38-01 248-38	HEAT SINK	A	LMH
001	MSD-V - 47	UPSTRM MS-V-92 MS LINE DRAIN SFTY FUCT CNTMT ISOL	LMTQ SMB000-2	MSFW PC PCW-1	248-38-01 248-38	HEAT SINK	A	LMH
001	MSD-ZS - 44	MSD-V-44 POS SW PART OF MSD-V-44. SFTY FUCT - CNTMT ISOL	LMTQ SMB000-2	MSFW PC PCW-1	248-38-01 248-38	HEAT SINK	A	LMH
001	MSD-ZS - 45	MSD-V-45 POS SW PART OF MSD-V-44. SFTY FUCT - CNTMT ISOL	LMTQ SMB000-2	MSFW PC PCE-1	248-38-01 248-38	HEAT SINK	A	LMH
001	MSD-ZS - 46	MSD-V-46 POS SW PART OF MSD-V-46. SFTY FUCT - CNTMT ISOL	LMTQ SMB000-2	MSFW PC PCE-1	248-38-01 248-38	HEAT SINK	A	LMH
001	MSD-ZS - 47	MSD-V-47 POS SW PART OF MSD-V-47. SFTY FUCT - CNTMT ISOL	LMTQ SMB000-2	MSFW PC PCW-1	248-38-01 248-38	HEAT SINK	A	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 75 UNIT 1 DATE 10/07/85

SYSTEM: NG NITROGEN GAS

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	NG -FV -4609	N2 SUPPLY ISOL VLV ORC	VALCOR V526-5631-21	ME PENET MPA-2	173-07-01 173-07	CNTMT ISOL	A C	LM HB
001	NG -FV -4610	N2 SUPPLY ISOL VLV IRC	VALCOR V526-5631-21	CNT BLDG CS-10	173-07-01 173-07	CNTMT ISOL	A	LM
001	NG -FY -4604	NG-V-13 SOV	W ASCO NP831654E	ME PENET MPA-4	NSS-220-02 NSS-220	CNTMT ISOL	A C	LM HB
001	NG -FY -4619	NG-V-14 SOV	ASCO NP8321A1E	CNT BLDG CS-10	248-37-03 248-37	CNTMT ISOL	A	LM
001	NG -ZS - 13	NG-V-13 POS SW	W NAMC EA-180-11303	ME PENET MPA-4	NSS-220-03 NSS-220	CNTMT ISOL	A C	LM HB
001	NG -ZS - 14	NG-V-14 POS SW	NAMC EA-180-12302	CNT BLDG CS-10	248-37-02 248-37	CNTMT ISOL	A	LM
001	NG -ZS -4609-1	NG-FV-4609 POS SW INTG NG-FV-4609	GORDOS MR-8901	ME PENET MPA-2	173-07-01 173-07	CNTMT ISOL	A C	LM HB
001	NG -ZS -4609-2	NG-FV-4609 POS SW INTG NG-FV-4609	GORDOS MR-8901	ME PENET MPA-2	173-07-01 173-07	CNTMT ISOL	A C	LM HB
001	NG -ZS -4610-1	NG-FV-4610 POS SW INTG NG-FV-4610	GORDOS MR-8901	CNT BLDG CS-10	173-07-01 173-07	CNTMT ISOL	A	LM
001	NG -ZS -4610-2	NG-FV-4610 POS SW INTG NG-FV-4610	GORDOS MR-8901	CNT BLDG CS-10	173-07-01 173-07	CNTMT ISOL	A	LM

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 76 UNIT 1 DATE 10/07/85

SYSTEM: NI NUCLEAR INSTRUMENTATION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	NI -NE - 31	SOURCE RANGE NEUTRON DET	W F/WL-23823	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE - 32	SOURCE RANGE NEUTRON DET	W F/WL-23823	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE - 35	INTER RANGE NEUTRON DET.	W F/WL-23823	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE - 36	INTER RANGE NEUTRON DET	W F/WL-23823	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE - 41A	POWER RANGE NEUTRON DET SW	W F/WL-24155	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE - 41B	POWER RANGE NEUTRON DET SW	W F/WL-24155	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE - 42A	POWER RANGE NEUTRON DET NE	W F/WL-24155	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE - 42B	POWER RANGE NEUTRON DET NE	W F/WL-24155	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE - 43A	POWER RANGE NEUTRON DET NW	W F/WL-24155	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE - 43B	POWER RANGE NEUTRON DET NW	W F/WL-24155	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE - 44A	POWER RANGE NEUTRON DET SE	W F/WL-24155	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 77 UNIT 1 DATE 10/07/85

SYSTEM: NI NUCLEAR INSTRUMENTATION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	NI -NE - 44B	POWER RANGE NEUTRON DET SE	W F/WL-24155	CNT BLDG CS-2	N/A NSS-330	DETECTION	A C	N LM
001	NI -NE -6690	REACTOR EXCORE NEUTRON FLUX MODEL NO. - 200289-102	GAMMA 200289-101	CNT BLDG CS-1	170-13-01 170-13	PAM	A	LMHB
001	NI -NE -6691	REACTOR EXCORE NEUTRON FLUX MODEL NO. - 200289-102	GAMMA 200289-101	CNT BLDG CS-1	170-13-01 170-13	PAM	A	LMHB
001	NI -NM - 32A	SOURCE RANGE PREAMP	W P/N 1469F29G01	EL PENET ET-3B	N/A NSS-330	DETECTION	A C	N L
001	NI -NT -6691	REACTOR EXCORE NEUTRON FLUX	GAMMA 900048-101	EL PENET ET-3B	170-13-02 170-13	PAM	A	LMHB

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 78 UNIT 1 DATE 10/07/85

SYSTEM: PAH PAB AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	PAH-FN - 42A	PAB AUX SUPPLY FAN MODEL NO. BF.S.O.76J-836	WEST WEST. BU-02323	PA BLDG PB-11	045-02-01 045-02	SR AREA ENV	A	ALL
001	PAH-FN - 42B	PAB AUX SUPPLY FAN MODEL NO. BF.S.O.76J-837	WEST WEST. BU-02323	PA BLDG PB-11	045-02-01 045-02	SR AREA ENV	A	ALL
001	PAH-FY - 35A	PAH-DP-35A SOV SFTY FUCT-SR AREA ENV	ASCO NP8320A184V	PA BLDG PB-12	225-03-01 225-03	RAD TREATMNT	A C	L H
001	PAH-FY - 35B	PAH-DP-35B SOV SFTY FUCT-SR AREA ENV	ASCO NP8320A184E	CNT ENCL CE-1	225-03-01 225-03	RAD TREATMNT	A C	L HB
001	PAH-FY - 36A	PAH-DP-36A SOV SFTY FUCT-SR AREA ENV	ASCO NP8320A184V	PA BLDG PB-11	225-03-01 225-03	RAD TREATMNT	A C	L H
001	PAH-FY - 36B	PAH-DP-36B SOV SFTY FUCT-SR AREA ENV	ASCO NP8320A184E	CNT ENCL CE-1	225-03-01 225-03	RAD TREATMNT	A C	L HB
001	PAH-FY - 357	PAH-DP-357 SOV	ASCO NP8321A5V	PA BLDG PB-11	225-05-01 225-05	SR AREA ENV	A	ALL
001	PAH-FY - 358	PAH-DP-358 SOV	ASCO NP8321A5V	PA BLDG PB-11	225-05-01 225-05	SR AREA ENV	A	ALL
001	PAH-PDIS-5377	CNTN ENCL SUPP AIR ISOLATION SFTY FUCT-SR AREA ENV	BRTN 583A-1	PA BLDG PB-3	252-16-02 252-16	RAD TREATMNT	A B	N LH
001	PAH-PDIS-5378	CNTN ENCL SUPP AIR ISOLATION SFTY FUCT-SR AREA ENV	BRTN 583A-1	PA BLDG PB-8	252-16-02 252-16	RAD TREATMNT	A B	N LH
001	PAH-TSH -5391	PAH-FN-42A CTL	ASCO SA11AKMR/QF10A4R	PA BLDG PB-11	252-38-01 252-38	SR AREA ENV	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 79 UNIT 1 DATE 10/07/85

SYSTEM: PAH PAB AIR HANDLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	PAH-TSH -5393	PAH-FN-42B CTL	ASCO SA11AKMR/QF10A4R	PA BLDG PB-11	252-38-01 252-38	SR AREA ENV	A	ALL
001	PAH-ZS - 35A	PAH-DP-35A POS MODEL NO.-EA170-32302. SFTY FUCT-SR AREA ENV	NAMC EA170-31302	PA BLDG PB-12	225-03-02 225-03	RAD TREATMNT	A C	L H
001	PAH-ZS - 35B	PAH-DP-35B POS MODEL NO.-EA180-32302. SFTY FUCT-SR AREA ENV	NAMC EA180-31302	CNT ENCL CE-1	225-03-03 225-03	RAD TREATMNT	A C	L HB
001	PAH-ZS - 36A	PAH-DP-36A POS MODEL NO.-EA170-32302. SFTY FUCT-SR AREA ENV	NAMC EA170-31302	PA BLDG PB-11	225-03-02 225-03	RAD TREATMNT	A C	L H
001	PAH-ZS - 36B	PAH-DP-36B POS MODEL NO.-EA180-32302. SFTY FUCT-SR AREA ENV	NAMC EA180-31302	CNT ENCL CE-1	225-03-03 225-03	RAD TREATMNT	A C	L HB
001	PAH-ZS - 357	PAH-DP-357 POS MODEL NO.-EA180-32302	NAMC EA180-31302	PA BLDG PB-11	225-05-02 225-05	SR AREA ENV	A	ALL
001	PAH-ZS - 358	PAH-DP-358 POS MODEL NO.-EA180-32302	NAMC EA180-31302	PA BLDG PB-11	225-05-02 225-05	SR AREA ENV	A	ALL

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 80 UNIT 1 DATE 10/07/85

SYSTEM: RC REACTOR COOLANT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RC -FT - 414	RC LOOP 1 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4.	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FT - 415	RC LOOP 1 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4.	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FT - 416	RC LOOP 1 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4.	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FT - 424	RC LOOP 2 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4.	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FT - 425	RC LOOP 2 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4.	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FT - 426	RC LOOP 2 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4.	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FT - 434	RC LOOP 3 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4.	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FT - 435	RC LOOP 3 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4.	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FT - 436	RC LOOP 3 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FT - 444	RC LOOP 4 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4.	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FT - 445	RC LOOP 4 COLD LEG FLOW MODEL NO-76DP11132/54232-A2-D4.	W VERI REMARK	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM

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SORT NO. 01 SHEET 81 UNIT 1 DATE 10/07/85

SYSTEM: RC REACTOR COOLANT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RC -FT - 446	RC LOOP 4 COLD LEG FLOW	W VERI 76DP1	CNT BLDG CS-10	NSS-325-06 NSS-325	DETECTION	A C	N LM
001	RC -FV -2830	PRZR STEAM CNTN ISOL IRC SFTY FUCT-PRI P/L CNTL	VALCOR V526-5683-48	CNT BLDG CS-10	173-07-02 173-07	RCS ISOL	A	LM
001	RC -FV -2831	PRZR STEAM CNTN ISOL IRC SFTY FUCT-PRI P/L CNTL	VALCOR V526-5683-48	CNT BLDG CS-10	173-07-02 173-07	RCS ISOL	A	LM
001	RC -FV -2832	RC HOT LEG SMP ISOL IRC SFTY FUCT-PAM, PRI P/L CNTL	VALCOR V526-5683-48	CNT BLDG CS-10	173-07-02 173-07	RCS ISOL	A	LMHB
001	RC -FV -2833	RC HOT LEG SMP ISOL IRC SFTY FUCT-PAM, PRI P/L CNTL	VALCOR V526-5683-48	CNT BLDG CS-10	173-07-02 173-07	RCS ISOL	A	LMHB
001	RC -FV -2836	PRZR RELIEF TK CNTN ISOL	VALCOR V526-5295-110	CNT BLDG CS-10	173-07-02 173-07	CNTMT ISOL	A	LM
001	RC -FV -2837	PRZR RELIEF TK CNTN ISOL	VALCOR V526-5295-110	ME PENET MPA-2	173-07-02 173-07	CNTMT ISOL	A C	LM HB
001	RC -FV -2840	PRZR STM CNTM ISOL ORC SFTY FUCT-PRI P/L CNTL	VALCOR V526-5683-48	ME PENET MPA-2	173-07-02 173-07	RCS ISOL	A C	LM HB
001	RC -FV -2874	RC HOT LEG SMP ISOL ORC SFTY FUCT-PAM, PRI P/L CNTL	VALCOR V526-5683-48	ME PENET MPA-2	173-07-02 173-07	RCS ISOL	A C	LM HB
001	RC -FV -2876	RC HOT LEG SMP ISOL ORC SFTY FUCT-PAM, PRI P/L CNTL	VALCOR V526-5683-48	ME PENET MPA-2	173-07-02 173-07	RCS ISOL	A C	LM HB
001	RC -FV -2881	REACTOR HEAD VENT	VALCOR V526-6040-6	CNT BLDG CS-13	173-07-01 173-07	PRI P/L CNTL	A	LM

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SORT NO. 01 SHEET 82 UNIT 1 DATE 10/07/85

SYSTEM: RC REACTOR COOLANT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RC -FV -2894	RC HOT LEG SMP ISOL ORC SFTY FUCT-PRI P/L CNTL	VALCOR V526-5683-56	ME PENET MPA-2	173-07-02 173-07	PAM	A	LMHB
001	RC -FV -2896	RC HOT LEG SMP ISOL ORC SFTY FUCT-PRI P/L CNTL	VALCOR V526-5683-56	ME PENET MPA-2	173-07-02 173-07	PAM	A	LMHB
001	RC -LIS -1311	RPV RC-E-1 LEVEL	W BRTN 581	EL PENET ET-3B	NSS-325-10 NSS-325	PAM	A	LMHB
001	RC -LIS -1312	RPV RC-E-1 LEVEL	W BRTN 581	EL PENET ET-3B	NSS-325-10 NSS-325	PAM	A	LMHB
001	RC -LIS -1321	RPV RC-E-1 LEVEL	W BRTN 581	EL PENET ET-3B	NSS-325-10 NSS-325	PAM	A	LMHB
001	RC -LIS -1322	RPV RC-E-1 LEVEL	W BRTN 581	EL PENET ET-3B	NSS-325-10 NSS-325	PAM	A	LMHB
001	RC -LT - 459	PRZR LEVEL MODEL NO-76DP24333/54312-A2.SFTY FUCT-PAM,PRI P/L CNTL.	W VERI REMARK	CNT BLDG CS-12	NSS-325-04 NSS-325	DETECTION	A	LMHB
001	RC -LT - 460	PRZR LEVEL MODEL NO-76DP24333/54312-A2.SFTY FUCT-PAM,PRI P/L CNTL	W VERI REMARK	CNT BLDG CS-12	NSS-325-04 NSS-325	DETECTION	A	LMHB
001	RC -LT - 461	PRZR LEVEL SFTY FUCT-PAM, PRI P/L CNTL	W VERI 76DP2	CNT BLDG CS-12	NSS-325-04 NSS-325	DETECTION	A	LMHB
001	RC -LT -1311	RPV RC-E-1 LEVEL	W BRTN 752	EL PENET ET-3B	NSS-325-05 NSS-325	PAM	A	LMHB
001	RC -LT -1312	RPV RC-E-1 LEVEL	W BRTN 752	EL PENET ET-3B	NSS-325-05 NSS-325	PAM	A	LMHB

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SORT NO. 01 SHEET 83 UNIT 1 DATE 10/07/85

SYSTEM: RC REACTOR COOLANT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RC -LT -1321	RPV RC-E-1 LEVEL	W BRTN 752	EL PENET ET-3B	NSS-325-05 NSS-325	PAM	A	LMHB
001	RC -LT -1322	RPV RC-E-1 LEVEL	W BRTN 752	EL PENET ET-3B	NSS-325-05 NSS-325	PAM	A	LMHB
001	RC -PCV - 456A	PRZR RELIEF	W GARR 3750021-2	CNT BLDG CS-11	NSS-220-06 NSS-220	PRI P/L CNTL	A	LMH
001	RC -PCV - 456B	PRZR RELIEF	W GARR 3750021-2	CNT BLDG CS-11	NSS-220-06 NSS-220	PRI P/L CNTL	A	LMH
001	RC -PP - 6B	PRZR HTR DIST PNL BK-UP GP B	GOULD 5600	EL PENET ET-3B	120-01-01 120-01	PWR	A	LMH
001	RC -PT - 403	WIDE RANGE RC PRESS SFTY FUCT-PAM	W VERI REMARK	EL PENET ET-3B	NSS-325-02 NSS-325	DETECTION	A	LMHB
001	RC -PT - 405	WIDE RANGE RC PRESS SFTY FUCT-PAM	W BRTN 763	EL PENET ET-3B	NSS-325-01 NSS-325	DETECTION	A	LMHB
001	RC -PT - 455	PRZR PRESSURE MODEL NO-76PH24333/84002-A2. SFTY FUCT-PRI P/L CNTL	W VERI REMARK	CNT BLDG CS-12	NSS-325-02 NSS-325	DETECTION	A	LMHB
001	RC -PT - 456	PRZR PRESSURE MODEL NO-76PH24333/84002-A2. SFTY FUCT-PRI P/L CNTL	W VERI REMARK	CNT BLDG CS-12	NSS-325-02 NSS-325	DETECTION	A	LMHB
001	RC -PT - 457	PRZR PRESSURE MODEL NO-76PH24333/84002-A2. SFTY FUCT-PRI P/L CNTL	W VERI REMARK	CNT BLDG CS-12	NSS-325-02 NSS-325	DETECTION	A	LMHB
001	RC -PT - 458	PRZR PRESSURE MODEL NO-76PH24333/84002-A2. SFTY FUCT-PRI P/L CNTL	W VERI REMARK	CNT BLDG CS-12	NSS-325-02 NSS-325	DETECTION	A	LMHB

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SORT NO. 01 SHEET 84 UNIT 1 DATE 10/07/85

SYSTEM: RC REACTOR COOLANT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RC -TE - 411A	RC LOOP 1 HOT LEG TEMP "M" EVENT IS MSLB OUTSIDE CONTAINMENT	W RDF 21204	CNT BLDG CS-9	NSS-325-07 NSS-325	DETECTION	A	LM
001	RC -TE - 411B	RC LOOP 1 COLD LEG TEMP "M" EVENT IS MSLB OUTSIDE CONTAINMENT	W RDF 21204	CNT BLDG CS-9	NSS-325-07 NSS-325	DETECTION	A	LM
001	RC -TE - 413A	WIDE RNG LOOP1 HOT LEG TEMP	W RDF 21205	CNT BLDG CS-9	NSS-325-08 NSS-325	PAM	A	LMHB
001	RC -TE - 413B	WIDE RNG LOOP1 COLD LEG TEMP	W RDF 21205	CNT BLDG CS-9	NSS-325-08 NSS-325	PAM	A	LMHB
001	RC -TE - 421A	RC LOOP 2 HOT LEG TEMP "M" EVENT IS MSLB OUTSIDE CONTAINMENT	W RDF 21204	CNT BLDG CS-9	NSS-325-07 NSS-325	DETECTION	A	LM
001	RC -TE - 421B	RC LOOP 2 COLD LEG TEMP "M" EVENT IS MSLB OUTSIDE CONTAINMENT	W RDF 21204	CNT BLDG CS-9	NSS-325-07 NSS-325	DETECTION	A	LM
001	RC -TE - 423A	WIDE RNG LOOP2 HOT LEG TEMP	W RDF 21205	CNT BLDG CS-9	NSS-325-08 NSS-325	PAM	A	LMHB
001	RC -TE - 423B	WIDE RNG LOOP2 COLD LEG TEMP	W RDF 21205	CNT BLDG CS-9	NSS-325-08 NSS-325	PAM	A	LMHB
001	RC -TE - 431A	RC LOOP 3 HOT LEG TEMP "M" EVENT IS MSLB OUTSIDE CONTAINMENT	W RDF 21204	CNT BLDG CS-9	NSS-325-07 NSS-325	DETECTION	A	LM
001	RC -TE - 431B	RC LOOP 3 COLD LEG TEMP "M" EVENT IS MSLB OUTSIDE CONTAINMENT	W RDF 21204	CNT BLDG CS-9	NSS-325-07 NSS-325	DETECTION	A	LM
001	RC -TE - 433A	WIDE RNG LOOP3 HOT LEG TEMP	W RDF 21205	CNT BLDG CS-9	NSS-325-08 NSS-325	PAM	A	LMHB

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SORT NO. 01 SHEET 85 UNIT 1 DATE 10/07/85

SYSTEM: RC REACTOR COOLANT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RC -TE - 433B	WIDE RNG LOOP3 COLD LEG TEMP	W RDF 21205	CNT BLDG CS-9	NSS-325-08 NSS-325	PAM	A	LMHB
001	RC -TE - 441A	RC LOOP 4 HOT LEG TEMP "M" EVENT IS MSLB OUTSIDE CONTAINMENT	W RDF 21204	CNT BLDG CS-9	NSS-325-07 NSS-325	DETECTION	A	LM
001	RC -TE - 441B	RC LOOP 4 COLD LEG TEMP "M" EVENT IS MSLB OUTSIDE CONTAINMENT	W RDF 21204	CNT BLDG CS-9	NSS-325-07 NSS-325	DETECTION	A	LM
001	RC -TE - 443A	WIDE RNG LOOP4 HOT LEG TEMP	W RDF 21205	CNT BLDG CS-9	NSS-325-08 NSS-325	PAM	A	LMHB
001	RC -TE - 443B	WIDE RNG LOOP4 COLD LEG TEMP	W RDF 21205	CNT BLDG CS-9	NSS-325-08 NSS-325	PAM	A	LMHB
001	RC -TE -1313	RC-LY-1311 CAPILLARY	W MNCO S8809	CNT BLDG CS-3	NSS-325-09 NSS-325	PAM	A	LMHB
001	RC -TE -1314	RC-LY-1311 CAPILLARY	W MNCO S8809	CNT BLDG CS-12	NSS-325-09 NSS-325	PAM	A	LMHB
001	RC -TE -1318	RPV. RC-E-1 TEMP	W MNCO S8810	CNT BLDG CS-9	NSS-325-09 NSS-325	PAM	A	LMHB
001	RC -TE -1319	RC-LY-1311 CAPILLARY	W MNCO S8809	CNT BLDG CS-12	NSS-325-09 NSS-325	PAM	A	LMHB
001	RC -TE -1323	RPV RC-E-1 LEVEL	W MNCO S8809	CNT BLDG CS-3	NSS-325-09 NSS-325	PAM	A	LMHB
001	RC -TE -1324	RPV RC-E-1 LEVEL	W MNCO S8809	CNT BLDG CS-12	NSS-325-09 NSS-325	PAM	A	LMHB

SYSTEM: RC REACTOR COOLANT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RC -TE -1328	RPV RC-E-1 TEMP	W MNCO S8810	CNT BLDG CS-9	NSS-325-09 NSS-325	PAM	A	LMHB
001	RC -TE -1329	RPV RC-E-1 LEVEL	W MNCO S9809	CNT BLDG CS-12	NSS-325-09 NSS-325	PAM	A	LMHB
001	RC -V - 22	LP 1 HOT LEG TO RH-P-8A SFTY FUCT-CNTMT ISOL,PRI P/L CNTL	W LMTQ SMB-1-40	CNT BLDG CS-9	NSS-220-01 NSS-220	RHR	A	LMHB
001	RC -V - 23	LP 1 HOT LEG TO RH-P-8A SFTY FUCT-CNTMT ISOL,PRI P/L CNTL.	W LMTQ SMB-1-40	CNT BLDG CS-10	NSS-220-01 NSS-220	RHR	A	LMHB
001	RC -V - 87	LP 4 HOT LEG TO RH-P-8B SFTY FUCT-CNTMT ISOL,PRI P/L CNTL.	W LMTQ SMB-1-40	CNT BLDG CS-9	NSS-220-01 NSS-220	RHR	A	LMHB
001	RC -V - 88	LP 4 HOT LEG TO RH-P-8B SFTY FUCT-CNTMT ISOL,PRI P/L CNTL.	W LMTQ SMB-1-40	CNT BLDG CS-10	NSS-220-01 NSS-220	RHR	A	LMHB
001	RC -V - 122	PRZR TO PRT RC-TK-11 SFTY FUCT RCS ISOL	W LMTQ SB-00-15	CNT BLDG CS-11	NSS-220-01 NSS-220	PRI P/L CNTL	A	LMH
001	RC -V - 124	PRZR TO PRT RC-TK-11 SFTY FUCT RCS ISOL	W LMTQ SB-00-15	CNT BLDG CS-11	NSS-220-01 NSS-220	PRI P/L CNTL	A	LMH
001	RC -V - 323	REACTOR HEAD VENT	LMTQ SMB0002	CNT BLDG CS-13	248-37-01 248-37	PRI P/L CNTL	A	LM
001	RC -ZS - 23	RC-V-23 POS SW PART OF RC-V-23. SFTY FUCT-CNTMT ISOL,PRI P/L CNTL	W LMTQ SMB-1-40	CNT BLDG CS-10	NSS-220-01 NSS-220	RHR	A	LMHB
001	RC -ZS - 87	RC-V-87 POS SW PART OF RC-V-87. SFTY FUCT-CNTMT ISOL,PRI P/L CNTL.	W LMTQ SMB-1-40	CNT BLDG CS-9	NSS-220-01 NSS-220	RHR	A	LMHB

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SORT NO. 01 SHEET 87 UNIT 1 DATE 10/07/85

SYSTEM: RC REACTOR COOLANT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RC -ZS - 122	RC-V-122 POS SW SFTY FUCT RCS ISOL	W LMTQ SMB-00	CNT BLDG CS-11	NSS-220-01 NSS-220	PRI P/L CNTL	A	LMH
001	RC -ZS - 124	RC-V-124 POS SW SFTY FUCT RCS ISOL	W LMTQ SMB-00	CNT BLDG CS-11	NSS-220-01 NSS-220	PRI P/L CNTL	A	LMH
001	RC -ZS - 323	RC-V-323 POS SW	W LMTQ SMB0002	CNT BLDG CS-13	248-37-01 248-37	PRI P/L CNTL	A	LM
001	RC -ZS - 456A	RC-PCV-456A POS SW	W GARR 37600601	CNT BLDG CS-11	NSS-220-06 NSS-220	PRI P/L CNTL	A	LMH
001	RC -ZS - 456B	RC-PCV-456B POS SW	W GARR 37600601	CNT BLDG CS-11	NSS-220-06 NSS-220	PRI P/L CNTL	A	LMH
001	RC -ZS -2830	RC-FV-2830 POS INTG RC-FV-2830	GORDOS MR-8901	CNT BLDG CS-10	173-07-02 173-07	PAM	A	LM
001	RC -ZS -2831	RC-FV-2831 POS INTG RC-FV-2831	GORDOS MR-8901	CNT BLDG CS-10	173-07-02 173-07	PAM	A	LM
001	RC -ZS -2832	RC-FV-2832 POS INTG RC-FV-2832	GORDOS MR-8901	CNT BLDG CS-10	173-07-02 173-07	PAM	A	LMHB
001	RC -ZS -2833	RC-FV-2833 POS INTG RC-FV-2833	GORDOS MR-8901	CNT BLDG CS-10	173-07-02 173-07	PAM	A	LMHB
001	RC -ZS -2836	RC-FV-2836 POS INTG RC-FV-2836	GORDOS MR-8901	CNT BLDG CS-10	173-07-02 173-07	PAM	A	LM
001	RC -ZS -2837	RC-FV-2837 POS INTG RC-FV-2837	GORDOS MR-8901	ME PENET MPA-2	173-07-02 173-07	PAM	A C	LM HB

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SORT NO. 01 SHEET 88 UNIT 1 DATE 10/07/85

SYSTEM: RC REACTOR COOLANT

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RC -ZS -2840	RC-FV-2840 POS INTG RC-FV-2840	GORDOS MR-8901	ME PENET MPA-2	173-07-02 173-07	PAM	A C	LM HB
001	RC -ZS -2874	RC-FV-2874 POS SW INTG RC-FV-2874	GORDOS MR-8901	ME PENET MPA-2	173-07-02 173-07	PAM	A C	LM HB
001	RC -ZS -2876	RC-FV-2876 POS SW INTG RC-FV-2876	GORDOS MR-8901	ME PENET MPA-2	173-07-02 173-07	PAM	A C	LM HB
001	RC -ZS -2881	RC-FV-2881 POS SW INTG RC-FV-2881	GORDOS MR-8901	CNT BLDG CS-13	173-07-01 173-07	PAM	A	LM
001	RC -ZS -2894	RC-FV-2894 POS SW INTG RC-FV-2894	GORDOS MR-8901	ME PENET MPA-2	173-07-02 173-07	PAM	A	LMHB
001	RC -ZS -2896	RC-FV-2896 POS SW INTG RC-FV-2896	GORDOS MR-8901	ME PENET MPA-2	173-07-02 173-07	PAM	A	LMHB
001	RC -ZS -7302A	RC-V-22 POS SFTY FUCT-CNTMT ISOL,PRI P/L CNTL.	W NAMC EA180-11303	CNT BLDG CS-9	NSS-220-03 NSS-220	RHR	A	LMHB
001	RC -ZS -7302B	RC-V-22 POS PART OF RC-V-22. SFTY FUCT-CNTMT ISOL,PRI P/L CNTL.	W LMTQ SMB-1-40	CNT BLDG CS-9	NSS-220-01 NSS-220	RHR	A	LMHB
001	RC -ZS -7311A	RC-V-88 POS PART OF RC-V-88. SFTY FUCT-CNTMT ISOL,PRI P/L CNTL.	W LMTQ SMB-1-40	CNT BLDG CS-10	NSS-220-01 NSS-220	RHR	A	LMHB
001	RC -ZS -7311B	RC-V-88 POS SFTY FUCT-CNTMT ISOL,PRI P/L CNTL.	W NAMC EA180-11303	CNT BLDG CS-10	NSS-220-03 NSS-220	RHR	A	LMHB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 89 UNIT 1 DATE 10/07/85

SYSTEM: RH RESIDUAL HEAT REMOVAL

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RH -FCV - 610	RH-P-8A RECIRC VLV SFTY FUCT-PRI	W LMTQ SMB000-10 P/L CNTL,ECCS-INJ.	EQ VAULT EV-5A	NSS-220-04 NSS-220	RHR	A	LMHB
001	RH -FCV - 611	RH-P-8B RECIRC VLV SFTY FUCT-PRI	W LMTQ SMB000-10 P/L CNTL,ECCS-INJ.	EQ VAULT EV-5B	NSS-220-04 NSS-220	RHR	A	LMHB
001	RH -FIS - 610	RH-FCV-610 CTL SFTY FUCT-PRI	W BRTN 581A-1 P/L CNTL,ECCS-INJ.	EQ VAULT EV-1A	NSS-325-10 NSS-325	RHR	A	LMHB
001	RH -FIS - 611	RH-FCV-611 CTL SFTY FUCT-PRI	W BRTN 581A-1 P/L CNTL,ECCS-INJ.	EQ VAULT EV-1B	NSS-325-10 NSS-325	RHR	A	LMHB
001	RH -FT - 618	RHR-HX-E-9A BYP RET HDR	FOX N-E13DM-IAH-2	ME PENET MPA-1	174-01-01 174-01 AMI DSGN CAT2	PAM	A	LMHB
001	RH -FT - 619	RHR-HX-E-9B BYP RET HDR	FOX N-E13DM-IAH-2	ME PENET MPA-3	174-01-01 174-01 AMI DSGN CAT2	PAM	A	LMHB
001	RH -FY - 16	RH-V-16 SOV SFTY FUCT - RHR, ECCS-RECIRC	ASCO 206-381-3	EQ VAULT EV-5A	248-37-03 248-37	RCS ISOL	A	LMHB
001	RH -FY - 17	RH-V-17 SOV SFTY FUCT - RHR, ECCS-RECIRC	ASCO 206-381-3	EQ VAULT EV-5B	248-37-03 248-37	RCS ISOL	A	LMHB
001	RH -FY - 618-1	RH-FCV-618 SOV	ASCO 206-381-4RU	EQ VAULT EV-6A	173-04-01 173-04	RHR	A	LMHB
001	RH -FY - 619-1	RH-FCV-619 SOV	ASCO 206-381-4RU	EQ VAULT EV-6B	173-04-01 173-04	RHR	A	LMHB
001	RH -FY -2426	RH-V-49 SOV SFTY FUCT-ECCS-RECIRC	W ASCO NP831654E	CNT BLDG CS-10	NSS-220-02 NSS-220	CNTMT ISOL	A	LM

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 90 UNIT 1 DATE 10/07/85

SYSTEM: RH RESIDUAL HEAT REMOVAL

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RH -FY -2463	RH-V-28 SOV SFTY FUCT-RHR, CNTMT ISOL.	W ASCO NP831654E	CNT BLDG CS-10	NSS-220-02 NSS-220	RCS ISOL	A	LM
001	RH -FY -2464	RH-V-27 SOV SFTY FUCT-RHR, CNTMT ISOL.	W ASCO NP831654E	CNT BLDG CS-10	NSS-220-02 NSS-220	RCS ISOL	A	LM
001	RH -HY - 606-1	HCV-606 SOV SFTY FUCT-PRI P/L CNTL	ASCO 206-381-4RVU	EQ VAULT EV-6A	173-04-01 173-04	RHR	A	LMHB
001	RH -HY - 607-1	HCV-607 SOV SFTY FUCT-PRI P/L CNTL	ASCO 206-381-4RVU	EQ VAULT EV-6B	173-04-01 173-04	RHR	A	LMHB
001	RH -P - 8A	RHR PUMP 8A SFTY FUCT-ECCS-INJ,ECCS-RECIRC	W VSWI	EQ VAULT EV-3A	NSS-205-01 NSS-205	RHR	A	LMHB
001	RH -P - 8B	RHR PUMP 8B SFTY FUCT-ECCS-INJ,ECCS-RECIRC	W VSWI	EQ VAULT EV-3B	NSS-205-01 NSS-205	RHR	A	LMHB
001	RH -TE - 604	RH-E-9A BYP RET HDR TEMP	WEED 612	ME PENET MPA-1	174-14 AMI DSGN CAT2	PAM	A	LMHB
001	RH -TE - 605	RH-E-9B BYP RET HDR TEMP	WEED 612	ME PENET MPA-3	174-14 AMI DSGN CAT2	PAM	A	LMHB
001	RH -V - 14	RH COLD LEG 1&2 INJECTION SFTY FUCT-ECCS-INJ, PRI P/L CNTL	W LMTQ SB-1	ME PENET MPA-1	NSS-220-04 NSS-220	RHR	A	LMHB
001	RH -V - 21	RH-E-9B DISCH CROSSOVER SFTY FUCT-PRI P/L CNTL, ECCS-RECIRC.	W LMTQ SMB-00-25	EQ VAULT EV-6B	NSS-220-04 NSS-220	RHR	A	LMHB
001	RH -V - 22	RH-E-9A DISCH CROSSOVER SFTY FUCT-PRI P/L CNTL, ECCS-RECIRC.	W LMTQ SMB-00-25	EQ VAULT EV-6A	NSS-220-04 NSS-220	RHR	A	LMHB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 91 UNIT 1 DATE 10/07/85

SYSTEM: RH RESIDUAL HEAT REMOVAL

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RH -V - 26	RH COLD LEG 3&4 INJECTION SFTY FUCT-ECCS-INJ, PRI P/L CNTL	W LMTQ SB-1-60	ME PENET MPA-3	NSS-220-04 NSS-220	RHR	A	LMHB
001	RH -V - 32	RH-E-9A & B TO HL 1 & 4 SFTY FUCT-CNTMT ISOL	W LMTQ SMB-0-25	ME PENET MPA-1	NSS-220-04 NSS-220	ECCS RECIRC	A C	L HB
001	RH -V - 35	RH-E-9A TO SI-P-6A	W LMTQ SMB-00-25	EQ VAULT EV-6A	NSS-220-04 NSS-220	ECCS-RECIRC	A C	LM HB
001	RH -V - 36	RH-E-9B SI-P-6B	W LMTQ SMB-00-25	EQ VAULT EV-4B	NSS-220-04 NSS-220	ECCS-RECIRC	A C	LM HB
001	RH -V - 70	RH-E-9A & B TO HL 1 & 4	W LMTQ SMB-0-25	ME PENET MPA-1	NSS-220-04 NSS-220	ECCS-RECIRC	A C	L HB
001	RH -ZS - 16	RH-V-16 POS SW SFTY FUCT-PAM, RHR, ECCS-RECIRC	NAMC EA180-31302	EQ VAULT EV-5A	248-37-02 248-37	RCS ISOL	A	LMHB
001	RH -ZS - 17	RH-V-17 POS SW SFTY FUCT-PAM, RHR, ECCS-RECIRC	NAMC EA180-31302	EQ VAULT EV-5B	248-37-02 248-37	RCS ISOL	A	LMHB
001	RH -ZS - 21	RH-V-21 POS SW PART OF RH-V-21. SFTY FUCT-PRI P/L CNTL, ECCS-RECIRC.	W LMTQ SMB-00-25	EQ VAULT EV-6B	NSS-220-04 NSS-220	RHR	A	LMHB
001	RH -ZS - 22	RH-V-22 POS SW PART OF RH-V-22. SFTY FUCT-PRI P/L CNTL, ECCS-RECIRC.	W LMTQ SMB-00-25	EQ VAULT EV-6A	NSS-220-04 NSS-220	RHR	A	LMHB
001	RH -ZS - 27	RH-V-27 POS SW SFTY FUCT - RHR, CNTMT ISOL	W NAMC EA-180-12303	CNT BLDG CS-10	NSS-220-03 NSS-220	RCS ISOL	A	LM
001	RH -ZS - 28	RH-V-28 POS SW SFTY FUCT - RHR, CNTMT ISOL	W NAMC EA-180-11303	CNT BLDG CS-10	NSS-220-03 NSS-220	RCS ISOL	A	LM

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 92 UNIT 1 DATE 10/07/85

SYSTEM: RH RESIDUAL HEAT REMOVAL

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RH -ZS - 49	RH-V-49 POS SW	W NAMC EA-180-11303	CNT BLDG CS-10	NSS-220-03 NSS-220	CNTMT ISOL	A	LM
		REMARKS: SFTY FUCT-ECCS-RECIRC.						
001	RH -ZS - 606	RH-HCV-606 POS SW	W NAMC EA-180-31303	EQ VAULT EV-6A	NSS-220-03 NSS-220	PAM	A	LMHB
		MODEL NO EA-180-32303						
001	RH -ZS - 607	RH-HCV-607 POS SW	W NAMC EA-180-31303	EQ VAULT EV-6B	NSS-220-03 NSS-220	PAM	A	LMHB
		MODEL NO EA-180-3230[illegible]						
001	RH -ZS - 610	RH-FCV-610 POS SW	W LMTQ SMB00[illegible]	EQ VAULT EV-5A	NSS-220-04 NSS-220	RHR	A	LMHB
		PART OF RH-FCV-610. [illegible]T-PRI P/L CNTL, ECCS-INJ.						
001	RH -ZS - 611	RH-FCV-611 POS SW	W LMT[illegible] SMB000-10	EQ VAULT EV-5B	NSS-220-04 NSS-220	RHR	A	LMHB
		PART OF RH-FCV-611. SFTY FUCT-PRI P/L CNTL, ECCS-INJ.						
001	RH -ZS - 618	RH-FCV-618 POS SW	W NAMC EA-180-31303	EQ VAULT EV-6A	NSS-220-03 NSS-220	PAM	A	LMHB
		MODEL NO EA-180-32303						
001	RH -ZS - 619	RH-FCV-619 POS SW	W NAMC EA-180-31303	EQ VAULT EV-6B	NSS-220-03 NSS-220	PAM	A	LMHB
		MODEL NO EA-180-32303						
001	RH -ZS -2460A	RH-V-32 POS SW	W NAMC EA-180-12303	ME PENET MPA-1	NSS-220-03 NSS-220	PAM	A C	L HB
001	RH -ZS -2460B	RH-V-32 POS SW	W LMTQ SMB-0-25	ME PENET MPA-1	NSS-220-04 NSS-220	ECCS-RECIRC	A C	L HB
		PART OF RH-V-32. SFTY FUCT-CNTMT ISOL.						
001	RH -ZS -2461A	RH-V-14 POS SW	W LMTQ SB-1	ME PENET MPA-1	NSS-220-04 NSS-220	RHR	A	LMHB
		PART OF RH-V-14. SFTY FUCT - ECCS-INJ, PRI P/L CNTL						
001	RH -ZS -2461B	RH-V-14 POS SW	W NAMC EA-180-12303	ME PENET MPA-1	NSS-220-03 NSS-220	PAM	A	LMHB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 93 UNIT 1 DATE 10/07/85

SYSTEM: RH RESIDUAL HEAT REMOVAL

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RH -ZS -2462A	RH-V-26 POS SW	W NAMC EA-180-12303	ME PENET MPA-3	NSS-220-03 NSS-220	PAM	A	LMHB
001	RH -ZS -2462B	RH-V-26 POS SW PART OF RH-V-26. SFTY FUCT-ECCS-INJ, PRI P/L CNTL	W LMTQ SB-1	ME PENET MPA-3	NSS-220-04 NSS-220	RHR	A	LMHB
001	RH -ZS -2465A	RH-V-35 POS SW PART OF RH-V-35	W LMTQ SMB-00-25	EQ VAULT EV-6A	NSS-220-04 NSS-220	ECCS-RECIRC	A C	LM HB
001	RH -ZS -2465B	RH-V-35 POS SW	W NAMC EA-180-12303	EQ VAULT EV-6A	NSS-220-03 NSS-220	ECCS-RECIRC	A C	LM HB
001	RH -ZS -2466A	RH-V-36 POS SW	W NAMC EA-180-12303	EQ VAULT EV-4B	NSS-220-03 NSS-220	ECCS-RECIRC	A C	LM HB
001	RH -ZS -2466B	RH-V-36 POS SW PART OF RH-V-36	W LMTQ SMB-00-25	EQ VAULT EV-4B	NSS-220-04 NSS-220	ECCS-RECIRC	A C	LM HB
001	RH -ZS -2479A	RH-V-70 POS SW PART OF RH-V-70	W LMTQ SMB-0-25	ME PENET MPA-1	NSS-220-04 NSS-220	ECCS-RECIRC	A C	L HB
001	RH -ZS -2479B	RH-V-70 POS SW	W NAMC EA-180-12303	ME PENET MPA-1	NSS-220-03 NSS-220	PAM	A C	L HB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 94 UNIT 1 DATE 10/07/85

SYSTEM: RM RADIATION MONITORING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RM -FCV -6528-1	RM-P-240-1 INLET	MARPAC 805DA4	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FCV -6528-2	RM-P-240-2 INLET	MARPAC 805DA4	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FI -6528-1	PLANT VENT RAD SAMPLE LOW FLO	GA NA	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FI -6528-2	PLANT VENT RAD SAMPLE HIGH FL	GA NA	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FT -6528-1	PLANT VENT RAD SAMPLE LOW FLO	GA NA	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FT -6528-2	PLANT VENT RAD SAMPLE HIGH FL	GA NA	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FY -6528-1	GRAB SAMPLE HIGH FLOW ISOL	ASCO HB8211C87	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FY -6528-2	GRAB SAMPLE HIGH FLOW ISOL	ASCO HB8211C87	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FY -6528-3	GRAB SAMPLE HIGH FLOW ISOL	ASCO HB8211C87	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FY -6528-4	GRAB SAMPLE LOW FLOW ISOL	ASCO HB8262A231	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FY -6528-5	GRAB SAMPLE LOW FLOW ISOL	ASCO HB8262A231	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 95 UNIT 1 DATE 10/07/85

SYSTEM: RM RADIATION MONITORING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RM -FY -6528-6	GRAB SAMPLE LOW FLOW ISOL	ASCO HB8262A231	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FY -6528-7	VENT RAD SAMPL AIR PURGE VLV	ASCO 8211C87	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FY -6528-8	RM-P-240-2 INLET	ASCO HTX8211830	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FY -6528-9	VENT RAD SAMPL AIR PURGE VLV	ASCO HV8262A231	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -FY -652810	RM-P-240-1 INLET SIS TAG NO. RM-FY-6528-10	ASCO HB8262A153	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -P - 240-1	PLANT VENT RAD LOW FLOW PUMP	GA NA	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -P - 240-2	PLANT VENT RAD HIGH FLOW PUMP	GA NA	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -RC -6528-2	PLANT VENT WIDE RANGE GAS	GA NA	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -RE -6481-1	MAIN STM LINE LOOP 1	GA RD-12	MSFW PC PCW-2	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	L MH
001	RM -RE -6481-2	MAIN STM LINE LOOP 4	GA RD-12	MSFW PC PCW-2	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	L MH
001	RM -RE -6482-1	MAIN STM LINE LOOP 2	GA RD-12	MSFW PC PCE-2	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	L MH

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 96 UNIT 1 DATE 10/07/85

SYSTEM: RM RADIATION MONITORING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RM -RE -6482-2	MAIN STM LINE LOOP 3	GA RD-12	MSFW PC PCE-2	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	L MH
001	RM -RE -6527A	CNTN PURGE GROSS ACTIVITY SFTY FUCT - PAM	GA RD-7	PA BLDG PB-11	172-01-01 172-01	RADIOACTIVTY	A C	LF H
001	RM -RE -6527B	CNTN PURGE GROSS ACTIVITY SFTY FUCT - PAM	GA RD-7	PA BLDG PB-11	172-01-01 172-01	RADIOACTIVTY	A C	LF H
001	RM -RE -6528-1	PLANT VENT WRGM CONCEN	GA RD-10B	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -RE -6528-2	PLANT VENT MID RANGE	GA RD-10B	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -RE -6528-3	PLANT VENT HI RANGE	GA RD-10B	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -RE -6535A	MANIPULATOR CRANE AREA RAD	GA RD-10B	CNT BLDG CS-3	172-01-01 172-01	PAM	A C	F LM
001	RM -RE -6535B	MANIPULATOR CRANE AREA RAD	GA RD-10B	CNT BLDG CS-3	172-01-01 172-01	PAM	A C	F LM
001	RM -RE -6576A	CONT POST-LOCA AREA RAD	GA RD-23	CNT BLDG CS-13	172-01-01 172-01	PAM	A C	L M
001	RM -RE -6576B	CONT POST-LOCA AREA RAD	GA RD-23	CNT BLDG CS-13	172-01-01 172-01	PAM	A C	L M
001	RM -RI -6535A	MANIPULATOR CRANE AREA RAD	GA RL-10	CNT BLDG CS-3	172-01-01 172-01	PAM	A C	F LM

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 97 UNIT 1 DATE 10/07/85

SYSTEM: RM RADIATION MONITORING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RM -RI -6535B	MANIPULATOR CRANE AREA RAD	GA RL-10	CNT BLDG CS-3	172-01-01 172-01	PAM	A C	F LM
001	RM -RM -6481	MAIN STM LINE LOOP 1	GA RM-80	MSFW PC PCW-4	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	L MH
001	RM -RM -6527A	CNTN PURGE GROSS ACTIVITY SFTY FUCT - PAM	GA RM-80	PA BLDG PB-28	172-01-01 172-01	RADIOACTIVTY	A C	LF H
001	RM -RM -6527B	CNTN PURGE GROSS ACTIVITY SFTY FUCT - PAM	GA RM-80	PA BLDG PB-28	172-01-01 172-01	RADIOACTIVTY	A C	LF H
001	RM -RM -6528	PLANT VENT GAS MONITOR	GA RM-80	PA BLDG PB-28	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -RM -6535A	MANIPULATOR CRANE AREA RAD	GA RM-80	CNT BLDG CS-12	172-01-01 172-01	PAM	A C	F LM
001	RM -RM -6535B	MANIPULATOR CRANE AREA RAD	GA RM-80	CNT BLDG CS-10	172-01-01 172-01	PAM	A C	F LM
001	RM -SKD - 53-1	PLANT VENT RAD SAMPLE COND	GA N/A	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H
001	RM -SKD - 53-2	PLANT VENTWIDE RANGE GAS	GA N/A	PA BLDG PB-8	172-01-01 172-01 AMI DSGN CAT2	PAM	A C	LF H

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 98 UNIT 1 DATE 10/07/85

SYSTEM: RMW REACTOR MAKE-UP WATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	RMW-FY - 30	RMW-V-30 SOV SFTY FUCT RCS ISOL	ASCO NP831664E	ME PENET MPA-4	248-41-03 248-41	CNTMT ISOL	A C	LM HB
001	RMW-ZS - 30	RMW-V-30 POS SW SFTY FUCT RCS ISOL	NAMC EA180-11302	ME PENET MPA-4	248-41-02 248-41	CNTMT ISOL	A C	LM HB

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 99 UNIT 1 DATE 10/07/85

SYSTEM: SB STEAM GENERATOR BLOWDOWN

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SB -FY - 1	SB-V-1 SOV SFTY FUCT-SEC P/L CNTL	ASCO NP831665E	CNT BLDG CS-12	248-37-03 248-37	HELB ISOL	A C	H LM
001	SB -FY - 3	SB-V-3 SOV SFTY FUCT-SEC P/L CNTL	ASCO NP831665E	CNT BLDG CS-12	248-37-03 248-37	HELB ISOL	A C	H LM
001	SB -FY - 5	SB-V-5 SOV SFTY FUCT-SEC P/L CNTL	ASCO NP831665E	CNT BLDG CS-12	248-37-03 248-37	HELB ISOL	A C	H LM
001	SB -FY - 7	SB-V-7 SOV SFTY FUCT-SEC P/L CNTL	ASCO NP831665E	CNT BLDG CS-12	248-37-03 248-37	HELB ISOL	A C	H LM
001	SB -FY -1900A	SB-V-9 SOV SFTY FUCT-CNTMT ISOL, HEAT SINK	ASCO NP831665E	MSFW PC PCW-1	248-37-03 248-37	HELB ISOL	A	LMH
001	SB -FY -1900B	SB-V-9 SOV SFTY FUCT-CNTMT ISOL, HEAT SINK	ASCO 206-381-4RVU	MSFW PC PCW-4	173-04-01 173-04	HELB ISOL	A	LMH
001	SB -FY -1901A	SB-V-10 SOV SFTY FUCT-CNTMT ISOL, HEAT SINK	ASCO NP831665E	MSFW PC PCW-2	248-37-03 248-37	HELB ISOL	A	LMH
001	SB -FY -1901B	SB-V-10 SOV SFTY FUCT-CNTMT ISOL, HEAT SINK	ASCO 206-381-4RVU	MSFW PC PCW-4	173-04-01 173-04	HELB ISOL	A	LMH
001	SB -FY -1902A	SB-V-11 SOV SFTY FUCT-CNTMT ISOL, HEAT SINK	ASCO NP831665E	MSFW PC PCW-2	248-37-03 248-37	HELB ISOL	A	LMH
001	SB -FY -1902B	SB-V-11 SOV SFTY FUCT-CNTMT ISOL, HEAT SINK	ASCO 206-381-4RVU	MSFW PC PCW-4	173-04-01 173-04	HELB ISOL	A	LMH
001	SB -FY -1903A	SB-V-12 SOV SFTY FUCT-CNTMT ISOL, HEAT SINK	ASCO NP831665E	MSFW PC PCW-1	248-37-03 248-37	HELB ISOL	A	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 100 UNIT 1 DATE 10/07/85

SYSTEM: SB STEAM GENERATOR BLOWDOWN

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SB -FY -1903B	SB-V-12 SOV SFTY FUCT-CNTMT ISOL, HEAT SINK	ASCO 206-381-4RVU	MSFW PC PCW-4	173-04-01 173-04	HELB ISOL	A	LMH
001	SB -ZS - 1	SB-V-1 POS SW SFTY FUCT-SEC P/L CNTL	NAMC EA-180-22302	CNT BLDG CS-12	248-37-02 248-37	HELB ISOL	A C	H LM
001	SB -ZS - 3	SB-V-3 POS SW SFTY FUCT-SEC P/L CNTL	NAMC EA-180-22302	CNT BLDG CS-12	248-37-02 248-37	HELB ISOL	A C	H LM
001	SB -ZS - 5	SB-V-5 POS SW SFTY FUCT-SEC P/L CNTL	NAMC EA-180-22302	CNT BLDG CS-12	248-37-02 248-37	HELB ISOL	A C	H LM
001	SB -ZS - 7	SB-V-7 POS SW SFTY FUCT-SEC P/L CNTL	NAMC EA-180-22302	CNT BLDG CS-12	248-37-02 248-37	HELB ISOL	A C	H LM
001	SB -ZS - 9A	SB-V-9 POS SW SFTY FUCT-CNTMT ISOL, HEAT SINK	NAMC EA-180-22302	MSFW PC PCW-1	248-37-02 248-37	HELB ISOL	A	LMH
001	SB -ZS - 9B	SB-V-9 POS SW SFTY FUCT-CNTMT ISOL, HEAT SINK	NAMC EA-180-22302	MSFW PC PCW-1	248-37-02 248-37	HELB ISOL	A	LMH
001	SB -ZS - 10A	SB-V-10 POS SW SFTY FUCT-CNTMT ISOL, HEAT SINK	NAMC EA-180-22302	MSFW PC PCW-2	248-37-02 248-37	HELB ISOL	A	LMH
001	SB -ZS - 10B	SB-V-10 POS SW SFTY FUCT-CNTMT ISOL, HEAT SINK	NAMC EA-180-22302	MSFW PC PCW-2	248-37-02 248-37	HELB ISOL	A	LMH
001	SB -ZS - 11A	SB-V-11 POS SW SFTY FUCT-CNTMT ISOL, HEAT SINK	NAMC EA-180-22302	MSFW PC PCW-2	248-37-02 248-37	HELB ISOL	A	LMH
001	SB -ZS - 11B	SB-V-11 POS SW SFTY FUCT-CNTMT ISOL, HEAT SINK	NAMC EA-180-22302	MSFW PC PCW-2	248-37-02 248-37	HELB ISOL	A	LMH

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 101 UNIT 1 DATE 10/07/85

SYSTEM: SB STEAM GENERATOR BLOWDOWN

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SB -ZS - 12A	SB-V-12	NAMC	MSFW PC	248-37-02	HELB ISOL	A	LMH
		POS SW	EA-180-22302	PCW-1	248-37			
		REMARKS: SFTY FUCT-CNTMT ISOL, HEAT SINK						
001	SB -ZS - 12B	SB-V-12	NAMC	MSFW PC	248-37-02	HELB ISOL	A	LMH
		POS SW	EA-180-22302	PCW-1	248-37			
		REMARKS: SFTY FUCT - CNTMT ISOL, HEAT SINK						

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 102 UNIT 1 DATE 10/07/85

SYSTEM: SF SPENT FUEL POOL COOLING

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SF -P - 10A	SPENT FUEL POOL P-10A SO-142 10430/3 680B101G53	B-W REMARK	FS BLDG FSB-1	238-15-01 238-15	PLANT COOLNG	A	LHF
001	SF -P - 10B	SPENT FUEL POOL P-10B SO-142 10430/3 680B101G53	B-W REMARK	FS BLDG FSB-1	238-15-01 238-15	PLANT COOLNG	A	LHF

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 103 UNIT 1 DATE 10/07/85

SYSTEM: SI SAFETY INJECTION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SI -FT - 917	BORN INJ TK-6 INLET FLOW	BRTN 752	PA BLDG PB-16	NSS-325-05 NSS-325 AMI DSGN CAT2	PAM	A	LMHB
001	SI -FT - 918	SI-P-6A DISCH FLOW	FOX N-E13DM-IAH-2	EQ VAULT EV-6A	174-01-01 174-01 AMI DSGN CAT2	PAM	A C	LM HB
001	SI -FT - 922	SI-P-6B DISCH FLOW	FOX N-E13DM-IAH-2	EQ VAULT EV-6B	174-01-01 174-01 AMI DSGN CAT2	PAM	A C	LM HB
001	SI -FV -2475	SI-TK-9A VENT VALVE SFTY FUCT-REACTIVITY, PRI P/L CNTL	VALCOR V526-6040-8	CNT BLDG CS-12	173-07-01 173-07	ECCS-INJ	A	LMH
001	SI -FV -2476	SI-TK-9A VENT VALVE SFTY FUCT-REACTIVITY, PRI P/L CNTL	VALCOR V526-6040-8	CNT BLDG CS-12	173-07-01 173-07	ECCS-INJ	A	LMH
001	SI -FV -2477	SI-TK-9C VENT VALVE SFTY FUCT-REACTIVITY, PRI P/L CNTL	VALCOR V526-6040-8	CNT BLDG CS-12	173-07-01 173-07	ECCS-INJ	A	LMH
001	SI -FV -2482	SI-TK-9B VENT VALVE SFTY FUCT-REACTIVITY, PRI P/L CNTL	VALCOR V526-6040-8	CNT BLDG CS-12	173-07-01 173-07	ECCS-INJ	A	LMH
001	SI -FV -2483	SI-TK-9B VENT VALVE SFTY FUCT-REACTIVITY, PRI P/L CNTL	VALCOR V526-6040-8	CNT BLDG CS-12	173-07-01 173-07	ECCS-INJ	A	LMH
001	SI -FV -2486	SI-TK-9C VENT VALVE SFTY FUCT-REACTIVITY, PRI P/L CNTL	VALCOR V526-6040-8	CNT BLDG CS-12	173-07-01 173-07	ECCS-INJ	A	LMH
001	SI -FV -2495	SI-TK-9D VENT VALVE SFTY FUCT-REACTIVITY, PRI P/L CNTL	VALCOR V526-6040-8	CNT BLDG CS-12	173-07-01 173-07	ECCS-INJ	A	LMH
001	SI -FV -2496	SI-TK-9D VENT VALVE SFTY FUCT-REACTIVITY, PRI P/L CNTL	VALCOR V526-6040-8	CNT BLDG CS-12	173-07-01 173-07	ECCS-INJ	A	LMH

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 104 UNIT 1 DATE 10/07/85

SYSTEM: SI SAFETY INJECTION

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER MODEL NO	BLDG ENV ZONE	EQ FILE NO PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SI -FY -2400	SI-V-62 SOV	W ASCO NP831654E	ME PENET MPA-2	NSS-220-02 NSS-220	CNTMT ISOL	A C	LM HB
001	SI -FY -2409	SI-V-160 SOV	W ASCO NP831654E	CNT BLDG CS-10	NSS-220-02 NSS-220	CNTMT ISOL	A	LM
		REMARKS: SFTY FUCT-ECCS-INJ. OP CODE "D" FOR SUBMERGENCE						
001	SI -FY -2410	SI-V-70 SOV	W ASCO NP831654E	CNT BLDG CS-10	NSS-220-02 NSS-220	CNTMT ISOL	A	LM
001	SI -FY -2416	SI-V-158 SOV	W ASCO NP831654E	CNT BLDG CS-10	NSS-220-02 NSS-220	CNTMT ISOL	A	LM
		REMARKS: SFTY FUCT-ECCS-INJ, ECCS-RECIRC. OP CODE "D" FOR SUBMERGENCE.						
001	SI -FY -2419	SI-V-157 SOV	W ASCO NP831654E	ME PENET MPA-1	NSS-220-02 NSS-220	ECCS-INJ	A C	LM HB
		REMARKS: SFTY FUCT-ECCS-RECIRC, CNTMT ISOL.						
001	SI -FY -2427	SI-V-134 SOV	W ASCO NP831654E	CNT BLDG CS-10	NSS-220-02 NSS-220	CNTMT ISOL	A	LM
		REMARKS: SFTY FUCT-ECCS-RECIRC, ECCS-INJ. OP CODE "D" FOR SUBMERGENCE.						
001	SI -FY -2428	SI-V-131 SOV	W ASCO NP831654E	CNT BLDG CS-10	NSS-220-02 NSS-220	CNTMT ISOL	A	LM
		REMARKS: SFTY FUCT-ECCS-RECIRC, ECCS-INJ. OP CODE "D" FOR SUBMERGENCE.						
001	SI -P - 6A	SI PUMP 6A	W LA-18895-L7	EQ VAULT EV-4A	NSS-205-01 NSS-205	ECCS-INJ	A C	LM HB
		REMARKS: SFTY FUCT-ECCS-RECIRC, REACTIVITY						
001	SI -P - 6B	SI PUMP 6B	W LA-18895-L7	EQ VAULT EV-4B	NSS-205-01 NSS-205	ECCS-INJ	A C	LM HB
		REMARKS: SFTY FUCT-ECCS-RECIRC, REACTIVITY						
001	SI -PT - 934	CONTN PRESS	W BRTN 752	ME PENET MPA-1	NSS-325-05 NSS-325	DETECTION	A C	LMH B
		REMARKS: SFTY FUCT-PAM						
001	SI -PT - 935	CONTN PRESS	W BRTN 752	ME PENET MPA-1	NSS-325-05 NSS-325	DETECTION	A C	LMH B
		REMARKS: SFTY FUCT-PAM						

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 105 UNIT 1 DATE 10/07/85

SYSTEM: SI SAFETY INJECTION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SI -PT - 936	CONTN PRESS SFTY FUCT-PAM	W BRTN 752	ME PENET MPA-2	NSS-325-05 NSS-325	DETECTION	A C	LMH B
001	SI -PT - 937	CONTN PRESS SFTY FUCT-PAM	W BRTN 752	ME PENET MPA-5	NSS-325-05 NSS-325	DETECTION	A C	LMH B
001	SI -PT -2576	CONTM PRESS	W BRTN 752	ME PENET MPA-1	NSS-325-05 NSS-325	PAM	A C	LM BH
001	SI -PT -2577	CONTM PRESS	W BRTN 752	ME PENET MPA-5	NSS-325-05 NSS-325	PAM	A C	LM BH
001	SI -V - 3	ACCUM TK-9A OUTLET ISOL SFTY FUCT-REACTIVITY, PRI P/L CNTL	W LMTQ SBD3-150	CNT BLDG CS-10	NSS-220-01 NSS-220	ECCS-INJ	A	LMH
001	SI -V - 17	ACCUM TK-9B OUTLET ISOL SFTY FUCT-REACTIVITY, PRI P/L CNTL	W LMTQ SBD3-150	CNT BLDG CS-10	NSS-220-01 NSS-220	ECCS-INJ	A	LMH
001	SI -V - 32	ACCUM TK-9C OUTLET ISOL SFTY FUCT-REACTIVITY, PRI P/L CNTL	W LMTQ SBD3-150	CNT BLDG CS-10	NSS-220-01 NSS-220	ECCS-INJ	A	LMH
001	SI -V - 47	ACCUM TK-9D OUTLET ISOL SFTY FUCT-REACTIVITY, PRI P/L CNTL	W LMTQ SBD3-150	CNT BLDG CS-10	NSS-220-01 NSS-220	ECCS-INJ	A	LMH
001	SI -V - 77	SI HL-2 & 3 CONTN OUTBD SFTY FUCT-REACTIVITY, CNTMT ISOL.	W LMTQ SB-00-15	ME PENET MPA-2	NSS-220-04 NSS-220	ECCS-RECIRC	A C	L HB
001	SI -V - 89	SI PUMP 6B DISCH RWS TK-8 SFTY FUCT-ECCS-RECIRC, REACTIVITY	W LMTQ SMB-00-10	EQ VAULT EV-4B	NSS-220-04 NSS-220	ECCS-INJ	A C	L HB
001	SI -V - 90	SI PUMP 6A DISCH RWS TK-8 SFTY FUCT-ECCS-RECIRC, REACTIVITY	W LMTQ SMB-00-10	EQ VAULT EV-4A	NSS-220-04 NSS-220	ECCS-INJ	A C	L HB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 106 UNIT 1 DATE 10/07/85

SYSTEM: SI SAFETY INJECTION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SI -V - 93	SI PUMP 6A & B MIN FLOW ISOL SFTY FUCT-ECCS-RECIRC, REACTIVITY	W LMTQ SMB-00-10	EQ VAULT EV-4A	NSS-220-04 NSS-220	ECCS-INJ	A C	L HB
001	SI -V - 102	SI HL-1 & 4 CONTN OUTBD SFTY FUCT-CNTMT ISOL, REACTIVITY	W LMTQ SB0015	ME PENET MPA-1	NSS-220-04 NSS-220	ECCS-RECIRC	A C	L HB
001	SI -V - 111	SI-P-6A/B CROSS CONNECT SFTY FUCT-REACTIVITY, ECCS-RECIRC.	W LMTQ SMB-00-15	EQ VAULT EV-4B	NSS-220-04 NSS-220	ECCS-INJ	A C	LM HB
001	SI -V - 112	SI-P-6A/B CROSS CONNECT SFTY FUCT-REACTIVITY, ECCS-RECIRC	W LMTQ SMB-00-15	EQ VAULT EV-6A	NSS-220-04 NSS-220	ECCS-INJ	A C	LM HB
001	SI -V - 114	SI COLD LEG ISOL SFTY FUCT-ECCS-RECIRC, CNTMT ISOL	W LMTQ SB0015	ME PENET MPA-1	NSS-220-04 NSS-220	ECCS-INJ	A C	LM HB
001	SI -V - 138	BORON INJ CONTN OUTBD SFTY FUCT-ECCS-RECIRC, CNTMT ISOL.	W LMTQ SB-00-15	ME PENET MPA-2	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	SI -V - 139	BORON INJ CONTN OUTBD SFTY FUCT-ECCS-RECIRC, CNTMT ISOL.	W LMTQ SB-00-15	ME PENET MPA-2	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
001	SI -ZS - 62	SI-V-62 POS SW	W NAMC EA-180-11303	ME PENET MPA-2	NSS-220-03 NSS-220	CNTMT ISOL	A C	LM HB
001	SI -ZS - 70	SI-V-70 POS SW	W NAMC EA-180-11303	CNT BLDG CS-10	NSS-220-03 NSS-220	CNTMT ISOL	A	LM
001	SI -ZS - 111	SI-V-111 POS SW PART OF SI-V-111. SFTY FUCT-REACTIVITY, ECCS-RECIRC.	W LMTQ SMB-00-15	EQ VAULT EV-4B	NSS-220-04 NSS-220	ECCS-INJ	A C	LM HB
001	SI -ZS - 112	SI-V-112 POS SW PART OF SI-V-112. SFTY FUCT-REACTIVITY, ECCS-RECIRC.	W LMTQ SMB-00-15	EQ VAULT EV-6A	NSS-220-04 NSS-220	ECCS-INJ	A C	LM HB

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 107 UNIT 1 DATE 10/07/85

SYSTEM: SI SAFETY INJECTION

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SI -ZS - 131	SI-V-131 POS SW	W NAMC EA-180-11303	CNT BLDG CS-10	NSS-220-03 NSS-220	CNTMT ISOL	A	LM
		REMARKS: SFTY FUCT-ECCS-INJ, ECCS-RECIRC. OP CODE "D" FOR SUBMERGENCE.						
001	SI -ZS - 134	SI-V-134 POS SW	W NAMC EA-180-11303	CNT BLDG CS-10	NSS-220-03 NSS-220	CNTMT ISOL	A	LM
		REMARKS: SFTY FUCT-ECCS-INJ, ECCS-RECIRC. OP CODE "D" FOR SUBMERGENCE.						
001	SI -ZS - 138	SI-V-138 POS SW	W LMTQ SB-00-15	ME PENET MPA-2	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
		REMARKS: PART OF SI-V-138. SFTY FUCT-ECCS-RECIRC, CNTMT ISOL.						
001	SI -ZS - 139	SI-V-139 POS SW	W LMTQ SB-00-15	ME PENET MPA-2	NSS-220-04 NSS-220	ECCS-INJ	A	LMHB
		REMARKS: PART OF SI-V-139. SFTY FUCT-ECCS-RECIRC, CNTMT ISOL.						
001	SI -ZS - 157	SI-V-157 POS SW	W NAMC EA-180-11303	ME PENET MPA-1	NSS-220-03 NSS-220	ECCS-INJ	A C	LM HB
		REMARKS: SFTY FUCT-ECCS-RECIRC, CNTMT ISOL.						
001	SI -ZS - 158	SI-V-158 POS SW	W NAMC EA-180-11303	CNT BLDG CS-10	NSS-220-03 NSS-220	CNTMT ISOL	A	LM
		REMARKS: SFTY FUCT-ECCS-INJ, ECCS-RECIRD. OP CODE "D" FOR SUBMERGENCE						
001	SI -ZS - 160	SI-V-160 POS SW	W NAMC EA-180-11303	CNT BLDG CS-10	NSS-220-03 NSS-220	CNTMT ISOL	A	LM
		REMARKS: SFTY FUCT-ECCS-INJ. OP CODE "D" FOR SUBMERGENCE						
001	SI -ZS -2403-1	SI-V-3 POS SW	W NAMC EA-180-11303	CNT BLDG CS-10	NSS-220-03 NSS-220	PAM	A	LMH
001	SI -ZS -2403-2	SI-V-3 POS SW	W LMTQ SBD3-150	CNT BLDG CS-10	NSS-220-01 NSS-220	ECCS-INJ	A	LMH
		REMARKS: PART OF SI-V-3. SFTY FUCT-REACTIVITY, PRI P/L CNTL						
001	SI -ZS -2413-1	SI-V-17 POS SW	W NAMC EA-180-12303	CNT BLDG CS-10	NSS-220-03 NSS-220	PAM	A	LMH
001	SI -ZS -2413-2	SI-V-17 POS SW	W LMTQ SBD3-150	CNT BLDG CS-10	NSS-220-01 NSS-220	ECCS-INJ	A	LMH
		REMARKS: PART OF SI-V-17. SFTY FUCT-REACTIVITY, PRI P/L CNTL						

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HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO 01 SHEET 108 UNIT 1 DATE 10/07/85

SYSTEM: SI SAFETY INJECTION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SI -ZS -2423-1	SI-V-32 POS SW	W NAMC EA-180-12303	CNT BLDG CS-10	NSS-220-03 NSS-220	PAM	A	LMH
001	SI -ZS -2423-2	SI-V-32 POS SW PART OF SI-V-32. SFTY FUCT-REACTIVITY, PRI P/L CNTL	W LMTQ SBD3-150	CNT BLDG CS-10	NSS-220-01 NSS-220	ECCS-INJ	A	LMH
001	SI -ZS -2429-1	SI-V-102 POS SW	W NAMC EA-180-12303	ME PENET MPA-1	NSS-220-03 NSS-220	PAM	A C	L HB
001	SI -ZS -2429-2	SI-V-102 POS SW PART OF SI-V-102. SFTY FUCT-REACTIVITY, CNTMT ISOL.	W LMTQ SB0015	ME PENET MPA-1	NSS-220-04 NSS-220	ECCS-RECIRC	A C	L HB
001	SI -ZS -2433-1	SI-V-47 POS SW	W NAMC EA-180-12303	CNT BLDG CS-10	NSS-220-03 NSS-220	PAM	A	LMH
001	SI -ZS -2433-2	SI-V-47 POS SW PART OF SI-V-47. SFTY FUCT-REACTIVITY, PRI P/L CNTL	W LMTQ SBD3-150	CNT BLDG CS-10	NSS-220-01 NSS-220	ECCS-INJ	A	LMH
001	SI -ZS -2436-1	SI-V-114 POS SW	W NAMC EA-180-12303	ME PENET MPA-1	NSS-220-03 NSS-220	PAM	A C	LM HB
001	SI -ZS -2436-2	SI-V-114 POS SW PART OF SI-V-114.SFTY FUCT-CNTMT ISOL, ECCS-RECIRC	W LMTQ SB0015	ME PENET MPA-1	NSS-220-04 NSS-220	ECCS-INJ	A C	LM HB
001	SI -ZS -2439-1	SI-V-77 POS SW	W NAMC EA-180-12303	ME PENET MPA-2	NSS-220-03 NSS-220	PAM	A C	L HB
001	SI -ZS -2439-2	SI-V-77 POS SW PART OF SI-V-77. SFTY FUCT-REACTIVITY, CNTMT ISOL.	W LMTQ SB-00-15	ME PENET MPA-2	NSS-220-04 NSS-220	ECCS-RECIRC	A C	L HB
001	SI -ZS -2440A	SI-V-93 POS SW SFTY FUCT-ECCS-RECIRC, REACTIVITY	W NAMC EA-180-31303	EQ VAULT EV-4A	NSS-220-03 NSS-220	ECCS-INJ	A C	L HB

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 109 UNIT 1 DATE 10/07/85

SYSTEM: SI SAFETY INJECTION

REV NO	EQUIPMENT ID	SERVICE LEGEND	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SI -ZS -2440B	SI-V-93 POS SW	W LMTQ SMB-00-10	EQ VAULT EV-4A	NSS-220-04 NSS-220	ECCS-INJ	A C	L HB
		PART OF SI-V-93. SFTY FUCT-ECCS-RECIRC, REACTIVITY.						
001	SI -ZS -2445A	SI-V-90 POS SW	W LMTQ SMB-00-10	EQ VAULT EV-4A	NSS-220-04 NSS-220	ECCS-INJ	A C	L HB
		PART OF SI-V-90. SFTY FUCT-ECCS-RECIRC, REACTIVITY.						
001	SI -ZS -2445B	SI-V-90 POS SW	W NAMC EA-180-32302	EQ VAULT EV-4A	NSS-220-03 NSS-220	ECCS-INJ	A C	L HB
		SFTY FUCT-ECCS-RECIRC, REACTIVITY.						
001	SI -ZS -2455A	SI-V-89 POS SW	W LMTQ SMB-00-10	EQ VAULT EV-4B	NSS-220-04 NSS-220	ECCS-INJ	A C	L HB
		PART OF SI-V-89. SFTY FUCT-ECCS-RECIRC, REACTIVITY.						
001	SI -ZS -2455B	SI-V-89 POS SW	W NAMC EA-180-31303	EQ VAULT EV-4B	NSS-220-03 NSS-220	ECCS-INJ	A C	L HB
		SFTY FUCT-ECCS-RECIRC, REACTIVITY.						
001	SI -ZS -2475	SI-FV-2475 PSTN	GORDOS MR-8901	CNT BLDG CS-12	173-07-01 173-07	PAM	A	LMH
		INTG FV-2475						
001	SI -ZS -2476	SI-FV-2476 PSTN	GORDOS MR-8901	CNT BLDG CS-12	173-07-01 173-07	PAM	A	LMH
		INTG FV-2476						
001	SI -ZS -2477	SI-FV-2477 PSTN	GORDOS MR-8901	CNT BLDG CS-12	173-07-01 173-07	PAM	A	LMH
		INTG FV-2477						
001	SI -ZS -2482	SI-FV-2482 PSTN	GORDOS MR-8901	CNT BLDG CS-12	173-07-01 173-07	PAM	A	LMH
		INTG FV-2482						
001	SI -ZS -2483	SI-FV-2483 PSTN	GORDOS MR-8901	CNT BLDG CS-12	173-07-01 173-07	PAM	A	LMH
		INTG FV-2483						
001	SI -ZS -2486	SI-FV-2486 PSTN	GORDOS MR-8901	CNT BLDG CS-12	173-07-01 173-07	PAM	A	LMH
		INTG FV-2486						

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 110 UNIT 1 DATE 10/07/85

SYSTEM: SI SAFETY INJECTION

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SI -ZS -2495	SI-FV-2495 PSTN INTG FV-2495	GORDOS MR-8901	CNT BLDG CS-12	173-07-01 173-07	PAM	A	LMH
001	SI -ZS -2496	SI-FV-2496 PSTN INTG FV-2496	GORDOS MR-8901	CNT BLDG CS-12	173-07-01 173-07	PAM	A	LMH

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 111 UNIT 1 DATE 10/07/85

SYSTEM: SS SAMPLING SYSTEM

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SS -CP - 482	SS-FV-2957 CONT PANEL	COMSIP LATER	PA BLDG PB-12	170-06-01 170-06	CNTMT ISOL	C	LH
001	SS -CS -2857	SS-FV-2857 CTL	WEST OT2	PA BLDG PB-12	170-06-02 170-06	CNTMT ISOL	C	LH
001	SS -FV -2857	P ACC SAMP SMP RET OUTBD ISO	VALCOR V526-6040-1	ME PENET MPA-2	173-07-01 173-07	CNTMT ISOL	A C	LM HB
001	SS -ZS -2857	SS-FV-2857 POS SW INTG SS-FV-2857	GORDOS MR8901	ME PENET MPA-2	173-07-01 173-07	CNTMT ISOL	A C	LM HB

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 112 UNIT 1 DATE 10/07/85

SYSTEM: SW SERVICE WATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SW -FT -6181	DG-E-42A SW OUTL FLOW	FOX E13DL ST-D	PA BLDG PB-8	174-01 AMI DSGN CAT2	PAM	A	ALL
001	SW -FT -6191	DG-E-42B SW OUTL FLOW	FOX E13DL ST-D	PA BLDG PB-8	174-01 AMI DSGN CAT2	PAM	A	ALL
001	SW -FY - 16	SW-V-16 SOV	ASCO NP8320A185V	PA BLDG PB-8	248-05-02 248-05	PLANT COOLNG	A	ALL
001	SW -FY - 18	SW-V-18 SOV	ASCO NP8320A185V	PA BLDG PB-8	248-05-02 248-05	PLANT COOLNG	A	ALL
001	SW -V - 4	BOP HEAT EXCH INLET	LMTQ SMB005	PA BLDG PB-28	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -V - 5	BOP HEAT EXCH INLET	LMTQ SMB005	PA BLDG PB-28	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -V - 15	CC-E-17A OUTLET	LMTQ SMB015	PA BLDG PB-8	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -V - 17	CC-E-17B OUTLET	LMTQ SMB015	PA BLDG PB-8	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -V - 19	SW LOOP B TO TRANS STRUCT	LMTQ SMB015	PA BLDG PB-11	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -V - 20	SW LOOP B TO TRANS STRUCT	LMTQ SMB015	PA BLDG PB-11	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -V - 23	SW LOOP B TO CLG TWR	LMTQ SMB015	PA BLDG PB-11	248-05-01 248-05	PLANT COOLNG	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 113 UNIT 1 DATE 10/07/85

SYSTEM: SW SERVICE WATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SW -V - 34	SW LOOP A TO CLG TWR	LMTQ SMB015	PA BLDG PB-11	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -V - 74	SCC HX TO CLG TOWER	LMTQ SMB015	PA BLDG PB-28	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -V - 76	SCC HX TO CLG TOWER	LMTQ SMB015	PA BLDG PB-28	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 4	SW-V-4 POS SW PART OF SW-V-4	LMTQ SMB005	PA BLDG PB-28	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 5	SW-V-5 POS SW PART OF SW-V-5	LMTQ SMB005	PA BLDG PB-28	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 15	SW-V-15 POS SW PART OF SW-V-15	LMTQ SMB015	PA BLDG PB-8	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 16	SW-V-16 POS SW MODEL NO.-EA180-31302	NAMC EA180-32302	PA BLDG PB-8	248-05-03 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 17	SW-V-17 POS SW PART OF SW-V-17	LMTQ SMB015	PA BLDG PB-8	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 18	SW-V-18 POS SW MODEL NO.-EA180-31302	NAMC EA180-32302	PA BLDG PB-8	248-05-03 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 19	SW-V-19 POS SW PART OF SW-V-19	LMTQ SMB015	PA BLDG PB-11	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 20	SW-V-20 POS SW PART OF SW-V-20	LMTQ SMB015	PA BLDG PB-11	248-05-01 248-05	PLANT COOLNG	A	ALL

SYSTEM: SW SERVICE WATER

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	SW -ZS - 23	SW-V-23 POS SW PART OF SW-V-23	LMTQ SMB015	PA BLDG PB-11	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 34	SW-V-34 POS SW PART OF SW-V-34	LMTQ SMB015	PA BLDG PB-11	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 74	SW-V-74 POS SW PART OF SW-V-74	LMTQ SMB015	PA BLDG PB-28	248-05-01 248-05	PLANT COOLNG	A	ALL
001	SW -ZS - 76	SW-V-76 POS SW PART OF SW-V-76	LMTQ SMB015	PA BLDG PB-28	248-05-01 248-05	PLANT COOLNG	A	ALL

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 976' M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 115 UNIT 1 DATE 10/07/85

SYSTEM: VB VIBRATION MONITORING SYSTEM

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	VB -YE -6820	MS LOOP D SFTY VLV PSTN	ENDEVC 2273 AM1	MSFW PC PCW-3	252-30-01 252-30 AMI DSGN CAT2	PAM	A	LMH
001	VB -YE -6821	MS LOOP C SFTY VLV PSTN	ENDEVC 2273 AM1	MSFW PC PCE-3	252-30-01 252-30 AMI DSGN CAT2	PAM	A	LMH
001	VB -YE -6822	MS LOOP B SFTY VLV PSTN	ENDEVC 2273 AM1	MSFW PC PCE-3	252-30-01 252-30 AMI DSGN CAT2	PAM	A	LMH
001	VB -YE -6823	MS LOOP A SFTY VLV PSTN	ENDEVC 2273 AM1	MSFW PC PCW-3	252-30-01 252-30 AMI DSGN CAT2	PAM	A	LMH
001	VB -YE -6832-1	PRZR SFTY VLV LEAK	ENDEVC 2273 AM1	CNT BLDG CS-11	252-30-01 252-30 AMI DSGN CAT1	PAM	A	LM
001	VB -YE -6832-2	PRZR SFTY VLV LEAK	ENDEVC 2273 AM1	CNT BLDG CS-11	252-30-01 252-30 AMI DSGN CAT1	PAM	A	LM
001	VB -YT -6820	MS LOOP D SFTY VLV PSTN	TEC 504A	MSFW PC PCW-3	252-30-01 252-30 AMI DSGN CAT2	PAM	A	LMH
001	VB -YT -6821	MS LOOP C SFTY VLV PSTN	TEC 504A	MSFW PC PCE-3	252-30-01 252-30 AMI DSGN CAT2	PAM	A	LMH
001	VB -YT -6822	MS LOOP B SFTY VLV PSTN	TEC 504A	MSFW PC PCE-3	252-30-01 252-30 AMI DSGN CAT2	PAM	A	LMH
001	VB -YT -6823	MS LOOP A SFTY VLV PSTN	TEC 504A	MSFW PC PCW-3	252-30-01 252-30 AMI DSGN CAT2	PAM	A	LMH
001	VB -YT -6832-1	PRZR SFTY VLV LEAK	TEC 504A	CNT BLDG CS-13	252-30-01 252-30 AMI DSGN CAT1	PAM	A	LM

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 116 UNIT 1 DATE 10/07/85

SYSTEM: VB VIBRATION MONITORING SYSTEM

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	VB -YT -6832-2	PRZR SFTY VLV LEAK	TEC 504A	CNT BLDG CS-13	252-30-01 252-30 AMI DSGN CAT1	PAM	A	LM

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 117 UNIT 1 DATE 10/07/85

SYSTEM: VG VENTS

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	VG -FV -1661	CONTMNT HYDGN VENT HDR ISOL	VALCOR V526-5631-20	ME PENET MPA-2	173-07-01 173-07	CNTMT ISOL	A C	LM HB
001	VG -FV -1712	CONTMNT HYDGN VENT HDR ISOL	VALCOR V526-5631-20	CNT BLDG CS-10	173-07-01 173-07	CNTMT ISOL	A C	LM HB
001	VG -ZS -1661	VG-FV-1661 POS SW INTG VG-FV-1661	GORDOS MR-8901	ME PENET MPA-2	173-07-01 173-07	CNTMT ISOL	A C	LM HB
001	VG -ZS -1712	VG-FV-1712 POS SW INTG VG-FV-1712	GORDOS MR-8901	CNT BLDG CS-10	173-07-01 173-07	CNTMT ISOL	A C	LM HB

JOB NO. 9763.102 PUBLIC SERVICE OF NEW HAMPSHIRE DWG. 9763-M-300218

HARSH ENVIRONMENT EQUIPT LIST SEABROOK STATION REV. 001

SORT NO. 01 SHEET 118 UNIT 1 DATE 10/07/85

SYSTEM: WLD WP-LIQUID DRAINS

REV NO	EQUIPMENT ID	SERVICE LEGEND / REMARKS	MANUFACTURER / MODEL NO	BLDG / ENV ZONE	EQ FILE NO / PO NO	SAFETY FUNCT	OPER CODE	EVENT CODE
001	WLD-FV -8330	WLD CONTMNT ISOL VLV ORC	VALCOR V526-5631-20	ME PENET MPA-2	173-07-01 173-07	CNTMT ISOL	A C	LM HB
001	WLD-FV -8331	WLD CONTMNT ISOL VLV IRC	VALCOR V526-5631-20	CNT BLDG CS-10	173-07-01 173-07	CNTMT ISOL	A	LM
001	WLD-FY - 81	WLD-V-81 SOV	ASCO NP831654E	CNT BLDG CS-10	248-37-03 248-37	CNTMT ISOL	A	LM
001	WLD-FY - 82	WLD-V-82 SOV	ASCO NP831655E	ME PENET MPA-1	248-37-03 248-37	CNTMT ISOL	A C	LM HB
001	WLD-ZS - 81	WLD-V-81 POS SW	NAMC EA180-11302	CNT BLDG CS-10	248-37-02 248-37	CNTMT ISOL	A	LM
001	WLD-ZS - 82	WLD-V-82 POS SW	NAMC EA180-11302	ME PENET MPA-1	248-37-02 248-37	CNTMT ISOL	A C	LM HB
001	WLD-ZS -8330	WLD-FV-8330 POS SW INTG WLD-FV-8330	GORDOS MR-8901	ME PENET MPA-2	173-07-01 173-07	CNTMT ISOL	A C	LM HB
001	WLD-ZS -8331	WLD-FV-8331 POS SW INTG WLD-FV-8331	GORDOS MR-8901	CNT BLDG CS-10	173-07-01 173-07	CNTMT ISOL	A	LM

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
SEABROOK STATION
ENVIRONMENTAL QUALIFICATION OF
ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY

APPENDIX B

QUALIFICATION EVALUATION WORKSHEETS

Revision 2
10/31/85

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 015-01-01

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-015-01 Equipment ID No(s).: MM-MM-29, MM-MM-30	Operating Time	1 year	1 p. 1	1 year	4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	375	2 p. 16A	Test	None
Equipment Type: Electrical Penetration through Personnel Airlocks	Peak Pressure (Psig)	60	1 p. 1	72	2 p. 16A	Test	None
Manufacturer: CONAX	Relative Humidity (%)	100	1 p. 1	100	2 p. 16A	Test	None
Model Number: CONAX P/N N-11000	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH = 7.5 - 10.5	1 p. 1	Boric Acid 3.5% by wt. pH 10.5	2 p. 16 5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	2.25×10^8	2 Appendix A p. B5	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (CS-13) Rad Zone: Containment (General Area/Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	158/40	3 Appendix A Section 7	Test and Analysis	None
Lowest Elevation: Note 1 Flood Level: (-)20'-8" Above Flood Level: Note 1	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. IPS-1079, Revision D, 5/21/84, Design Qualification Test Report for Electrical Conductor Seal Assembly.
3. IPS-325, Revision D, 5/14/81, Design Qualification Test Report for Materials Used in Conax Electric Penetration Assemblies.
4. Impell Calculation No. 0570-032-061, Rev. 0
5. Seabrook EQ File No. 015-01-01, Assessment Checklist, Note 6.
6. SBU-96263, Seabrook Flooding Study Matrix.

Notes:

1. Field Verification has not been completed.

01291

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 45-02-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-45-2 Equipment ID No(s).: EAH-FN-31A, EAH-FN-31B, PAH-FN-42A, PAH-FN-42B, EPA-FN-47A, EPA-FN-47B Equipment Type: Medium AC Motors Manufacturer: Westinghouse Model Number: TBAM, 365 TCZ Frame Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location: Containment Enclosure (CE-1) Rad Zone: Containment Enclosure (CE-1)	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	150	1 p. 3	310	2 p. 4 of 5	Test	None
	Peak Pressure (Psig)	1.0	1 p. 3	3.25	2 p. 4 of 5	Test	None
	Relative Humidity (%)	100	1 p. 3	100	2 p. 2 & 4 of 5	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	1.13×10^8	2 p. 2 of 5	Test	None
	1 Year Accident Radiation Dose (Rads)	3.6×10^6	1 p. 3				
	Aging (°F/Years)	104°F/40	1 p. 3	248/40 (120°C) Note 1	2 p. 2 of 5 3	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A Note 2	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing 9763-F-300219, Rev. 17, Service Environment Chart, 7/22/85.
2. FP-60271-27, Buffalo Forge Report No. DO-146F, Rev. B, Qualification for Westinghouse Class 1E Motors.
3. Impell Calculation No. 0570-032-014, Rev. 0.
4. SBU-96263, Flooding Study Matrix.

Notes:

1. Qualified life accounts for normal ambient plus heat rise on a continuously running motor.
2. Field verification has not been completed.

4995m

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 113-01-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-113-01 Equipment ID No(s).: EDE-CBL-5	Operating Time	1 Year	2	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	325	2 p. 2	346	3 p. 1-1	Test	None
Equipment Type: 5 KV Power Cable	Peak Pressure (Psig)	4.8	2 p. 2	110	3 p. 1-1	Test	None
Manufacturer: Anaconda Model Number: Uniblend EP Insulated	Relative Humidity (%)	100	2 p. 2	100	3 p. 3-2	Test	None
Accuracy: Spec: N/A Demon: N/A	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.72% by wt pH = 10.5	3 p. 3-2 7	Test	None
Limiting Environment: Location: Main Steam/ FW Pipe Chases (PCWI-5) Rad Zone: Primary Auxiliary Building (PB-15A, 18) (Note 1)	40 Year Normal Radiation Dose (Rads)	2.0×10^8	2 p. 3	2×10^8	3 Appendix C Note 1 6	Test	None
	1 Year Accident Radiation Dose (Rads)	--	2 p. 3				
	Aging (°F/Years)	194/40 (90°C)	1 p. 4	194/40 (90°)	3 Attachment to FIRL Tech. Report F-C4350-3 p. 9	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: Note 2 Above Flood Level: Note 2	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Specification No. 9763-006-113-1, Revision 3 "Specification for 500V Power Cable", dated 1/11/80.
2. UE&C Drawing No. 9763-F-300219, Revision 17 "Service Environment Chart", dated 7/22/85.
3. FP-31367, FIRL Report F-C4350-3 Test of Electrical LOCA Simulation, July 1976.
4. Impell Calculation No. 0570-032-003, Revision 0.
5. SBU-92605, UE&C's letter to Impell dated 2/13/85.
6. Seabrook E.Q. File No. 113-01-01, Assessment Checklist, Note 14.
7. Seabrook E.Q. File No. 113-01-01, Assessment Checklist, Note 15.
8. SBU-96263, Flooding Study Matrix.

Notes:

1. The limiting environment for radiation are zones PB-15A and PB-18. Environmental zones PB-4 and PB-19 have been excluded since no electrical equipment is installed in these areas (Ref. 5).
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

Public Service Company of New Hampshire
Seabrook Stat[illegible]
Docket: 50-44[illegible]

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIF[illegible]ON FILE NO. 113-03-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] [illegible]te: [illegible]

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-113-03 Equipment ID No(s).: EDE-CBL-1	Operating Time	1 Year	2 p. 1	1 Year	3 Appendix 4	Test and Analysis	None
	Peak Temperature (°F)	375	2 p. 1	390	3 p. 3 5	Test	None
Equipment Type: 600 Volts Power Cable	Peak Pressure (Psig)	60	2 p. 1	112	3 p. 3, 9 Appendix 5	Test	None
Manufacturer: Okonite	Relative Humidity (%)	100	2 p. 1	100	3 p. 3, 7	Test	None
Model Number: 600 Volt w/Okonite (EPR) Insulation	Chemical Spray (pH)	Boric Acid 1.2% WT pH = 7.5 - 10.5	2 p. 1	Boric Acid 1.7% WT pH = 10.5	4, 3 p. 4 Appendix 4 p. 7	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^8	2 p. 1	2×10^8	3 p. 3, 9	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	--	2 p. 1				
Location: Containment Building (All Zones) Rad Zone: Primary Aux. Building (PB-15A, PB-18) Note 1	Aging (°F/Years)	194/40 (90°C)	1 pp. 6, 7	194/40 (90°C)	3 Appendix 2	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: Note 2 Above Flood Level: Note 2	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Specification No. 9763-006-113-3, Rev. 2, dated 11/30/82.
2. UE&C Drawing No. 9763-F-300219, Rev. 17, Service Environment Chart, dated 7/22/85.
3. FP-31412-06, Nuclear Qualification Document for Okonite Insulated Cable.
4. Seabrook E.Q. File No. 113-03-01, Assessment Checklist, Note 9.
5. Seabrook E.Q. File No. 113-03-01, Assessment Checklist, Note 2.
6. SBU-92605, UE&C's letter to Impell, dated 2/13/85.
7. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. The limiting radiation zones are PB-15A and PB-18. Environmental Zones PB-4 and PB-19 have been excluded since no electrical equipment is installed in these zones (Reference 6).
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 113-05-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-113-05 Equipment ID No(s).: EDE-CBL-8	Operating Time	1 Year	2 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	375	2 p. 1	450	1 p. 10	Test	None
Equipment Type: Power Cable	Peak Pressure (Psig)	60	2 p. 1	104	1 p. 7	Test	None
Manufacturer: Rockbestos Model Number: Firewall SR	Relative Humidity (%)	100	2 p. 1	100	1 p. 3	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5 to 10.5	2 p. 1	Boric Acid 1.7% by wt. pH 9.0 to 11.0	1 p. 7 5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^7	2 p. 1	2.0×10^8	1 p. 8	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	2 p. 1				
Location: Containment Bldg. (CS-9, CS-10) Rad Zone: Containment Bldg. (General Area/ Not Submerged)	Aging (°F/Years)	257/40 (125°C)	4 p. 8	257/40 (125°C)	1 p. 16 6	Test and Analysis	None
Lowest Elevation: Note 1 Flood Level: Note 1 Above Flood Level: Note 1	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. FP-33050-01, Rockbestos Qualification Report of Firewall SR Class IE Electric Cables, 3/2/78.
2. UE&C Drawing No. 9763-F-300219, Revision 17, Service Environment Chart, 7/22/85.
3. Impell Calculation 0570-032-001, Revision 0.
4. UE&C Specification 9763-006-113-5, Rev. 3, dated 3/22/82.
5. Seabrook EQ File No. 113-05-01, Assessment Checklist, Note 8.
6. Seabrook EQ File No. 113-05-01, Assessment Checklist, Note 11.
7. SBU-96263, UE&C Flooding Study Matrix.

Notes:

1. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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Public Service Company of New Hampshire
Seabrook Stat[illegible]
Docket: 50-44[illegible]

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFIC[illegible]N FILE NO. 113-06-01

Prepared By: [illegible] Date: 10/30/8[illegible]
Checked By: [illegible] [illegible]te: 10/30/8[illegible]

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-113-06 Equipment ID No(s).: EDE-CBL-4	Operating Time	1 Year	1	1 Year	5	Test and Analysis	None
	Peak Temperature (°F)	375	1 P. 1	385	3 pp.4-3, 5-1	Test	None
Equipment Type: Coaxial Cable	Peak Pressure (Psig)	60	1 P. 1	113	3 pp. 4-3, 5-5	Test	None
Manufacturer: Brand-Rex Model Number: ULTROL	Relative Humidity (%)	100	1 P. 1	100	3 pp. 4-2, 5-1	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5 to 10.5	1 P. 1	Boric Acid 3.6% by wt. pH 9.0 to 10.5	3 p. 4-2, 6	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^8	1 P. 3	2.0×10^8	3 pp. 4-1, 5-1	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	-----	1 P. 3				
Location: Containment Building (All Zones) Rad Zone: Primary Aux. Building (Note 1)	Aging (°F/Years)	194/40 (90°C)	2 pp. 6, 7	194/40 (90°C)	4 p. 4	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A Note 2	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Rev. 17, Service Environment Chart, 7/22/85.
2. UE&C Specification No. 9763-006-113-6, Rev. 2, Specification for 300 Volt Instrument Cable, 11/30/82.
3. FP-33576-01, FRC Report F-C5120-2, Qualification Tests of Coaxial-Type Cables in a Simulated Steam Link Break (SLB) and Loss-of-Coolant-Accident (LOCA) Environment, 9/2/80.
4. FP-33574-01, Long Term Thermal Aging Extrapolation Results.
5. Impell Calculation No. 0570-032-082, Rev. 0
6. Seabrook E.Q. File No. 113-06-01,6.Assessment Checklist, Note 7.
7. SBU-96263, UE&C Flooding Matrix.
8. SBU-92605, UE&C Letter, dated 2/13/85.

Notes:

1. The limiting zones for radiation are PB-15A and PB-18. Environmental zones PB-4 and PB-19 have been excluded since no electrical equipment is installed in these zones (Ref. 8).
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 113-06-02

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-113-06 Equipment ID No(s).: EDE-CBL-4	Operating Time	1 Year	2 p. 1	1 Year	3 p. 19 4	Test and Analysis	None
	Peak Temperature (°F)	375	2 p. 1	385	3 Attachment 1 P 19	Test	None
Equipment Type: Cable	Peak Pressure (Psig)	60	2 p. 1	113	3 Attachment 1 P. 19	Test	None
Manufacturer: Brand-Rex	Relative Humidity (%)	100	2 p. 1	100	3 p. 10	Test	None
Model Number: 300V Instrument & Thermocouple Extension Cable	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5 to 10.5	2 p. 1	Boric Acid 3.6% by wt. pH 9.0 to 10.5	3 p. 10 6	Test	None
Accuracy: Spec: N/A Demon: N/A Note 3	40 Year Normal Radiation Dose (Rads)	2.0×10^8	2 p. 1	2.0×10^8	3 p. 10	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	-----	2 p. 1				
Location: Containment Building Rad Zone: Primary Aux. Building (PB-15A, FB-18) Note 1	Aging (°F/Years)	194/40 (90°C)	1 p. 7	194/40 (90°C)	3 Attachment II 4	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: Note 2 Above Flood Level: Note 2	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Specification No. 9763-006-113-6, Rev. 2, 300V Instrument Cable, 11/30/82.
2. UE&C Drawing No. 9763-F-300219, Rev. 17, Service Environment Chart, 7/22/85.
3. FP-31732-03, FRC Report No. F-C5120-4, Qualification of Instrumentation Cables in a Simulated Steam Line Break and Loss-of-Coolant-Accident Environment, 4/12/82.
4. Impell Calculation, 0570-032-004, Revision 0, 2/13/85.
5. SBU-92605, UE&C's letter to Impell, dated 2/13/85
6. Seabrook E.Q. File No. 113-06-02, Assessment Checklist, Note 11.
7. Record of Conversation between C. Greiman (UE&C) and N. Woodward (Impell), dated 10/8/85.
8. SBU-96263, UE&C letter, "Flooding Study Matrix".

Notes:

1. The limiting zones for radiation are Zones PB-15A and PB-18. Environmental Zones PB-4 and PB-19 have been excluded since no electrical equipment is installed in these areas. (Reference 5)
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.
3. As per Bill of Materials (Appendix B) of Reference 1, the overall cable jacket color of the thermo-couple extension cable is black with red/white trace. Hence, it is not required to perform an active safety function subsequent to accident event (Reference 7), and accuracy does not have to be addressed.

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Public Service Company of New Hampshire
Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 113-17-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-113-17 Equipment ID No(s).: EDE-CBL-2	Operating Time	1 Year	1 Sheet 1	1 Year	7 Point 3, 6 6 Section 4.1	Test and Analysis	None
	Peak Temperature (°F)	375	1 Sheet 1	385	5 p. 3-10 Note 2	Test	None
Equipment Type: Control Cable	Peak Pressure (Psig)	60	1 Sheet 1	66	5 p. 3-10	Test	None
Manufacturer: Anaconda Model Number: FR-EP	Relative Humidity (%)	100	1 Sheet 1	100	5 p. 4-2	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH=7.5 to 10.5	1 p. 1	Boric Acid 3.6% by wt. pH=8.6 to 10.0 8	5 p. 3-10	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^8	2 Note 1	2×10^8	5 p. 3-2 Appendix C	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	-	2				
Location: Containment Rad Zone: (All Zones) Primary Aux. Bldg. (PB-15A, PB-18)	Aging (°F/Years)	194/40 (90°C)	3 p. 6	194/40 (90°C)	6 Section 4.1 9	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: Note 2 Above Flood Level: Note 2	Submergence	N/A	11	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Revision 17, Service Environment Chart, 7/22/85.
2. UE&C Calc. 4.4.14.70F, Total Integrated Radiation Doses, 11/6/84.
3. UE&C Specification 9763-006-113-17, dated 8/28/81, Rev. 1.
4. FP-32540-02, Attachment AT-2 to F-C4969-1, July 1980.
5. FP-32538-02, FIRL Report No. F-C4969-1, Qualification Test of Class 1E Electric Cable in a simulated SLB and LOCA Environment, July 1979.
6. FP-33266-01, ACTON Environmental Testing Corporation, Test Report No. 16587-81N, Revision 1, 7/23/81.
7. VU032814, Anaconda-Ericsson Letter to UE&C, dated 1/6/82.
8. Seabrook E.Q. File No. 113-17-01, Assessment Checklist, Note 12.
9. Seabrook E.Q. File No. 113-17-01, Assessment Checklist, Note 13.
10. SBU-92605, Letter from UE&C to Impell, dated 2/13/85.
11. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. The limiting radiation zones are PB-15A and PB-18. The total integrated radiation dose in Environmental Zones PB-4 and PB-19 is greater than 2.0×10^8 rads. No electrical equipment is installed in these areas (Ref. 10).
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 113-18-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-113-18 Equipment ID No(s).: EDE-CBL-3	Operating Time	1 Year	2 p. 1	1 Year	6 Point 3 5 Section 4.1 7	Test and Analysis	None
	Peak Temperature (°F)	375	2 p. 1	385	5 p. 3-10 9	Test	None
Equipment Type: Instrumentation Cable	Peak Pressure (Psig)	60	2 p. 1	66	5 p. 3-10	Test	None
Manufacturer: Anaconda	Relative Humidity (%)	100	2 p. 1	100	5 p. 4-2	Test	None
Model Number: 300 Volt, FR-EP Accuracy: Spec: N/A Demon: N/A	Chemical Spray (pH)	Boric Acid 1.2% by Wt. pH 7.5 to 10.5	2 p. 1	Boric Acid 3.6% by Wt. pH 8.6 to 10.0	5 p. 3-10 9	Test	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	2.0×10^8	2 p. 3	$2. \times 10^8$	5 p. 3-2 Appendix C 6 Point 5	Test	None
	1 Year Accident Radiation Dose (Rads)	-	2 p. 3				
Location: Containment (All Zones) Rad Zone: Primary Aux. Bldg. (Note 1)	Aging (°F/Years)	194/40 (90°C)	1 p. 6	194/40 (90°C)	4 p. 6	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: Note 2 Above Flood Level: Note 2	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Specification No. 9763-006-113-18, Rev. 1, Specification for 300 Volt Instrument Cable, 11/30/81.
2. UE&C Drawing No. 9763-F-300219, Rev. 17, Service Environment Chart, 7/22/85.
3. SBU-92605, UE&C Letter, dated 2/13/85.
4. FP-33266-01, ACTON Test Report No. 16587-81N, 7/23/81.
5. FP-32652-02, FIRL Report F-C4969-1, Qualification Test of Class 1E Electric Cable in a Simulated SLB and LOCA Environment, 7/80.
6. VU32814, Anaconda's letter to UE&C, dated 1/6/82.
7. Seabrook EQ File No. 113-18-01, Assessment Checklist, Note 3.
8. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.
9. Seabrook EQ File No. 113-18-01, Assessment Checklist, Note 12.

Notes:

1. The limiting zones for radiation are PB-15A and PB-18. Zones PB-4 and PB-19 have been excluded since no electrical equipment is installedin these areas (Reference 3).
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

Public Servi[illegible]mpany of New Hampshire
Seabrook Sta[illegible]
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 113-19-01

Prepared By: [illegible] [illegible]te: 10/30/8[illegible]

Checked By: [illegible] Date: [illegible]

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-113-19 Equipment ID No(s).: EDE-CBL-6	Operating Time	1 Year	1 p. 1	1 Year	3 p. 2 5	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	390	2 p. 11	Test	None
Equipment Type: Instrument Cable	Peak Pressure (Psig)	60	1 p. 1	113	2 p. 11	Test	None
Manufacturer: ITT Suprenant Model Number: RG-11 Triaxial, RG-11, RG-58 & RG-59 Coaxial	Relative Humidity (%)	100	1 p. 1	100	2 p. 10	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH=7.5 to 10.5	1 p. 1	Boric Acid 1.7% by wt. pH=10.5	2 p. 10 6	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^8	1 p. 1 Note 1	1.66×10^8 (Note 1)	2 p. C-2	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	--	1 p. 1 Note 1				
Location: Containment (All Zones) Rad Zone: Primary Aux. Bldg. (PB-15A, PB-18) Note 1	Aging (°F/Years)	167/40 (75°C)	3 p. 2 4	167/40 (75°C)	3 p. 2	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: Note 2 Above Flood Level: Note 2	Submergence	N/A	Note 8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Revision 17, Service Environmental Chart, 7/22/85.
2. FP-33262-02, FIRL Report No. F-A5550-8, Qualification Tests of Electrical Cables in a Simulated Steam Line Break and Loss-of-Coolant-Accident Environment, 1/14/83.
3. VU-30454, ITT to UE&C, 8/23/82.
4. UE&C Specification No. 9763-006-113-19, Sec. for Specialty Cable, 9/20/82.
5. Impell Calculation No. 070-032-002, Rev. 0.
6. Seabrook E.Q. File No. 113-19-01, Assessment Checklist, Note 11.
7. SBU-92605, UE&C's letter to Impell, dated 2/13/85.
8. SBU-96263, UE&C Letter, "Flooding Study Matrix."

Notes:

1. The limiting zones for radiation are PB-15A and PB-18. Zones PB-4 and PB-19 are excluded since no electrical equipment is installed in these areas, (Reference 7). The qualified life of the cable (irradiated to 1.66 Mrads) in these zones is limited to 33.20 years.
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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Sheet 1 of 1

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Public Servi[illegible]mpany of New Hampshire
Seabrook Sta[illegible]
Docket: 50-443

QUALIFICATION EV[illegible]ATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 113-20-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-113-20 Equipment ID No(s).: EDE-CBL-7	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	390	2, p. 11	Test	None
Equipment Type: Instrument Cable	Peak Pressure (Psig)	60	1 p. 1	113	2, p. 11	Test	None
Manufacturer: ITT Surprenant Model Number: 300V Instrument Cable	Relative Humidity (%)	100	1 p. 1	100	2, p. 11	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by Wt. pH 7.5 to 10.5	1 p. 1	Boric Acid 1.7% by Wt. pH 10.5	2, p. 11	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^8	1 p. 1 Note 1	2.20×10^8	2, p. 1	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	-	1 p. 1				
Location: Containment Building (All Zones) Rad Zone: Primary Aux. Building (PB-15A, PB-18) Note 1	Aging (°F/Years)	194/40 (90°C)	3 p. 6	208/40 (98°C)	4, 5	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: Note 2 Above Flood Level: Note 2	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Rev. 17, Service Environment Chart, 7/22/85.
2. FP-33835-01, FIRL Report F-A5550-8, dated 1/14/83.
3. UE&C Specification 9763-006-113-20, Rev. 1, 12/7/85.
4. Letter of March 16, 1983 from J. Sibley (ITT Surprenant) to R. Mizzau (UE&C).
5. FP-33829-01, Letter of 1/13/83 from J. Sibley (ITT Surprenant) to E.H. Case (UE&C).
6. Seabrook EQ file 113-20-01 Assessment Checklist, Note 8.
7. SBU-92605, UE&C's letter to Impell, 2/13/85.
8. SBU-96263, UE&C Flooding Study Matrix.

Notes:

1. The limiting environment for radiation are Zones PB-15A and PB-18. Environmental Zones PB-4 and PB-19 have been excluded since no electrical equipment is installed in these areas (Ref. 7).
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If required for this equipment, it will be qualified or relocated above the flood level.

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Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 113-22-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment: Parameter	Postulated Environment: Value	Postulated Environment: Reference	Qualified Environment: Value	Qualified Environment: Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-113-22 Equipment ID No(s).: Reference 7	Operating Time	1 year	1 p. 1	1 year	3	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	390	2 Sect. 2 6	Test	None
Equipment Type: 600V Control Cable	Peak Pressure (Psig)	60	1 p. 1	112	2 App. 1	Test	None
Manufacturer: Okonite Model Number: 600V Okonite FMR Insulated	Relative Humidity (%)	100	1 p. 1	100	2 p. 4	Test	None
Accuracy: Spec: N/A Demon: N/A	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.7% by wt. pH 10.5	2 Sect. 2, p. 7 4	Test	None
	40 Year Normal Radiation Dose (Rads)	2.0×10^8	1 p. 3 Note 2	2.01×10^8	2 App. 3	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	---	1 p. 3				
Location: Containment Building (All Zones) Rad Zone: Prim. Aux. Bldg. (PB-15A, PB-18)	Aging (°F/Years)	194/40 (90°C)	Note 1	194/40 (90°C)	2 App. 2, Chart 1	Test and Analysis	None
Lowest Elevation: Note 3 Flood Level: Note 3 Above Flood Level: Note 3	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-34390-01, PSCNH-0485, Revision 0, 6/17/85, Environmental Qualification for Okonite FMR Insulated Cables.
3. Impell Calculation 0570-032-071, Rev. 0.
4. PSNH, Seabrook EQ File No. 113-22-01, Assessment Checklist, Note 7.
5. SBU-92605, UE&C's Letter to Impell, dated 2/13/85.
6. PSNH, Seabrook EQ File No. 113-22-01, Assessment Checklist, Note 2.
7. PSNH, Seabrook EQ File No. 113-22-01, Assessment Checklist, Note 10.
8. SBU-96263, UE&C Flooding Study Matrix.

Notes:

1. The temperature, 194°F (90°C), is consistent with the manufacturer's and Seabrook Class 1E cable specification.
2. The limiting Environment for indication are Zones PB-15A and PB-18. Environmental Zones PB-4 and PB-19 have been excluded since no electrical equipment is installed in these areas (Ref. 5).
3. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

Public Servic[illegible]pany of New Hampshire
Seabrook Stat[illegible]
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 118-03-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-118-3 Equipment ID No(s).: EDE-ECSA-1	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	375	2 p. 16A	Test	None
Equipment Type: Electric Conductor Seal Assembly (ECSA)	Peak Pressure (Psig)	60	1 p. 1	72	2 p. 16A	Test	None
Manufacturer: Conax Corporation Model Number: N-11000 Series	Relative Humidity (%)	100	1 p. 1	100	2 p. 14	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH = 7.5 - 10.5	1 p. 1	Boric Acid 3.5% by wt. pH = 10.5	2 p. 14 5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^8	1 p. 3 Note 1	2.25×10^8	2 Appendix B, p. B3	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	----	1 p. 3				
Location: Containment (All Zones) Rad Zone: Primary Aux. Bldg. (PB-15A, PB-18)	Aging (°F/Years)	130/40	1 p. 2	158/40	3 Sect. 7.0	Test	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A Note 2	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Dwg. No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-34063-03, Design Qualification Test Report for Electric Conductor Seal Assembly, Report IPS-1079, Rev. D, 5/21/84.
3. FP-34256-02, Design Qualification Material Test Report for Materials used in Conax ECSA's, Report IPS-325, Rev. D, 5/14/81.
4. Impell Calculation No. 0570-032-0, Rev. 0.
5. Seabrook EQ File No. 118-03-01, Assessment Checklist, Note 4.
6. SBU-96263, UE&C Flooding Study Matrix.
7. SBU-92605, UE&C letter, dated 2/13/85.

Notes:

1. The total integrated radiation dose in environmental zones PB-4 and PB-19 is greater than 2.0×10^8 rads. No electrical equipment is installed in these areas (Reference 7).
2. Upon completion of the Field Walkdown, submergence qualification will be addressed, if any of the equipment (e.g. Limit Switch, Solenoid Valve, etc.) to which an ECSA is attached, is found to be submerged.

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Public Servic[illegible]pany of New Hampshire
Seabrook Stat[illegible]
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 120-09-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-120-9 Equipment ID No(s).: EDE-MM-295A, EDE-MM-295B, EDE-MM-295C, EDE-MM-295D	Operating Time	1 Year	1 p. 1	1 Year	3 Section 7.0	Test and Analysis	None
	Peak Temperature (°F)	111	1 p. 4	221	4 Appendix "C"	Test	None
Equipment Type: Reactor Coolant Pump Fuse Cabinet	Peak Pressure (Psig)	N/A	N/A	N/A	N/A	N/A	None
Manufacturer: Powell Electrical Manufacturing Company Model Number: S.O. #62560	Relative Humidity (%)	N/A	N/A	N/A	N/A	N/A	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 4	1.8×10^7	3 p. 6	Test	None
Limiting Environment: Location: Electrical Penetration Area (ET-3B)	1 Year Accident Radiation Dose (Rads)	3.4×10^4	1 p. 4				
Rad Zone: Electrical Penetration Area (ET-3B)	Aging (°F/Years)	85/40	1 p. 4	108.5/40 (42.5°C)	4 Appendix "C"	Test	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-32606-01, Southwest Research Institute Document No. 02-6259-320, Nuclear Component Qualification Test Plan for the qualification of a Reactor Coolant Pump Fuse Cabinet, dated 8/14/81.
3. FP-32884-01, Southwest Research Institute Document No. 02-6259-320, Nuclear Component Qualification Test Report for the qualification of a Reactor Coolant Pump Fuse Cabinet, dated 12/21/81.
4. FP-32884-02, Southwest Research Institute Document No. 02-6259-320, Nuclear Component Qualificaiton Test Report for the qualification of a Reactor Coolant Pump Fuse Cabinet, dated 8/20/82.
5. Assessment Checklist, Note 21.
6. SBU-96263, UE&C Flooding Study Matrix.

Notes:

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 129-01-01

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-129-01 Equipment ID No(s).: EDE-MM-584	Operating Time	1 Year	1 P. 1	1 Year	2 P. 6 - 4 Note 1	Test	None
	Peak Temperature (°F)	N/A	N/A	N/A	N/A	N/A	None
Equipment Type: Fuse Blocks	Peak Pressure (Psig)	N/A	N/A	N/A	N/A	N/A	None
Manufacturer: Underwriters Safety Device Company Model Number: J60030-2SR	Relative Humidity (%)	N/A	N/A	N/A	N/A	N/A	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 4	1.43×10^7	2 p. 6-4	Test	None
Limiting Environment:	Accident Radiation Dose (Rads)	3.4×10^4	1 p. 4				
Location: Electrical Penetration Area (ET3B) Rad Zone: Electrical Penetration Area (ET3B)	Aging (°F/Years)	85/40	1 p. 4	104/40	2 p. 6-3	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-34335-01, Acton Qualification Test Report No. 18950-84N, for USD Fuse Blocks to be used at Seabrook Station, dated 12/7/84.
3. Seabrook EQ File No. 129-1-01, Note 2 of Assessment Checklist.
4. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

1. The equipment is located in the Electrical Penetration Area where radiation dose is the only harsh environment parameter.

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Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 129-01-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-129-01 Equipment ID No(s).: EDE-MM-584	Operating Time	1 Year	1 P. 1	1 Year	2 p. 5 -3 Note 1	Test	None
	Peak Temperature (°F)	N/A	N/A	N/A	N/A	N/A	None
Equipment Type: Terminal Blocks	Peak Pressure (Psig)	N/A	N/A	N/A	N/A	N/A	None
Manufacturer: Westinghouse Model Number: TBAL-90	Relative Humidity (%)	N/A	N/A	N/A	N/A	N/A	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 4	1.87×10^8	2 p. 5-3	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	3.4×10^4	1 p. 4				
Location: Electrical Penetration Area (ET3B) Rad Zone: Electrical Penetration Area (ET3B)	Aging (°F/Years)	85/40	1 p. 4	114/41	3	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-32766-06, Acton Test Report No. 16751-82N, Environmental and Seismic Qualification of Class 1E Terminal Blocks, Rev. 2, 2/6/83.
3. Impell Calculation No. 0570-032-049, Rev. 0.
4. SBU-96263, UE&C Letter, "Flooding Study Matrix"

Notes:

1. The equipment is located in the Electrical Penetration Area where radiation is the only harsh environmental parameter.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 129-01-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-129-1 Equipment ID No(s).: EDE-TBX-YN1, EDE-TBX-YN2, EDE-TBX-YN7, EDE-TBX-YN8, EDE-TBX-YB3, EDE-TBX-YC3, EDE-TBX-YH4, EDE-TBX-YH5, EDE-TBX-YN5, EDE-TBX-YN6, EDE-TBX-Y31, EDE-TBX-Y32, EDE-TBX-Y33, EDE-TBX-Y34, EDE-TBX-Y35, EDE-TBX-Y36, EDE-TBX-YN3, EDE-TBX-YN4 Equipment Type: Terminal Blocks Manufacturer: States Company Model Number: ZWM-25006/25012 Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: Equipment Vaults Area (EV-6A) Rad Zone: Mechanical Penetration Area (MPA-1) Note 1 Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A (Note 2)	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	196	1 p. 4	307.5	2 p. XII-27	Test	None
	Peak Pressure (Psig)	1.0	1 p. 4	80	2 p. XII-28	Test	None
	Relative Humidity (%)	100	1 p. 4	100	2 p. XII-28	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 2	1.0×10^8	2 p. II-3	Test	None
	1 Year Accident Radiation Dose (Rads)	7.5×10^7	1 p. 2				
	Aging (°F/Years)	104/40	1 p. 4	104/4.7	3	Test and Analysis	None
	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. Wyle Report No. 44354-1, Environmental Qualification of States Company Terminal Blocks, dated 3/8/79.
3. Impell Calculation No. 0570-032-074, Rev. 0, Profile Extrapolation and Thermal Life Calculation for States Terminal Blocks.
4. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

1. Equipment listed above are located outside containment in various buildings with the exception of main steam & mainfeedwater pipe chases. They are evaluated to the worst environmental conditions based on their location in the plant.
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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QUALIFICATION EVA[illegible]TION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 129-01-02

Prepared By: [illegible] [illegible]te: 10/30/85

Checked By: [illegible] Date: [illegible]

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-129-1 Equipment ID No(s).: EDE-TBX-ZK1 EDE-TBX-ZK2 EDE-TBX-ZK3 EDE-TBX-ZK4 EDE-TBX- EDE-TBX- EDE-TBX- EDE-TBX- EDE-TBX- Equipment Type: Terminal Blocks Manufacturer: States Company Model Number: ZWM-25006/25012 Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: Equipment Vaults Area (EV-6A) Rad Zone: Mechanical Penetration Area (MPA-1) Note 1 Lowest Elevation: N/A Flood Level: 3'-9 3/8" Above Flood Level: N/A (Note 1)	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	307.5	2 p. XII-27 4	Test and Analysis	None
	Peak Pressure (Psig)	4.8	1 p. 2	80	2 p. XII-28	Test	None
	Relative Humidity (%)	100	1 p. 2	100	2 p. XII-28	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 2	1.0×10^8	2 p. II-3	Test	None
	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1 p. 2				
	Aging (°F/Years)	130/40	1 p. 4	130/.59	3 5	Test and Analysis	None
	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. Wyle Report No. 44354-1, Environmental Qualification of States Company Terminal Blocks, dated 3/8/79.
3. Impell Calculation No. 0570-032-074, Rev. 0, Profile Extrapolation and Thermal Life Calculation for States Terminal Blocks.
4. Seabrook EQ File No. 129-1-02, Note 2 of Assessment Checklist.
5. Seabrook EQ File No. 129-1-02, Note 10 of Assessment Checklist.
6. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

1. Verification with respect to whether this equipment is sumberged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 170-13-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-170-13 Equipment ID No(s).: EDE-MM-97, EDE-MM-116	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	445	2 p. 22	Test	None
Equipment Type: Electric Penetration Assemblies	Peak Pressure (Psig)	60	1 p. 1	80	2 p. 22	Test	None
Manufacturer: Conax Corporation Model Number: 7C85-10001-01	Relative Humidity (%)	100	1 p. 1	100	2 p. 22	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 3.5% by wt. pH 10.1-10.5	2 p. 22 4	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	2.25×10^8	2 p. 11	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (All Zones) Rad Zone: Containment (General Area/Not submerged)	Aging (°F/Years)	120/40	1 p. 1	203/40	2 p. 14	Test	None
Lowest Elevation: Note 1 Flood Level (-)20'-8" Above Flood Level: Note 1	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-73457-01, Design Qualification Report for Electric Penetration Assemblies for Class 1E Service for Seabrook Station, No. IPS-1106, dated 11/23/83.
3. Impell Calculation No. 0570-032-010, Rev. 0.
4. Seabrook Station E.Q. File No. 170-13-03, Assessment Checklist, Note 3.
5. SBU-96263, UE&C Letter to YAEC on Flooding Study Matrix.

Notes:

1. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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Seabrook Stat[illegible]
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-01-01

Prepared By: [illegible] Date: 10/30/8[illegible]

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-173-1 Equipment ID No(s).: MS-ZS-3001, MS-ZS-3002-B, MS-ZS-3003, MS-ZS-3004-B	Operating Time	1 Year	1 p. 1	1 Year	2	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	374	3 p. 10-13	Test	None
Equipment Type: Limit Switch	Peak Pressure (Psig)	4.8	1 p. 2	100	3 p. 10-13	Test	None
Manufacturer: Namco	Relative Humidity (%)	100	1 p. 2	100	3 p. 10-13	Test	None
Model Number: EA-180	Chemical Spray (pH)	N/A	1 p. 2	Boric Acid 3000 ppm Boron & NaOH pH = 10-11	3 p.10-9 11-24	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 2	2.04×10^8	3 p. 10-5	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1 p. 2				
Location: MS/FW Pipe Chases (PCW-2/PCE-2) Rad Zone: MS/FW Pipe Chases (PCW-2/PCE-2)	Aging (°F/Years)	130/40	1 p. 2	130/5.5	3 Fig. 8 p. 6	Test	None
Lowest Elevation: 33'-0" Flood Level: 5'-5" Above Flood Level: Yes	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. Imepll Calculation No. 0570-032-040, Revision 0.
3. Namco Test Report No. QTR 105, for Namco limit switches EA-180 (Mfgd. after 2/80), Rev. 4, dated 1/9/84.
4. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-04-01

Prepared By: [signature] Date: 10/30/85

Checked By: [signature] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-173-04 Equipment ID No(s).: CC-TY-2171-1, CC-TY-2171-2, CC-TY-2271-1, CC-TY-2271-2 Equipment Type: Solenoid Valve Manufacturer: ASCO Model Number: 206-381-2RVU Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: Primary Auxiliary Bldg. (PB-11) Rad Zone: Primary Auxiliary Bldg. (PB-11)	Operating Time	1 Year	1 p. 3	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	135	1 p. 3	405	2 p. 63	Test	None
	Peak Pressure (Psig)	0.4	1 p. 3	63	2 p. 62	Test	None
	Relative Humidity (%)	100	1 p. 3	100	2 p. A21 p. 22, 23	Test	None
	Chemical Spray (pH)	N/A	N/A	3000 ppm boron as Boric Acid pH = 10.5	2 p. A20 p. 22, 23	Test	N/A
	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2×10^7	2 p. 59-62	Test	None
	1 Year Accident Radiation Dose (Rads)	1.9×10^5	1 p. 3				
	Aging (°F/Years)	104/40	1 p. 3	248/6.1 (120°C) Note 2	5	Test and Analysis	None
Lowest Elevation: Note 1 Flood Level: (-)21'6" Above Flood Level: Note 1	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-72547-02, AQR-67368/Revision 0, Report on Qualification of ASCO NP-1 Solenoid Valves, March 2, 1982.
3. Impell Calculation No. 0570-032-020, Rev. 0.
4. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.
5. PSNH, Seabrook EQ File No. 173-04-01, Assessment Checklist Note 4.

Notes:

1. Field Walkdown Verification has not been completed.
2. Thermal life accounts for heat rise in normally energized valve. Valve deenergizes to perform safety function during accident conditions.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-04-C1

Prepared By: [signature] Date: 10/30/85

Checked By: [signature] Date: 10/30/85

Equipment Description	Postulated Environment			Qualified Environment		Qualification Method	Outstanding Items
	Parameter	Value	Reference	Value	Reference		
Purchase Order No.: 9763-006-173-04 Equipment ID No(s).: RH-FY-618-1, RH-FY-619-1	Operating Time	1 Year	1 p. 4	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	196	1 p. 4	405	2 p. 63	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	1.0	1 p. 4	63	2 p. 62	Test	None
Manufacturer: ASCO Model Number: 206-381-4RU	Relative Humidity (%)	100	1 p. 4	100	2 p. A21 p. 22, 23	Test	None
	Chemical Spray (pH)	N/A	N/A	3000 ppm boron as Boric Acid pH = 10.5	2 p. A20 p. 22, 23	Test	N/A
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 4	2×10^8	2 p. 59-62	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	6.0×10^7	1 p. 4				
Location. Equipment Vault (EV-6A) Rad Zone: Equipment Vault (EV-6A & 6B)	Aging (°F/Years)	104/40	1 p. 4	248/5.79 (120°C) Note 1	5	Test and Analysis	None
Lowest Elevation. (-)37'0" Flood Level: (-)55'11" Above Flood Level: Yes Note 2	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-72547-02, AQR-67368/Revision 0, Report on Qualification of ASCO NP-1 Solenoid Valves, March 2, 1982.
3. Impell Calculation No. 0570-032-020, Rev. 0.
4. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.
5. PSNH, Seabrook EQ File No. 173-04-01, Assessment Checklist Note 4.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve deenergizes to perform safety function during accident conditions.
2. The lowest elevation and flood level shown represent the worst case for the location of the equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-04-01

Prepared By: [signature] Date: 10/30/85

Checked By: [signature] Date: 10/25/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-173-04 Equipment ID No(s).: SB-FY-1900B, SB-FY-1901B, SB-FY-1902B,	Operating Time	1 Year	1 p. 2	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	144	1 p. 2	405	2 p. 63	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	0	1 p. 2	63	2 p. 62	Test	None
Manufacturer: ASCO Model Number: 206-381-4RVU	Relative Humidity (%)	30	1 p. 2	100	2 p. A21 p. 22, 23	Test	None
	Chemical Spray (pH)	N/A	N/A	3000 ppm boron as Boric Acid pH = 10.5	2 p. A20 p. 22, 23	Test	N/A
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 2	2×10^7	2 p. 59-62	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	2×10^2	1 p. 2				
Location: MS & FW Pipe Chase (PCW-4) Rad Zone: MS & FW Pipe Chase (PCW-4)	Aging (°F/Years)	130/40	1 p. 2	248/6.1 (120°C) Note 1	5	Test and Analysis	None
Lowest Elevation: 6'0" Flood Level: 5'5" Above Flood Level: Yes Note 2	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-72547-02, AQR-67368/Revision 0, Report on Qualification of ASCO NP-1 Solenoid Valves, March 2, 1982.
3. Impell Calculation No. 0570-032-020, Rev. 0.
4. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.
5. PSNH, Seabrook EQ File No. 173-04-01, Assessment Checklist Note 4.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve deenergizes to perform safety function during accident conditions.
2. The lowest elevation and flood level shown represents the worst case for the location of the equipment ID Nos. listed.

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Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-05-01

Prepared By: [signature] Date: 10/25/85

Checked By: [signature] Date: 10/25/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-173-05 Equipment ID No(s).: CC-ZS-2171-1, CC-ZS-2171-2, CC-ZS-2271-1, CC-ZS-2271-2 Equipment Type: Limit Switch Manufacturer: Namco Controls Model Number: EA750-80100 Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location: Primary Aux. Bldg. (PB-11) Rad Zone: Primary Aux. Bldg. (PB-11)	Operating Time	1 Year	1	1 Year	2 p. 4-7 & 4-14 4	Test and Analysis	None
	Peak Temperature (°F)	135	1 P. 3	194	2 p. 4-5	Test	None
	Peak Pressure (Psig)	0.4	1 p. 3	0.4	2 p. 4-5 6	Test	None
	Relative Humidity (%)	100	1 p. 3	100	2 p. 5-10 & 4 5	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
	40 Year Normal Radiation Dose (Rads)	4.7×10^6	p. 3	2.04×10^8	2 p. 4-6 & 10-14	Test	None
	1 Year Accident Radiation Dose (Rads)	1.9×10^5	p. 3				
	Aging (°F/Years)	104/40	1 p. 3	104/19.11	2 p. 4-14 3	Test and Analysis	None
Lowest Elevation: 47'-6" Flood Level: (-)21'-6" Above Flood Level: YES	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Revision 17, 7/22/85, Service Environment Chart.
2. FP-73597-01, Namco Test Report No. QTR 110, Revision 0, dated 10/1/81.
3. Seabrook E.Q. File No. 173-05-01, Assessment Checklist, Note 4.
4. Seabrook E.Q. File No. 173-05-01, Assessment Checklist, Note 3.
5. SBU-96263, Seabrook Station Flooding Study Matrix.
6. Seabrook E.Q. File No. 173-05-01, Assessment Checklist, Note 1.

Notes:

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-05-02

Prepared By: [signature] Date: 10/30/85

Checked By: [signature] Date: 10/30/85

Equipment Description	Postulated Environment			Qualified Environment		Qualification Method	Outstanding Items
	Parameter	Value	Reference	Value	Reference		
Purchase Order No.: 9763-006-173-05 Equipment ID No(s).: FW-FV-4214A, FW-FV-4214B, FW-FV-4224A, FW-FV-4224B, FW-FV-4234A, FW-FV-4234B, FW-FV-4244A, FW-FV-4244B Note 1 Equipment Type: Valve Motor Operator and Limit Switches Manufacturer: Rotork Model Number: IINAI Accuracy: Spec: N/A Demon: N/A	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	104	1 p. 4	385	3 p. X-3	Test	None
	Peak Pressure (Psig)	Slightly Positive	1 p. 4	75	3 p. X-3	Test	None
	Relative Humidity (%)	100	1 p. 4	100	3 p. X-1	Test	None
	Chemical Spray (pH)	N/A	N/A	6200 ppm Boron @ 9.5 pH	3 p. X-1	N/A	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 4	2×10^8	3 p. VI-1	Test	None
	1 Year Accident Radiation Dose (Rads)	N/A	1 p. 4				
Location: Emergency Feedwater Pump Building (EFW-1) Rad Zone: Emergency FW Pump Bldg. (EFW-1)	Aging (°F/Years)	104/40	1 p. 4	104/5.5	5	Test and Analysis	None
Lowest Elevation: 31'-0" Flood Level: 27'-0" Above Flood Level: Yes Note 2	Submergence	N/A	2	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. SBU-96263, UE&C Letter, "Flooding Study Matrix.
3. FP-73557-01 Wyle Report #43979-1, Qualification Test for Rotork, Rev. A, 12/19/78.
4. Impell Calculation No. 0570-032-027, Profile Extrapolation of Rotork IINAI Actuators, Rev. 0, May 1985.
5. Seabrook Station E.Q. File No. 173-05-02, Assessment Checklist, Note 10.

Notes:

1. Equipment ID Nos. FW-ZS-4214A, FW-ZS-4214B, FW-ZS-4224A, FW-ZS-4224B, FW-ZS-4234A, FW-ZS-4234B, FW-ZS-4244A, FW-ZS-4244B, are for intergral position indication within these operators.
2. The lowest elevation and flood level shown represents the worst case for the location of the Equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-07-01

Prepared By: [illegible] Date: 10/23/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-173-07 Equipment ID No(s).: RC-FV-2881, SI-FV-2475, -2476, -2477, -2482, -2483, -2486, -2495, -2496, CAH-FV-6572, -6573, -6574, SS-FV-2857, NG-FV-4609, -4610, VG-FV-1661, -1712, WLD-FV-8330, -8331. Note 3 Equipment Type: Solenoid Valves Manufacturer: Valcor Model Number: V526-6040-6, V526-6040-1, V526-6040-8, V526-5631-20, V526-5940-16, V526-5631-21 Accuracy: Spec: N/A Demon: N/A	Operating Time	1 year	1 p. 1	1 year	2	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	375	6 4, p. 4-10 of App. IV of App. XII	Test and Analysis	None
	Peak Pressure (Psig)	60	1 p. 1	113	4 p. 4-10 of App. IV of App. XII	Test	None
	Relative Humidity (%)	100	1 p. 1	100	4 App. XII p. 57	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	(2200 ppm) 1.2% by wt. pH 9.5-10.5	4 App. XII p. 58 5	Test and Analysis	None
Limiting Environment: Location: Containment (CS-12) Rad Zone: Containment (General area/Not submerged)	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	2×10^8	4 p. 23 & p. 4-22 of App. IV of App. XII	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
	Aging (°F/Years)	120/40	1 p. 1	120/5	4, p. 18 & 19 3, p. 2-7 Note 1	Test and Analysis	None
Lowest Elevation: (-)18'-0" Flood Level: (-)20'-8" Above Flood Level: Yes Note 2	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, dated 7/22/85.
2. Impell Calculation 0570-032-070, Rev. 0.
3. FP-73759-01, Qualified Life Evaluation, Document No. MR 526-5631-20-2, Rev. 0, 1/4/85.
4. FP-73216-01, Qualification Tst Report QR 52600-5940-2, Rev. C, 4/24/81.
5. Seabrook Station, Equipment File No. 173-7-01, Assessment Checklist Note 5.
6. Seabrook Station, Equipment File No. 173-7-01, Assessment Checklist Note 2.
7. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

1. For evaluation of qualified life, the heat rise due to the fluid temperature and the energized condition has been taken into account (Ref. 3, p. 2-7.
2. The lowest elevation and flood level shown represents the worse case for the location of the equipment ID Nos. listed.
3. Equipment I.D. Nos. RC-ZS-2881, SI-ZS-2475, -2476, -2477, -2482, -2483, -2486, -2495, -2496, CAH-FV-6572, -6573, -6574, SS-FV-2857, NG-FV-4609-1, -4609-2, -4610-1, -4610-2, VG-FV-1661, -1712, WLD-FV-8330, and -8331 are for the integral position indication within these Solenoid Valves.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-07-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-173-07 Equipment ID No(s).: RC-FV-2831, RC-FV-2832, RC-FV-2833, RC-FV-2836, Note 3	Operating Time	1 Year	1 p. 1	1 Year	2 p. 38, App. VII, p. D-2 4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	417	2 p. 38	Test	None
Equipment Type: Solenoid Valves	Peak Pressure (Psig)	60	1 p. 1	103	2 p. 39	Test	None
Manufacturer: Valcor	Relative Humidity (%)	100	1 p. 1	100	2 p. 39	Test	None
Model Number: V526-5295-110, V526-5683-48	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH = 7.5 - 10.5	1 p. 1	Boric Acid 2.3% by wt. pH = 7.5 - 9.0	2 App. VII p. 7	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 1	2.0×10^8	5 App. 12 App. 4 p. 4-22	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (CS-10) Rad Zone: Containment (General Area/ Not Submerged)	Aging (°F/Years)	120/40	1 p. 1 Note 1	120/ 5 Note 1	3 p. 7	Test and Analysis	None
Lowest Elevation: -15'2" Flood Level: -20'8" Above Flood Level: Yes Note 2	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. FP-73400-02, Qual. Test Report for Class IE Solenoid valves, QR-526-5683-6, Rev. D, dated 4/19/84.
3. FP-73759-01, Qualified Life Evaluation, MR-526-5631-20-2, dated 1/4/85.
4. Impell Calculation No. 0570-032-076, Rev. 0, Test Profile Extrapolation.
5. FP-73216, Qualification Test Report on SNUPPS Solenoid Valves, QR-52600-5940-2, Rev. C, 4/21/81.
6. SBU-96263, UE&C Flooding Study Matrix.

Notes:

1. Thermal life is based on room ambient plus heating from electrical current and fluid in valves (Reference 2, p. 12).
2. The lowest elevation and flood level shown represents the worse case for the location at the Equipment ID Nos. listed.
3. Equipment ID Nos., RC-ZS-2831, -2832, -2833 and -2836 are for integral position indication within these solenoid valves.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-07-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-173-07 Equipment ID No(s).: RC-FV-2837, RC-FV-2874, RC-FV-2876, RC-FV-2894, RC-FV-2896, Note 3	Operating Time	1 Year	1 p. 1	1 Year	2 p. 38, App. VII p. D-2 4	Test and Analysis	None
	Peak Temperature (°F)	160	1 p. 2	417	2 p. 38	Test	None
Equipment Type: Solenoid Valves	Peak Pressure (Psig)	1	1 p. 2	103	2 p. 39	Test	None
Manufacturer: Valcor	Relative Humidity (%)	100	1 p. 2	100	2 p. 39	Test	None
Model Number: V526-5683-48, V526-5683-56, V526-5295-110	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A, Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 2	5.9×10^7	2 p. 24	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	2.8×10^7	1 p. 2				
Location: Mech. Penetration Area (MPA-2) Rad Zone: Mechanical Penetration Area (MPA-2)	Aging (°F/Years)	104/40	1 p. 1	104/ 5 Note 1	3 p. 7	Test and Analysis	None
Lowest Elevation: (-)18'-0" Flood Level: (-)25'-11" Above Flood Level: YES Note 2	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. FP-73400-02, Qual. Test Report for Class 1E Solenoid valves, QR-526-5683-6, Rev. D, dated 4/19/84.
3. FP-73759-01, Qualified Life Evaluation, MR-526-5631-20-2, dated 1/4/85.
4. Impell Calculation No. 0570-032-076, Rev. 0, Test Profile Extrapolation.
5. SBU-95841, UE&C Letter on qualified life evaluation, 10/3/85.
6. SBU-96263, UE&C Flooding Study Matrix.

Notes:

1. Thermal life is based on room ambient plus heating from electrical current and fluid in valves (Reference 2, p. 12) for Equipment with ID No's. RC-FV-2894 and 2896. Equipment with ID Nos. RC-FV-2837, 2874 and 2876 are normally de-energized except for 30 minutes a month. (Ref. 5).
2. Field verification for RC-FV-2837 has not yet been completed.
3. Equipment ID Nos. RC-ZS-2837, -2874, -2876, -2894 and -2896 are for the integral position indication within these solenoid valves.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-07-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-173-07 Equipment ID No(s).: RC-FV-2830 Note 2	Operating Time	1 Year	1 p. 1	1 Year	2 p. 38, App. VII p. D-2 4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	417	2 p. 38	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	60	1 p. 1	103	2 p. 39	Test	None
Manufacturer: Valcor	Relative Humidity (%)	100	1 p. 1	100	2 p. 39	Test	None
Model Number: V526-5683-48	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH = 7.5 - 10.5	1 p. 1	Boric Acid 2.3% by wt. pH = 7.5 - 9.0	2 App. VII p. 7	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 1	2.0×10^8	5 App. 12 App. 4 p. 4-22	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (CS-10) Rad Zone: Containment (General Area/ Not Sumberged	Aging (°F/Years)	120/40	1 p. 1	120/1.4 Note 1	3 p. 7	Test and Analysis	None
Lowest Elevation: -16'0" Flood Level: -20'8" Above Flood Level: Yes	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. FP-73400-02, Qual. Test Report for Class 1E Solenoid valves, QR-526-5683-6, Rev. D, dated 4/19/84.
3. FP-73759-01, Qualified Life Evaluation, MR-526-5631-20-2, dated 1/4/85.
4. Impell Calculation No. 0570-032-076, Rev. 0, Test Profile Extrapolation.
5. FP-73216, Qualification Test Report on SNUPPS Solenoid Valves, QR-52600-5940-2, Rev. C, 4/21/81.
6. SBU-96263, UE&C Flooding Study Matrix.

Notes:

1. Thermal life is based on room ambient plus heating from electrical current and fluid in valves (Reference 2, p. 12).
2. Equipment ID No. RC-ZS-2830 is for the integral position indication within this solenoid valve.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 173-07-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-173-07 Equipment ID No(s).: RC-FV-2840	Operating Time	1 Year	1 p. 1	1 Year	2 p. 38, App. VII p. D-2 4	Test and Analysis	None
Note 2	Peak Temperature (°F)	160	1 p. 2	417	2 p. 38	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	1.0	1 p. 2	103	2 p. 39	Test	None
Manufacturer: Valcor	Relative Humidity (%)	100	1 p. 2	100	2 p. 39	Test	None
Model Number: V526-5683-48	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 2	5.9×10^7	2 p. 24	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	2.8×10^7	1 p. 2				
Location: Mech. Penetration Area (MPA-2) Rad Zone: Mechanical Penetration Area (MPA-2)	Aging (°F/Years)	104/40	1 p. 2	104/1.4 Note 1	3 p. 7	Test and Analysis	None
Lowest Elevation: (-)18'-0" Flood Level: (-)25'-11" Above Flood Level: YES	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. FP-73100-02, Qual. Test Report for Class 1E Solenoid valves, QR-526-5683-6, Rev. D, dated 4/19/84.
3. FP-73759-01, Qualified Life Evaluation, MR-526-5631-20-2, dated 1/4/85.
4. Impell Calculation No. 0570-032-076, Rev. 0, Test Profile Extrapolation.
5. SBU-96263, UE&C Flooding Study Matrix.

Notes:

1. Thermal life is based on room ambient plus heating from electrical current and fluid in valves (Reference 2, p. 12).
2. Equipment ID No. RC-ZS-2840 is for the integral position indication within this solenoid valve.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 174-13-01

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-174-13 Equipment ID No(s).: CC-FT-2291-1, 2 CC-FT-2091-1, 2	Operating Time	1 Year	1 p. 1	1 Year	2, p. 1, 23, 25 4, p. 1-62	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	470	2, p. 23	Test	None
Equipment Type: Pressure Transmitter	Peak Pressure (Psig)	60	1 p. 1	95	2, p. 22	Test	None
Manufacturer: Rosemount Model Number: 1153DD	Relative Humidity (%)	100	1 p. 1	100	2	Test	None
	Chemical Spray (pH)	Boric Acid 1.24% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.73% by wt. pH 11.0	3, 4 p. 1-62, X-3	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	1.0×10^8	2, p. 20 4, p. IX-5	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.4×10^7 Note 1	1 p. 1				
Location: Containment (CS-12) Rad Zone: Containment (Gen. Area/Not Submerged)	Aging (°F/Years)	120 /40	1 p. 1	120 /10	2, p. 12, 13 7	Test	None
Lowest Elevation: (-)22'0" Flood Level: (-)20'8" Above Flood Level: Yes	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Rev 17, Service Environment Chart, 7/22/85.
2. Rosemount Test Report D8300040, dated 5/23/83.
3. EQ File 174-13-01 Checklist Note 7.
4. Rosemount Test Report 45592-3, dated 5/4/83.
5. UE&C Calculation No. 9763-5-SP-IP, Loop Error Analysis, Rev. 2, 3/20/85.
6. SBU-96263, UE&C Letter, "Flooding Study Matrix".
7. EQ File 174-13-01, Checklist Note 13.

Notes:

1. These transmitters are contained in sealed enclosures, therefore Beta dose need not be considered.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 174-15-01

Prepared By: [signature] Date: 10/30/85

Checked By: [signature] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-174-15 Equipment ID No(s).: CBS-LT-2384 CBS-LT-2385	Operating Time	1 year	1 p. 1	1 year	2 p. XII-7 3	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	400	2 p. XII-7	Test	None
Equipment Type: Level Transmitter	Peak Pressure (Psig)	60	1 p. 1	66	2 p. XII-7	Test	None
Manufacturer: Transamerican DeLavel Gems Sensor Division Model Number: XM-54852 XM-54853	Relative Humidity (%)	100	1 p. 1	100	2 p. XII-3	Test	None
Accuracy: Spec: 9.7% Demon: ±3%	Chemical Spray (pH)	Boric Acid 1.2% pH 7.5	1 p. 1	Boric Acid 1.72% pH 8.5 - 11.0	2 p. XII-1, XII-4 4	Test	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	2.0×10^8	2 p. II-3	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment Bldg. CS-10 Rad Zone: Containment Bldg. (General Area/ Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	120/40	2 3	Test and Analysis	None
Lowest Elevation: N/A Flood Level: -20'8" Above Flood Level: N/A Note 1	Submergence	N/A	5	15-16 ft. H_2O head Duration 30 Min.	2 p. XII-3	Test	None

Documentation References:

1. UE&C Drawing No. 9763-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. Wyle Laboratories Test Report No. 45700-2, dated 12/14/82.
3. Impell Calculation 0570-032-067, Rev. 0.
4. Seabrook Station Equipment Qualification File No. 174-15-01, Checklist Note 6.
5. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. The equipment is qualified for 30 minutes submergence with an equivalent submergence pressure head of 15-16 ft. H_2O. Seabrook submergence requirements must be verified to be within this limit upon completion of the field verification program.

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Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 225-03-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-225-03 Equipment ID No(s).: EAH-FY-37A, 37B FAH-FY-5444A, 5444B PAH-FY-35A, 36A Equipment Type: Solenoid Valve Manufacturer: ASCO Model Number: NF8320A184V Accuracy: Spec: N/A Demon: N/A	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	150	1 p. 3	405	2 p. 63	Test	None
	Peak Pressure (Psig)	1.0	1 p. 3	63	2 p. 62	Test	None
	Relative Humidity (%)	100	1 p. 3	100	2 p. A21 p. 22, 23	Test	None
	Chemical Spray (pH)	N/A	N/A	3000 ppm Boron as Boric Acid pH = 10.5	2 p. A20 p. 22, 23	Test	None
Limiting Environment: Location: Containment Enclosure Bldg. (CE-1) Rad Zone: Containment Enclosure Bldg. (CE-1)	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2×10^7	2 p. 59-62	Test	None
	1 Year Accident Radiation Dose (Rads)	3.6×10^6	1 p. 3				
	Aging (°F/Years)	104/40	1 p. 3	248/9.56 (128°C) Note 1	4	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: (-)21'-6" Above Flood Level: Note 2 Note 3	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Dwg. No. 9763-F-300219, Service Environment Chart, Rev. 17., 7/22/85.
2. FP-61820-01, ASCO Test Report No. AQR-67368, Rev. 0, Report on Qualification of Automatic Switch Co. (ASCO) Catalog NP-1 Solenoid Valves for Safety-Related Applications in Nuclear Power Generating Stations, March 2, 1982.
3. Impell Calculation No. 0570-032-038, Rev. 0.
4. Seabrook Station Equipment Qualification File No. 225-03-01, Checklist Note 4.
5. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve deenergizes to perform safety function during accident conditions.
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.
3. The lowest elevation and flood level shown represent the worse case for the location of the equipment ID Nos. listed.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 225-03-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-225-03 Equipment ID No(s).: FAH-FY-5442-1, 2; FAH-FY-5443-1, 2; PAH-FY-35B, 36B	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	150	1 p. 3	405	2 p. 63	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	1.0	1 p. 3	63	2 p. 62	Test	None
Manufacturer: ASCO Model Number: NP8320A184E	Relative Humidity (%)	100	1 p. 3	100	2 p. A21 p. 22, 23	Test	None
	Chemical Spray (pH)	N/A	N/A	3000 ppm Boron as Boric Acid pH = 10.5	2 p. A20 p. 22, 23	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2×10^8	2 p. 59-62	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	3.6×10^6	1 p. 3				
Location: Containment Enclosure Bldg. (CE-1) Rad Zone: Containment Enclosure Bldg. (CE-1)	Aging (°F/Years)	104/40	1 p. 3	248/5.79 (128°C) Note 1	4	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Dwg. No. 9763-F-300219, Service Environment Chart, Rev. 17., 7/22/85.
2. FP-61820-01, ASCO Test Report No. AQR-67368, Rev. 0, Report on Qualification of Automatic Switch Co. (ASCO) Catalog NP-1 Solenoid Valves for Safety-Related Applications in Nuclear Power Generating Stations, March 2, 1982.
3. Impell Calculation No. 0570-032-038, Rev. 0.
4. Seabrook Station Equipment Qualification File No. 225-03-01, Checklist Note 4.
5. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve deenergizes to perform safety function during accident conditions.

Public Service Company of New Hampshire
Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 225-03-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-225-03	Operating Time	1 year	1 p. 1	1 year	5	Test and Analysis	None
Equipment ID No(s).: PAH-ZS-35A PAH-ZS-36A	Peak Temperature (°F)	142	1 p. 3	142	5	N/A	None
Equipment Type: Limit Switch	Peak Pressure (Psig)	0.4	1 p. 3	0.4	4	N/A	None
Manufacturer: Namco Controls	Relative Humidity (%)	100	1 p. 3	100	6	N/A	None
Model Number: EA 170	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2.02×10^8	2 p. 10-6 p. 10-49 p. 10-30 p. 10-56	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.9×10^5	1 p. 3				
Location: Prim. Aux. Building, (PB-12) Rad Zone: Prim. Aux. Building, (PB-11)	Aging (°F/Years)	104/40	1 p. 3	104/17.99	5	Test and Analysis	None
Lowest Elevation: Note 1 Flood Level: (-)23'1" Above Flood Level: Note 1	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-61878-04, Namco Controls Report No. QTR 107, Revision 0, Environmental and Seismic
3. UE&C Calculation Set No. 6.01.06, dated 3/25/85.
4. Seabrook Equipment Qualification File #225-03-02, Assessment Checklist, Note 1.
5. Seabrook Equipment Qualification File #225-03-02, Assessment Checklist, Note 2.
6. Seabrook Equipment Qualification File #225-03-02, Assessment Checklist, Note 7.
7. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.

Notes:

1. Field Walkdown Verification has not been completed.

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Public Service Company of New Hampshire
Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 225-03-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-225-03 Equipment ID No(s).: FAH-ZS-14	Operating Time	1 year	1 p. 1	1 year	5	Test and Analysis	None
	Peak Temperature (°F)	138	3 p. 2	142	5	N/A	None
Equipment Type: Limit Switch	Peak Pressure (Psig)	0.4	1 p. 3	0.4	4	N/A	None
Manufacturer: Namco Controls Model Number: EA 170	Relative Humidity (%)	100	1 p. 3	100	6	N/A	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2.02×10^8	2 p. 10-6 p. 10-49 p. 10-30 p. 10-56	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.9×10^5	1 p. 3				
Location: Fuel Storage Building (FSB-5) Rad Zone: Fuel Storage Building (FSB-5)	Aging (°F/Years)	104/40	1 p. 3	104/18.37	5	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	7	7	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763 F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-61878-04, Namco Controls Report No. QTR 107, Revision 0, Environmental and Seismic
3. UE&C Calculation Set No. 6.01.06, dated 3/25/85.
4. Seabrook Equipment Qualification File #225-03-02, Assessment Checklist, Note 1.
5. Seabrook Equipment Qualification File #225-03-02, Assessment Checklist, Note 2.
6. Seabrook Equipment Qualification File #225-03-02, Assessment Checklist, Note 7.
7. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.

Notes:

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 225-03-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-225-03 Equipment ID No(s).: EAH-ZS-25A, 25B EAH-ZS-37A, 37B PAH-ZS-35B PAH-ZS-36B FAH-ZS-13A, 13B Equipment Type: Limit Switch Manufacturer: Namco Controls Model Number: EA-180-31302 EA-180-33302 Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: Cont. Enclo. Area (CE-1) Rad Zone: Cont. Enclo. Area (CE-1)	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	150	1 p. 3 2	372	3 p. 10-14	Test	None
	Peak Pressure (Psig)	1.0	1 p. 3	100	3 p. 10-14	Test	None
	Relative Humidity (%)	100	1 p. 3	100	3 p. 10-14	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid Sod. Thiosulfate & NAOH3 pH = 10-11	3 p. 10-9	Test	None
	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2.04×10^8	3 p. 10-7 & App. A	Test	None
	1 Year Accident Radiation Dose (Rads)	3.6×10^6	1 p. 3				
	Aging (°F/Years)	104/40	1	104/20.6 Note 1	3 Fig. 8, p. 4-12	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	5	--	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. SBU-95078, UE&C Letter "HELB/MELB Temperature vs. Time Analysis", dated 8/19/85.
3. Namco Test Report No. QTR105, Rev. 4 (PAPCO Job #5445), Namco Model EA-180 (Mfgd. from 2/80) Limit Switch Environmental Qualification Report, dated 1/9/84.
4. Impell Calculation No. 0570-032-024, Rev. 0.
5. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

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Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 225-05-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-225-05 Equipment ID No(s).: EPA-ZS-371-1 EPA-ZS-373-4 EPA-ZS-371-2 EPA-ZS-374-1 EPA-ZS-372-1 EPA-ZS-374-2 EPA-ZS-372-2 EPA-ZS-374-3 EPA-ZS-373-1 EPA-ZS-374-4 EPA-ZS-373-2 EPA-ZS-373-3 FAH-ZS-366-1 PAH-ZS-357 FAH-ZS-366-2 PAH-ZS-358 Equipment Type: Limit Switch Manufacturer: Namco Controls Model Number: EA-180-31302 EA-180-32302 Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: Fuel Storage (FSB-5) Prim. Aux. Bldg. (PB-11) Rad Zone: Prim. Aux. Bldg. (PB-11)	Operating Time	1 Year	1 p. 1	1 Year	3 Table 11	Test and Analysis	None
	Peak Temperature (°F)	138	1 p. 3 Note 1	378	2 p. 10-14	Test	None
	Peak Pressure (Psig)	0.4	1 p. 3 Note 1	110	2 p. 10-49	Test	None
	Relative Humidity (%)	100	1 p. 3	100	2 p. 10-14	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by wt. pH 10-11	2 Appendix D p. 10-51 4	Test	None
	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2.04×10^8	2 Appendix A p. 10-16	Test	None
	1 Year Accident Radiation Dose (Rads)	1.9×10^5	1 p. 3				
	Aging (°F/Years)	104/40	1 p. 4	104/20.6	2 p. 4-12	Test and Analysis	None
Lowest Elevation: 40'-0" Flood Level: 27'-0" Above Flood Level: Yes Note 3	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. Namco Report No. QTR 105, Qualification of EQ-180 Series Limit Switches, Rev. 4, 1/9/84.
3. UE&C Calculation No. 9763-3-EQ-00-101-F, Rev. 0, Namco Model EA-180 Limit Switches Analysis, 1/19/84.
4. Seabrook Station EQ File 225-5-02, Assessment Checklist, Note 5.
5. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

1. Fuel Storage Building (FSB-5) has the limiting temperature, and Primary Auxiliary Building (PB-11) has the limiting pressure environment.
2. Field installation verification is not complete for FAH-ZS-366-1-2 and PAH-ZS-357, -358.
3. The lowest elevation and flood level shown represent the worse case for the location of the equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 236-11-01

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-236-11 Equipment ID No(s).: EAH-FY-30A, EAH-FY-30B	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	150	1 p. 3	405	2 p. 63 Fig. 5.1	Test	None
Equipment Type: Solenoid Valves	Peak Pressure (Psig)	1.0	1 p. 3	68	2 p. 63 Fig. 4.1	Test	None
Manufacturer: Automatic Switch Company Model Number: NP8320A186V	Relative Humidity (%)	100	1 p. 3	100	2 p. A-21	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by wt. pH 10.5	2 p. A-20 4	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2×10^7	2 p. 61	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	3.6×10^6	1 p. 3				
Location: Containment Enclosure, (CE-1) Rad Zone: Containment Enclosure, (CE-1)	Aging (°F/Years)	104/40	1 p. 3	248/9.56 (120°C) Note 1	5	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Dwg. No. 9763-F-300219, Service Environment Chart, Revision 17, dated 7/22/85.
2. FP-61826-03, ASCO Report No. AQR-67368, Rev. 0, Report on Qualification of ASCO NP-1 Solenoid Valves.
3. Impell Calculation No. 0570-032-037, Revision 0.
4. Seabrook Station Equipment Qualification File No. 236-11-01, Checklist, Note 5.
5. Seabrook Station Equipment Qualification File No. 236-11-01, Checklist, Note 4.
6. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 236-11-01

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-236-11 Equipment ID No(s).: FAH-FY-12B	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	138	1 p. 3	405	2 p. 63 Fig. 5.1	Test	None
Equipment Type: Solenoid Valves	Peak Pressure (Psig)	Slightly Pos.	1 p. 3	68	2 p. 63 Fig. 4.1	Test	None
Manufacturer: Automatic Switch Company Model Number: NP8320A184V	Relative Humidity (%)	100	1 p. 3	100	2 p. A-21	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by wt. pH 10.5	2 p. A-20 4	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 3	2×10^7	2 p. 61	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	N/A	N/A				
Location: Fuel Storage Building, (FSB-5) Rad Zone: Fuel Storage Building, (FSB-5)	Aging (°F/Years)	104/40	1 p. 3	248/9.56 (120°C) Note 1	5	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Dwg. No. 9763-F-300219, Service Environment Chart, Revision 17, dated 7/22/85.
2. FP-61826-03, ASCO Report No. AQR-67368 Rev. 0, Report on Qualification of ASCO NP-1 Solenoid Valves.
3. Impell Calculation No. 0570-032-037, Revision 0.
4. Seabrook Station Equipment Qualification File No. 236-11-01, Checklist, Note 5.
5. Seabrook Station Equipment Qualification File No. 236-11-01, Checklist, Note 4.
6. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.

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Public Service Company of New Hampshire
Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 236-11-01

Prepared By: [signature] Date: 10/30/85
Checked By: [signature] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-236-11 Equipment ID No(s).: CAH-FY-34A, CAH-FY-34B, CAH-FY-34C, CAH-FY-34D Equipment Type: Solenoid Valves Manufacturer: Automatic Switch Company Model Number: 206-380-3VF Accuracy: Spec: N/A, Demon: N/A	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	405	2 p. 63 Fig. 5.1	Test	None
	Peak Pressure (Psig)	60	1 p. 1	68	2 p. 25 Fig. 4.1	Test	None
	Relative Humidity (%)	100	1 p. 1	100	2 p. A-21	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5 - 10.5	1 p. 1	Boric Acid 1.7% by wt. pH 10.5	2 p. A-20 4	Test	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	2×10^8	2 p. 61-62	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment Building, (CS-13) Rad Zone: Containment Building, (Gen. Area/Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	264/4.85 (129°C) Note 1	5	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: (-)20'-8" Above Flood Level: Note 2	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Dwg. No. 9763-F-300219, Service Environment Chart, Revision 17, dated 7/22/85.
2. FP-61826-03, ASCO Report No. AQR-67368, Rev. 0, Report on Qualification of ASCO NP-1 Solenoid Valves.
3. Impell Calculation No. 0570-032-037, Revision 0.
4. Seabrook Station Equipment Qualification File No. 236-11-01, Checklist, Note 5.
5. Seabrook Station Equipment Qualification File No. 236-11-01, Checklist, Note 4.
6. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.
2. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 236-11-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-236-11 Equipment ID No(s).: FAH-ZS-12B	Operating Time	1 year	1 p. 1	1 year	4	Test and Analysis	None
	Peak Temperature (°F)	138	1 P. 3 6	138	4	Test and Analysis	None
Equipment Type: Limit Switch	Peak Pressure (Psig)	Slightly Pos.	1 p. 3	Slightly Pos.	3	Test	None
Manufacturer: NAMCO	Relative Humidity (%)	100	1 p. 3	100	5	Test	None
Model Number: EA-170-31302 EA-170-32302	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 3	2.04×10^8	2 p. 10-49 p. 10-56	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	---	1 p. 3				
Location: FS Bldg. (FSB-5) Rad Zone: FS Bldg. (FSB-5)	Aging (°F/Years)	104/40	1 p. 3	104/18.37	4	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-61394-02, NAMCO Controls Report No. QTR 107, Revision 0, Environmental and Seismic Qualification for NAMCO Series EA 170 Limit Switches, 3/11/81.
3. Seabrook Equipment Qualification File #236-11-02, Assessment Checklist, Note 2.
4. Seabrook Equipment Qualification File #236-11-02, Assessment Checklist, Note 3.
5. Seabrook Equipment Qualification File #236-11-02, Assessment Checklist, Note 5.
6. UE&C Calculation Set No. 6.01.46.06, dated 3/25/85.
7. SBU-96263, UE&C Letter, Flooding Study Matrix.

Notes:

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 236-11-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-236-11	Operating Time	1 year	1 p. 1	1 year	3	Test and Analysis	None
Equipment ID No(s).: EAH-FN-4A EAH-FN-4B	Peak Temperature (°F)	149	1, 2 Note 1	410	4 p. 12	Test	None
Equipment Type: Medium AC Motor	Peak Pressure (Psig)	N/A	N/A	Atmospheric	4 P. 3	Test	None
Manufacturer: Westinghouse	Relative Humidity (%)	N/A	N/A	100	4 p. 14	Test	None
Model Number: 7.5 HP, 460VAC, 3570 RPM, 265T Frame, TAFC	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2×10^8	4 p. 8 & 12 App. B	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	3.6×10^6	1 p. 3				
Location: Containment Enclosure Area (CE-1) Rad Zone: Containment Enclosure Area (CE-1)	Aging (°F/Years)	104/40	1 p. 3	248/40 (120°C) Note 2	4, 6 p. 12	Test	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. UE&C Calculation Set MSVCS-FAG-08, Rev. 0, dated 4/19/85.
3. Impell Calculation No. 0570-032-045, Revision 0.
4. FP-60648-03, Westinghouse Report No. MM9112, Qualification Document for Class IE Medium AC Motors, dated 11/18/80.
5. SBU 96263, UE&C's Flooding Study Matrix.
6. Seabrook Station EQF No. 236-11-03, Assessment Checklist, Note 5.

Notes:

1. The equipment has to qualify for a LOCA only: LOCA in CE-1 causes harsh temperature and radiation environments only (Reference 1 and 6).
2. Qualified life accounts for normal ambient plus temperature rise for a continuously running motor.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 236-11-03

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-236-11	Operating Time	1 year	1 p. 1	1 year	3	Test and Analysis	None
Equipment ID No(s).: FAH-FN-11A FAH-FN-11B	Peak Temperature (°F)	138	1 p. 3	410	3 p. 12	Test	None
Equipment Type: Medium AC Motor	Peak Pressure (Psig)	Slightly Positive	1 p. 3	Atmospheric	3 P. 8	Test	None
Manufacturer: Westinghouse	Relative Humidity (%)	100	1 p. 3	100	3 p. 14	Test	None
Model Number: 60HP 460VAC, 1790RPM 405T Frame, TAFC	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 3	2×10^8	3 p. 8 & 12 App. B	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	----	1 p. 3				
Location: Fuel Storage Building (Zone FSB-5) Rad Zone: Fuel Storage Building (Zone FSB-5)	Aging (°F/Years)	104/40	1 p. 3	248/40 (120°C) Note 1	3, 5 p. 12	Test	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	4 p. 3	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. Impell Calculation No. 0570-032-045, Rev. 0.
3. FP-60648-03, Westinghouse Report No. MM9112, Qualification Document for Class 1E Medium AC Motors, dated 11/18/80.
4. SBU 96263, UE&C's Flooding Study Matrix.
5. Seabrook Station EQF No. 236-11-03, Assessment Checklist, Note 5.

Notes:

1. Qualified life accounts for normal ambient plus temperature rise for a continuously running motor.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 236-11-05

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-236-11 Equipment ID No(s).: CAH-ZS-34A, CAH-ZS-34B, CAH-ZS-34C, CAH-ZS-34D	Operating Time	1 Year	1 p. 1	1 Year	2	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	378	3 p. 10-14	Test	None
Equipment Type: Limit Switch	Peak Pressure (Psig)	60	1 p. 1	110	3 p. 10-14	Test	None
Manufacturer: Namco Model Number: EA-180-31302, EA-180-32302	Relative Humidity (%)	100	1 p. 1	100	3 p. 10-14	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% Wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.7 by wt. pH = 10-11	3 p.10-9, 10-51 11-24 5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	2.04×10^8	3 p. 10-5	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Cont. Bldg. (CS-13) Rad Zone: Cont. Bldg. (General Area/Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	120/9.1	3 Fig. 8 p. 4-12	Test	None
Lowest Elevation: Note 1 Flood Level: (-)26'-0" Above Flood Level: Note 1	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. UE&C Calculation Sheet No. 9763-3-E0-00-101-F, dated 6/13/85.
3. Namco Test Report No. QTR 105, Namco Model EA-180 (Mfgd. after 2/80) Limit Switch Qualification Report, dated 1/9/84, Rev. 4.
4. SBU-96263, UE&C Letter, "Flooding Study Matrix".
5. EQ File 236-11-05, Assessment Checklist, Note 8.

Notes:

1. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 236-11-05

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-236-11 Equipment ID No(s).: EAH-ZS-30A, EAH-ZS-30B	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	150	1 p. 3	378	2 p. 10-8 p. 10-14	Test	None
Equipment Type: Limit Switch	Peak Pressure (Psig)	1.0	1 p. 3	110	2 Appendix D p. 10-49	Test	None
Manufacturer: Namco Controls	Relative Humidity (%)	100	1 p. 3	100	2 p. 10-14	Test	None
Model Number: EA-180-31302, EA-180-32302	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7 by wt. pH = 10-11	2 Appendix D p. 10-51 4	Test	None
Accuracy: Spec: N/A, Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2.04×10^8	2 Appendix A p. 10-16	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	3.6×10^6	1 p. 3				
Location: Containment Enclosure Area (CE-1) Rad Zone: Containment Enclosure Area (CE-1)	Aging (°F/Years)	104/40	1 p. 3	104/20.6	2 p. 4-12	Test	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. Namco Test Report No. QTR 105, Namco Model EA-180 (Mfgd. after 2/80) Limit Switch Qualification Report, dated 1/9/84, Rev. 4.
3. Impell Calculation No. 0570-032-XXX
4. EQ File No. 236-11-05, Assessment Checklist, Note 8.
5. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

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Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 236-11-06

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-236-11	Operating Time	1 year	1 p. 1	1 year	2 p. 88	Test	None
Equipment ID No(s).: CAH-FN-3A, CAH-FN-3B	Peak Temperature (°F)	375	1 p. 1	375	3	Test	None
Equipment Type: Fan Motors	Peak Pressure (Psig)	60	1 p. 1	80	2 p. 83	Test	None
Manufacturer: Reliance Electric Company	Relative Humidity (%)	100	1 p. 1	100	2 p. 26	Test	None
Model Number: TAFC 1YF-882704	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH = 7.5 - 10.5	1 p. 1	Boric Acid 1.72% by wt. pH = 10.5	5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	1.0×10^9	2 p. 96	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (CS-13) Rad Zone: Containment (General Area/Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	120/40 Note 1	2 p. 89	Test	None
Lowest Elevation: 26'-0" Flood Level: (-)20'-8" Above Flood Level: Yes	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-61547-03, Joy Manufacturing Co. Report No. X-604, Qualification testing of Reliance electrical motors for Class 1E, dated 3/20/80.
3. Seabrook Station E.Q. File No. 236-11-06, Assessment Checklist, Note 1.
4. SBU-96263, UE&C's Flooding Study Matrix.
5. Seabrook Station E.Q. File No. 236-11-06, Assessment Checklist, Note 8.

Notes:

1. Thermal aging life is based on equipment's natural standing de-energized mode of operation.

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Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 238-03-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-238-03 Equipment ID No(s).: CBS-P-9A, CBS-P-9B	Operating Time	1 Year	1 p. 1	1 Year	5	Test and Analysis	None
	Peak Temperature (°F)	152.3	1 p. 4 7	324	3, p. 15 & 37	Test	None
Equipment Type: Containment Spray Pump Motors	Peak Pressure (Psig)	N/A	N/A	80	3, p. 15 & 37	Test	None
Manufacturer: Ingersol Rand/Westinghouse Model Number: 600 HP, Frame A5809H	Relative Humidity (%)	N/A	N/A	100	2, p. 9	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 4	2×10^8	3, p. 14 & 16	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	9.6×10^6	1 p. 4				
Location: Equipment Vault (EV-1A) Rad Zone: Equipment Vaults (EV-1A & B)	Aging (°F/Years)	104/40	1 p. 4	104/40 Note 1	4, p. 9-1	Test and Analysis	None
Lowest Elevation: (-)59'-0" Flood Level: (-)55'-11" Above Flood Level: No Note 2	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Rev. 17, Service Environment Chart, 7/22/85.
2. WCAP 8687, Supp. 2-A02A, Environmental, Rev. 2, March 1983.
3. WCAP 7829, Fan Cooler Motor Unit Test, Rev. 0, April 1972.
4. WCAP 8754, Environmental Qualificaion of Class 1E Motors for out-of-containment use, Rev. 1, June 1976.
5. Impell Calculation, 0570-032-028, Rev. 0, May 1985
6. SBU-96263, UE&C Letter, "Flooding Study Matrix".
7. UE&C Calculation No. MSVCS-FAG-08, dated 4/19/85.

Notes:

1. Qualified thermal life is based on the motors' normal standby de-energized condition.
2. Equipment operability is required only subsequent to LOCA and MSLB events. The only harsh environmental parameters in zones EV-1A & B for these events are temperature and radiation (References 1 and 7). Flooding in these zones is caused by a MELB only, an event for which this equipment is not required to function.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 238-15-01

Prepared By: [illegible] Date: 10/28/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-238-15 Equipment ID No(s).: SF-P-10A, SF-P-10B	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	186	1 p. 3	410	2 p. 7	Test	None
Equipment Type: Medium AC Motor	Peak Pressure (Psig)	Slightly Positive	1 p. 3	Atmospheric	3 Attachment p. 2	Test	None
Manufacturer: Westinghouse	Relative Humidity (%)	100	1 p. 3	100	2 p. 8	Test	None
Model Number: 20 HP 460V 1165RPM Model TBDP 286T Frame A.C. Motors	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 3	2×10^8	2 Appendix B	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	---	1 p. 3				
Location: Fuel Storage Building (FSB-1) Rad Zone: Fuel Storage Building (FSB-1)	Aging (°F/Years)	104/40	1 p. 3	248/40 (120°C) Note 1	2 p. 3	Test	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. FP-52791-04, Westinghouse Report No. 1414-9112, Qualification Document for Class IE Medium A.C. Motors (Outside Containment), dated 1/15/82.
3. UE&C Letter No. SBU-65519, Spent Fuel Pool Pump Motors Environmental Qualification, dated 12/7/82.
4. Impell Calculation No. 0570-032-026, Rev. 0
5. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.

Notes:

1. Qualified life accounts for normal ambient plus heat rise for a continuously running motor.

Public Servic[illegible]pany of New Hampshire
Seabrook Stati[illegible]
Docket: 50-443

QUALIFICATION EVA[illegible]ATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-05-01

Prepared By: [illegible] [illegible]e: 6/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-05 Equipment ID No(s).: SW-V-4 & 5, SW-V-15 & 17, SW-V-19 & 20, SW-V-23, SW-V-34, SW-V-74, SW-V-76 Note 1 Equipment Type: Actuators (and Position Switches) Manufacturer: Limitorque Model Number: SMB-005, SMB-015 Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location. Primary Aux. Bldg. (Zones PB-8, PB-28) Rad Zone: Primary Aux. Bldg. (Zone PB-11)	Operating Time	1 year	1	1 year	3	Test and Analysis	None
	Peak Temperature (°F)	175	1 p. 3	300	2 p. 14	Test	None
	Peak Pressure (Psig)	0.5	1 p. 3	30	2 p. 13	Test	None
	Relative Humidity (%)	100	1 p. 3	100	2 p. 18	Test	None
	Chemical Spray (pH)	N/A	N/A	3000 ppm Boron NaOH Solution pH 10.5	2 p. 17	Test	None
	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2.04×10^8	2 p. 12 and Appendix C	Test	None
	1 Year Accident Radiation Dose (Rads)	1.9×10^5	1 p. 3				
	Aging (°F/Years)	104/40	1 p. 3	122/40 Note 2	4 p. 11	Test and Analysis	None
Lowest Elevation: 29'-0" Flood Level: (-)23'-1" Above Flood Level: Yes	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-90609-01, Qualiiication Test Report, Limitorque Valve Actuators for PWR Service, Project #600456, Rev. 1, dated 12/9/75.
3. Impell Calculation No. 0570-032-077, Rev. 0, 9/20/85.
4. FP-93952-01, Limitorque Valve Actuator Qualification for Nuclear Power Station Service, Report # B0058, Rev. 0, dated 1/11/80.
5. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.

Notes:

1. The corresponding SW-ZS I.D.'s represent integral position switches evaluated with the actuators.
2. Although the qualified life achieved by radiation and thermal aging is 40 years, the number of mechanical cycles during testing limits the qualified life to 16.78 years.

Public Servic[illegible]pany of New Hampshire
Seabrook Stat[illegible]
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-05-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-05 Equipment ID No(s).: SW-FY-16, SW-FY-18	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	165	p. 2	405	2 p. 63	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	.5	1 p. 3	63	2 p. 62	Test	None
Manufacturer: ASCO	Relative Humidity (%)	100	1 p. 3	100	2 p. A21	Test	None
Model Number: NP8320A185V	Chemical Spray (pH)	N/A	N/A	3000 ppm of boron as boric acid pH=10.5	2 p. A20	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1×10^3	1, p. 3	2×10^7	2 p. 60	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	-	1, p. 3				
Location: Primary Auxiliary Bldg., Zone PB-8 Rad Zone: Primary Auxiliary Bldg., Zone PB-8	Aging (°F/Years)	104/40	1 p. 3	248/9.5 (120°C) Note 1	3	Test and Analysis	None
Lowest Elevation: 68'-0" Flood Level: (-)21'-6" Above Flood Level: Yes	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. AQR-67368, Rev. 0, Report on Qualification of ASCO NP-1 Solenoid Valves, March 2, 1982.
3. Impell Calculation No. 0570-032-018, Rev. 0.
4. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.

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Public Service Company of New Hampshire
Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-05-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-05-03 Equipment ID No(s).: SW-ZS-16, SW-ZS-18 Equipment Type: Limit Switches Manufacturer: Namco Controls Model Number: EA-180-31302 Accuracy: Spec: N/A, Demon: N/A	Operating Time	1 Year	1 p. 1	1 Year	2 Table 11	Test and Analysis	None
	Peak Temperature (°F)	165	1 p. 3	373	3 p. 10-14 and p. 10-54	Test	None
	Peak Pressure (Psig)	.5	1 p. 3	100	3 p. 10-14	Test	None
	Relative Humidity (%)	100	1 p. 3	100	3 p. 10-14	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by WT pH 10-11	3 p. 10-51	Test	None
Limiting Environment: Location: Primary Aux. Building (PB-8) Rad Zone: Primary Aux. Building (PB-8)	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 3	2.04×10^8	3 p. 4-16	Test	None
	1 Year Accident Radiation Dose (Rads)	-	1 p. 3				
	Aging (°F/Years)	104/40	1 p. 3	104/20.6	3 p. 4-12	Test and Analysis	None
Lowest Elevation: 66'-0" Flood Level: (-)21'-6" Above Flood Level: Yes	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. UE&C Calculation 9763-3-EQ-00-101-F, Rev. 0, Namco EA-180 Limit Switch Analysis, 1/19/84.
3. FP-92460-01, Namco Report No. QTR-105, Qualification of EA-180 Series Limit Switches, Rev. 4, 1/9/84.
4. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

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Public Servic[illegible]pany of New Hampshire
Seabrook Stat[illegible]
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-29-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-29 Equipment ID No(s).: CC-FY-975, CC-FY-986 Equipment Type: Solenoid Valve Manufacturer: ASCO Model Number: NP 8320A184E Accuracy: Spec: N/A Demon: N/A	Operating Time	1 Year	1 p. 3	1 Year	2	Test and Analysis	None
	Peak Temperature (°F)	135	1 p. 3	346	3 p. 4-4	Test	None
	Peak Pressure (Psig)	0.4	1 p. 3	110	3 p. 4-4	Test	None
	Relative Humidity (%)	100	1 p. 3	100	3 p. 4-4	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 3000 ppm pH= 9.5 to 10.5	3 p. 4-4	Test	None
Limiting Environment: Location: Primary Aux. Bldg., Zone PB-11 Rad Zone: Primary Aux. Bldg., Zone PB-11	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2×10^8	3 p. 4-4	Test	None
	1 Year Accident Radiation Dose (Rads)	1.9×10^5	1 p. 3				
	Aging (°F/Years)	104/40	1 p. 3	248/6.1 (120°C) Note 1	4	Test and Analysis	None
Lowest Elevation: 36'0" Flood Level: (-)21'6" Above Flood Level: Yes	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. Impell Calculation No. 0570-032-021, Assessment Revision 0.
3. ASCO Test Report No. AQS 21678/TR-Revision A, July 1979.
4. Seabrook Equipment Qualification File #248-29-01, Assessment Checklist, Note 3.
5. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve deenergizes to perform safety function during accident conditions.

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Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-29-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-29 Equipment ID No(s).: CC-ZS-2070-1, CC-ZS-2071-1, CC-ZS-2071-2	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	135	1 p. 3	380	2 p. 10-32	Test	None
Equipment Type: Spent Limit Switch	Peak Pressure (Psig)	0.4	1 p. 3	100	2 p.10-32	Test	None
Manufacturer: Bingham-NAMCO Controls Model Number: EA-740-80100	Relative Humidity (%)	100	1 p. 3	100	2 p. 10-7	Test	None
	Chemical Spray (pH)	N/A	N/A	3000 ppm of Boron pH 10.5	2 p. 11-24	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2.04×10^8	2 p. 10-8	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.9×10^5	1 p. 3				
Location: Primary Aux. Building (PB-11) Rad Zone: Primary Aux. Building (PB-11)	Aging (°F/Years)	104/40	1	104/19.52	2 Fig. 11 (p.4-16) p. 11-19	Test and Analysis	None
Lowest Elevation: 36'0" Flood Level: (-)23'1" Above Flood Level: Yes	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. NAMCO Test Report No. QTR-111, Qualification of EA-740 Series Limit Switches for use in Nuclear Power Plants, Rev. 1, dated 1/9/84.
3. Impell Calculation No. 0570-032-025, Rev. 0, Profile Extraploation for NAMCO Model EA-740 Limit Switches.
4. SBU-96263, UE&C Letter, Flooding Study Matrix.

Notes:

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: CC-V-395, CC-V-428, CC-V-438, CGC-V-14, CC-V-439, CGC-V-28 RC-V-323 Note 2 Equipment Type: Valve Actuator Manufacturer: Limitorque Model Number: SMB-0-15, SMB-000-5, SMB-000-2 Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: Containment (All Zones) Rad Zone: Containment (General Area/Not submerged) Lowest Elevation: 5'-0" Flood Level: -20'-8" Above Flood Level: Yes Note 3	Operating Time	1 Year	1 p. 1	1 Year	5	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	385	3 Figure 2	Test	None
	Peak Pressure (Psig)	60	1 p. 1	66	3 Figure 2	Test	None
	Relative Humidity (%)	100	1 p. 1	100	2 p. 18	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.7% by wt. pH 10.5	2 p. 17 7	Test	None
	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 1	2.04×10^8	2 Appendix C	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
	Aging (°F/Years)	120/40	1 p. 1	140/40 (Note 1)	4 p. 11	Test and Analysis	None
	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-91965-01, Limitorque Valve Actuators for PWR Service, Project No. 600456, 12/9/75.
3. FP-91935-01, Limitorque Valve Actuators Temperature Related to High Superheat Ambient Temperatures, Project No. 600508, 8/31/78. (Report No. 80027)
4. FP-93952-01, Limitorque Valve Actuator Qualification for Nuclear Power Station Service Report No. 80058, 1/18/80.
5. Impell Calculation No. 0570-032-005, Rev. 0.
6. Seabrook EQ File 248-37-01, Assessment Checklist, Note 5.
7. Seabrook EQ File 248-37-01, Assessment Checklist, Note 9
8. SBU-96263, Seabrook Flooding Matrix

Notes:

1. Although the qualified life as per thermal and radiation aging is 40 years, the number of mechanical cycles during testing limits the qualified life to 16.78 years. (Reference 6).
2. Equipment ID Nos. CC-ZS-395, 428, 438, 439-CGC-ZS-14, 28 and RC-ZS-323 are for the integral position indication within these actuators.
3. The lowest elevation flood level shown represent the worse case for the location of the equipment ID. Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: CBS-V-14, Note 2	Operating Time	1 Year	1 p. 1	1 Year	5	Test and Analysis	None
	Peak Temperature (°F)	167	1 p. 2	385	3 Figure 2	Test	None
Equipment Type: Valve Actuator	Peak Pressure (Psig)	1.0	1 p. 2	66	3 Figure 2	Test	None
Manufacturer: Limitorque Model Number: SMB-0-15	Relative Humidity (%)	100	1 p. 2	100	2 p. 18	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by Wt. pH 10.5	2 p. 17 7	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 2	2.04×10^8	2 Appendix C	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	7.5×10^7	1 p. 2				
Location: Mechanical Penetration Area (MPA-3) Rad Zone: Mechanical Penetration Area (MPA-1)	Aging (°F/Years)	104/40	1 p. 2	122/40 (Note 1)	4 p. 12	Test and Analysis	None
Lowest Elevation: (-)25'-0" Flood Level: (-)25'-11" Above Flood Level: Yes Note 3	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-91965-01, Limitorque Valve Actuators for PWR Service, Project No. 600456, 12/9/75.
3. FP-91935-01, Limitorque Valve Actuators Temperature Related to High Superheat Ambient Temperatures, Project No. 600508, 8/31/78.
4. FP-93952-01, Limitorque Valve Actuator Qualification for Nuclear Power Station Service Report No. B0058, 1/18/80.
5. Impell Calculation No. 0570-032-005, Rev. 0.
6. Seabrook E.Q. File No. 248-37-01, Assessment Checklist, Note 5
7. Seabrook E.Q. File No. 248-37-01, Assessment Checklist, Note 9
8. SBU-96263, Seabrook Flooding Matrix

Notes:

1. Although the qualified life as per thermal and radiation aging is 40 years, the number of mechanical cycles during testing limits the qualified life to 16.78 years. (Reference 6).
2. Equipment ID No. CBS-ZS-2307-2 is for the integral position indication within these actuators.
3. The lowest elevation and flood level represent the worse case for the location of the equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment: Parameter	Postulated Environment: Value	Postulated Environment: Reference	Qualified Environment: Value	Qualified Environment: Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: AS-V-175, AS-V-176, Equipment Type: Valve Actuator Manufacturer: Limitorque Model Number: SB-1-40 Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: Main Steam and Feedwater Pipe Chase (PCW-3) Rad Zone: Main Steam and Feedwater Pipe Chase (PCW-3) Lowest Elevation: 33'-0" Flood Level: 5'-5" Above Flood Level: Yes Note 3	Operating Time	1 Year	1 p. 1	1 Year	5	Test and Analysis	None None
	Peak Temperature (°F)	325	1 p. 2	385	3 Figure 2	Test	None
	Peak Pressure (Psig)	4.8	1 p. 2	66	3 Figure 2	Test	None
	Relative Humidity (%)	100	1 p. 2	100	2 p. 18	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by Wt. pH 10.5	2 p. 17 7	Test	None
	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 2	2.04×10^8	2 Appendix C	Test	None
	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1 p. 2				
	Aging (°F/Years)	130/40	1 p. 2	140/40 (Note 1)	4 p. 11	Test and Analysis	None
	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-91965-01, Limitorque Valve Actuators for PWR Service, Project No. 600456, 12/9/75.
3. FP-91935-01, Limitorque Valve Actuators Temperature Related to High Superheat Ambient Temperatures, Project No. 600508, 8/31/78.
4. FP-93952-01, Limitorque Valve Actuator Qualification for Nuclear Power Station Service Report No. B0058, 1/18/80.
5. Impell Calculation No. 0570-032-005, Rev. 0.
6. Seabrook E.Q. File No. 248-37-01, Assessment Checklist, Note 5.
7. Seabrook E.Q. File No. 248-37-01, Assessment Checklist, Note 9.
8. SBU-96263, Seabrook Flooding Matrix

Notes:

1. Although the qualified life as per thermal and radiation aging is 40 years, the number of mechanical cycles during testing limits the qualified life to 16.78 years. (Reference 6).
2. Equipment ID Nos. AS-ZS-175 and 176 are for the integral position indication within these actuators.
3. The lowest elevation and flood level shown represent the worse case for the location of the equipment ID Nos. listed.

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Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: SB-ZS-1, SB-ZS-3, SB-ZS-5, SB-ZS-7, NG-ZS-14, WLD-ZS-81 Equipment Type: Limit Switches Manufacturer: NAMCO Controls Model Number: EA-180-11302, EA-180-12302, EA-180-22302 Accuracy: Spec: N/A, Demon: N/A	Operating Time	1 Year	1 p. 1	1 Year	3 Table 11	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	378	2 p. 10-8 p. 10-14	Test	None
	Peak Pressure (Psig)	60	1 p. 1	110	2 Appendix D p. 10-49	Test	None
	Relative Humidity (%)	100	1 p. 1	100	2 p. 10-14	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by Wt. pH 7.5 to 10.5	1 p. 1	Boric Acid 1.7% by Wt. pH 10-11	2 Appendix D p. 10-51 4	Test	None
Limiting Environment: Location: Containment (CS-10, CS-12) Rad Zone: Containment (General Area Note Submerged)	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 1	2.04×10^8	2 Appendix A p. 10-16	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
	Aging (°F/Years)	120/40	1 p. 1	120/9.1	2 p. 4-12	Test and Analysis	None
Lowest Elevation: (-)9'-6" Flood Level: (-)20'-8" Above Flood Level: Yes Note 1	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-92210-01, Namco Report No. QTR 105, Qualification of EA 180 Series Limit Switches, Rev. 4, 1/9/84.
3. UE&C Calculation No. 9763-3-EQ-00-101-F, Rev. 0, Namco Model EA-180 Limit Switches-Analysis, 1/19/84.
4. Seabrook E.Q. File 248-37-02, Assessment Checklist, Note 8.
5. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

1. The lowest elevation and flood level shown represent the worst case for the location of the Equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: RH-ZS-16, RH-ZS-17, WLD-ZS-82	Operating Time	1 Year	1 p. 1	1 Year	3 Table 11	Test and Analysis	None
	Peak Temperature (°F)	189	1 p. 4	378	2 p. 10-8 p. 10-14	Test	None
Equipment Type: Limit Switches	Peak Pressure (Psig)	1.0	1 p. 4	110	2 Appendix D p. 10-49	Test	None
Manufacturer: NAMCO Controls	Relative Humidity (%)	100	1 p. 4	100	2 p. 10-14	Test	None
Model Number: EA-180-31302 EA-180-11302 Accuracy: Spec: N/A Demon: N/A	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by wt. pH 10-11	Appendix D p. 10-51 4	Test	N/A
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	4.7×10^5	1 p. 2	2.04×10^8	2 Appendix A p. 10-16	Test	None
	1 Year Accident Radiation Dose (Rads)	6.0×10^7	1 p. 2				
Location: Equipment Vaults (EV5A, 5B) Rad Zone: Mechanical Penetration Area (MPA-1)	Aging (°F/Years)	104/40	1 p. 2	104/20.6	2 p. 4-12	Test and Analysis	None
Lowest Elevation: (-)28'-0" Flood Level: (-)29'-11" Above Flood Level: Yes	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-92210-01, Namco Report No. QTR 105, Qualification of EA 180 Series Limit Switches, Rev. 4, 1/9/84.
3. UE&C Calculation No. 9763-3-EQ-00-101-F, Rev. 0, Namco Model EA-180 Limit Switches-Analysis, 1/19/84.
4. Seabrook E.Q. File 248-37-02, Assessment Checklist, Note 8.
5. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

1. The lowest elevation and flood level shown represents the worst case for the location of the Equipment ID Nos. listed.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-02

Prepared By: [illegible] Date: 8/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: MS-ZS-127, MS-ZS-128, SB-ZS-9A, SB-ZS-9B, SB-ZS-10A, SB-ZS-10B, SB-ZS-11A, SB-ZS-11B, SB-ZS-12A, SB-ZS-12B	Operating Time	1 Year	1 p. 1	1 Year	3 Table 11	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	378	2 p. 10-8 p. 10-14	Test	None
Equipment Type: Limit Switches	Peak Pressure (Psig)	4.8	1 p. 2	110	2 Appendix D p. 10-49	Test	None
Manufacturer: NAMCO Controls	Relative Humidity (%)	100	1 p. 2	100	2 p. 10-14	Test	None
Model Number: EA-180-11303, EA-180-22302 Accuracy: Spec: N/A, Demon: N/A	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by wt. pH 10-11	Appendix D p. 10-51 4	Test	N/A
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	1.0×10^3	4 p. 2	2.04×10^8	2 Appendix A p. 10-16	Test	None
	1 Year Accident Radiation Dose (Rads)	8.2×10^4	4 p. 2				
Location: Main Steam & Feedwater Pipe Chase Rad Zone: Main Steam & Feedwater Pipe Chase (PCW-1/PCW-2/PCE-2)	Aging (°F/Years)	130/40	1 p. 2	130/5.5	2 p. 4-12	Test and Analysis	None
Lowest Elevation: 6'-0" Flood Level: 5'-5" Above Flood Level: Yes Note 1	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-92210-01, Namco Report No. QTR 105, Qualification of EA 180 Series Limit Switches, Rev. 4, 1/9/84.
3. UE&C Calculation No. 9763-3-EQ-00-101-F, Rev. 0, Namco Model EA-180 Limit Switches-Analysis, 1/19/84.
4. Assessment Checklist, EQ File 248-37-02, Note 8.
5. SBU-96263, "Flooding Study Matrix".

Notes:

1. The lowest elevation and flood level shown represents the worst case for the location of the Equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: SB-FY-1, SB-FY-3, SB-FY-5, SB-FY-7	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	400	2 p. 11	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	60	1 p. 1	110	3 p. 4-4	Test	None
Manufacturer: ASCO Model Number: NP831665E	Relative Humidity (%)	100	1 p. 1	100	3 p. 4-4	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.7% by wt. pH 10.5	3 p. 4-4 5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	2×10^8	3 p. 4-4	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (CS-12) Rad Zone: Containment (General Area/Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	264/3.3 (128.9°C) Note 1	6	Test and Analysis	None
Lowest Elevation: 3'0" Flood Level: (-)20'8" Above Flood Level: Yes Note 2	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C drawing 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. WCAP-8687, Supplement 2 - H02A/H05A, Addendum 1, Rev. 0, January 1985.
3. ASCO Test Report No. AQS 21678/TR, Rev. A, March 1978.
4. Impell Calculation 0570-032-012, Rev. 0.
5. Seabrook Equipment Qualification File #248-37-03, Checklist 1, Note 4.
6. Seabrook Equipment Qualification File #248-37-03, Checklist 1, Note 10.
7. SBU-96263, UE&C Letter to YAEC on Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-03

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: MS-FY-127, MS-FY-128	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	346	3 p. 4-4	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	4.8	1 p. 2	110	3 p. 4-4	Test	None
Manufacturer: ASCO Model Number: NP831655E	Relative Humidity (%)	100	1 p. 2	100	3 p. 4-4	Test	None
	Chemical Spray (pH)	N/A	N/A	Boron 3000 ppm pH = 10.5.	3 p. 4-4	Test	N/A
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1, 2	2×10^8	3 p. 4-4	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1, 2				
Location: Main Steam and FW Pipe Chase (PCW2) Rad Zone: Main Steam and FW Pipe Chase (PCW2)	Aging (°F/Years)	130/40	1 p. 2	274/2.28 (134°C) Note 2	5	Test and Analysis	None
Lowest Elevation: 30'4" Flood Level: 5'5" Above Flood Level: Yes Note 1	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C drawing 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. UE&C Calculation 4.4.14.70F, Total Integrated Radiation Dose, 11/6/84.
3. ASCO Test Report No. AQS 21678/TR, Rev. A, March 1978.
4. Impell Calculation 0570-032-012, Rev. 0.
5. Seabrook Equipment Qualification File #248-37-03, Checklist 1, Note 10.
6. SBU-96263, UE&C Letter to YAEC on Flooding Study Matrix.

Notes:

1. Field Walkdown Verification has not been completed for equipment I.D. #MS-FY-127.
2. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: SB-FY-1900A, SB-FY-1901A, SB-FY-1902A, SB-FY-1903A	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	346	3 p. 4-4	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	4.8	1 p. 2	110	3 p. 4-4	Test	None
Manufacturer: ASCO Model Number: NP831665E	Relative Humidity (%)	100	1 p. 2	100	3 p. 4-4	Test	None
	Chemical Spray (pH)	N/A	N/A	Boron 3000 ppm pH = 10.5.	3 p. 4-4	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1, 2	2×10^8	3 p. 4-4	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1, 2				
Location: Main Steam and FW Pipe Chase (PCWI) Rad Zone: Main Steam and FW Pipe Chase (PCWI)	Aging (°F/Years)	130/40	1 p. 2	274/2.28 (134°C) Note 1	5	Test and Analysis	None
Lowest Elevation: 7'0" Flood Level: 5'5" Above Flood Level: Yes Note 2	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C drawing 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. UE&C Calculation 4.4.14.70F, Total Integrated Radiation Dose, 11/6/84.
3. ASCO Test Report No. AQS 21678/TR, Rev. A, March 1978.
4. Impell Calculation 0570-032-012, Rev. 0.
5. Seabrook Equipment Qualification File #248-37-03, Checklist 1, Note 10.
6. SBU-96263, UE&C Letter to YAEC on Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. valve de-energizes to perform safety function during accident conditions.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: WLD-FY-81	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	400	2 p. 11	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	60	1 p. 1	110	3 p. 4-4	Test	None
Manufacturer: ASCO Model Number: NP831655E	Relative Humidity (%)	100	1 p. 1	100	3 p. 4-4	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.7% by wt. pH 10.5	3 p. 4-4 5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	2×10^8	3 p. 4-4	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (CS-10) Rad Zone: Containment (General Area/Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	264/3.3 (128.9°C) Note 1	6	Test and Analysis	None
Lowest Elevation: (-)7'6" Flood Level: (-)20'8" Above Flood Level: Yes	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C drawing 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. WCAP-8687, Supplement 2 - H02A/H05A, Addendum 1, Rev. 0, January 1985.
3. ASCO Test Report No. AQS 21678/TR, Rev. A, March 1978.
4. Impell Calculation 0570-032-012, Rev. 0.
5. Seabrook Equipment Qualification File #248-37-03, Checklist 1, Note 4.
6. Seabrook Equipment Qualification File #248-37-03, Checklist 1, Note 10.
7. SBU-96263, UE&C Letter to YAEC on Flooding Study Matrix

Notes:

1. Thermal life accounts heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-03

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: WLD-FY-82	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	166	1 p. 2	346	3 p. 4-4	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	1.0	1 p. 2	110	3 p. 4-4	Test	None
Manufacturer: ASCO Model Number: NP831655E	Relative Humidity (%)	100	1 p. 2	100	3 p. 4-4	Test	None
	Chemical Spray (pH)	N/A	N/A	Boron 3000 ppm pH = 10.5.	3 p. 4-4	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	1, 2	2×10^8	3 p. 4-4	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	7.5×10^7	1, 2				
Location: Mechanical Penetration Area 1 (MPA-1) Rad Zone: Mechanical Penetration Area 1 (MPA-1)	Aging (°F/Years)	104/40	1 p. 2	248/6.1 (120°C) Note 1	5	Test and Analysis	None
Lowest Elevation: (-)5'0" Flood Level: (-)25'11" Above Flood Level: Yes	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C drawing 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. UE&C Calculation 4.4.14.70F, Total Integrated Radiation Dose, 11/6/84.
3. ASCO Test Report No. AQS 21678/TR, Rev. A, March 1978.
4. Impell Calculation 0570-032-012, Rev. 0.
5. PSC Seabrook Equipment Qualification File #248-37-03, Checklist 1, Note 10.
6. SBU-962[illegible], [illegible] Letter to YAEC on Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.

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Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-37-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-37 Equipment ID No(s).: RH-FY-16, RH-FY-17	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	189	1 p. 4	405	3 p. 63	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	1	1 p. 4	63	3 p. 62	Test	None
Manufacturer: ASCO Model Number: NP206-381-3	Relative Humidity (%)	100	1 p. 4	100	3 p. A21	Test	None
	Chemical Spray (pH)	N/A	N/A	Boron 3000 ppm pH = 10.5.	3 p. A20, A21	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1, 2	2×10^8	3 p. 61, 62	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	6.0×10^7	1, 2				
Location: Equipment Vault, (EV5A) Rad Zone: Equipment Vault, (EV5A)	Aging (°F/Years)	104/40	1 p. 4	248/6.1 (120°C) Note 1	6	Test and Analysis	None
Lowest Elevation: (-)28'4" Flood Level: (-)55'11" Above Flood Level: Yes Note 2	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C drawing 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. UE&C Calculation 4.4.14.70F, Total Integrated Radiation Dose, 11/6/84.
3. ASCO Test Report No. AQS 67368 Rev. 0, Report on Qualification of ASCO Catalog, NP-1 Solenoid Valves, March 2, 1982.
4. Impell Calculation 0570-032-007, Rev. 0.
5. SBU-96263, UE&C Letter to YAEC on Flooding Study Matrix.
6. Seabrook Equipment Qualification File #248-37-03, Checklist 1, Note 10.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-38-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-65 Equipment ID No(s).: MSD-V-44, MSD-V-45, MSD-V-46, MSD-V-47 Equipment Type: Valve Actuator Manufacturer: Limitorque Model Number: SMB-000-2 Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location: Main Steam FW Pipe Chase (PCE-1, PCW-1) Rad Zone: Main Steam FW Pipe Chase (PCE-1, PCW-1)	Operating Time	1 year	1 p. 1	1 year	4	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	385	5 Figure 2	Test	None
	Peak Pressure (Psig)	4.8	1 p. 2	66	5 Figure 2	Test	None
	Relative Humidity (%)	100	1 p. 2	100	3 p. 18	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.72 % by wt. pH 10.5 - 11.1	3 p. 17 7	N/A	None
	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 2	2.04×10^8	3 App. C	Test	None
	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1 p. 2				
	Aging (°F/Years)	130/40	1 p. 2	140/40 (Note 1)	2 p. 12 4	Test and Analysis	None
Lowest Elevation: 6'0" Flood Level: 5'5" Above Flood Level: Yes Note 2	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-93952-01, Limitorque Report B0058, Rev. 0, 1/11/80.
3. FP-91743-02, Limitorque Report 600456, Rev. 0, 12/9/75.
4. Impell Calculation 0570-032-075, Rev. 0
5. FP-91935-01, Limitorque Report B0027, Rev. A, 10/18/78.
6. SBU-96263, Seabrook Station Flooding Study Matrix.
7. Seabrook E.Q. File No. 248-38-01, Assessment Checklist, Note 9.
8. Seabrook E.Q. File No. 248-38-01, Assessment Checklist, Note 10.

Notes:

1. Although the qualified life as per thermal and radiation aging is 40 years, the number of mechanical cycles done during the test limits the qualified life to 16.78 years (Reference 8).
2. The lowest elevation and flood level shown represent the worse case for the location of the equipment ID Nos. listed.

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Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-41-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-41 Equipment ID No(s).: CBS-V-11, CBS-V-17, CBS-V-38, CBS-V-43 Note 3	Operating Time	1 year	1 p. 1	1 year	3 p. 14 4	Test and Analysis	None
	Peak Temperature (°F)	290	1 p. 4	310	3 p. 14	Test	None
Equipment Type: Valve Actuator	Peak Pressure (Psig)	1.1	1 p. 4	81	3 p. 16	Test	None
Manufacturer: Limitorque Model Number: SMB-000-5, SM-0-25	Relative Humidity (%)	100	1 p. 4	100	3 p. 18	Test	None
Accuracy: Spec: N/A, Demon: N/A	Chemical Spray (pH)	N/A	N/A	3000 ppm Boron @ 10.5 pH	3 p. 17	N/A	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 2	2.04×10^8	3 p. 4 and Appendix C	Test	None
	1 Year Accident Radiation Dose (Rads)	7.5×10^7	1 p. 2				
Location: Tank Farm (TF-1) Rad Zone: Mechanical Penetration Area (MPA-1)	Aging (°F/Years)	104/40	1 p. 2 and 4	140/40 (Note 2)	2 p. 11	Test and Analysis	None
Lowest Elevation: -7'6" Flood Level: -30'11" Above Flood Level: Yes Note 4	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-93952-01, Limitorque Report B0058, Rev. 0, 1/11/80.
3. FP-91743-02, Limitorque Report 600456, Rev. 0, 12/9/75.
4. Impell Calculation 0570-032-047, Rev. 0
5. SBU-96263, Seabrook Station Flooding Study Matrix.
6. Seabrook EQ File 248-41-01, Assessment Checklist, Note 8.

Notes:

1. This applies to Mechanical Penetration Area only, Tank Farm area will not experience flooding.
2. Although the qualified life based on thermal aging is 40 years, the number of Mechanical cycling performed during type testing limits the qualified life to 16.78 years (see Reference 6).
3. Equipment ID. Nos. CBS-ZS-11, 17, 38 and 43 are for integral position indication.
4. The lowest elevation and flood level shown represent the worse case for the location of the equipment ID Nos. listed.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-41-02

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-41 Equipment ID No(s).: RMW-ZS-30	Operating Time	1 year	1 p. 1	1 year	2	Test and Analysis	None
	Peak Temperature (°F)	179	1 p. 2	373	3 p. 10-14, p. 10-54	Test	None
Equipment Type: Limit Switch	Peak Pressure (Psig)	1.0	1 p. 2	100	3 p. 10-14	Test	None
Manufacturer: Namco Controls Model Number: EA180-11302	Relative Humidity (%)	100	1 p. 2	100	3 p. 10-14 P. 11-24	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 3000 ppm Boron in NaOH pH = 10-11	3 p. 10-9 11-24	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 2	2.04×10^8	3 p. 10-7	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	3.9×10^3	1 p. 2				
Location: Mech. Penetration Area: (MPA-4) Rad Zone: Mech. Penetration Area: (MPA-4)	Aging (°F/Years)	104/40	1 p. 2	104/20.6	3 Figure 8 p. 4-12	Test	None
Lowest Elevation: 5'-9" Flood Level: (-)30'-11" Above Flood Level: Yes	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. Impell Calculation No. 0570-032-044, Revision 0.
3. Namco Test Report No. QTR-105, Namco Model EA-180 (mfgd. after 2/80.
   Limit Switch Qualification Report, dated 1/9/84, Rev. 4.
4. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

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Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-41-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-41 Equipment ID No(s).: RMW-FY-30	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	179	1 p. 2	346	2 p. 4-4	Test	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	1.0	1 p. 2	110	2 p. 4-4	Test	None
Manufacturer: ASCO Model Number: NP831664E	Relative Humidity (%)	100	1 p. 2	100	2 p. 4-4	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 3000 ppm pH = 9.5-10.5	2 p.4-4	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 2	2×10^8	2 p. 4-4	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	3.9×10^3	1 p. 2				
Location: Mechanical Penetration Area (MPA-4) Rad Zone: Mechanical Penetration Area (MPA-4)	Aging (°F/Years)	104/40	1 p. 2	248/6.1 (120°C) Note 1	4	Test and Analysis	None
Lowest Elevation: (-)2'0" Flood Level: (-)25'11" Above Flood Level: Yes	Submergence	N/A	5	N/A*	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. ASCO Test Report No. AQS 21678/TR, Revision A, July 1979.
3. Impell Calculation No. 0570-032-033, Revision 0.
4. Seabrook Station, Equipment Qualification File #248-41-03, Assessment Checklist, Note 3.
5. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.*

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-45-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-45 Equipment ID No(s).: CBS-FY-31, CBS-FY-32, CBS-FY-33, CC-FY-257, CC-FY-341, CC-FY-426, CC-FY-427, CC-FY-447, CC-FY-448, CC-FY-2020, CC-FY-2040 Equipment Type: Solenoid Valves Manufacturer: ASCO Model Number: 206-381-6 Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: Mechanical Penetration Area (MPA-4) Rad Zone: Mechanical Penetration Area (MPA-1)	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	179	1 p. 2	405	2 p. 63	Test	None
	Peak Pressure (Psig)	1.0	1 p. 2	63	2 p. 62	Test	None
	Relative Humidity (%)	100	1 p. 2	100	2 App. A, p. A21	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by wt. pH 10.5	2 App. A, p. A20	Test	None
	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 2	2.0×10^8	2 p. 61, 62	Test	None
	1 Year Accident Radiation Dose (Rads)	7.5×10^7	1 p. 2				
	Aging (°F/Years)	104/40	1 p. 2	248/5.8 (120°C) Note 2	5	Test and Analysis	None
Lowest Elevation: (-)16'0" Flood Level: (-)21'6" Above Flood Level: Yes Note 1	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. AQR-6736B, Revision 0, Report on Qualification of ASCO NP-1 Solenoid Valves.
3. Impell Calculation 0570-032-007, Revision 0.
4. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.
5. Seabrook Station EQ File No. 248-45-02, Assessment Checklist, Note 7.

Notes:

1. Field Walkdown Verification for Equipment I.D. #CC-FY-257 has not been completed.
2. Thermal life accounts for heat rise in normally energized valve. Valve deenergizes to perform safety function during accident conditions.
3. The lowest elevation and flood level represent the worse case for the location of the equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-45-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-45 Equipment ID No(s).: CAP-FY-2, CAP-FY-3, COP-FY-2, COP-FY-3	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	405	2 p. 63	Test	None
	Peak Pressure (Psig)	60	1 p. 1	63	2 p. 62	Test	None
Equipment Type: Solenoid Valves Manufacturer: ASCO	Relative Humidity (%)	100	1 p. 1	100	2 App. A, p. A21	Test	None
Model Number: 206-381-6	Chemical Spray (pH)	Boric Acid 1.2% by Wt. pH 7.5 to 10.5	1 p. 1	Boric Acid 1.7% by Wt. pH 10.5	2 App. A, p. A20 4	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 1	2.0×10^8	2 p. 61, 62 Note 1	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (All Zones) Rad Zone: Containment (General Area/Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	264/3.1 (128.9°C) Note 2	6	Test and Analysis	None
Lowest Elevation: (-)12'0" Flood Level: (-)20'8" Above Flood Level: Yes Note 3	Submergence	N/A	N/A	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. AQR-67368, Revision 0, Report on Qualification of ASCO NP-1 Solenoid Valves.
3. Impell Calculation 0570-032-007, Revision 0.
4. PSC Seabrook Equipment Qualification File #248-45-02, Checklist, Note 8.
5. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.
6. Seabrook Station EQ File No. 248-45-02, Assessment Checklist, Note 7.

Notes:

1. Reference 2, pages 59 and 60, states that these solenoid valves are qualified to a total intergrated dose (TID) of 2.0×10^8 rads provided they do not shift position after exposure to 2×10^7 rads (TID). Within seconds of the initiation of a LOCA and MSLB, these solenoid valves will de-energize and re-position via spring pressure to exhaust air from the butterfly valves' piston operators so that the containment isolation function is complete. Once de-energized to the exhaust position, solenoid valve re-positioning is not required. Therefore, these solenoids will perform their safety function when required.
2. Thermal life accounts for heat rise in normally energized valve. Valve deenergizes to perform safety function during accident conditions.
3. The lowest elevation and flood level represent the worse case for the location of the equipment ID Nos. listed

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Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-45-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-45 Equipment ID No(s).: COP-FY-1, COP-FY-4, CAP-FY-1, CAP-FY-4	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	160	1 p. 2	405	2 p. 63	Test	None
	Peak Pressure (Psig)	1.0	1 p. 2	63	2 p. 62	Test	None
Equipment Type: Solenoid Valves Manufacturer: ASCO	Relative Humidity (%)	100	1 p. 2	100	2 App. A, p. A21	Test	None
Model Number: 206-381-6 Accuracy: Spec: N/A Demon: N/A	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by wt. pH 10.5	2 App. A, p. A20	Test	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 2	2.0×10^8	2 p. 61, 62 Note 1	Test	None
	1 Year Accident Radiation Dose (Rads)	2.8×10^7	1 p. 2				
Location: Mechanical Penetration Area (MPA-2) Rad Zone: Mechanical Penetration Area (MPA-2)	Aging (°F/Years)	104/40	1 p. 2	248/5.8 (120°C) Note 2	5	Test and Analysis	None
Lowest Elevation: (-)12'4" Flood Level: (-)25'11" Above Flood Level: Yes Note 3	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. AQR-67368, Revision 0, Report on Qualification of ASCO NP-1 Solenoid Valves.
3. Impell Calculation 0570-032-007, Revision 0.
4. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix, dated 4/9/85.
5. Seabrook Station EQ File No. 248-45-02, Assessment Checklist, Note 7.

Notes:

1. Reference 2, pages 59 and 60, states that these solenoid valves are qualified to a total intergrated dose (TID) of 2.0×10^8 rads provided they do not shift position after exposure to 2×10^7 rads (TID). Within seconds of the initiation of a LOCA and MSLB, these solenoid valves will de-energize and re-position via spring pressure to exhaust air from the butterfly valves' piston operators so that the containment isolation function is complete. Once de-energized to the exhaust position, solenoid valve re-positioning is not required. Therefore, these solenoids will perform their safety function when required.
2. Thermal life accounts for heat rise in normally energized valve. Valve deenergizes to perform safety function during accident conditions.
3. The lowest elevation and flood level represent the worse case for the location of the equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-45-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-45 Equipment ID No(s).: CAP-ZS-2, CC-ZS-57, CAP-ZS-3, CC-ZS-121, CC-ZS-176, CC-ZS-256, COP-ZS-2, COP-ZS-3 Equipment Type: Limit Switch Manufacturer: Namco Controls Model Number: EA740-50100 Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location: Containment Building (CS-10, CS-12) Rad Zone: Containment Building (General Area/ Not Submerged)	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	380	2 pg. 10-32	Test	None
	Peak Pressure (Psig)	60	1 p. 1	100	2 pg. 10-32	Test	None
	Relative Humidity (%)	100	1 p. 1	100	2 pg. 10-7	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.73% by wt. pH 10.5	2 pg. 11-24 5	Test	None
	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 1	2.04×10^8	2 pg. 10-18	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
	Aging (°F/Years)	120/40	1 p. 1	120/8.4	2 pg. 11-19	Test and Analysis	None
Lowest Elevation: (-)12'0" Flood Level: (-)20'8" Above Flood Level: Yes Note 1	Submergence	N/A	3	N/A	N/A	N/A	None

Documentation References:

1. Service Environmental Chart, UE&C drawing 9763-F-300219, Rev. 17, dated 7/22/85.
2. Namco Report #QTR 111, Rev. 1, dated 1/9/84.
3. SBU-96263, UE&C Letter Flooding Study Matrix.
4. Impell Calculation #0570-032-006, Rev. 0.
5. Seabrook EQ File #248-45-03, Assessment Checklist, Note #10.

Notes:

1. The lowest elevation and flood level shown represent the worst case for the location of the Equipment ID. Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-45-03

Prepared By: [illegible] Date: 10/28/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-45 Equipment ID No(s).: CAP-ZS-1 CC-ZS-168 CAP-ZS-4 CC-ZS-175 CBS-ZS-31 CC-ZS-257 CBS-ZS-32 CC-ZS-341 CBS-ZS-33 CC-ZS-426 CC-ZS-32 CC-ZS-427 CC-ZS-122 CC-ZS-445 CC-ZS-447 CC-ZS-448 COP-ZS-1 COP-ZS-4 Equipment Type: Limit Switch Manufacturer: Namco Controls Model Number: EA740-50100 Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: Mechanical Penetration Area (MPA-4) Rad Zone: Mechanical Penetration Area (MPA-1) Lowest Elevation: (-)16'0" Flood Level: (-)21'6" Above Flood Level: Yes Note 1	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	179	1 p. 2	380	2 pg. 10-32	Test	None
	Peak Pressure (Psig)	1.0	1 p. 2	100	2 pg. 10-32	Test	None
	Relative Humidity (%)	100	1 p. 2	100	2 pg. 10-7	Test	None
	Chemical Spray (pH)	N/A	N/A	3000 ppm of Boron pH 10.5	2 pg. 11-24	Test	None
	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 2	2.04×10^8	2 pg. 10-18	Test	None
	1 Year Accident Radiation Dose (Rads)	7.5×10^7	1 p. 2				
	Aging (°F/Years)	104/40	1 p. 2	104/19.52	5	Test and Analysis	None
	Submergence	N/A	4	N/A	N/A	N/A	None

Documentation References:

1. Service Environmental Chart, UE&C drawing 9763-F-300219Rev. 17, dated 7/22/85.
2. Namco Report #QTR 114, Rev. 1, dated 1/9/84.
3. Impell Calculation #0570-032-006, Rev. 0
4. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.
5. Seabrook E.Q. File No. 248-45-03, Assessment Checklist, Note 4.

Notes:

1. The lowest elevation and flood level shown represent the worst case for the location of the Equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-45-04

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-45 Equipment ID No(s).: CC-FY-57, CC-FY-121, -122, CC-FY-168, CC-FY-175, -176, CC-FY-256	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	405	2 p. 63	Test	None
	Peak Pressure (Psig)	60	1 p. 1	63	2 p. 62	Test	None
Equipment Type: Solenoid Valves Manufacturer: ASCO	Relative Humidity (%)	100	1 p. 1	100	2 App. A, p. A21	Test	None
Model Number: NP8342B23E Accuracy: Spec: N/A, Demon: N/A	Chemical Spray (pH)	Boric Acid 1.2% by Wt. pH 7.5 to 10.5	1 p. 1	Boric Acid 1.7% by Wt. pH 10.5	2 App. A, p. A20 4	Test	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 1	2.0×10^8	2 p. 61, 62	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (All Zones) Rad Zone: Containment (General Area/Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	264/3.1 (128.9°C) Note 2	6	Test and Analysis	None
Lowest Elevation: (-)5'0" Flood Level: (-)20'8" Above Flood Level: Yes Note 1 and Note 3	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. AQR-67368, Revision 0, Report on Qualification of ASCO NP-1 Solenoid Valves.
3. Impell Calculation 0570-032-083, Revision 0.
4. Seabrook Station EQ File #248-45-04, Assessment Checklist, Note 8.
5. SBU-96263, Seabrook Station Flooding Study Matrix.
6. Seabrook Station EQ File No. 248-45-04, Assessment Checklist, Note 7.

Notes:

1. Field Walkdown Verification for Equipment I.D. #CC-FY-176 has not been completed.
2. Thermal life accounts for heat rise in normally energized valve. Valve deenergizes to perform safety function during accident conditions.
3. The lowest elevation and flood level represent the worse case for the location of the equipment ID Nos. listed

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-47-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment			Qualified Environment		Qualification Method	Outstanding Items
	Parameter	Value	Reference	Value	Reference		
Purchase Order No.: 9763-006-248-47 Equipment ID No(s).: CBS-TK-101A, CBS-TK-101B Equipment Type: Conductor Feedthrough Assembly Manufacturer: Conax Corporation Model Number: Conax P/N 7873-10000-02 Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location: Mechanical Penetration Area (MPA-1) Rad Zone: Mechanical Penetration Area (MPA-1)	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	167	1 p. 2	342	2 p. 31	Test	None
	Peak Pressure (Psig)	1.0	1 p. 2	120	2 p. 31	Test	None
	Relative Humidity (%)	100	1 p. 2	100	2 p. 9	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.7% by wt. pH 10.5	2 p. 25 4	Test	None
	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 2	2.23×10^8	2 p. 9	Test	None
	1 Year Accident Radiation Dose (Rads)	7.5×10^7	1 p. 2				
	Aging (°F/Years)	104/40	1 p. 2	201.2/40	2 p. 9 5 p. 5	Test and Analysis	None
Lowest Elevation: Note 1 Flood Level: (-)30'-11" Above Flood Level: Note 1	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-54664-01, Design Qualification Test Report for a Conax Low Voltage Control Service Classification Conductor Feedthrough Assembly, No. IPS-353.2, 6/20/79.
3. Impell Calculation No. 0570-032-029, Rev. 0.
4. Assessment Checklist. See Note 3 on page 9 of 10.
5. FP-54661-01, Qualification Report for Power & Control Feedthru Modules for Seabrook Station, No. IPS-503, 5/6/80.
6. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.

Notes:

1. Field verification has not been completed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-65-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/25/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-65 Equipment ID No(s).: MS-V-204, MS-V-205, MS-V-206, MS-V-207 Equipment Type: Valve Actuator Manufacturer: Limitorque Model Number: SMB-00-10 Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location: Main Steam FW Pipe Chase (PCE-2, PCW-2) Rad Zone: Main Steam FW Pipe Chase (PCE-2, PCW-2)	Operating Time	1 year	1 p. 1	1 year	3 p. 14 4	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	385	5 p. 5	Test	None
	Peak Pressure (Psig)	4.8	1 p. 2	30	3 p. 13	Test	None
	Relative Humidity (%)	100	1 p. 2	100	3 p. 18	Test	None
	Chemical Spray (pH)	N/A	N/A	3000 ppm Boron pH 10.5 - 11.1	3 p. 17	N/A	None
	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 2	2.04×10^8	3 p. 4 and Appendix C	Test	None
	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1 p. 2				
	Aging (°F/Years)	130/40	1 p. 2	140/135 Note 1	2 p. 11	Test and Analysis	None
Lowest Elevation: 28'0" Flood Level: -20'8" Above Flood Level: Yes Note 2	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-93952-01, Limitorque Report B0058, Rev. 0, 1/11/80.
3. FP-91743-02, Limitorque Report 600456, Rev. 0, 12/9/75.
4. Impell Calculation 0570-032-060, Rev. 0
5. FP-91935-01, Limitorque Report B0027, Rev. A, 10/18/78.
6. SBU-96263, Seabrook Station Flooding Study Matrix.
7. Seabrook E.Q. File 248-65-01, Assessment Checklist, Note 8.

Notes:

1. Although the qualified life for radiation and thermal aging is 40 years, the number of mechanical cycles during testing limits the qualified life to 16.78 years. (Ref. 7)
2. The lowest elevation and flood level shown represent the worst case for the location of the equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-65-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-65-02 Equipment ID No(s).: MS-ZS-86A, MS-ZS-86B, MS-ZS-88A, MS-ZS-88B, MS-ZS-90A, MS-ZS-90B, MS-ZS-92A, MS-ZS-92B Equipment Type: Limit Switch Manufacturer: Namco Controls Model Number: EA-740-80100 Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location: Main Steam & Feedwater Pipe Chase (PCW-2 & PCE-2) Rad Zone: Main Steam & Feedwater Pipe Chase (PCW-2 & PCE-2)	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	380	3 pg. 10-32	Test	None
	Peak Pressure (Psig)	4.8	1 p. 2	100	3 pg. 10-32	Test	None
	Relative Humidity (%)	100	1 p. 2	100	3 pg. 10-7	Test	None
	Chemical Spray (pH)	N/A	N/A	3000 ppm of Boron pH 10.5	3 pg. 11-24	Test	None
	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 2	2.04×10^8	3 pg. 10-8	Test	None
	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1 p. 2				
	Aging (°F/Years)	130/40	1 p. 2	130/5.1	3 pg. 11-19	Test and Analysis	None
Lowest Elevation: 28'6" Flood Level: 2'5" Above Flood Level: Note 1	Submergence	N/A	2	N/A	N/A	N/A	None

Documentation References:

1. Service Environment Chart, UE&C Drawing 9763-F-300219, Rev. 17, dated 7/22/85.
2. SBU-96263, UE&C Letter, Flooding Study Matrix.
3. Namco Report #QTR 111, Rev. 1, dated 1/9/84.
4. Impell Calculation #0570-032-017, Profile Extrapolation for Namco EA 740 Limit Switches.

Notes:

1. The lowest elevation and flood level shown represent the worst case for the location of the Equipment I.D. Nos. listed, with the exception of MS-ZS-88A, B and MS-ZS-90A, B for which field verification is incomplete.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 248-65-03

Prepared By: [illegible] Date: 10/28/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-248-65 Equipment ID No(s).: MS-FY-102A-1,2,3,4 MS-FY-102B-1,2,3,4 MS-FY-117A-1,2,3,4 MS-FY-117B-1,2,3,4 Equipment Type: Solenoid Valve Manufacturer: ASCO Model Number: NP831666E Accuracy: Spec: N/A Demon: N/A	Operating Time	1 Year	1 p. 1	1 Year	3	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	346	2 p. 4-4	Test	None
	Peak Pressure (Psig)	4.8	1 p. 2	110	2 p. 4-4	Test	None
	Relative Humidity (%)	100	1 p. 2	100	2 p. 4-4	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 3000 ppm pH = 9.5-10.5	2 p. 4-4	Test	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 2	2×10^8	2 p. 4-4	Test	None
	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1 p. 2				
Location: MS and FW Pipe Chase (PCW2&PCE2) Rad Zone: MS and FW Pipe Chase (PCW2&PCE2)	Aging (°F/Years)	130/40	1 p. 2	274/2.28 (134.4°C) Note 1	4	Test and Analysis	None
Lowest Elevation: 33'-0" Flood Level: 3'-8" Above Flood Level: Yes	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-23131-01, ASCO Test Report No. AQS 21678/TR, Rev. A, July, 1979.
3. Impell Calculation No. 0570-032-019, Rev. 0.
4. PSC Seabrook Equipment Qualification File #248-65-03, Assessment Checklist, Note 5.
5. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 252-16-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-252-16	Operating Time	1 year	1 p. 1	1 year	3	Test and Analysis	None
Equipment ID No(s).: CAP-PDSH-5497, CAP-PDSH-5498, COP-PDS-17[illegible], COP-PDS-17	Peak Temperature (°F)	165	1 p. 3	180	6 p. 1-2	Test	None
Equipment Type: Differential Pressure Switch	Peak Pressure (Psig)	0.5	1 p. 3	5	6 p. 1-2	Test	None
Manufacturer: ITT Barton	Relative Humidity (%)	100	1 p. 3	100	6 p. 1-2	Test	None
Model Number: 581A-1	Chemical Spray (pH)	N/A	Note 1	N/A	N/A	N/A	None
Accuracy: Spec: N/A, Demon: N/A	40 Year Normal Radiation Dose (Rads)	1.0×10^7	1 p. 3	5.0×10^7	6 p. 1-2	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.8×10^2	1 p. 3				
Location: Primary Aux. Building (PB-5); Rad Zone: Primary Aux. Building (PB-5)	Aging (°F/Years)	104/40	1 p. 3	104/20	2 Vol. 1 Sec. 3.1.B1 (p. 10)	Test	None
Lowest Elevation: N/A; Flood Level: (-)21'6"; Above Flood Level: N/A Note 2	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, dated 7/22/85.
2. FP-73500-01, ITT Barton Qualification Test Report #R3-580A-9, ITT Barton 580A Series Differential Pressure Switches, dated 12/22/83, Volumes 1 through 4.
3. Impell Calculation N[illegible] 0570-032-065, Revision 0.
4. UE&C Document No. 9[illegible]-006-252-16D, Rev. 11, dated 2/29/84.
5. PSNH, Seabrook EQ File No. 252-16-01, Assessment Checklist, Note 6.
6. FP-73645-01, Engineering Report #R3-580A-15, dated 1/30/84.
7. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

1. Not applicable being outside containment.
2. The field verification has not been completed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 252-30-01

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-252-30 Equipment ID No(s).: VB-YE-6832-1 VB-YE-6832-2	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	400	3 Fig. 1, Fig. 2	Test	None
Equipment Type: Accelerometer and Associated Cable Assembly	Peak Pressure (Psig)	60	1 p. 1	70	3 Fig. 1	Test	None
Manufacturer: Endevco - Accelerometer TEC - Cable Assembly Model Number: 2273AM1 - Accelerometer 2273-C2 - Cable Assembly	Relative Humidity (%)	100%	1 p. 1	100%	3 Fig. 1, Fig. 2	Test	None
Accuracy: Spec: N/A Demon: N/A	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.3% by wt. pH 4.5-10.5	2 p. 8-20 6	Test and Analysis	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	2×10^7	1	2.2×10^8	2 p. 9-5	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (CS-11) Rad Zone: Containment (General Area/Not Submerged	Aging (°F/Years)	120/40	1 p. 1	120/4	2 p. 9-6	Test	None
Lowest Elevation: Note 1 Flood Level: (-)20'-8" Above Flood Level: Note 1	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-72972, Technology for Energy Corporation Qualification Report No. 517-TR-03, for TEC Value Flow Monitoring System, Rev. 2, December 1981.
3. FP-73368, Technology for Energy Corporation Qualification Report No. 517-TR-05, Addendum to Qualification Report 517-TR-03, Rev. 3, 1/18/83.
4. Impell Calculation No. 0570-032-011, Rev. 0.
5. SBU-96263, UE&C Letter, Flooding Study Matrix.
6. Seabrook EQ File 252-30-01, Assessment Checklist, Note 3.

Notes:

1. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment cable/splice, it will be qualified or relocated above the flood level.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 252-30-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-252-30 Equipment ID No(s).: VB-YT-6832-1, VB-YT-6832-2	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	400	3 Fig. 1, Fig. 2	Test	None
Equipment Type: Charge Converter	Peak Pressure (Psig)	60	1 p. 1	70	3 Fig. 1	Test	None
Manufacturer: Technology for Energy Corp. Model Number: TEC504A	Relative Humidity (%)	100%	1 p. 1	100%	3 Fig. 1, Fig. 2	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.3% by wt. pH 4.5-10.5	2 p. 8-20 6	Test and Analysis	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	5	2.2×10^8	2 p. 9-5	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (CS-13) Rad Zone: Containment (General Area/ Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	120/4	2 p. 9-6	Test	None
Lowest Elevation: Note 1 Flood Level: (-)20'-8" Above Flood Level: Note 1	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-72972, Technology for Energy Corporation Qualification Report No. 517-TR-03, for TEC Value Flow Monitoring System, Rev. 2, December 1981.
3. FP-73368, Technology for Energy Corporation Qualification Report No. 517-TR-05, Addendum to Qualification Report 517-TR-03, Rev. 3, 1/18/83.
4. Impell Calculation No. 0570-032-011, Rev. 0.
5. SBU-96263, UE&C Letter, Flooding Study Matrix.
6. Seabrook EQ File 252-30-01, Assessment Checklist, Note 3.

Notes:

1. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

Public Service Company of New Hampshire
Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 252-30-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 11/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-252-30 Equipment ID No(s).: VB-YE-6820, VB-YE-6821, VB-YE-6822, VB-YE-6823 Equipment Type: Accelerometer and Associated Calbe Assembly Manufacturer: Endevco - Accelerometer, TEC - Cable Assembly Model Number: 2273AM1 - Accelerometer, 2273-C2 - Cable Assembly Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location: Main Feedwater Pipe Chases (PCW-3/PCE-3) Rad Zone: Main Feedwater Pipe Chases (PCW-3/PCE-3) Lowest Elevation: Note 1 Flood Level: 5'-5" Above Flood Level: Note 1	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	400	3 Fig. 1, Fig. 2	Test	None
	Peak Pressure (Psig)	4.8	1 p. 2	70	3 Fig. 1	Test	None
	Relative Humidity (%)	100%	1 p. 2	100%	3 Fig. 1, Fig. 2	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.3% by wt. pH 4.5-10.5	2 p. 8-20 6	Test and Analysis	None
	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 2	2.2×10^8	2 p. 9-5	Test	None
	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1 p. 2				
	Aging (°F/Years)	130/40	1 p. 2	130/2.83	4	Test and Analysis	None
	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-72972, Technology for Energy Corporation Qualification Report No. 517-TR-03, for TEC Value Flow Monitoring System, Rev. 2, December 1981.
3. FP-73368, Technology for Energy Corporation Qualification Report No. 517-TR-05, Addendum to Qualification Report 517-TR-03, Rev. 3, 1/18/83.
4. Impell Calculation No. 0579-032-011, Rev. 0.
5. SBU-96263, UE&C Letter, Flooding Study Matrix.
6. Seabrook EQ File 252-30-01, Assessment Checklist, Note 3.

Notes:

1. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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Seabrook Stat[illegible]
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 252-30-01

Prepared By: D. [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-252-30 Equipment ID No(s).: VB-YT-6820, VB-YT-6821, VB-YT-6822, VB-YT-6823 Equipment Type: Charge Converter Manufacturer: Technology for Energy Corporation Model Number: TEC 504A Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location: Main Feedwater Pipe Chases (PCW-3/PCE-3) Rad Zone: Main Feedwater Pipe Chases (PCW-3/PCE-3)	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	400	3 Fig. 1, Fig. 2	Test	None
	Peak Pressure (Psig)	4.8	1 p. 2	70	3 Fig. 1	Test	None
	Relative Humidity (%)	100%	1 p. 2	100%	3 Fig. 1, Fig. 2	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.3% by wt. pH 4.5-10.5	2 p. 8-20 6	Test and Analysis	None
	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 2	2.2×10^8	2 p. 9-5	Test	None
	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1 p. 2				
	Aging (°F/Years)	130/40	1 p. 2	130/2.83	4	Test and Analysis	None
Lowest Elevation: Note 1 Flood Level: 5'-5" Above Flood Level: Note 1	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. FP-72972, Technology for Energy Corporation Qualification Report No. 517-TR-03, for TEC Value Flow Monitoring System, Rev. 2, December 1981.
3. FP-73368, Technology for Energy Corporation Qualification Report No. 517-TR-05, Addendum to Qualification Report 517-TR-03, Rev. 3, 1/18/83.
4. Impell Calculation No. 0570-032-011, Rev. 0.
5. SBU-96263, UE&C Letter, Flooding Study Matrix.
6. Seabrook EQ File 252-30-01, Assessment Checklist, Note 3.

Notes:

1. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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Seabrook Stat[illegible]
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 252-38-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-252-38 Equipment ID No(s).: EPA-TSH-5430, EFA-TSH-5431, PAH-TSH-5391, PAH-TSH-5393 Equipment Type: Temperature Switch Manufacturer: ASCO Model Number: SA11AKMR/QF10A4R Accuracy:Spec: 1% of Full Range Value Demon: 1% of Full Range Value Limiting Environment: Location: Primary Aux. Building (PB-11) Rad Zone: Primary Aux. Building (PB-11)	Operating Time	30 Days	5	160 Days	3	Test and Analysis	None
	Peak Temperature (°F)	135	1 p. 3	210	2 p. 22	Test	None
	Peak Pressure (Psig)	0.4	1 p. 3	2.0	2 p. 33	Test	None
	Relative Humidity (%)	100	1 p. 3	100	2 p. 22 6	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	6.47×10^6	2 App. D, p. 4	Test	None
	1 Year Accident Radiation Dose (Rads)	1.9×10^5	1 p. 3				
	Aging (°F/Years)	104/40	1 p. 3	104/12.95	7	Test and Analysis	None
Lowest Elevation: N/A Flood Level: -21'6" Above Flood Level: N/A Note 1	Submergence	N/A	4	N/A	N/A	N/A	N/A

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 16, 4/12/85.
2. FP-73561-02, AQR 020184, Revision 1, Report on Qualification of ASCO Tri-point Temperature Switches.
3. Impell Calculation No. 0570-032-072.
4. SBU-96263, Flooding Study Matrix.
5. SBU-19963, PSNH Letter "Qualified Temperature Switches".
6. Seabrook E.Q. File No. 252-38-01, Assessment Checklist Note 2.
7. Seabrook E.Q. File No. 252-38-01, Assessment Checklist Note 14.

Notes:

1. The Submergence levels shown apply to the temperature switches located in the EFWP Building. For switches located in PB-11 area, field Verification Walkdown is not yet completed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 522-01-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-522-01 Equipment ID No(s).: EAH-FN-5A, EAH-FN-5B	Operating Time	1 Year	1	1 Year	2	Test and Analysis	None
	Peak Temperature (°F)	150	1 p. 3	310	4 Rev. B p. 4 of 5	Test	None
Equipment Type: Medium AC Motors	Peak Pressure (Psig)	1.0	1 p.3	3.25	4 Rev. B p. 4 of 5	Test	None
Manufacturer: Westinghouse Model Number: 125HP, Frame 449T	Relative Humidity (%)	100	1 p.3	100	4 Rev. B p. 2 & 4 of 5	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p.3	1.13×10^8	4 Rev. B p. 2 of 5	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	3.6×10^6	1 p.3				
Location: Containment Encl. (CE-1) Rad Zone: Containment Encl. (CE-1)	Aging (°F/Years)	104/40	1 p.3	248/40 (120°C) Note 1	4 Rev. B p. 2 of 5	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A		N/A	N/A	N/A	None

Documentation References:

1. UE&C Dwg. No. 9763-F-300219, Rev. 17, Service Environment Chart, 7/22/85
2. Impell Calculation No. 0570-032-013, Rev. 0
3. UE&C Calculation No. 9763-F-CP-05 RHR Breaks in the CEA, 2/25/85
4. FP-60039-12, Buffalo Forge Report No. DO-146F, Rev. 1, dated 9/2/80
5. SBU-96263, UE&C Letter, "Flooding Study Matrix".

Notes:

1. Qualified life accounts for normal ambient plus heat rise on a continuously running motor.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 522-01-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-522-01 Equipment ID No(s).: EAH-ZS-3A, EAH-ZS-3B Equipment Type: Limit Switch Manufacturer: NAMCO Model Number: EA-180-11302, EA-180-12302 Accuracy: Spec: N/A, Demon: N/A	Operating Time	1 Year	1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	150	1, p. 3 2	372	3 p. 10-14	Test	None
	Peak Pressure (Psig)	1.0	1, p. 3	100	3 p. 10-14	Test	None
	Relative Humidity (%)	100	1, p. 3	100	3 p. 10-14	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid Sod. Thiosulfate & NAOH3 pH 10-11	3 p. 10-9	Test	None
Limiting Environment: Location: Containment Encl. Area (CE-1) Rad Zone: Containment Encl. Area (CE-1)	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1, p. 3	2.04×10^8	3 p. 10-7 & App. A	Test	None
	1 Year Accident Radiation Dose (Rads)	3.6×10^6	1, p. 3				
	Aging (°F/Years)	104/40	1	104/20.6	3 Fig. 8 p. 4-12	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	2	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Rev. 17 Service Environment Chart, 7/22/85.
2. SBU-96263, UE&C Letter, Flooding Study Matrix.
3. Namco Test Report QTR 105, Rev. 4.
4. Impell Calculation 0570-032-009, Rev. 0.

Notes:

Public Service Company of New Hampshire
Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 600-01-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-600-01 Equipment ID No(s).: EDE-SPL-1	Operating Time	1 year	1 p.1	1 year	4	Test and Analysis	None
	Peak Temperature (°F)	375	1 p.1	390	2 p.6 (Fig. 4)	Test	None
Equipment Type: Heat-Shrink Sleeve	Peak Pressure (Psig)	60	1 p.1	66	2 p.6 (Fig. 4)	Test	None
Manufacturer: Raychem Corporation Model Number: WCSF-N	Relative Humidity (%)	100	1 p.1	100	2 p.6 (Fig. 4)	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt pH=7.5 to 10.5	1 p.1	Boric Acid 3.5% by wt pH = 10.5	2 p.7 5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^8	1 p.3 Note 2	2.9×10^8	2 p.6 App. 1	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	------	1 p.3				
Location: Inside Containment (All Zones) Rad Zone: Prim. Aux. Bldg. (PB-15A, PB-18)	Aging (°F/Years)	194/40 (90°C)	Note 1	194/40 (90°C)	3 p.9 (Fig. 2) 2 p.4	Test and Analysis	None
Lowest Elevation: Note 3 Flood Level: (-)21'6" Above Flood Level: Note 3	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-34175-01, Wyle Laboratories Test Report No. 58442-1, Environmental Qualification Test Report of Raychem WCSF-N Nuclear In-Line Cable Splice Assemblies, dated 5/15/80.
3. FP-34183-01, Raychem Energy Division Report No. EDR-5046, Analysis of Heat Aging Data on WCSF Material to determine pre-aging conditions for Nuclear Qualification Testing, dated 3/4/82.
4. Impell Calculation No. 0570-032-032, Rev. 0.
5. PSNH, Seabrook EQ File No. 600-1-01, Assessment Checklist, Note 3.
6. SBU-92605 Letter from UE&C to Impell, dated 2/13/85.
7. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix, dated 4/9/85.

Notes:

1. The temperature 194°F (90°C) is consistent with the manufacturer's and Seabrook Class 1E cable specification.
2. The total integrated radiation dose in Environmental Zones PB-4 and PB-19 is greater than 2.0×10^8 rads. No electrical equipment is installed in these areas (Ref. 6).
3. Verification with respect to whether this splice is submerged subsequent to design basis events is not complete. If submergence qualification is required for this splice, it will be qualified or relocated above the flood level.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 600-01-02

Prepared By: D. B. Hardy Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-600-01 Equipment ID No(s).: EDE-SPL-2	Operating Time	1 year	1 p.1	1 year	5	Test and Analysis	None
	Peak Temperature (°F)	375	1 p.1	390°	2 p.8 (Fig. 5)	Test	None
Equipment Type: Cable Breakout	Peak Pressure (Psig)	60	1 p.1	66	2 p.8 (Fig. 5)	Test	None
Manufacturer: Raychem Corporation Model Number: NCBK-3	Relative Humidity (%)	100	1 p.1	100	2 p.8 (Fig. 5)	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt pH=7.5 to 10.5	1 p.1	Boric Acid 3.5% by wt pH = 10.5	2 p.9 5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^8	1 p.3 Note 2	2.9×10^8	2 p.8 App. A	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	------	1 p.3				
Location: Inside Containment (all zones) Rad Zone: Prim. Aux. Bldg. (PB-15A, PB-18)	Aging (°F/Years)	194/40 (90°C)	Note 1	194/40 (90°C)	3 p.9 (Fig. 2) 4 p.8 (Fig. 2)	Test and Analysis	None
Lowest Elevation: Note 3 Flood Level: (-)21'6" Above Flood Level: Note 3	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-34176-01, Wyle Laboratories Test Report No. 58442-2, dated 4/3/81.
3. FP-34183-01, Raychem Energy Division Report No. EDR-5046, dated 3/4/82.
4. FP-34182-01, Raychem Energy Division Report No. EDR-5040, dated 10/15/81.
5. Impell Calculation No. 0570-032-035, Rev. 0.
6. PSNH, Seabrook EQ File No. 600-1-02, Assessment Checklist, Note 3.
7. SBU-92605, Letter from UE&C to Impell, dated 2/13/85.
8. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix, dated 4/9/85.

Notes:

1. The temperature 194°F (90°C) is consistent with the manufacturer's and Seabrook Class 1E cable specification.
2. The total integrated radiation dose in Environmental Zones PB-4 and PB-19 is greater than 2.0×10^8 rads. No electrical equipment is installed in these areas (Ref. 6).
3. Verification with respect to whether this splice is submerged subsequent to design basis events is not complete. If submergence qualification is required for this splice, it will be qualified or relocated above the flood level.

Public Service Company of New Hampshire
Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 600-01-03

Prepared By: [signature] Date: 10/30/85

Checked By: [signature] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-600-01 Equipment ID No(s).: EDE-SPL-3	Operating Time	1 year	1 p. 1	1 year	5	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	390	2 p. 7 (Fig. 5)	Test	None
Equipment Type: Motor Connection Kits	Peak Pressure (Psig)	60	1 p. 1	66	2 p. 7 (Fig. 5)	Test	None
Manufacturer: Raychem Corporation Model Number: NMCK-35-00	Relative Humidity (%)	100	1 p. 1	100	2 p. 7 (Fig. 5)	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt pH=7.5 to 10.5	1 p. 1	Boric Acid 3.5% by wt pH = 10.5	2 p. 8 6	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^8	1 p. 3 Note 2	2.0×10^8	2 p. 7 App. A	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	------	1 p. 3				
Location: Inside Containment (all zones) Rad Zone: Prim. Aux. Bldg. (PB-15A, PB-18)	Aging (°F/Years)	194/40 (90°C)	Note 1	194/40 (90°C)	3 p. 9 (Fig. 2) 2 p. 4 4, p. 8 (Fig. 2)	Test and Analysis	None
Lowest Elevation: Note 3 Flood Level: (-)21'-6" Above Flood Level: Note 3	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-34177-01, Wyle Laboratories Test Report No. 58442-3, Environmental Qualification Test Report of Raychem NMCK Nuclear Motor Connection Kits, dated 7/28/80.
3. FP-34183-01, Raychem Energy Division Report No. EDR-5046, Analysis of Heat Aging Data on WCSF Material to determine pre-aging conditions for Nuclear Qualification Testing, dated 3/4/82.
4. FP-34182-01, Raychem Energy Division Report No. EDR-5040, Analysis of Heat Aging Data on -52 Molding Material to determine pre-aging conditions for Nuclear Qualification Testing.
5. Impell Calculation No. 0570-032-034, Rev. 0.
6. PSNH, Seabrook EQ File No. 600-1-03, Assessment Checklist, Note 3.
7. SBU-92605 Letter from UE&C to Impell, dated 2/13/85.
8. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix, dated 4/9/85.

Notes:

1. The temperature 194°F (90°C) is consistent with the manufacturer's and Seabrook Class IE cable specification.
2. The total integrated radiation dose in Environmental Zones PB-4 and PB-19 is greater than 2.0×10^8 rads. No electrical equipment is installed in these areas (Ref 7).
3. Verification with respect to whether this splice is submerged subsequent to design basis events is not complete. If submergence qualification is required for this splice, it will be qualified or relocated above the flood level.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 600-01-04

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-600-01 Equipment ID No(s).: EDE-SPL-4	Operating Time	1 year	1 p. 1	1 year	3	Test and Analysis	None
	Peak Temperature (°F)	189	1 p. 4	348	2 Att. 4, p. 6	Test	None
Equipment Type: 8 Kv Motor Connection Kit	Peak Pressure (Psig)	1.00	1 p. 4	28	2 Att. 4, p.6	Test	None
Manufacturer: Raychem Corporation Model Number: NMCK8	Relative Humidity (%)	100	1 p. 4	100	2 Att. 4, p.3	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p.4	5.0×10^7	2 p.2 & 16	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	2.9×10^7	6 p. 13				
Location: Equipment Vault (EV-3A) Rad Zone: Equipment Vault (EV-3A)	Aging (°F/Years)	194(90°C)/40	Note 1	194(90°C)/40	5 p.9 (Fig. 2)	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: (-)55'11" Above Flood Level: Note 2	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 16, dated 4/12/85.
2. FP-34181-01, Raychem Energy Division Report No. EDR-5037, dated 1/15/82.
3. Impell Calculation No. 0570-032-039, Rev. 0.
4. Report on Analysis of High Energy Line Break (HELB) Outside Containment, UE&C Report No. 9763-006-S-N-2, dated 3/1/85.
5. Raychem Energy Division Report No. EDR-5063, dated 11/19/82.
6. UE&C PIN #7737-NA-01200-4-02110113, dated 11/6/84, Total Integrated Radiation Doses.
7. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.

Notes:

1. The temperature 194°F (90°C) is consistent with the manufacturer's and Seabrook Class 1E cable specification.
2. Verification with respect to whether this splice is submerged subsequent to design basis events is not complete. If submergence qualification is required for this splice, it will be qualified or relocated above the flood level.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 600-01-05

Prepared By: [illegible] Date: 10/3/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-600-01 Equipment ID No(s).: EDE-SPL-5	Operating Time	1 year	1 p. 1	1 year	5	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	442	2 p. 10 (Fig. 5)	Test	None
Equipment Type: 120V Wire Connection Kits	Peak Pressure (Psig)	60	1 p. 1	132	2 p. 10 (Fig. 5)	Test	None
Manufacturer: Raychem Corporation	Relative Humidity (%)	100	1 p. 1	100	2 p. 10 (Fig. 5)	Test	None
Model Number: NPKV-2	Chemical Spray (pH)	Boric Acid 1.2% by wt pH=7.5 to 10.5	1 p. 1	Boric Acid 1.7% by wt pH = 10.5	2 p. 9 6	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^8	1 p. 3 Note 2	2.2×10^8	2 p. 16 (Table 1) App. A	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	------	1 p. 3				
Location: Containment (all zones) Rad Zone: Prim. Aux. Bldg. (PB-15A, PB-18)	Aging (°F/Years)	194(90°C)/40	Note 1	194(90°C)/40	3 p. 9 (Fig. 2) 2 p.5,16 (Table 1) 4, p. 8 (Fig. 2)	Test and Analysis	None
Lowest Elevation: Note 3 Flood Level: (-)21'6" Above Flood Level: Note 3	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-34174-01, Wyle Laboratories Test Report No. 58722-1, Environmental Qualification Test Report of Raychem NPKV Nuclear Plant Stub Connection Kits, dated 8/24/82.
3. FP-34183-01, Raychem Energy Division Report No. EDR-5046, Analysis of Heat Aging Data on WCSF Material to determine pre-aging conditions for Nuclear Qualification Testing, dated 3/4/82.
4. FP-34182-01, Raychem Energy Division Report No. EDR-5040, Analysis of Heat Aging Data on -52 Molding Material to determine pre-aging conditions for Nuclear Qualification Testing.
5. Impell Calculation No. 0570-032-042, Rev. 0.
6. PSNH, Seabrook EQ File No. 600-1-05, Assessment Checklist, Note 3.
7. SBU-92605 Letter from UE&C to Impell, dated 2/13/85.
8. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix, dated 4/9/85.

Notes:

1. The temperature 194°F (90°C) is consistent with the manufacturer's and Seabrook Class IE cable specification.
2. The total integrated radiation dose in Environmental Zones PB-4 and PB-19 is greater than 2.0×10^8 rads. No electrical equipment is installed in these areas (Ref 7).
3. Verification with respect to whether this splice is submerged subsequent to design basis events is not complete. If submergence qualification is required for this splice, it will be qualified or relocated above the flood level.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 600-01-06

Prepared By: [signature] Date: 10/30/85
Checked By: [signature] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-600-01 Equipment ID No(s).: EDE-SPL-6	Operating Time	1 year	1 p. 1	1 year	3 4	Test and Analysis	None
	Peak Temperature (°F)	144	1 p. 2	194	2 p. 5 4	Test	None
Equipment Type: Cable Jacket Repair Sleeve	Peak Pressure (Psig)	Slightly Pos.	1 p. 2	Slightly Positive	2 p. 8 4	Test	None
Manufacturer: Raychem Corporation Model Number: NJRS	Relative Humidity (%)	100	1 p. 2	100	2 p. 8 4	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 3	5.0×10^7	2 p. 7 4	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.1×10^5	1 p. 3				
Location: MS&FW Pipe Chase (PCW-4) EFW PMP BLD (EFW-2) Rad Zone: Primary Aux. Bldg. (PB-1) Note 3	Aging (°F/Years)	194(90°C)/40	Note 1	194(90°C)/40	3 p. 9 (Fig. 2)	Test and Analysis	None
Lowest Elevation: Note 2 Flood Level: 5'5" Above Flood Level: Note 2	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. FP-34348-01, Raychem Energy Division Report No. EDR-5059, dated 3/30/83.
3. Raychem Energy Division Report No. EDR-5046, dated 3/4/82.
4. PSNH, Seabrook EQ File No. 600-1-06, Assessment Checklist, Note 4.
5. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.
6. Seabrook Station EQF No. 600-01-06, Rev. 0.

Notes:

1. The temperature 194°F (90°C) is consistent with the manufacturer's and Seabrook Class IE cable specification.
2. Verification with respect to whether this splice is submerged subsequent to design basis events is not complete. If submergence qualification is required for this splice, it will be qualified or relocated above the flood level.
3. Tested parameters restrict the use of this equipment to the environmental zones listed in Section 3.0 (ESE) of Reference 6. Zones PCW-4, EFW-2, and PB-1 are the limiting zones of those listed.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 600-02-01

Prepared By: D. Brinck Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-600-2 Equipment ID No(s).: EDE-TERM-1	Operating Time	1 Year	1 p. 1	1 Year	2 p. 1	Test and Analysis	None
EDE-TBX-X14 EDE-TBX-X53 EDE-TBX-X35 EDE-TBX-X56 EDE-TBX-X37 EDE-TBX-X67 EDE-TBX-X38 EDE-TBX-X69 EDE-TBX-X40 EDE-TBX-X85 EDE-TBX-X48 EDE-TBX-X86 EDE-TBX-X52 EDE-TBX-X92 EDE-TBX-X93 EDE-TBX-XA6 EDE-TBX-X94 EDE-TBX-XA7	Peak Temperature (°F)	375	1 p. 1	492	3 p. 4-9	Test	None
	Peak Pressure (Psig)	60	1 p. 1	113	3 p. 4-9	Test	None
Equipment Type: Terminal Block Assembly	Relative Humidity (%)	100	1 p. 1	100	3 p. 4-9	Test	None
Manufacturer: Weidmuller Terminations, Inc. Model Number: SAK-6N	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.7% by wt. pH = 10.5	3 p.4-7 4	Test	None
Accuracy: Spec: N/A Demon: N/A Limiting Environment:	40 Year Normal Radiation Dose (Rads)	2×10^8	1 p. 1 Note 1	2×10^8	3 p. 4-1	Test	None
	1 Year Accident Radiation Dose (Rads)	-----	1 p. 1				
Location: Containment General Area Rad Zone: Primary Aux. Bldg (PB-15A, PB-18)	Aging (°F/Years)	130/40	1 p. 1	158/39.6	3 App. B, p. B-1 5	Test and Analysis	None
Lowest Elevation: N/A Flood Level: (-)21'-6" Above Flood Level: N/A Note 2	Submergence	N/A	6	N/A	N/A	N/A	N/A

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. VU-039158, Weidmuller to UE&C, Analysis of Thermal Aging and Operating Time of Seabrook Terminal Blocks, dated 11/11/82.
3. FP-34155-01, Qualification Test Program for Terminal Blocks, FRC Report F-C5205-3, dated 10/79.
4. Seabrook Station EQ File No. 600-2-01, Assessment Checklist, Note 5.
5. Seabrook Station EQ File No. 600-2-01, Assessment Checklist, Note 11.
6. SBU-96263, Flooding Study Matrix.
7. SBU-92605, UE&C letter, dated 2/13/85.

Notes:

1. The total integrated radiation in environment zones PB-4 and PB-19 is greater than 2.0×10^8 rads. No electrical equipment is installed in these areas (Ref. 7).
2. The field verification has not been completed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. 600-03-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-600-03	Operating Time	1 year	1 p. 1	1 year	4	Test and Analysis	None
Equipment ID No(s).: EDE-TRM-1	Peak Temperature (°F)	375	1 p. 1	470	2 p. 9	Test	None
Equipment Type: Electrical Terminal	Peak Pressure (Psig)	60	1 p. 1	74.5	2 p. 10	Test	None
Manufacturer: AMP, Inc.	Relative Humidity (%)	100	1 p. 1	100	2 p. 9	Test	None
Model Number: PIDG	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.72% by wt. pH 10.5 - 12.5	2 p. 9 3	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^8	1 p. 3 Note 1	2.59×10^8	2 p. 8	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	------	N/A				
Location: Containment (All Zones) Rad Zone: Prim. Aux. Bldg. (Zones PB-15A, PB-18)	Aging (°F/Years)	194/40 (90°C)	Note 2	194/40 (90°C)	2 p. 6	Test	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A Note 2	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Rev. 17, 7/22/85, Service Environment Chart.
2. AMP Qual. Test Report No. 110-11004, Rev. 0, 2/2/82.
3. Seabrook EQ File No. 600-3-01, Assessment Checklist, Note 3.
4. Impell Calculation No. 0570-032-058, Test Profile Extrapolation.
5. SBU-96263, UE&C Flooding Study Matrix.

Notes:

1. The total integrated radiation dose in Environmental Zones PB-4 and PB-19 is greater than 2.0×10^8. No electrical equipment is installed in these zones (UE&C Letter No. SBU-92605, date: 2/13/85), therefore these locations will not be considered.
2. This temperature, 194°F (90°C), is consistent with the manufacturers specification and Seabrook Class 1E cable specification.
3. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-205-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-205 Equipment ID No(s).: CS-P-2A, CS-P-2B	Operating Time	1 year	1 p. 1	1 year	4	Test and Analysis	None
	Peak Temperature (°F)	144	1 p. 3	324	3 p. 15 & 37	Test	None
Equipment Type: Charging Pump Motors 600 HP 4000 V, 1800 RPM	Peak Pressure (Psig)	1.00	1 p. 3	81.9	3 p. 26	Test	None
Manufacturer: Westinghouse Model Number: HSWI 5810S Frame	Relative Humidity (%)	100	1 p. 3	100	2 p. 9	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 3	2.0×10^8	3 p. 14 & 16	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	2.9×10^7	1 p. 3				
Location: Primary Aux. Bldg. (PB-20A) Rad Zone: Primary Aux. Bldg. (PB-20A)	Aging (°F/Years)	104/40	1 p. 3	248/17.88 (120°C)	5 Note 1	Test and Analysis	None
Lowest Elevation: 9'0" Flood Level: (-)21'-6" Above Flood Level: Yes	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. WCAP 8687, Supp. 2-A02A, Environmental, Rev. 2, March 1983.
3. WCAP 7829, Fan Cooler Motor Unit Test, Rev. 0, April 1972.
4. Impell Calculation No. 0570-032-046, Rev. 0
5. PSNH, Seabrook EQ File No. NSS-205-01, Assessment Checklist, Note 1.
6. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Qualified life accounts for normal ambient plus heat rise for a continuously running motor.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-205-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-205 Equipment ID No(s).: RH-P-8A, RH-P-8B Equipment Type: RHR Pump Motors 400 HP, 4000 V, 1800 RPM. Manufacturer: Westinghouse Model Number: VSWI 5009P39 Frame Accuracy: Spec: N/A, Demon: N/A Limiting Environment: Location: Equipmenmt Vaults (EV-3A) Rad Zone: Equipment Vaults (EV-3A)	Operating Time	1 year	1 p. 1	1 year	4	Test and Analysis	None
	Peak Temperature (°F)	189	1 p. 4	324	3 p. 15 & 37	Test	None
	Peak Pressure (Psig)	1.00	1 p. 4	81.9	3 p. 26	Test	None
	Relative Humidity (%)	100	1 p. 4	100	2 p. 9	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/	N/A	None
	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 4	2.0×10^8	3 p. 14 & 16	Test	None
	1 Year Accident Radiation Dose (Rads)	4.7×10^7	1 p. 4				
	Aging (°F/Years)	104/40	1 p. 4	266/6.20 (130°C)	5	Test and Analysis	None
Lowest Elevation: (-)54'6" Flood Level: (-)55'-11" Above Flood Level: Yes	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. WCAP 8687, Supp. 2-A02A, Environmental, Rev. 2, March 1983.
3. WCAP 7829, Fan Cooler Motor Unit Test, Rev. 0, April 1972.
4. Impell Calculation No. 0570-032-046, Rev. 0
5. PSNH, Seabrook EQ File No. NSS-205-01, Assessment Checklist, Note 1.
6. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Qualified life accounts for normal ambient plus heat rise for a continuously running motor.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-205-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-205 Equipment ID No(s).: SI-P-6A, SI-P-6B	Operating Time	1 year	1 p. 1	1 year	4	Test and Analysis	None
	Peak Temperature (°F)	189	1 p. 4	324	3 p. 15 & 37	Test	None
Equipment Type: SI Pump Motors 450 HP, 4000 V, 3600 RPM.	Peak Pressure (Psig)	1.00	1 p. 4	81.9	3 p. 26	Test	None
Manufacturer: Westinghouse Model Number: HSWI 5808-H Frame	Relative Humidity (%)	100	1 p. 4	100	2 p. 9	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	4.7×10^6	1 p. 4	2.0×10^8	3 p. 14 & 16	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	3.0×10^7	1 p. 4				
Location: Equipmenmt Vaults (EV-4A) Rad Zone: Equipment Vaults (EV-4A)	Aging (°F/Years)	104/40	1 p. 4	104/40	5	Test and Analysis	None
Lowest Elevation: (-)48'6" Flood Level: (-)55'-11" Above Flood Level: Yes	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. WCAP 8687, Supp. 2-A02A, Environmental, Rev. 2, March 1983.
3. WCAP 7829, Fan Cooler Motor Unit Test, Rev. 0, April 1972.
4. Impell Calculation No. 0570-032-046, Rev. 0
5. PSNH, Seabrook EQ File No. NSS-205-01, Assessment Checklist, Note 1.
6. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Qualified life is based on normal standby de-energized condition of motor.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-220-01

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-220 Equipment ID No(s).: CS-V-149, 168; RC-V-22, 23, 87, 88, 122, 124; SI-V-3, 17, 32, 47 (Note 1) Equipment Type: Valve Actuator Manufacturer: Limitorque Model Number: SMB-000, SMB-00, SMB-1, SBD-3 Accuracy: Spec: N/A; Demon: N/A	Operating Time	1 Year	1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	3[illegible]	1 p. 1	420	3 p. 51	Test	None
	Peak Pressure (Psig)	60	1 p. 1	72	3 p. 51	Test	None
	Relative Humidity (%)	100	1 p. 1	100	3 p. 51	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH = 7.5 - 10.5	1 p. 1	Boric Acid 1.43% by Wt. pH = 10.5	3 p. 17 5	Test	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 1	1.85×10^8	3 p. 72	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment Bldg. (CS-5) Rad Zone: Containment Bldg. (General Area/ Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	120/5.58 Note 3	3 p. 12 6	Test and Analysis	None
Lowest Elevation: -25'0" Flood Level: -26-0" Above Flood Level: Yes Note 2	Submergence	N/A	2	N/A	N/A	N/A	None

Documentation References.

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. SBJ-96263, UE&C Letter, Flooding Study Matrix.
3. WCAP-8687, Supp. 2 - H01A, Revision 1, Equipment Qualification Test Report, Limitorque Motor Operator (Inside Containment), October, 1984.
4. Impell Calculation No. 0570-032-078, Profile Extrapolation of Limitorque Valve Actuators (SMB-000, SMB-00, SMB-1, SBD-3) for Use Inside Containment, Rev. 0.
5. Seabrook E.Q. File No. NSS-220-01, Assessment Checklist, Note 9.
6. Seabrook E.Q. File No. NSS-220-01, Assessment Checklist, Note 3.

Notes:

1. Equipment I.D. #CS-ZS-149 & 168, RC-ZS-23, 87, 122, 124, 7302B and 7311A, & SI-ZS-2403-2, 2413-2 2423-2 & 2435-2 are for the integral position indication within these actuators.
2. The lowest elevation and flood level shown represent the worst case for the location of the equipment I.D. Nos. listed.
3. Although the qualified life as per thermal and radiation aging is 5.58 years, the number of mechanical cycles during testing limits the qualified life to 5 years (Reference 6).

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-220-02

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-220 Equipment ID No(s).: RH-FY-2426, RH-FY-2463, RH-FY-2464, SI-FY-2409, SI-FY-2410, SI-FY-2416, SI-FY-2427, SI-FY-2428 Equipment Type: Solenoid Valve Manufacturer: ASCO Model Number: NP831654E Accuracy: Spec: N/A Demon: N/A	Operating Time	1 Year	1 p. 1	1 Year	2 p. 26	Test and Analysis	None
	Peak Temperature (°F)	375	1 p. 1	400	3 p. 11	Test and Analysis	None
	Peak Pressure (Psig)	60	1 p. 1	72	2 p. 58	Test	None
	Relative Humidity (%)	100	1 p. 1	100	2 p. 18	Test	None
	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH=7.5 to 10.5	1 p. 1	Boric Acid 1.4% by wt. pH=10.5	2 p. 18 5	Test	None
Limiting Environment: Location: Containment (All Zones) Rad Zone: Containment (General Area/Not Submerged)	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	2.05×10^8	2 p. 19, 21, 59,60	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
	Aging (°F/Years)	120/40	1 p. 1	264/3.1 (128.9°C) Note 2	2 p. 13 4	Test and Analysis	None
Lowest Elevation: (-)20'-6" Flood Level: (-)20'-8" Above Flood Level: YES, Notes 1&3	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. WCAP-8687, Supplement 2 - H02A/H05A, Rev. 2, March 1983.
3. WCAP-8687, Supplement 2 - H02A/H05A, Addendum 1, Rev. 0, January 1985.
4. PSC Seabrook Equipment Qualification File #NSS-220-02 Checklist, Note 2.
5. PSC Seabrook Equipment Qualification File #NSS-220-02 Checklist, Note 3.
6. SBU-96263, Flooding Study Matrix.
7. Seabrook Station, FSAR, RAI 430.62, Amendment 48, 1/83.

Notes:

1. Plant I.D.'s RH-FY-2464, 2426 and SI-FY-2416, 2428 are located (-22'-6" to -21'-6") below flood levels. However, this equipment performs its containment isolation safety function prior to submergence and once submerged, it will not fail in a manner detrimental to plant safety (Reference 7).
2. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.
3. The lowest elevation and flood level represent the worse case for the location of the equipment ID Nos. listed.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-220-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-220 Equipment ID No(s).: CS-FY-7416, SI-FY-2400, SI-FY-2419, NG-FY-4604	Operating Time	1 Year	1 p. 1	1 Year	2 p. 26	Test and Analysis	None
	Peak Temperature (°F)	188	1 p. 2	400	3 p. 11	Test and Analysis	None
Equipment Type: Solenoid Valve	Peak Pressure (Psig)	1.0	1 p. 2	72	2 p. 58	Test	None
Manufacturer: ASCO	Relative Humidity (%)	100	1 p. 2	100	2 p. 58	Test	None
Model Number: NP831654E	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.4% by wt. pH=10.5	2 p. 18 5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 2	2.05×10^8	2 p. 19, 21, 59,60	Test	None
Limiting Environment: Location: Mechanical Penetration Area, (MPA-5) Rad Zone: Mechanical Penetration Area, (MPA-1)	1 Year Accident Radiation Dose (Rads)	7.5×10^7	1 p. 2				
	Aging (°F/Years)	104/40	1 p. 2	248/5.79 (120°C)	2 p. 13 4	Test and Analysis	None
Lowest Elevation: (-)22'-0" Flood Level: (-)25'-11" Above Flood Level: YES, Note 2	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. WCAP-8687, Supplement 2 - H02A/H05A, Rev. 2, March, 1983.
3. WCAP-8687, Supplement 2 - H02A/H05A, Addendum 1, Rev. 0, January, 1985.
4. PSC Seabrook Equipment Qualification File #NSS-220-02 Checklist, Note 2.
5. PSC Seabrook Equipment Qualification File #NSS-220-02 Checklist, Note 3.
6. SBU-96263, Flooding Study Matrix.

Notes:

1. Thermal life accounts for heat rise in normally energized valve. Valve de-energizes to perform safety function during accident conditions.
2. The lowest elevation and flood level represent the worse case for the location of the equipment ID Nos. listed.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-220-03

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-NSS-220	Operating Time	1 year	1 p. 1	1 year	3	Test and Analysis	None
Equipment ID No(s).: RC-ZS-7302A, RC-ZS-7311B, RH-ZS-27, RH-ZS-28, RH-ZS-49 **Continued below	Peak Temperature (°F)	375	1 p. 1	430	2 p. 60	Test	None
Equipment Type: Limit Switch	Peak Pressure (Psig)	60	1 p. 1	80	2 p. 59	Test	None
Manufacturer: NAMCO	Relative Humidity (%)	100	1 p. 1	100	2 p. 21	Test	None
Model Number: EA-180-11303, EA-180-12303	Chemical Spray (pH)	Boric Acid 1.2% Wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.43% Wt. pH = 10.5	5	Test	None
Accuracy: Spec: N/A, Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 1	2.04×10^8	2 p. 21	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment (Zones CS-9 & CS-10) Rad Zone: Containment (General Area/ Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	120/10	4	Test and Analysis	None
Lowest Elevation: (-)20'-6" Flood Level: (-)20'-8" Above Flood Level: Yes Note 1	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. WCAP-8687, Supp. 2 - H03A/H06A Rev. 2, 3/83, Equipment Qualification Test Report "NAMCO Externally Mounted Valve Limit Switches.
3. Impell Calculation No. 0570-032-048, Rev. 0.
4. PSC Seabrook Equipment Qualification File #NSS-220-03, Checklist, Note 7.
5. PSC Seabrook Equipment Qualification File #NSS-220-03, Checklist, Note 3.
6. SBU-96263, UE&C Flooding Study Matrix.

Notes:

** SI-ZS-70, SI-ZS-131, SI-ZS-134, SI-ZS-158, SI-ZS-160, SI-ZS-2403-1, SI-ZS-2423-1

1. The lowest elevation and flood level shown represent the worst case for the location of the Equipment ID Nos. listed.

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Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-220-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: 9763-006-NSS-220	Operating Time	1 year	1 p. 1	1 year	3	Test and Analysis	None
Equipment ID No(s).: CBS-ZS-2302-2, CBS-ZS-2303-1, CS-ZS-150, NG-ZS-13, RH-ZS-606 **Continued below	Peak Temperature (°F)	196	1 p. 4	430	2 p. 60	Test	None
Equipment Type: Limit Switch	Peak Pressure (Psig)	1.0	1 p. 4	80	3 p. 59	Test	None
Manufacturer: NAMCO	Relative Humidity (%)	100	1 p. 4	100	2 p. 21	Test	None
Model Number: EA-180-11303, EA-180-12363, EA-180-12303, EA-180-31303, EA-180-32303	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.43% Wt. pH = 10.5	5	Test	None
Accuracy: Spec: N/A, Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 2	2.04×10^8	2 p. 21	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	7.5×10^7	1 p. 2				
Location: Equipment Vault (Zone EV-6A) Rad Zone: Mech. Penetra. Area (Zone MPA-1)	Aging (°F/Years)	104/40	1 p. 1	104/23	4	Test and Analysis	None
Lowest Elevation: (-)45'-6" Flood Level: (-)55'-11" Above Flood Level: Yes Note 1	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. WCAP-8687, Supp. 2 - H03A/H06A Rev. 2, 3/83, Equipment Qualification Test Report "NAMCO Externally Mounted Valve Limit Switches.
3. Impell Calculation No. 0570-032-048, Rev. 0.
4. PSC Seabrook Equipment Qualification File #NSS-220-03, Checklist, Note 7.
5. PSC Seabrook Equipment Qualification File #NSS-220-03, Checklist, Note 3.
6. SBU-96263, UE&C Flooding Study Matrix.

Notes:

** RH-ZS-607, RH-ZS-618, RH-ZS-619, RH-ZS-2460A, RH-ZS-2461B, RH-ZS-2462A, RH-ZS-2465B, RH-ZS-2466A, RH-ZS-2479B, SI-ZS-62, SI-ZS-157, SI-ZS-2429-1, SI-ZS-2436-1, SI-ZS-2439-1, SI-ZS-2440A, SI-ZS-2445B, SI-ZS-2455B

1. The lowest elevation and flood level shown represent the worst case for the location of the Equipment ID Nos. listed.

Public Service Company of New Hampshire
Seabrook Stat[illegible]
Docket: 50-44[illegible]

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION F[illegible]NO. NSS-220-04

Prepared By: [illegible] Date: 12/30/85
Checked By: [illegible] Date: 10/29/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-220 Equipment ID No(s).: CBS-V-2, 5, 47, 49, 51, 53; RH-FCV-610, 611; RH-V-14, 21, 22, 26, 32, 35, 36, 70; CS-LCV-112B, C, D, E; CS-V-142, 143, 154, 158, 162, 166, 167, 196, 197, 426, 460, 461, 475; SI-V-77, 89, 90, 93, 102, 111, 112, 114, 138, 139 Equipment Type: Valve Actuators Manufacturer: Limitorque Model Number: SMB-000 to SB-1 Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: Tank Farm (TF-1) Rad Zone: Mech. Pen. Area (MPA-1)	Operating Time	1 year	1 p. 1	1 year	6 p. 5	Test and Analysis	None
	Peak Temperature (°F)	290	1 p. 4	385	4 p. 9 Figure 2	Test	None
	Peak Pressure (Psig)	1.1	1 p. 4	66	3 p. 9 Figure 2	Test	None
	Relative Humidity (%)	100	1 p. 4	100	3 p. 7	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 2	2.04×10^8	3 App. 11	Test	None
	1 Year Accident Radiation Dose (Rads)	7.5×10^7	1 p. 2				
	Aging (°F/Years)	104/40	1	122/40	5 p. 12 Note 1	Test	None
Lowest Elevation: (-)45'6" Flood Level: -55'11" Above Flood Level: Yes (Note 2)	Submergence	N/A	2	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. SBU-96263, Seabrook Station Flooding Study Matrix.
3. Qualification Test Report Limitorque Valve Actuators for Class IE Service Outside Primary Containment, Report No. B0003, Limitorque Corporation Test Laboratory.
4. Limitorque Valve Actuator Temperature Related to High Superheat Ambient Temperatures, Project No. 60058, Report No. B-0027, dated 8/31/78.
5. Limitorque Valve Actuator Qualification for Nuclear Power Station Service, Report B-0058.
6. Impell Calculation No. 0570-032-073, Profile Extrapolation of Limitorque Valve Actuators (Type SMB-000 to SB-1) for Use Outside Containment, Rev. 0.

Notes:

1. Limitorque operators are supplied with position switches which are integral parts of the operator. These position switches are identified in the equipment list.
2. The lowest elevation and flood level shown represent the worst case for the location of the equipment ID Nos. listed.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-220-05

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-220 Equipment ID No(s).: EDE-ECSA-2	Operating Time	1 year	1 p. 1	1 year	6	Test and Analysis	None
Note 2	Peak Temperature (°F)	375	1 p. 1	440	2 p. 73	Test	None
Equipment Type: Electrical Seal Assemblies	Peak Pressure (Psig)	60	1 p. 1	80	2 p. 73	Test	None
Manufacturer: Conax Model Number: N-11007	Relative Humidity (%)	100	1 p. 1	100	3 p. 14 2 p. 16	Test	None
Accuracy: Spec: N/A Demon: N/A	Chemical Spray (pH)	Boric Acid 1.2% Wt. pH 7.5 to 10.5	1 p. 1	Boric Acid 1.43% by wt. pH 10.5	2 p. 16 5	Test	None
Limiting Environment:	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 3 Note 1	2.04×10^8	2 p. 17	Test	None
	1 Year Accident Radiation Dose (Rads)	1.04×10^8	1 p. 1				
Location: Containment, (CS-10) Rad Zone: Containment (Gen. Area/Not Submerged)	Aging (°F/Years)	104/40	1 p. 1	120/20	2 p. 12 4	Test and Analysis	None
Lowest Elevation: N/A Flood Level: (-)20'-8" Above Flood Level: N/A Note 1	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. WCAP-8687, Supp. 2 - H08A, Revision 0, Equipment Qualification Test Report - Conax and Litton Electrical Seal Assemblies, August 1983.
3. EQDP-HE-8, Revision 0, 8/83, Equipment Qualification Data Package - Conax and Litton Electrical Seal Assemblies.
4. Seabrook Station, Equipment Qualification File No. NSS-220-05, Checklist Note 4.
5. Seabrook Station, Equipment Qualification File No. NSS-220-05, Checklist Note 5.
6. Seabrook Station, Equipment Qualification File No. NSS-220-05, Checklist Note 10.
7. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.

Notes:

1. Upon completion of the field walkdown, submergence qualification will be addressed, if any of the equipment (e.g. Limit Switches, Solenoid Valves, etc.) to which an ECSA is attached, is found to be submerged.
2. This QEW represents ECSAs which are installed in plant zones where the normal service temperature does not exceed 120°F.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-220-05

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-220	Operating Time	1 year	1 p. 1	1 year	6	Test and Analysis	None
Equipment ID No(s).: EDE-ECSA-2 Note 3	Peak Temperature (°F)	300	1 p. 3	440	2 p. 73	Test	None
Equipment Type: Electrical Seal Assemblies	Peak Pressure (Psig)	0.5	1 p. 3	80	2 p. 73	Test	None
Manufacturer: Conax	Relative Humidity (%)	100	1 p. 3	100	3 p. 14	Test	None
Model Number: N-11007					2 p. 16		
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.4% by wt. pH 10.5	2 p. 16 5	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	2.0×10^3	1 p. 3 Note 1	2.04×10^8	2 p. 17	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	-	-				
Location: Primary Aux. Building (PB-15A, PB-18) Rad Zone: Primary Aux. Building (PB-15A, PB-18)	Aging (°F/Years)	104/40	1 p. 3	104/40	4	Test and Analysis	None
Lowest Elevation: N/A Flood Level: (-)21'-6" Above Flood Level: N/A Note 2	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. WCAP-8687, Supp. 2 - H08A, Revision 0, Equipment Qualification Test Report - Conax and Litton Electrical Seal Assemblies, August 1983.
3. EQDP-HE-8, Revision 0, 8/83, Equipment Qualification Data Package - Conax and Litton Electrical Seal Assemblies.
4. Seabrook Station, Equipment Qualification File No. NSS-220-05, Checklist Note 4.
5. Seabrook Station, Equipment Qualification File No. NSS-220-05, Checklist Note 5.
6. Seabrook Station, Equipment Qualification File No. NSS-220-05, Checklist Note 10.
7. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.
8. SBU-92605, UE&C letter, dated 2/13/85.

Notes:

1. The total integrated radiation dose in Environmental Zone PB4 and PB19 is greater than 2×10^8 rads. No electrical equipment is installed in these areas (Ref. 8).
2. Upon completion of the field walkdown, submergence qualification will be addressed, if any of the equipment (e.g. Limit Switch, Solenoid Valve, etc.) to which an ECSA is attached, is found to be submerged.
3. This QEW represents ECSAs which are installed in plant zones where the normal service temperature does not exceed 104°F.

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Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-220-05

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-220 Equipment ID No(s).: EDE-ECSA-2 Note 2 Equipment Type: Electrical Seal Assemblies Manufacturer: Conax Model Number: N-11007 Accuracy: Spec: N/A Demon: N/A Limiting Environment: Location: MSFW Pipe Chases, (PCWI) Rad Zone: MSFW Pipe Chases, (PCWI)	Operating Time	1 year	1 p. 1	1 year	6	Test and Analysis	None
	Peak Temperature (°F)	325	1 p. 2	440	2 p. 73	Test	None
	Peak Pressure (Psig)	4.8	1 p. 2	80	2 p. 73	Test	None
	Relative Humidity (%)	100	1 p. 2	100	3 p. 14 2 p. 16	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.43% by Wt. pH 10.5	2 p. 16 5	Test	None
	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 2	2.04×10^8	2 p. 17	Test	None
	1 Year Accident Radiation Dose (Rads)	8.2×10^4	1 p. 2				
	Aging (°F/Years)	130/40	1 p. 2	130/12.93	4	Test and Analysis	None
Lowest Elevation: N/A Flood Level: 3'9-3/8" Above Flood Level: N/A Note 1	Submergence	N/A	7	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. WCAP-8687, Supp. 2 - H08A, Revision 0, Equipment Qualification Test Report - Conax and Litton Electrical Seal Assemblies, August 1983.
3. EQDP-HE-8, Revision 0, 8/83, Equipment Qualification Data Package - Conax and Litton Electrical Seal Assemblies.
4. Seabrook Station, Equipment Qualification File No. NSS-220-05, Checklist Note 4.
5. Seabrook Station, Equipment Qualification File No. NSS-220-05, Checklist Note 5.
6. Seabrook Station, Equipment Qualification File No. NSS-220-05, Checklist Note 10.
7. SBU-96263, UE&C Letter addressed to YAEC on Flooding Study Matrix.

Notes:

1. Upon completion of the field walkdown, submergence qualification will be addressed, if any of the equipment (e.g. Limit Switches, Solenoid Valves, etc.) to which an ECSA is attached, is found to be submerged.
2. This QEW represents ECSAs which are installed in plant zones where the normal service temperature does not exceed 130°F.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-220-06

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-220	Operating Time	1 year	2 p. 1	1 year	4	Test and Analysis	None
Equipment ID No(s).: RC-PCV-456A, RC-PCV-456B, RC-ZS-456A, RC-ZS-456B	Peak Temperature (°F)	375	2 p. 1	550	1 p. 61	Test	None
Equipment Type: Garret (PORV) Solenoid Operated Pilot Valve and Position Indication Device	Peak Pressure (Psig)	60	2 p. 1	85	1 p. 14	Test	None
Manufacturer: Garret	Relative Humidity (%)	100	2 p. 1	100	1 p. 18	Test	None
Model Number: 3750021-2, 3760060-1	Chemical Spray (pH)	Boric Acid 1.2% (By wt.) pH - 7.5-10.5	2 p. 1	Boric Acid 1.4% (By wt.) pH - 10.5	6	Test	None
Accuracy: Spec: N/A, Demon: N/A	40 Year Normal Radiation Dose (Rads)	2×10^7	2 p. 1	2.07×10^8	1 p. 15	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.04×10^8	2 p. 1				
Location: Containment Zone (CS-11) Rad Zone: Containment (General Area/ Not Submerged)	Aging (°F/Years)	120/40	2 p. 1	120/12.7	5	Test and Analysis	None
Lowest Elevation: 58'-0" Flood Level: (-) 20'-8" Above Flood Level: Yes	Submergence	N/A	3	N/A	N/A	N/A	None

Documentation References:

1. WCAP-8687, Supp. 2 - H09A, Revision 1, Equipment Qualification Test Report "Garret (PORV) Solenoid Operated Pilot Valve and Position Indication Device".
2. UE&C Drawing No. 9763-F-300219, Revision 17, 7/22/85, Service Environment Chart.
3. SBU-96263, UE&C Letter on Flooding Study Matrix.
4. Impell Calculation No. 0570-032-053, Revision 0.
5. PSC Seabrook Equipment Qualification File No. NSS-220-06, Checklist, Note 6
6. PSC Seabrook Equipment Qualification File No. NSS-220-06, Checklist, Note 1

Notes:

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-325-01

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-325 Equipment ID No(s).: RC-PT-405	Operating Time	1 year	1 p. 1	1 year	3	Test and Analysis	None
	Peak Temperature (°F)	111	1 p. 4	430	2 p. 83 (Fig. C-7)	Test	None
Equipment Type: Pressure Transmitter	Peak Pressure (Psig)	(-)0.25 w.g.	1 p. 4	85	2 p. 88 (Fig. C-12)	Test	None
Manufacturer: ITT/Barton Model Number: 763	Relative Humidity (%)	50	1 p. 4	100	2 p. 15	Test	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
Accuracy: Spec: ± 10% Demon: ± 10% Limiting Environment:	40 Year Normal Radiation Dose (Rads)	1.0×10^3	1 p. 4	6.8×10^7	2 p. 11 (Sect. 5.2)	Test	None
	1 Year Accident Radiation Dose (Rads)	3.4×10^4	1 p. 4				
Location: Electrical Penetration Area (ET-3B) Rad Zone: Electrical Penetration Area (ET-3B)	Aging (°F/Years)	85/40	1 p. 4	85/19	2 p. 9 4	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. WCAP-8687, Supplement 2 - E01A, Revision 2, dated March 1983.
3. Impell Calculation No. 0570-032-051, Revision 0.
4. PSNH, Seabrook EQ File NO. NSS-325-01, Assessment Checklist, Note 1.
5. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-325-02

Prepared By: [illegible] Date:
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-325	Operating Time	1 year	1 p. 1	1 year	4	Test and Analysis	None
Equipment ID No(s).: RC-PT-455, RC-PT-456, RC-PT-457, RC-PT-458	Peak Temperature (°F)	375	1 p. 1	420	3 p. 45	Test	None
Equipment Type: Pressure Transmitters	Peak Pressure (Psig)	60	1 p. 1	75	3 p. 51 5	Test	None
Manufacturer: Veritrak	Relative Humidity (%)	100	1 p. 1	100	3 p. 45	Test	None
Model Number: 76 PH 2	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5 to 10.5	1 p. 1	Boric Acid 1.43% by wt. pH 10.7	2 p. 17 7	Test	None
Normal - DBE Accuracy: Spec: 1% 10% Demon: 1% 3.8%	40 Year Normal Radiation Dose (Rads)	2.0×10^7	1 p. 1	6.8×10^7	2 p. 17	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.4×10^7 Note 1	1 p. 1				
Location: Containment CS-12 Rad Zone: Containment (General Area/ Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	120/8.29	6	Test and Analysis	None
Lowest Elevation: 3'-0" Flood Level: (-)20'-8" Above Flood Level: Yes Note 2	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. EQDP-ESE-1B, Rev. 1, 3/83, Westinghouse Equipment Qualification Data Package - Veritrak Pressure Transmitters.
3. EQTR-E01B, Revision 1, Equipment Qualification Test Report - Veritrak Pressure Transmitters.
4. Impell Calculation No. 0570-032-050.
5. Seabrook Station Equipment Qualification File No. NSS-325-02, Checklist Note 1.
6. Seabrook Station Equipment Qualification File No. NSS-325-02, Checklist Note 7.
7. Seabrook Station Equipment Qualification File No. NSS-325-02, Checklist Note 8.
8. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Equipment is totally enclosed in metal casing; therefore, effects of Beta radiation are not considered.
2. The lowest elevation and flood level shown represent the worst case for the location of the Equipment ID Nos. listed.

Public Service Company of New Hampshire
Seabrook Stat[illegible]
Docket: 50-44[illegible]

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION F[illegible]O. NSS-325-02

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment			Qualified Environment		Qualification Method	Outstanding Items
	Parameter	Value	Reference	Value	Reference		
Purchase Order No.: NSS-325 Equipment ID No(s).: RC-PT-403 Equipment Type: Pressure Transmitters Manufacturer: Veritrak Model Number: 76 PH 2 Normal - DBE Accuracy: Spec: 1% ±10 10% Demon: 1% ±10 3.8%	Operating Time	1 year	1 p 1	1 year	4	Test and Analysis	None
	Peak Temperature (°F)	111	1 p. 4	420	3 p. 51	Test	None
	Peak Pressure (Psig)	-0.25	1 p. 4	75	3 p. 51 5	Test	None
	Relative Humidity (%)	50	1 p. 4	100	3 p. 15	Test	None
	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.43% by wt. pH 10.7	2 p. 17 7	Test	None
	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 4	6.8×10^7	2 p. 17	Test	None
Limiting Environment: Location: Electrical Penetration Area (ET-3B) Rad Zone: Electrical Penetration Area (ET-3B)	1 Year Accident Radiation Dose (Rads)	3.4×10^4	1 p. 4				
	Aging (°F/Years)	85/40	1 p. 4	85/25.69	6	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. EQDP-ESE-1B, Rev. 1, 3/83, Westinghouse Equipment Qualification Data Package - Veritrak Pressure Transmitters.
3. EQTR-E01B, Revision 1, Equipment Qualification Test Report - Veritrak Pressure Transmitters.
4. Impell Calculation No. 0570-032-050.
5. Seabrook Station Equipment Qualification File No. NSS-325-02, Checklist Note 1.
6. Seabrook Station Equipment Qualification File No. NSS-325-02, Checklist Note 7.
7. Seabrook Station Equipment Qualification File No. NSS-325-02, Checklist Note 8.
8. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes.

Public Service Company of New Hampshire
Seabrook Station
Docket: 50-443

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-325-03

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-325 Equipment ID No(s).: FW-PT-514, FW-PT-515, FW-PT-516, FW-PT-544, FW-PT-545, FW-PT-546 Equipment Type: Pressure Transmitter Manufacturer: Westinghouse/Veritrak Model Number: 76PG1 Accuracy: Spec: ±1%, Demon: ±1% Limiting Environment: Location: MSFW PC (PCW-4) Rad Zone: MSFW PC (PCW-4) Lowest Elevation: 5'0" Flood Level: 3'-9 3/8" Above Flood Level: YES Note 2	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	144	1 p. 2	144	4	Test and Analysis	None
	Peak Pressure (Psig)	N/A	N/A	N/A	Note 1	N/A	None
	Relative Humidity (%)	N/A	N/A	N/A	Note 1	N/A	None
	Chemical Spray (pH)	N/A	N/A	N/A	N/A	N/A	None
	40 Year Normal Radiation Dose (Rads)	N/A	N/A	N/A	Note 1	N/A	None
	1 Year Accident Radiation Dose (Rads)	N/A	N/A				
	Aging (°F/Years)	130/40	1 p. 2	130/5.91	3 p. 16 (Table 1) 4	Test and Analysis	None
	Submergence	N/A	5	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. UE&C Calculation Set No. MSVCS-FAG-08, dated 4/26/85.
3. EQDP-ESE-2, Rev. 5, dated 3/83.
4. PSNH, Seabrook EQ File No. NSS-325-03, Assessment Checklist, Note 1.
5. SBU-96263, Seabrook Station Flooding Study Matrix

Notes:

1. In the West Pipe Chase Stairwell (PCW-4), temperature is the only parameter which rises from normal ambient temperature of 130°F to 144°F and lasts for 72 hours due to LOCA (Ref. 1, 2 & Equipment List) creating harsh environment. Therefore, pressure, RH and radiation being mild environment, have no impact on the qualified life of these units.
2. The lowest elevation and flood level shown represent the worse case for the location of the equipment ID Nos. listed.

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Docket: 50-44[illegible]

QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION F[illegible]NO. NSS-325-04

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-325	Operating Time	1 year	1 p. 1	1 year	4	Test and Analysis	None
Equipment ID No(s).: FW-LT-501, 502, 504, 517, 518, 519, 527, 528, 529, 537, 538, 539, 547, 548, 549, 551, 552, 553, 554 RC-LT-459, 460, 461	Peak Temperature (°F)	375	1 p. 1	420	3 p. 43	Test	None
Equipment Type: Differential Pressure Transmitters	Peak Pressure (Psig)	60	1 p. 1	75	3 p. 49 5	Test	None
Manufacturer: Veritrak	Relative Humidity (%)	100	1 p. 1	100	3 p. 43	Test	None
Model Number: 76DP2	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH - 7.5 to 10.5	1 p. 1	Boric Acid 1.43% by wt. pH - 10.7	2 Addendum p. 17 7	Test	None
Accuracy: Normal Spec: 1% DBE 10-15% Demon: 1% 10%	40 Year Normal Radiation Dose (Rads)	2×10^7	1 p. 1	6.8×10^7	3 p. 20 9	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.4×10^7 Note 2	1 p. 1				
Location: Containment (CS-12) Rad Zone: Containment (Gen. Area/Not Submerged)	Aging (°F/Years)	120/40	1 p. 1	120/8.3	6	Test and Analysis	None
Lowest Elevation: (-)20'7" Flood Level: (-) 20'-8" Above Flood Level: Yes	Submergence	N/A	8	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Revision 17, 7/22/85, Service Environment Chart.
2. EQDP-ESE-3B, Rev. 1, 3/83, Westinghouse Equipment Qualification Data Package - Veritrak Differential Pressure Transmitters.
3. WCAP-8687, Supp. 2, E03B, Revision 1, 3/83, Equipment Qualification Test Report, Veritrak D.P. Transmitters.
4. Impell Calculation No. 0570-032-055, Revision 0.
5. Seabrook Equipment Qualification File No. NSS-325-04, Assessment Checklist, Note 1.
6. Seabrook Equipment Qualification File No. NSS-325-04, Assessment Checklist, Note 5.
7. Seabrook Equipment Qualification File No. NSS-325-04, Assessment Checklist, Note 6.
8. SBU-96263, Seabrook Station Flooding Study Matrix.
9. Seabrook Equipment Qualification File No. NSS-325-04, Assessment Checklist, Note 3.

Notes:

1. The lowest elevation and flood level shown represent the worse case for the location of the equipment ID Nos. listed.
2. Equipment is totally enclosed; therefore Beta radiation is not considered.

Public Service Company of New Hampshire
Seabrook Station
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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-325-06

Prepared By: [illegible] Date: 10/30/85
Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-325 Equipment ID No(s).: CBS-LT-930, CBS-LT-931, CBS-LT-932, CBS-LT-933, CBS-LT-2380, CBS-LT-2383 Equipment Type: Differential Pressure Transmitter Manufacturer: Westinghouse/Veritrak Model Number: 76DP1 Accuracy: Spec: ±1%, Demon: ±1% Limiting Environment: Location: Tank Farm (TF-1) Rad Zone: Tank Farm (TF-1)	Operating Time	1 Year	1 p. 1	1 Year	4	Test and Analysis	None
	Peak Temperature (°F)	N/A	Note 1	N/A	Note 1	N/A	None
	Peak Pressure (Psig)	N/A	Note 1	N/A	Note 1	N/A	None
	Relative Humidity (%)	N/A	Note 1	N/A	Note 1	N/A	None
	Chemical Spray (pH)	N/A	Note 1	N/A	N/A	N/A	None
	40 Year Normal Radiation Dose (Rads)	2.3×10^4	1 p. 4	1.0×10^5	3 p. 20 (Sec. 4) p. 22 (Table 1)	Analysis	None
	1 Year Accident Radiation Dose (Rads)	---	1 p. 4		5		
	Aging (°F/Years)	104/40	1 p. 4	104/14.30	3 p. 22 (Table 1) 4	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Revision 17, 7/22/85.
2. UE&C Calculation Set No. MSVCS-FAG-08, dated 4/26/85.
3. EQDP-ESE-4, Rev. 6, dated 3/83.
4. PSNH, Seabrook EQ File No. NSS-325-06, Assessment Checklist, Note 1.
5. PSNH, Seabrook EQ File No. NSS-325-06, Assessment Checklist, Note 6.
6. SBU-96263, Seabrook Station "Flooding Study Matrix".

Notes:

1. All postulated accident parameters are considred mild except radiation.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-325-09

Prepared By: [illegible] Date: 10/30/85

Checked By: [illegible] Date: 10/30/85

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-325	Operating Time	1 year	1 p. 1	1 year	4	Test and Analysis	None
Equipment ID No(s).: RC-TE-1313, -1314, -1318, -1319, -1323, -1324, -1328, -1329	Peak Temperature (°F)	375	1 p. 1	420	2 p. 131	Sequential Test	None
Equipment Type: Resistance Temperature Detector (RTD)	Peak Pressure (Psig)	60	1 p. 1	75	2 p. 12 & 131	Sequential Test	None
Manufacturer: Minco Products, Inc.	Relative Humidity (%)	100	1 p. 1	100	2 p. 12	Sequential Test	None
Model Number: S-8809, S-8810	Chemical Spray (pH)	Boric Acid 1.2% by wt. pH 7.5-10.5	1 p. 1	Boric Acid 1.57% by Wt. pH 10.7	2 p. 41 3	Sequential Test	None
Accuracy: Spec: ±5.0°F Demon: ±1.0°F	40 Year Normal Radiation Dose (Rads)	1.26×10^8	1 p. 1 Note 2	1.6×10^8	2 p. 3	Sequential Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	1.4×10^7 gamma 2.0×10^7 beta	1 p. 1 2 p. 3 Note 2				
Location: Cont. Building (All zones) Rad Zone: Cont. Building (General Area/Note Submerged)	Aging (°F/Years)	120/40	1 p. 1	120/19.17 Note 2	5	Test and Analysis	None
Lowest Elevation: Note 1 Flood Level: (-)20'-8" Above Flood Level: Note 1	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, dated 7/22/85.
2. Equipment Qualification Test Report, WCAP-8687, Supp. 2-E42A, Rev. 1, January 1985
3. Seabrook Station Equipment Qualification File No. NSS-325-09, Assessment Checklist, Note 3.
4. Impell Calculation No. 0570-032-054, Test Profile Extrapolation.
5. Seabrook Station Equipment Qualification File No. NSS-325-09, Assessment Checklist, Note 9.
6. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

1. Verification with respect to whether this equipment is submerged subsequent to design basis events is not complete. If submergence qualification is required for this equipment, it will be qualified or relocated above the flood level.
2. The accident-integrated dose after one year in LOCA environment is: gamma dose = 1.4×10^7 rads and beta dose = 9×10^7 rads (determined to be equivalent to 2×10^7 rads after shielding (Ref. 1, p. 1 and Ref. 2, p. 3) normal 40-year radiation dose is 3.0×10^8 rads. However, the radiation aging life will be limited to 16.8 years (1.26×10^8 rads), so that the normal plus 1 year accident TID does not exceed 1.6×10^8 rads.

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QUALIFICATION EVALUATION WORK SHEET

EQUIPMENT QUALIFICATION FILE NO. NSS-325-10

Prepared By: [illegible] Date: 10/30/8[illegible]

Checked By: [illegible] Date: 10/30/8[illegible]

Equipment Description	Postulated Environment Parameter	Postulated Environment Value	Postulated Environment Reference	Qualified Environment Value	Qualified Environment Reference	Qualification Method	Outstanding Items
Purchase Order No.: NSS-325 Equipment ID No(s).: RC-LIS-1311, RC-LIS-1312, RC-LIS-1321, RC-LIS-1322	Operating Time	1 year	1 p. 1	1 year	3	Test and Analysis	None
	Peak Temperature (°F)	111	1 p. 4	420	2 p. 56	Test	None
Equipment Type: Differential Pressure Indicating Switch	Peak Pressure (Psig)	-0.25" W.G.	1 p. 4	75	2 p. 63	Test	None
Manufacturer: Barton	Relative Humidity (%)	50	1 p. 4	100	4 p. 14	Test	None
Model Number: 581	Chemical Spray (pH)	N/A	N/A	Boric Acid 1.4% By wt. pH - 10.7	4 p. 14	Test	None
Accuracy: Spec: N/A Demon: N/A	40 Year Normal Radiation Dose (Rads)	1×10^3	1 p. 4	6.8×10^7	2 p. 14	Test	None
Limiting Environment:	1 Year Accident Radiation Dose (Rads)	3.4×10^4	1 p. 4				
Location: Electrical Penetration Area (ET-3B) Rad Zone: Electrical Penetration Area (ET-3B)	Aging (°F/Years)	85/40	1 p. 4	85/40	2 p. 9 &16 5	Test and Analysis	None
Lowest Elevation: N/A Flood Level: N/A Above Flood Level: N/A	Submergence	N/A	6	N/A	N/A	N/A	None

Documentation References:

1. UE&C Drawing No. 9763-F-300219, Service Environment Chart, Rev. 17, 7/22/85.
2. WCAP-8687, Supplement 2 - E49A, Revision 1, January 1985.
3. Impell Calculation No. 0570-032-052, Revision 0.
4. Westinghouse Equipment Qualification Data Package, EQDP-ESE-49A, Rev. 1, 1/85.
5. PSNH, Seabrook EQ File No. NSS-325-10, Assessment Checklist, Note 3.
6. SBU-96263, Seabrook Station Flooding Study Matrix.

Notes:

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
SEABROOK STATION
ENVIRONMENTAL QUALIFICATION OF
ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY

APPENDIX C

SUMMARY ACTION PLAN FOR THE RESOLUTION OF OUTSTANDING QUALIFICATION ITEMS

Revision 2
10/31/85

ENVIRONMENTAL QUALIFICATION ACTION PLAN

Equipment Type	Purchase Order No.	Make/ Model	EQF No.	Status	Action Planned	No. of Items	Completion Schedule
Thermocouple Cable	113-20	ITT-Surprenant 300V	113-20-02	No Accuracy or IR values recorded during DBE testing	Cable to be replaced or removed from Class IE service	1	Prior to Fuel Load
Electrical Penetration	118-01	Westinghouse Low and Medium Voltage	118-01-01 118-01-02	Postulated peak	Equipment specific temperature analysis being performed	39	Prior to Audit
Incore Thermocouple Cable and Connector Assembly	118-04	Conax Various	118-04-01	Newly Purchased Equipment. Formal qualification file is not complete	Finalize EQF 118-04-01	1	Prior to Audit
Distribution Panel (Pzr Heater)	120-01	Gould 5600	120-01-01	Postulated total integrated radiation dose higher than tested dose	Equipment specific radiation dose being determined	1	Prior to Audit
Terminal Blocks/ Boxes	129-01	States ZWM	129-01-01	Terminal blocks located in main steam/feedwater pipe chase are fully qualified; however, the qualified life is only 0.59 years.	Terminal blocks to be replaced with qualified Weidmuller blocks prior to 0.59 years of plant operation	4	See Action Planned
Control Panel	170-06	Comsip FP-73367, 7637-57	N/A	N/A	Systematic analysis being performed to classify this equipment as "Operability Code C"		Prior to Audit
Radiation Detector and Wide Range Amplifier Assy.	170-13	Gamma Metrics Various	170-13-01 170-13-01	Additional data required to complete evaluation of thermal aging methodology. Equipment qualified for all other parameters	Vendor is providing required data	5	Prior to Audit
Instrument Rack Terminal Block	171-01	Mercury/States ZWM	171-01-01	Insulation resistance data is not available for terminal blocks used in inside containment racks for low voltage instrumentation	Terminal blocks to be replaced with qualified Raychem splices (P.O. 600-02)	5	Prior to Fuel Load
Radiation Monitoring/ Data Management System	172-01	General Atomic Various	172-01-01	Qualification evaluation is not complete	Complete EQF 172-01-01	42	Prior to Audit

ENVIRONMENTAL QUALIFICATION ACTION PLAN
(Continued)

Equipment Type	Purchase Order No.	Make/ Model	EQF No.	Status	Action Planned	No. of Items	Completion Schedule
Solenoid Valve	173-04	ASCO 206-381-4RVU	173-04-01	The Viton components in two items are not qualified for postulated total integrated radiation dose.	Viton components to be replaced with qualified EPR material	3	Prior to Fuel Load
				One item is submerged subsequent to DBE events.	Items to be relocated above flood level or evaluated for required operability subsequent to submergence		Prior to Fuel Load
I/P Convertor	173-05	N/A	N/A	Equipment not yet purchased.	Purchase qualified equipment and complete qualification file.	4	Prior to Fuel Load
Pressure Transmitter	174-01	Foxboro N-E Series	174-01-01	New Equipment. Formal documentation file not finalized.	EQF 174-01-01 to be finalized.	8	Prior to Audit
Pressure Transmitter	174-01	Foxboro E Series	N/A	R.G. 1.97 equipment which is not qualified.	To be replaced with qualified equipment.	4	Prior to Fuel Load
Pressure Transmitter	174-13	Rosemount 1153DD	N/A	N/A	Change in Seabrook design philosophy to designated thermal barrier cooling system as not important to safety. Completion of this evaluation will designate equipment or "Operability Code C"	2	Prior to Audit
Pressure Transmitter	174-13	Rosemount 1153DB	1174-13-02	Demonstrated accuracy during postulated harsh environmental conditions is greater than specified accuracy.	Demonstrated accuracy is being evaluated for Seabrook system acceptibility.	24	Prior to Audit
Temperature Element	174-14	Weed Various	174-14-01	Newly purchased equipment. Formal documentation file is not finalized.	EQF 174-14-01 to be finalized.	20	Prior to Audit
Temperature Element	174-14	Weed 612	N/A	R.G. 1.97 equipment which is not qualified.	To be replaced with Weed elements and qualified within EQF 174-14-01.	2	Prior to Fuel Load
Solenoid Valve	225-05	ASCO NP 8321A5V	225-05-01	Viton elastomers not qualified for postulated total integrated radiation.	To be replaced with qualified EPR elastomers.	4	Prior to Fuel Load

ENVIRONMENTAL QUALIFICATION ACTION PLAN
(Continued)

Equipment Type	Purchase Order No.	Make/ Model	EQF No.	Status	Action Planned	No. of Items	Completion Schedule
Misc. Electrical Accessories	236-11	CVI Various	236-11-04	Environmental testing successfully completed in September, 1985.	Prepare EQF 236-11-04 when final test documentation received.	18	Prior to Audit
AC Motor	238-05	Westinghouse HSDP	238-05-01	Insufficient heat rise data available to determine qualified life and qualified post accident operating time. Qualification complete for all other parameters.	Heat rise data being obtained from Westinghouse.	4	Prior to Audit
AC Motor	238-10	Westinghouse HSDP	238-10-01	Insufficient heat rise data available to determine qualified post accident operating time.	Heat rise data being obtained from Westinghouse.	1	Prior to Audit
AC Motor	238-34	Reliance B-3045-2	N/A	N/A	Change in Seabrook design philosophy to designate thermal barrier cooling system as not important to safety. Completion of this evaluation will designate equipment as "Operability Code C"	2	Prior to Audit
Solenoid Valve	248-29	ASCO NP8329A184E	248-29-01	Test/installed configuration dissimilar. Balance of qualification documentation complete.	Item to be rotated to vertical position.	1	Prior to Fuel Load
Valve Operator and Accessories	248-36	Borg-Warner Various	248-36-01	Test/design documentation being revised to incorporate equipment modifications.	EQF 248-36-01 to be finalized upon documentation revision.	36	Prior to Audit
Valve Actuator	248-37	Limitorque SMB015	248-37-01	Equipment is submerged following DBE events.	Equipment will be relocated above postulated flood levels.	1	Prior to Fuel Load
Limit Switch	248-37	NAMCO EA 180	248-37-02	Equipment is submerged following DBE events.	Equipment will be relocated above postulated flood levels.	2	Prior to Audit
Solenoid Valve	248-65	ASCO	248-65-03	Test/installed configuration dissimilar. Balance of qualification documentation complete.	Item to be rotated to vertical position.	16	Prior to Fuel Load

ENVIRONMENTAL QUALIFICATION ACTION PLAN
(Continued)

Equipment Type	Purchase Order No.	Make/ Model	EQF No.	Status	Action Planned	No. of Items	Completion Schedule
Valve Actuator and Accessories	248-65	Rockwell Various	248-65-04	Qualification documentation is incomplete.	Obtain complete qualification documentation and finalize EQF 248-65-04.	28	Prior to Audit
Pressure Transmitter	252-16	Barton 765	252-16-01	R.G. 1.97 equipment. Qualification file is not finalized.	EQF 252-16-01 to be finalized.	1	Prior to Audit
Pressure Switch	252-16	ITT Barton	252-16-02	Demonstrated accuracy during postulated harsh environmental conditions is greater than specified accuracy.	Demonstrated accuracy is being evaluated for Seabrook system acceptibility.	4	Prior to Audit
Temperature Element	NSS-090	Westinghouse WL-24026	NSS-090-01	Qualification documentation evaluation is not finalized.	EQF NSS-090-01 to be finalized.	58	Prior to Audit
AC Motor	NSS-205	Westinghouse Chempump GVH	NSS-205-02	Qualification documentation is incomplete.	Westinghouse to provide further documentation. EQF NSS-205-02 to be finalized.	2	Prior to Audit
Pressure Switch	NSS-205	Westinghouse/ UECO J6D	NSS-205-04	Qualification documentation is incomplete.	Westinghouse to provide further documentation EQF NSS-205-04 to be finalized.	2	Prior to Audit
Limit Switch	NSS-220	NAMCO EA 170	NSS-220-03	Equipment not qualified for postulated harsh environments.	To be replaced with qualified EA-180 series switch.	2	Prior to Fuel Load
Pressure Transmitter	NSS-325	Barton 765	N/A	New equipment qualification evaluation is incomplete.	Complete final qualification evaluation. Issue final EQF.	4	Prior to Audit
Pressure Transmitter	NSS-325	Barton 752	NSS-325-05	Equipment not qualified for postulated harsh environments.	To be replaced with qualified equipment or relocated to mild environment areas.	12	Prior to Fuel Load
Hydrogen Recombiner	NSS-917	Westinghouse Model B	NSS-917-01	Qualification documentation is incomplete.	Westinghouse to provide further qualification.	8	Prior to Audit

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
SEABROOK STATION
ENVIRONMENTAL QUALIFICATION OF
ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY

APPENDIX D

DERIVATION OF TEMPERATURE/PRESSURE RESPONSE TO HELBs OUTSIDE CONTAINMENT

UE&C Report 9763-006-S-N-2
"High Energy Line Breaks Outside Containment"

Revision 2
10/31/85

REPORT ON

ANALYSES OF HIGH ENERGY LINE BREAKS

OUTSIDE CONTAINMENT

Prepared for

PUBLIC SERVICE COMPANY OF NEW HAMSPHIRE

SEABROOK STATION

Prepared by

united engineers & constructors inc

DATE: March 1, 1985

Responsible Engineer	Manager, Thermal/Fluid Analysis Group	Engineering Manager
R. R. Burdett, Jr.	K. K. Niyogi	K. C. Robertson

Report No. 9763-006-S-N-2

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SUMMARY

The environmental envelopes that the safety related Class 1E equipment will experience following postulated high energy line breaks outside containment have been determined. Systems containing high energy lines for which breaks have been evaluated include the Main Steam, Feedwater, Auxiliary Steam and Condensate, Chemical and Volume Control, Steam Generator Blowdown, and Hot Water Heating.

1.0 INTRODUCTION

It is necessary to demonstrate that equipment used to perform a required safety function for Seabrook Nuclear Station - Units 1 & 2 are capable of functioning properly in the normal, abnormal, or accident environmental conditions to which they could be exposed. As stated in NUREG-0588[1], among these environmental conditions are the elevated temperature, humidity, and/or pressure which could result from the postulated rupture of high energy lines which may be in the vicinity of this equipment. The purpose of this study is to evaluate the consequences of high energy line breaks outside containment and develop the environmental envelopes for Class 1E equipment.

2.0 METHOD OF ANALYSIS

Each of the high energy lines and all of the Class 1E equipment outside containment were identified and located. Based on this information, the various plant buildings were nodalized and the high energy line break (HELB) locations chosen in such a way as to provide an accurate representation of the environmental conditions that would result in the vicinity of the Class 1E equipment following a postulated HELB.

2.1 Mass and Energy Releases

Each high energy line was evaluated on the basis of the methods of Standard Review Plans 3.6.1 and 3.6.2[2] to determine the types, areas, and locations of postulated ruptures that would result in the most severe environmental conditions at each of the Class 1E equipment. The break releases were calculated using the Moody critical flow model[3] and accounting for physical restrictions within the system (e.g. flow and pressure control valves) and the frictional effects of the piping system.

These release rates were taken to be constant, i.e. no decay of the reservoir pressure was assumed, until isolation of the ruptured line was initiated or, as in the case of the closed Hot Water Heating Systems, until the piping inventory was depleted.

The methods and assumptions employed in calculating the mass and energy release rates for each high energy line are outlined in Table 2.1-1. As noted in this table, isolation of many of these lines will be accomplished by the use of redundant temperature detectors in various plant areas that, in the event of elevated temperatures, will send closure signals to redundant isolation valves present in the

high energy lines. The locations of these temperature detectors are provided in Figures 2.1-1, 2.1-2, and 2.1-3.

The mass and energy release rates used in evaluating the pressure, temperature, and humidity responses throughout the various plant areas are calculated and defined in References 6, 7, and 8.

2.2 Pressure/Temperature/Humidity Transients

The environmental conditions that result due to postulated high energy line ruptures were determined for the following areas:

1. Primary Auxiliary Building (PAB)
2. Containment Enclosure Area (CEA)
3. Fuel Storage Building (FSB)
4. Main Steam/Feedwater Pipe Chase
5. Tank Farm Area (TFA)
6. Waste Processing Building/Primary Auxiliary Building (WPB/PAB) Chase

For HELB other than Hot Water heating Line Breaks (HWHLB), the environmental Responses of the PAB, CEA, TFA, WPB/PAB Chase, and MS/FW Pipe Chase were calculated using the COMPRESS[4] computer program. Using the break mass and energy releases and the building nodalizations discussed previously, COMPRESS calculates the transient pressures, temperatures, and humidities that would occur throughout the plant building following these ruptures. The methods and assumptions used in these pressure/ temperature calculations agree with those of NUREG-0588[1].

Table 2.2-1 lists the ambient conditions, building initial conditions, and other pertinent design basis information used in analyzing these environmental transients. The ambient and initial conditions were

chosen so as to maximize the temperature response that would result from these postulated HELB. In addition, the Uchida condensing steam heat transfer correlation is used during the condensing mode while a convective heat transfer coefficient of [illegible] Btu/hr-ft^2-°F is used otherwise.

The environmental response of the PAB, CEA, and FSB to postulated HWHLB was calculated using a reasonable, yet still conservative, hand calculation method which accounted for mass and heat transfer between the hot water and the room air. Since the HWH subsystems are closed systems which will not be isolated and these plant areas are supplied with ventilation air by non-Class 1E systems, the maximum temperatures and humidities that result from HWHLB are calculated by releasing the total HWH subsystem fluid mass into the initial room air mass.

The building initial conditions were determined based on the historical distribution of ambient conditions which occur during the time of the year when the HWH system is in operation (September through May). These conditions are defined in Table 2.2-1.

3.0 HELB ANALYSES AND RESULTS

The environmental response of the plant buildings to postulated high energy line ruptures were calculated using the methods outlined in Section 2.0. The results of these HELB analyses (other than HWHLB) are presented in the following sections.

3.1 Primary Auxiliary Building

From an evaluation of each of the high energy lines in the PAB and their operating conditions, it was concluded that the break locations listed in Table 3.1-1 would provide environmental envelopes for the Class 1E equipment.

Figure 3.1-1 shows the layout of the PAB and the zone designations which were useful in defining the environmental parameters throughout the PAB. Zone 32A, which is not shown, represents the PAB below the the (-)6' elevation and includes the piping tunnels, Zone 32B represents the 2' and (-)6' elevations, and Zones 32 and 33C, 32 and 33D, and 32 and 33E represent the 7', 25', and 53' elevations, respectively. Zones 47 and 48 represent the Chemical and Volume Control System (CVCS) equipment vaults and contain no Class 1E equipment.

Table 3.1-2 summarizes the peak and enveloping temperatures and pressures that would occur in each of these zones for each postulated high energy line rupture. All areas can be taken to experience 100% relative humidity, condensing environments, however, air displacement and thus essentially pure steam environments would be expected to occur only in the general vicinity of the postulated breaks.

For each of the ruptures considered in these tables there follows a series of four figures, lettered A though D. The A series of these figures (e.g. Figure 3.1-2A, 3.1-3A) physically defines the nodal arrangement which was chosen to analyze the rupture's effect on the PAB environment. The B series provides the flow diagrams and physical parameters (volumes, heat sink areas, flow areas) for this nodal arrangement. Figures C and D provide the calculated temperature and pressure transients for each of the nodes defined in the A and B series figures.

3.2 Containment Enclosure Area

The Containment Enclosure Area contains several high energy (CVCS) lines, however, only the letdown line operates at an elevated temperature. Therefore, only a rupture of this line has been considered as stated in Table 3.2-1.

The layout of the Containment Encosure Area, which includes the Mechanical Penetration Area, the Charging Pump Cubicles, and the Residual Heat Removal (RHR), Safety Injection (SI), and Containment Spray (CBS) Vaults, is shown in Figure 3.2-1A, Sheets 1 and 2. These figures also show the nodal arrangement used. while Figure 3.2-1B provides the corresponding flow diagram and physical parameters. Table 3.2-2 summarizes the pressures and temperatures experienced in the various areas of the enclosure volume following a postulated CVCS letdown line break. Figures 3.2-1C and 3.2-1D show the transient temperatures and pressures in the CEA. By a variation of the assumed initial conditions (10% vs. 95% relative humidity), an additional investigation was made which determined the maximum pressure response of the CEA. This result is shown in Figure 3.2-1E. For the HELB

temperature detection system is use, the peak pressures correspond to approximately 95 seconds after the break. These peak pressures are listed in Table 3.2-2. The relative humidity throughout all CEA compartments would reach 100%.

3.3 Main Steam/Feedwater Pipe Chase

The breaks evaluated for the Main Steam/Feedwater Pipe Chase are listed in Table 3.3-1. It was concluded that the MS line breaks will result in more severe environmental conditions than the FW line breaks.

Figures 3.3-1A and 3.3-1B define the MS/FW Pipe Chase arrangement and nodalization. The MS/FW Pipe Chase reaches a maximum of 325°F for a spectrum of MS line break sizes from 0.10 ft^2 to 1.0 ft^2. The temperature transient resulting from a 0.10 ft^2 break is provided in Figure 3.3-1C and the results are summarized in Table 3.3-2.

3.4 Tank Farm Area

The break evaluated for the Tank Farm Area is listed in Table 3.4-1. Since no HELB temperature detectors are located in the Tank Farm Area, the Auxiliary Steam line break releases will continue until the operator detects the break and isolates the line.

Figure 3.4-1A defines the nodal parameters used for the Tank Farm Area HELB analysis. The resulting temperature and pressure transients are provided in Figures 3.4-1B and 3.4-1C, respectively, and the peak values summarized in Table 3.4-2.

3.5 Waste Processing Building/Primary Auxiliary Building Chase

The WPB/PAB Chase, which is located between the WPB and Column Line A of the PAB, contains both Class 1E equipment and several Auxiliary Steam and Condensate lines. The line ruptures which have been evaluated are listed in Table 3.5-1.

Figure 3.5-1A defines the nodal parameters used for evaluation of the WPB/PAB Chase response to postulated HELB. Figures 3.5-1B and 3.5-1C provide the temperature and pressure transients that result for the enveloping HELB. The peak values for pressure and temperature are summarized in Table 3.5-2.

4.0 HWHLB ANALYSES AND RESULTS

The environmental response following postulated HWHLB has been calculated for those plant buildings with Hot Water Heating (HWH) systems which operate in the high energy region, i.e. pressure greater than 275 psig or temperature greater than 200°F. The HWHLB postulated are listed in Table 4.0-1. The results of these HWHLB analyses are presented individually in the following sections and are summarized in Table 4.0-2.

4.1 Primary Auxiliary Building

The peak environmental conditions at the 53' elevation of the PAB due to postulated HWHLB were found to be 110°F with a relative humidity of 100%. These conditions are enveloped by the consequences resulting from other HELB postulated to occur in the PAB.

4.2 Containment Enclosure Area

The HWH system piping which serves the PAB and FSB passes through the CEA. A postulated rupture of one of these lines results in temperatures and relative humidities throughout the CEA of approximately 106°F and 100%, respectively. Due to the location of this piping, very localized conditions may be slightly more severe although the large recirculation air flows will tend to mitigate these effects to a certain extent. With the exception of these localized effects the environmental conditions that result from a CVCS letdown line break will envelope those resulting from a HWHLB.

4.3 Fuel Storage Building

Since the hot water heating piping are the only high energy lines present in the FSB, the environmental conditions that result from a postulated HWHLB will define the enveloping conditions for high

energy line ruptures. The resulting environmental conditions are 100°F with a 100% relative humidity.

4.4 Emergency Feedwater Pumphouse

Since the hot water heating piping are the only high energy lines present in the EFWPH, the environmental conditions that result from a postulated HWHLB will define the enveloping conditions for high energy line ruptures. The resulting environmental conditions are 88°F with a 100% relative humidity.

4.5 Service Water Pumphouse

Since the hot water heating piping are the only high energy lines present in the SWPH, the environmental conditions that result from a postulated HWHLB will define the enveloping conditions for high energy line ruptures. The maximum temperature that would be expected to result in the SWPH is 90°F. Due to the relatively large room volume and small volume of hot water heating piping for the SWPH, the maximum relative humidity that is expected to result following a HWHLB is 90%

5.0 CONCLUSIONS

The analysis of high energy line ruptures outside containment has yielded a realistic evaluation of the elevated temperatures, pressures, and humidities that can result in the various buildings of Units 1 and 2. These results provide the HELB environmental envelopes for evaluation of the Class 1E equipment. These envelopes should be evaluated along with the conditions that result following postulated moderate energy line breaks, loss of ventilation air flow, and any other events which may cause adverse environmental conditions to develop.

6.0 REFERENCES

1. NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment", August, 1979.

2. NUREG-0800, U.S. NRC Standard Review Plans 3.6.1 and 3.6.2, July, 1981.

3. Moody, F. J., "Maximum Two-Phase Vessel Blowdown from Pipes", Journal of Heat Transfer, August 1966.

4. UEC-TR-004-1, "COMPRESS - A Code for Calculating Subcompartment Pressure Responses", July, 1976.

5. Appendix E attached to ANSI Standard N176, "Design Basis for Protection of Nuclear Power Plants Against Effects of Postulated Pipe Rupture".

6. Calculation Set No. 4.3.35-F03

7. Calculation Set No. MSVCS-FAG-07

8. Calculation Set No. 4.3.35-F01

TABLE 2.1-1

DETERMINATION OF MASS/ENERGY RELEASE

Line	CVCS Letdown Line	Steam Generator Blowdown	Auxiliary Steam and Condensate Lines	Main Steam Line	Feedwater Line	Hot Water Heating Line
Plant Condition	Heatup Phase	Hot Standby	Full Power	Full Power	Full Power	Full Power
Line Conditions	P = 435 psia T = 380°F	P = 1100 psia T = 550°F	P = 165 psia T = 358°F	P = 1000 psia T = 545°F	P = 1100 psia T = 440°F	P = 157 psia T = 250°F
Break Flow	Limited by CVCS Letdown Line Control Valves	Moody critical flow with piping system frictional effects included (Methodology of App. E attached to ANSI Std. N176[5])	Limited by upstream pressure control valves	Releases calculated using Westinghouse information package methodology	Releases calculated using Westinghouse information package methodology	Moody Critical Flow Model
Isolation Mechanism	Dependent on Location: HELB Temperature Detection System or Operator Action at 30 min.	HELB Temperature Detection System	Dependent on Location: HELB Temperature Detection System or operator action at 30 minutes.	Reactor Protection System and Emergency Feedwater Discontinued at 30 min.	Reactor Protection System	No Isolation Occurs
Isolation Valve Closure Time	10 Seconds	5 Seconds	15 Seconds	Isolation Valve in Faulted Loop Fails.	Isolation Valve in Faulted Loop Fails	No Isolation Occurs

TABLE 2.2-1

Design Basis Information

A. Ambient Conditions

1. HELB, other than HWHLB:	14.7 psia/88°F/100% RH
2. HWHLB:	14.7 psia/70°F/95% RH

B. Building Initial Conditions

1. HELB, other than HWHLB:	14.7 psia/104°F/95% RH
2. HWHLB:	14.7 psia/86°F/56% RH

C. HELB Temperature Detection System

1. Temperature at Isolation Signal Initiation: (Intended to cover setpoint plus instrument error margins of up to 10°F)	130°F
2. System Response Time-time delay: until signal at isolation valves	8.1 Seconds

D. Ventilation System Operation

1. No credits are taken for energy removal or air exchange by non-Class 1E ventilation systems.

2. Credits are taken for Class 1E ventilation systems according to their performance characteristics following postulated HELB.

E. Unit Trip

1. A concurrent loss of offsite power or unit trip has not been assumed.

TABLE 3.1-1

Primary Auxiliary Building
High Energy Line Break Locations

1. Steam Generator Blowdown Line (Lines No. SG-1301-5-3", SG1304-5-3", SG-1307-5-3", or SG-1310-5-3")

   a. At 53' elevation of PAB in vicinity of blowdown flash tank.

2. Auxiliary Steam and Condensate Lines

   a. Line No. 2302-2-8" - At 53' elevation of PAB along Column Line 5 between Columns A & B.

   b. Line No. 2303-1-6" - At 7' elevation of PAB between Column Lines 5 & 6.

   c. Line No. 2404-2-3" - At (-) 6' elevation of PAB along Column Line C.

   d. Line No. 2406-1-4" - At (-) 6' elevation of PAB along Column Line 2.

3. Chemical and Volume Control System Letdown Line (Line No. CS-360-9-3")

   a. At 7' elevation of PAB in the CVCS equipment vault area.

TABLE 3.1-2

Primary Auxiliary Building
Summary of Results

ZONE DESIGNATION	SG-1310-5-3" Break @ Zone 32E		AS-2302-2-8" Break @ Zone 33E		AS-2303-1-6" Break @ Zone 33C		AS-2404-2-3" Break @ Zone 32B		AS-2406-1-4" Break @ Zone 32B		CS-360-9-3" Break @ Zone 47		Enveloping Conditions	
	Temp. °F	Press. psig	Temp. °F	Press. psig	Temp. °F	Press. psig	Temp. °F	Press. psig	Temp. °F	Press. psig	Temp. °F	Press. psig	Temp. °F	Press. psig
32A	108.	0.4	104	.04	104.	0.1	220	0.4	190.	0.3	114	.05	220.	0.4
32B	108.	0.4	104.	.04	104.	0.1	220	0.4	190.	0.3	114.	.05	220.	0.4
32C	108.	0.4	104.	.04	104.	0.1	132	0.1	136.	0.1	112.	.05	136.	0.4
33C	108.	0.4	104.	.04	163.	0.1	105	0.1	104.	0.1	107.	.05	163.	0.4
32D	111.	0.4	105.	.04	113.	0.1	105	0.1	104.	0.1	108.	.05	113.	0.4
33D	111.	0.4	105.	.04	113.	0.1	105	0.1	104.	0.1	108.	.05	113.	0.4
32E	165.	0.5	112.	.04	104.	0.1	105	0.1	104.	0.1	107.	.05	165.	0.5
33E	131.	0.5	158.	.06	104.	0.1	105	0.1	104.	0.1	107.	.05	158.	0.5
47	108.	0.4	104.	.04	134.	0.1	105	0.1	120.	0.1	185.	.15	185.	0.4
48	108.	0.4	104.	.04	134.	0.1	105	0.1	120.	0.1	185.	.15	185.	0.4

TABLE 3.2-1

Containment Enclosure Area
High Energy Line Break Locations

1. Chemical and Volume Control System Letdown Line (Line No. CS-360-9-3")

   a. In Mechanical Penetration Area (MPA) at (-) 34'-6" elevation near containment wall penetration.

TABLE 3.2-2

Containment Enclosure Area
Summary of Results

Compartment	CVCS Letdown Line Rupture (CS-360-9-3")	
	Peak Temperature (°F)	Peak Pressure (psig)
Mechanical Penetration Area	134	0.35
Remainder of Enclosure Volume (Including Charging Pump Cubicles & Ventilation Equipment Area)	108	0.35

TABLE 3.3-1

Main Steam/Feedwater Pipe Chase
High Energy Line Break Locations

1. Main Steam Line

   a. At 21' elevation of MS/FW Pipe Chase

2. Feedwater Line

   a. At 3' elevation of MS/FW Pipe Chase

TABLE 3.3-2

Main Steam/Feedwater Pipe Chase
Summary of Results

Main Steam Line Rupture	
Peak Temperature (°F)	Peak Pressure (psig)
325	Pressure Varies dependent upon location with respect to break location and has been studied in detail in a separate analysis. Maximum Pressure: 4.8

TABLE 3.4-1

Tank Farm Area
High Energy Line Break Locations

1. Auxiliary Steam and Condensate Lines

   a. Line No. AS-2302-32-8"

TABLE 3.4-2

Tank Farm Area
Summary of Results

Auxiliary Steam Line Rupture	
Peak Temperature (°F)	Peak Pressure (psig)
290	1.1

TABLE 3.5-1

Waste Processing Building/Primary Auxiliary Building Chase High Energy Line Break Locations

1. Auxiliary Steam and Condensate Lines

    a. Line No. 2339-1-1 1/2" - At 53' elevation of WPB/PAB Chase

    B. Line No. 2341-1-1 1/2" - At 25' elevation of WPB/PAB Chase

TABLE 3.5-1

Waste Processing Building/Primary Auxiliary Building Chase High Energy Line Break Locations

1. Auxiliary Steam and Condensate Lines

   a. Line No. 2339-1-1 1/2" - At 53' elevation of WPB/PAB Chase

   B. Line No. 2341-1-1 1/2" - At 25' elevation of WPB/PAB Chase

TABLE 3.5-2

Waste Processing Building/Primary Auxiliary Building Chase
Summary of Results

Compartment	AS-2339-1-1 1/2" Break @ 53' elevation		AS-2341-1-1 1/2" Break @ 25' elevation	
	Temp. (°F)	Pressure (psig)	Temp. (°F)	Pressure (psig)
WPB/PAB Chase 53' elevation	175	0.05	168	0.05
WPB/PAB Chase 25' elevation and 15' 5" elevation	168	0.05	175	0.05

NOTE: Due to the general arrangement of the WPB/PAB Chase area, the results obtained for a break of Line No. AS-2339-1-1 1/2" have been extrapolated to be representative of the environmental conditions that would result from a break of Line No. AS-2341-1-1 1/2".

TABLE 4.0-1

Hot Water Heating Line Break Locations

1. Primary Auxiliary Building

   a. At 53' elevation of PAB

2. Containment Enclosure Area

   a. At 21'-6" elevation of CEA

3. Fuel Storage Building

   a. At 21'-6" elevation of FSB

4. Emergency Feedwater Pumphouse

   a. At 27' elevation of EFWPH

5. Service Water Pumphouse

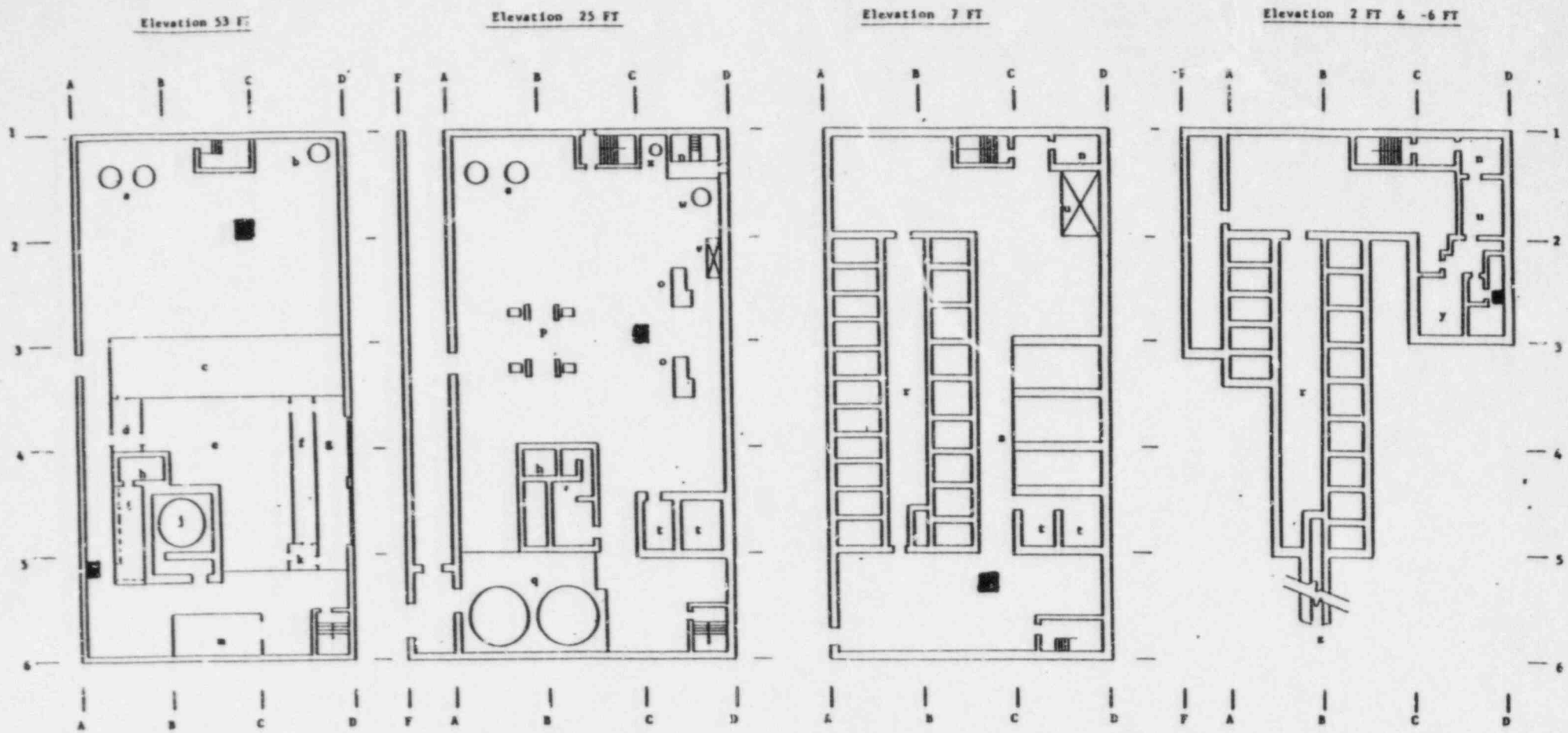
   a. At 21' elevation of SWPH

TABLE 4.0-2

Hot Water Heating Line Breaks
Summary of Results

1. Primary Auxiliary Building: (53' elevation)	110°F/100% RH
2. Containment Enclosure Area:	106°F/100% RH
3. Fuel Storage Building:	100°F/100% RH
4. Emergency Feedwater Pumphouse:	88°F/100% RH
5. Service Water Pumphouse:	90°F/90% RH

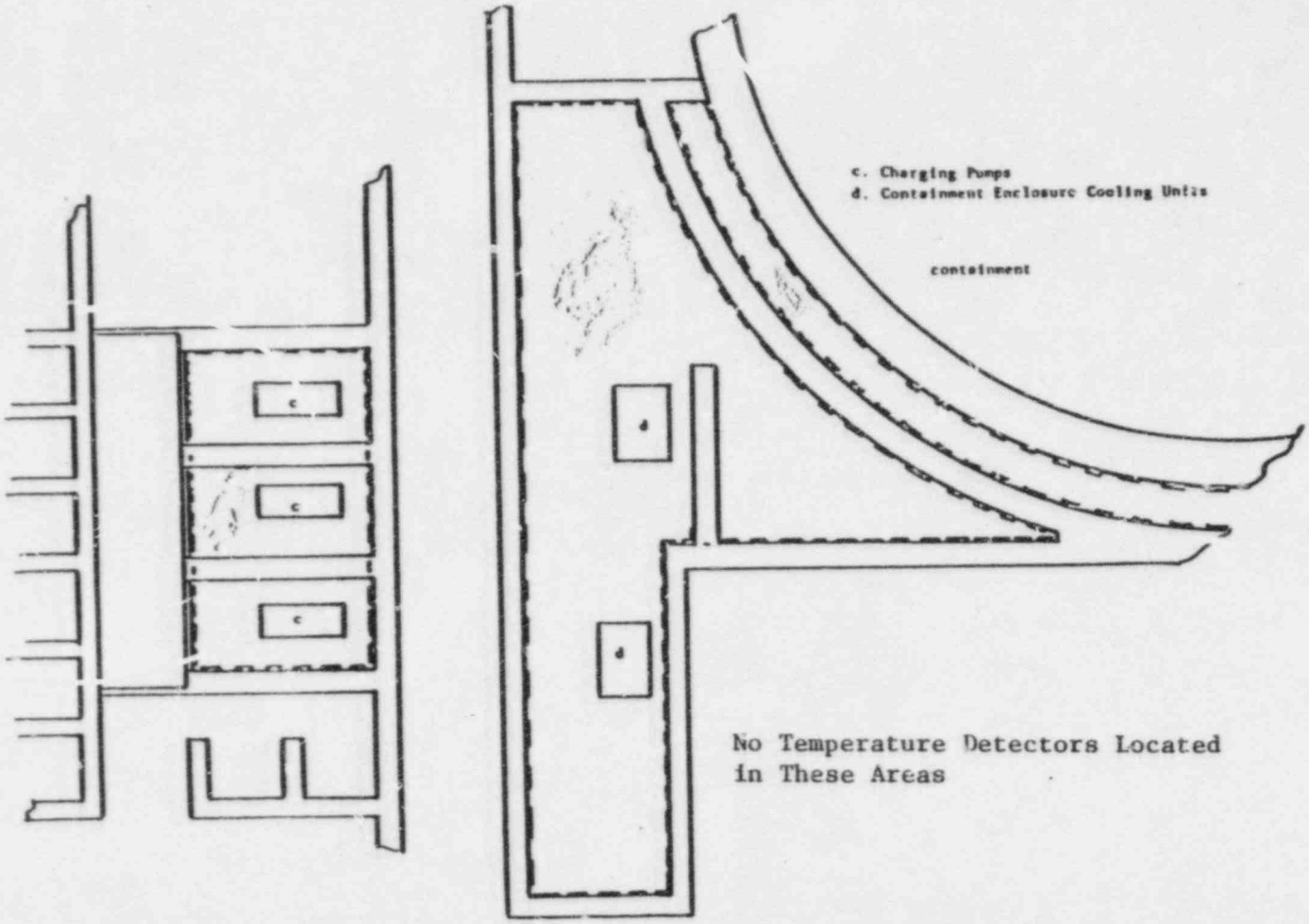
PSNH SEABROOK STATION PRIMARY AUXILIARY BUILDING



a. PCCW Hx's
b. Blowdown Flash Tank
c. PAB Exhaust Fan Room
d. Air Lock
e. FCB Inlet & Containment
f. Inlet Heaters
g. Inlet Filters
h. RAACT Pipe Chase
i. Valve Aisle
j. CVCS Tank
k. Air Lock
m. Storage Area
n. Electrical Chase
o. 480 V. Load Centers
p. PCCW Pumps
q. Boric Acid Tanks
r. CVCS Vaults
s. Charging Pump Vaults
t. Letdown Degasifier
u. Non-RAACT Pipe Chase
v. HVAC Opening
w. Boron Injection Tank
x. Chiller Surge Tank
y. Aux. Steam Condensate Tank
z. Pipe Trench

■ Denotes Thermocouple Location

Figure 2.1-1: Primary Auxiliary Building Showing Locations of HELB Temperature Detection Thermocouples



CHARGING PUMPS AREA
ZONE 32 & 33 C
El. 7'-0" to 23'-0"

CONTAINMENT VENTILATION ENCLOSURE AREA
ZONE 41 B
El. 21'-6" to 49'-0"

Figure 2.1-2: Containment Enclosure Area Showing Locations of HELB Temperature Detection Thermocouples

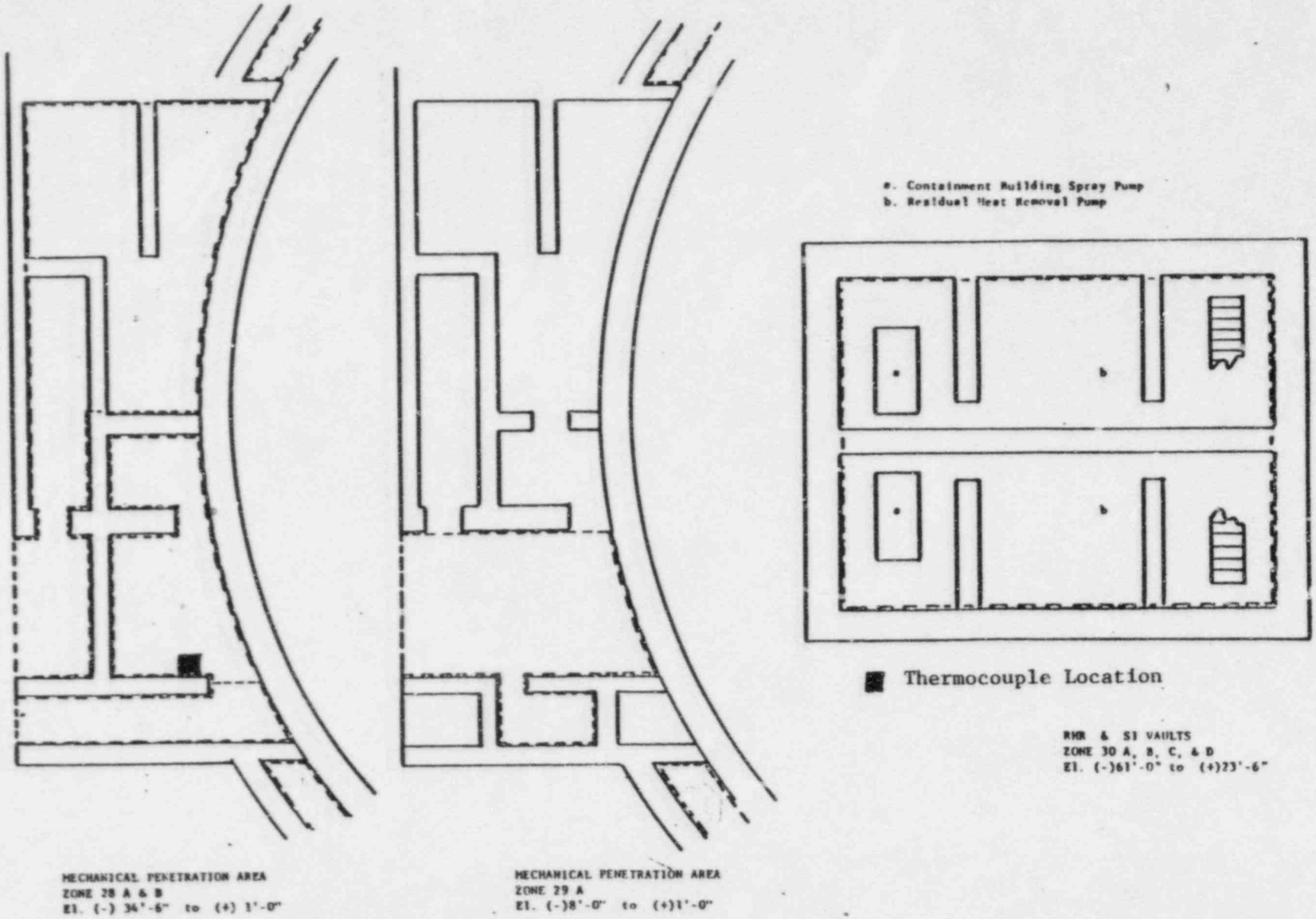
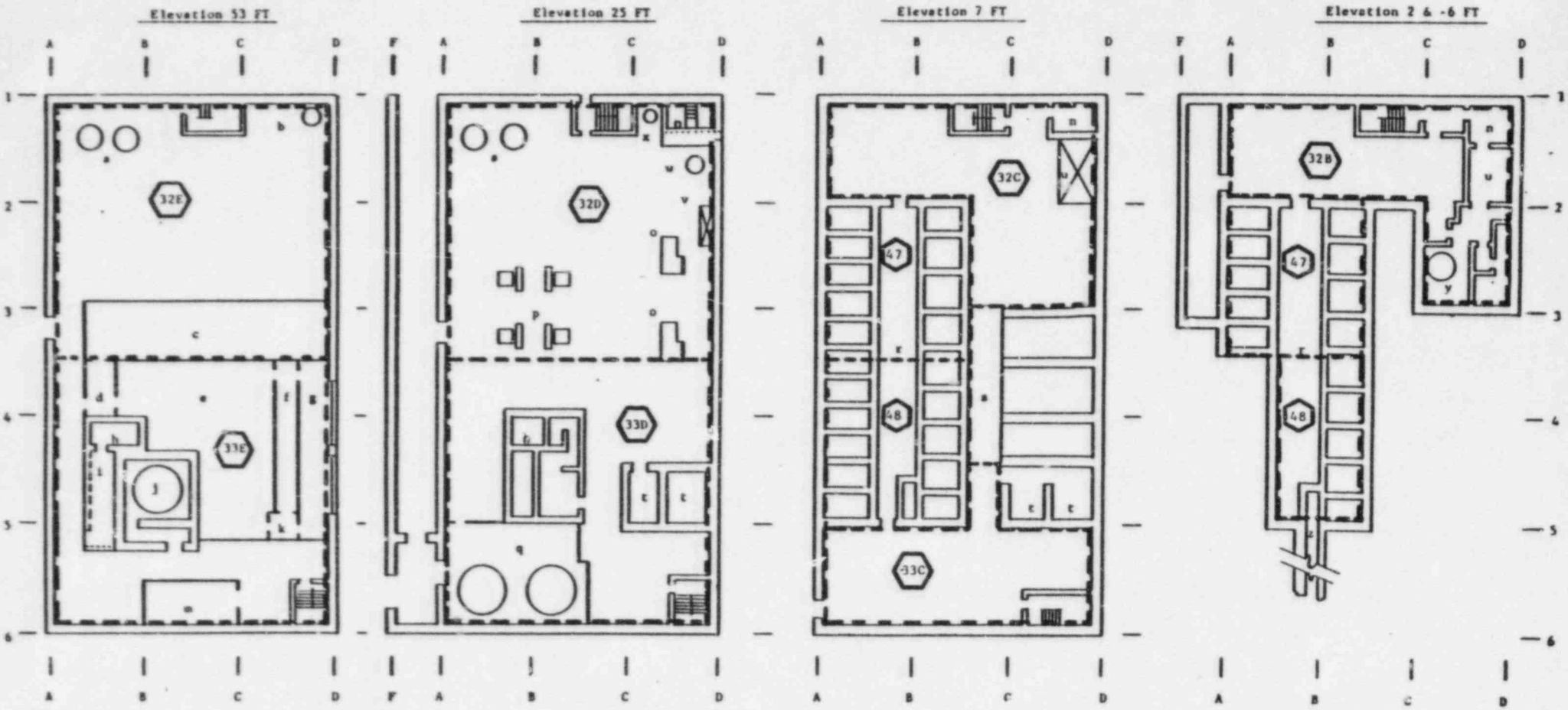
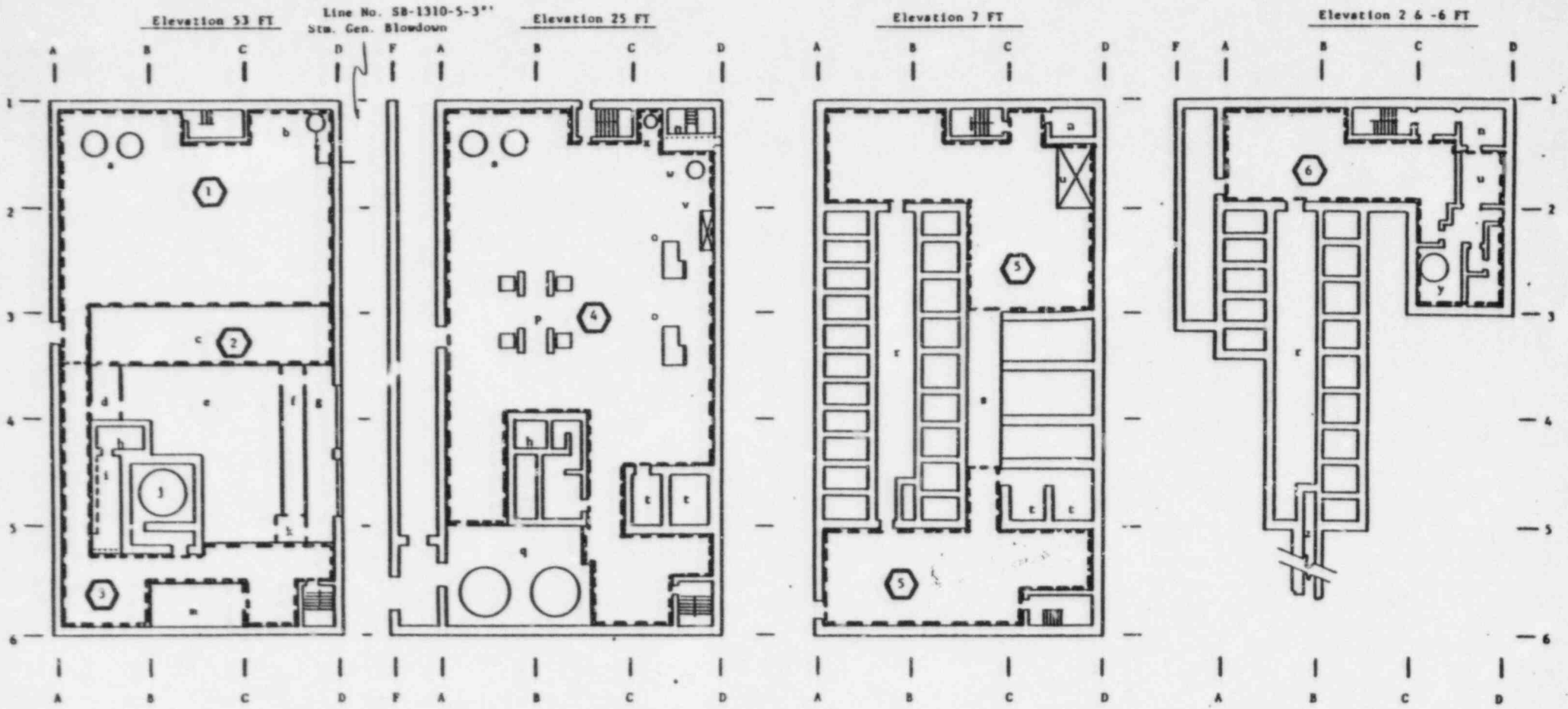


Figure 2.1-[illegible] Containment Enclosure Area Showing Locations of HELB Temperature Detection Thermocouples



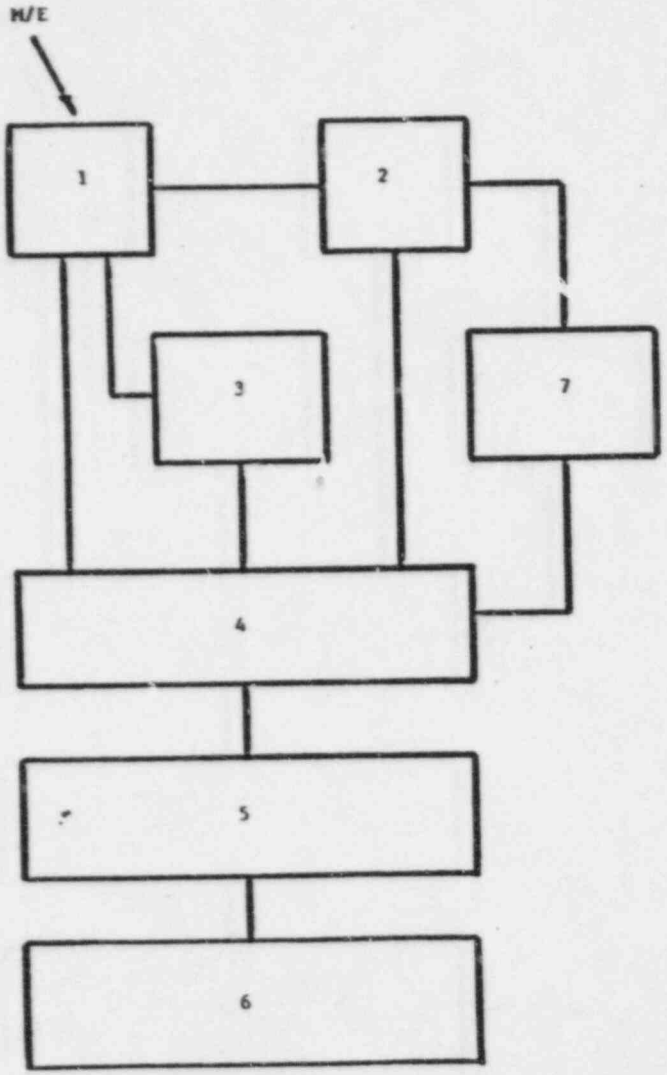
a. PCCW Heat Exchangers
b. Blowdown Flash Tank
c. PAB Exhaust Fan Room
d. Air Lock
e. PAB Inlet & Containment Purge Fans
f. Inlet Heaters
g. Inlet Filters
h. RAACT Pipe Chase
i. Valve Aisle
j. CVCS Tank
k. Air Lock
m. Storage Area
n. Electrical Chase
o. 480 v. Load Centers
p. PCCW Pumps
q. Boric Acid Tanks
r. CVCS Vaults
s. Charging Pump Vaults
t. Letdown Degassifier
u. Non-RAACT Pipe Chase
v. HVAC Opening
w. Boron Injection Tank
x. Chiller Surge Tank
y. Aux. Steam Condensate Tank
z. Pipe Trench

Figure 3.1-1: Zone Designations of Primary Auxiliary Building at Various Elevations



a. PCCW Heat Exchangers
b. Blowdown Flash Tank
c. PAB Exhaust Fan Room
d. Air Lock
e. PAB Inlet & Containment Purge Fans
f. Inlet Heaters
g. Inlet Filters
h. RAACT Pipe Chase
i. Valve Aisle
j. CVCS Tank
k. Air Lock
m. Storage Area
n. Electrical Chase
o. 480 v. Load Centers
p. PCCW Pumps
q. Boric Acid Tanks
r. CVCS Vaults
s. Charging Pump Vaults
t. Letdown Degassifier
u. Non-RAACT Pipe Chase
v. HVAC Opening
w. Boron Injection Tank
x. Chiller Surge Tank
y. Aux. Steam Condensate Tank
z. Pipe Trench

Figure 3.1-2A: Nodal Arrangement of Primary Auxiliary Building at Various Elevations for Steam Generator Blowdown Line Break Analysis



NODE	VOLUME (ft^3)	HEAT SINK AREA(ft^2)
1	95,490	18,000
2	23,520	560
3	53,930	8,000
4	243,400	42,670
5	108,070	18,500
6	38,235	15,900
7	ATMOSPHERE	

FLOW PATHS CHARACTERISTICS

FROM NODE	TO NODE	AREA(ft^2)	INERTIA(ft^{-1})	K_c	LOSS FACTOR K_{exp}	LOSS FACTOR K_{fric}	LOSS FACTOR K_{total}
1	2	15.0	.05	.78	1.0	.01	1.79
1	3	128.7	.45	.42	.85	.17	1.44
1	4	9.40	.88	.78	1.0	.20	1.98
2	4	31.5	.09	.78	1.0	.01	1.79
2	7	20.0	5.00	.78	1.0	3.50	5.28
3	4	10.6	5.40	.78	1.0	2.22	4.00
4	5	44.8	.80	.78	1.0	.30	2.08
4	7	20.0	.50	.78	1.0	1.60	3.38
5	6	5.9	8.50	.78	1.0	3.2	4.98

Figure 3.1-2B: Nodal Parameters of Primary Auxiliary Building for Steam Generator Blowdown Line Break Analysis

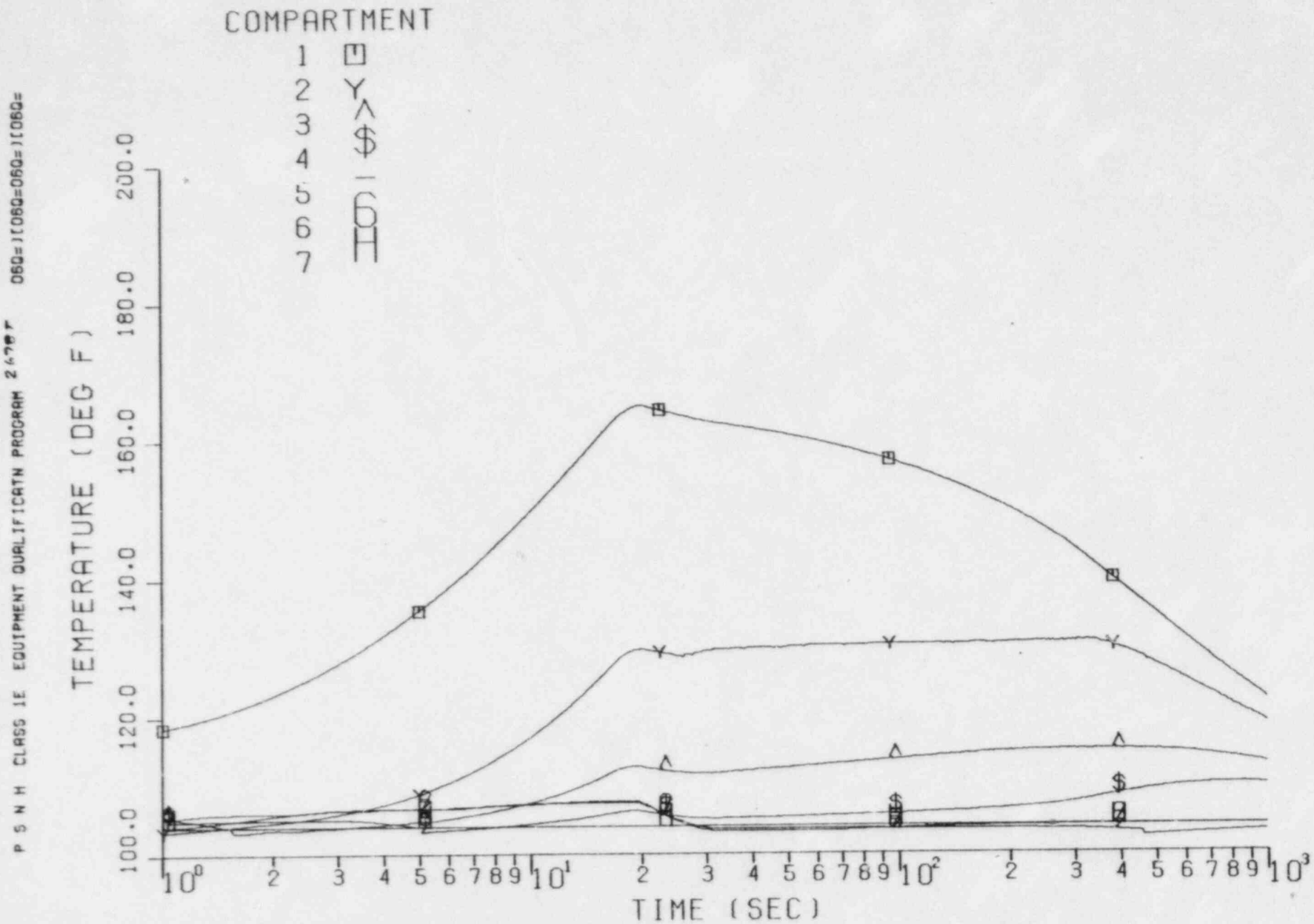


Figure 3.1-2C: Temperature Responses in Primary Auxiliary Building Following A Rupture of 3" Steam Generator Blowdown Line

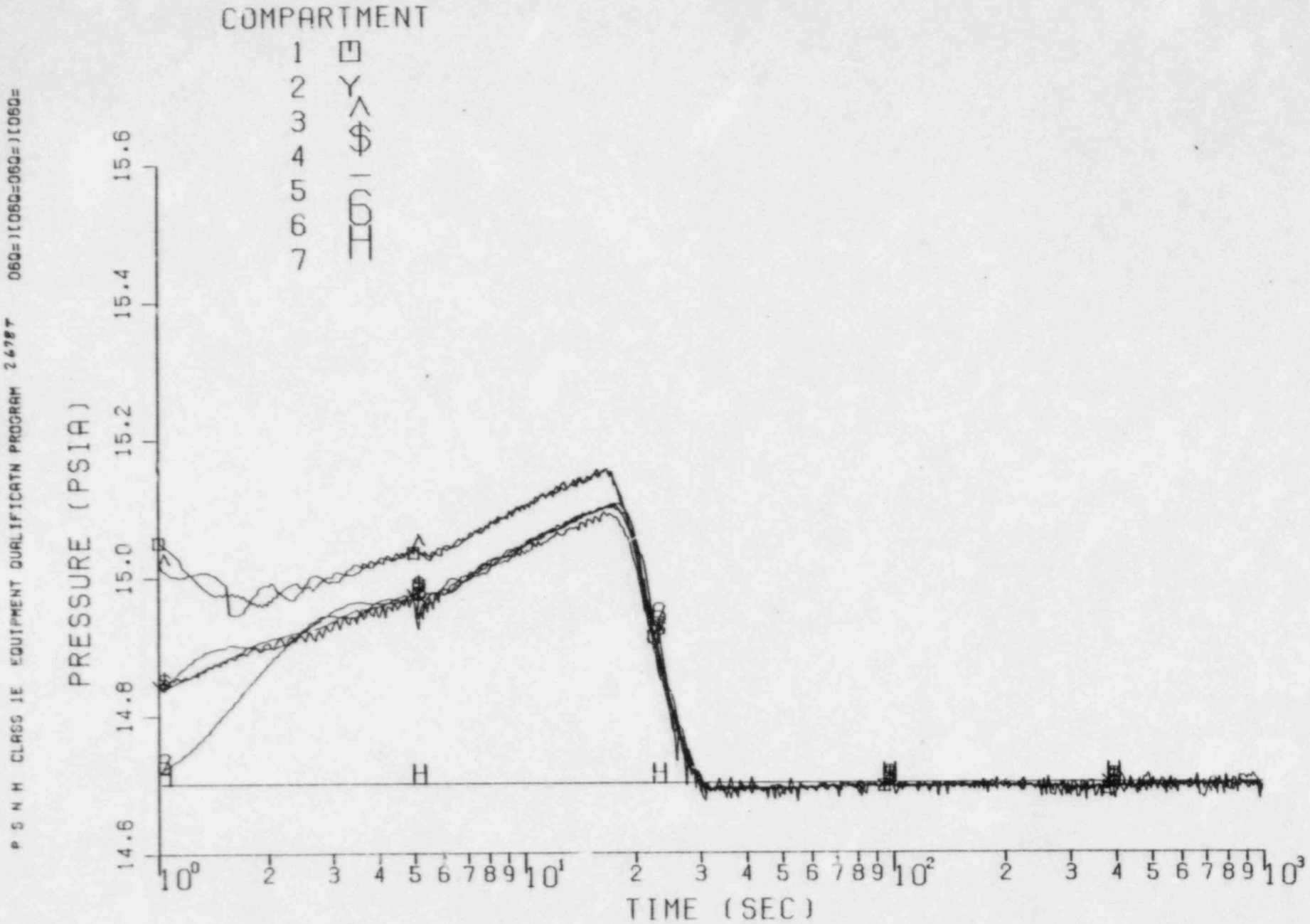
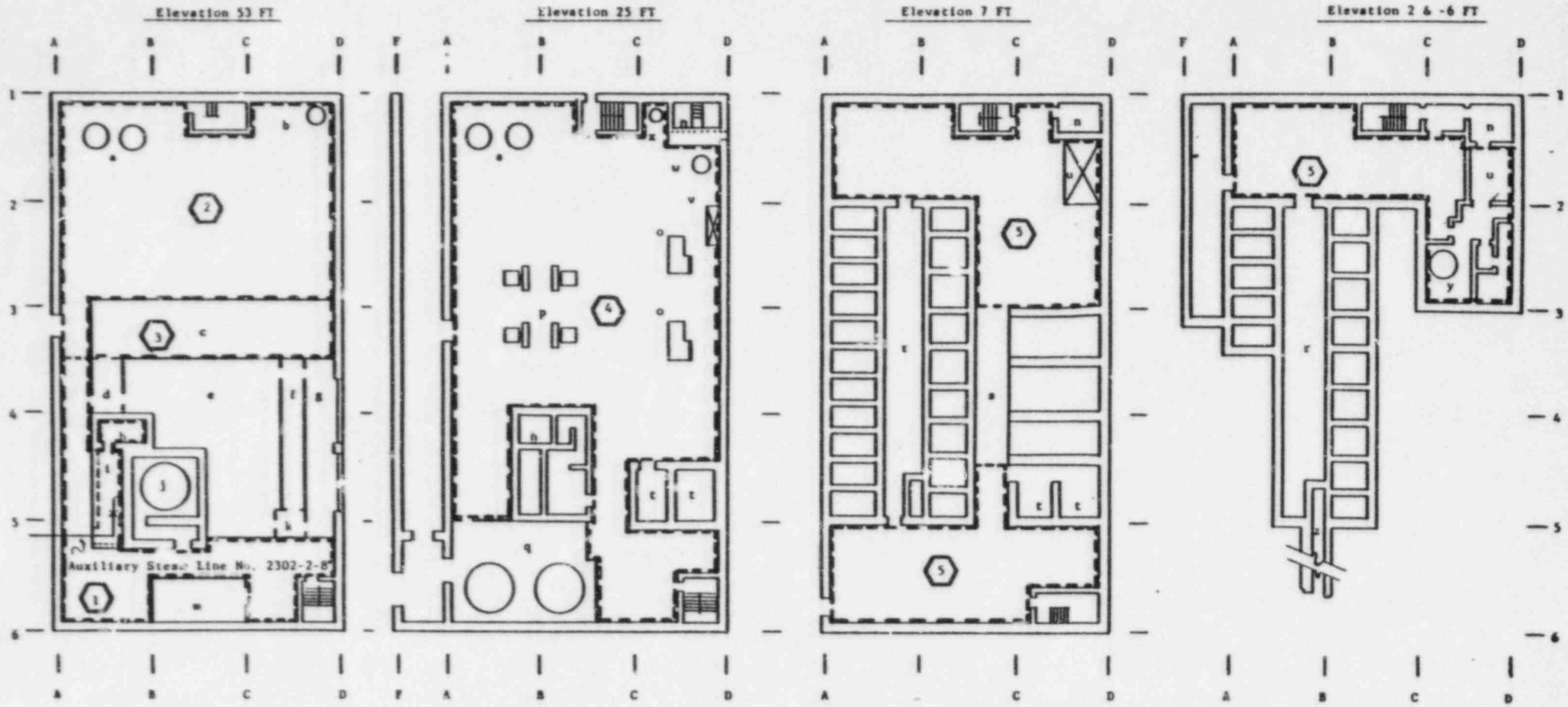
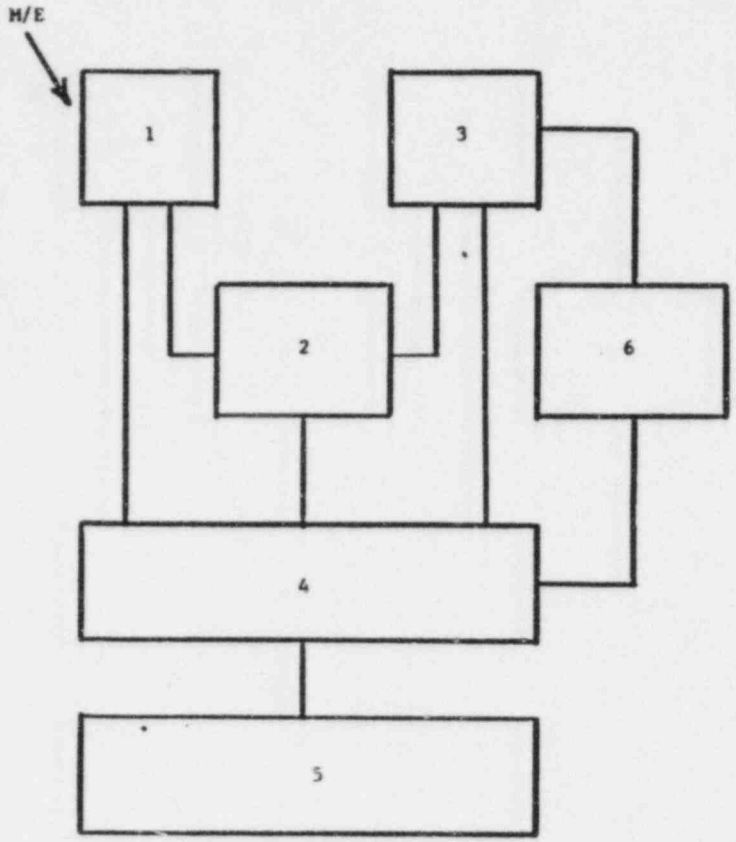


Figure 3.1-2D: Pressure Responses in Primary Auxiliary Building Following a Rupture of 3" Steam Generator Blowdown Line



a. PCCW Heat Exchangers
b. Blowdown Flash Tank
c. PAB Exhaust Fan Room
d. Air Lock
e. PAB Inlet & Containment Purge Fans
f. Inlet Heaters
g. Inlet Filters
h. RAACT Pipe Chase
i. Valve Aisle
j. CVCS Tank
k. Air Lock
m. Storage Area
n. Electrical Chase
o. 480 v. Load Centers
p. PCCW Pumps
q. Boric Acid Tanks
r. CVCS Vaults
s. Charging Pump Vaults
t. Letdown Degassifier
u. Non-RAACT Pipe Chase
v. HVAC Opening
w. Boron Injection Tank
x. Chiller Surge Tank
y. Aux. Steam Condensate Tank
z. Pipe Trench

Figure 3.1-3A: Nodal Arrangement of Primary Auxiliary Building at Various Elevations for Auxiliary Steam Line AS-2302-2-8" Break Analysis



NODE	VOLUME (ft^3)	HEAT SINK AREA(ft^2)
1	53,930	8,000
2	95,490	18,000
3	23,520	560
4	243,400	42,670
5	146,300	34,400
6	ATMOSPHERE	

FLOW PATHS CHARACTERISTICS

FROM NODE	TO NODE	AREA(ft^2)	INERTIA (ft^{-1})	LOSS FACTOR K_c	K_{exp}	K_{fric}	K_{total}
1	2	128.7	.45	.42	.85	.17	1.44
1	4	10.6	5.40	.78	1.0	2.22	4.00
2	3	15.0	.05	.78	1.0	.01	1.79
2	4	9.4	.88	.78	1.0	.20	1.98
3	4	31.5	.09	.78	1.0	.01	1.79
3	6	20.0	5.00	.78	1.0	3.50	5.28
4	5	44.8	.80	.78	1.0	.30	2.08
4	6	20.0	.50	.78	1.0	1.60	3.38

Figure 3.1-3B: Nodal Parameters of Primary Auxiliary Building for Auxiliary Steam Line AS-2302-2-8" Break Analysis

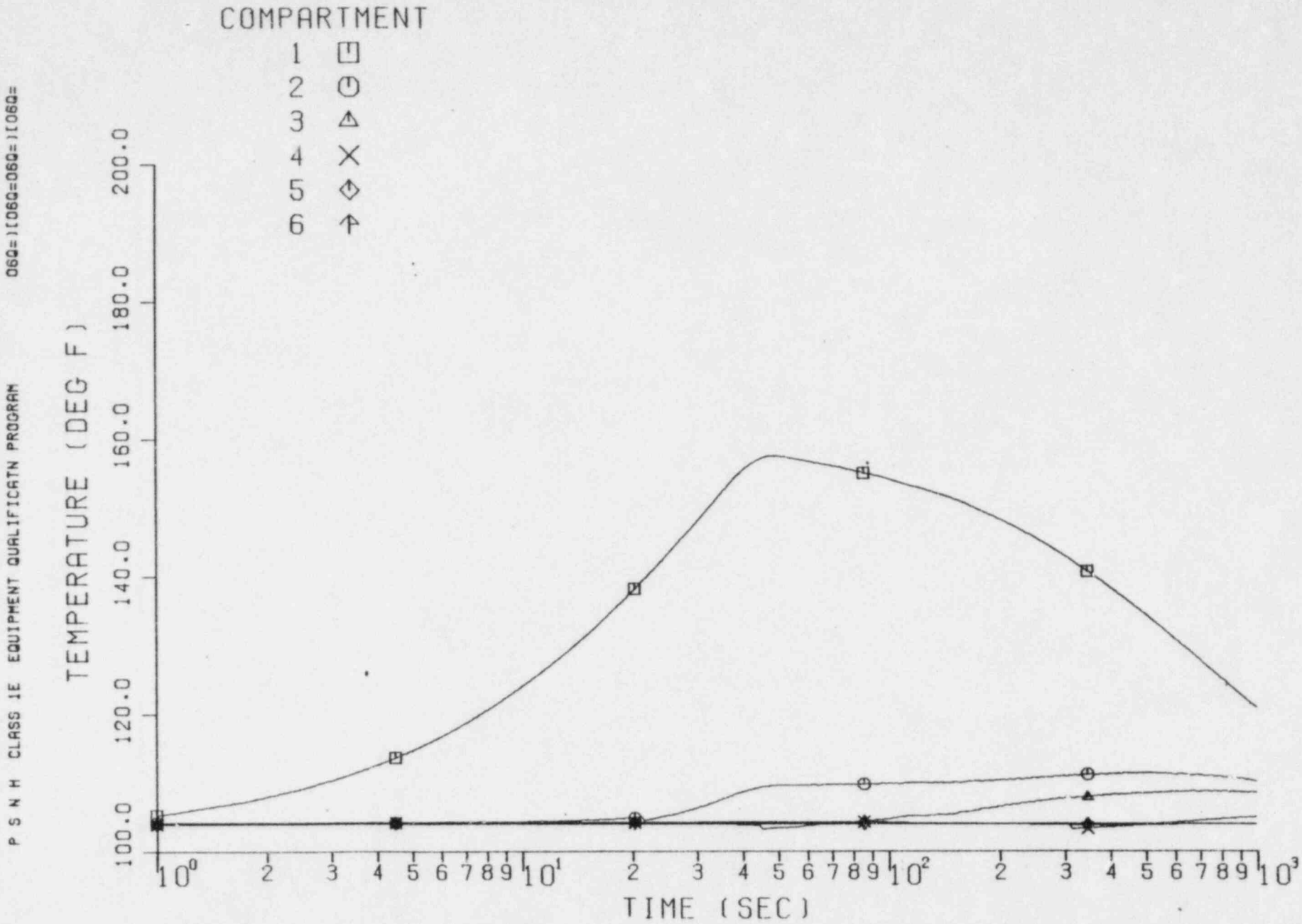


Figure 3.1-3C: Temperature Responses in Primary Auxiliary Building Following a Rupture of 8" Auxiliary Steam Line

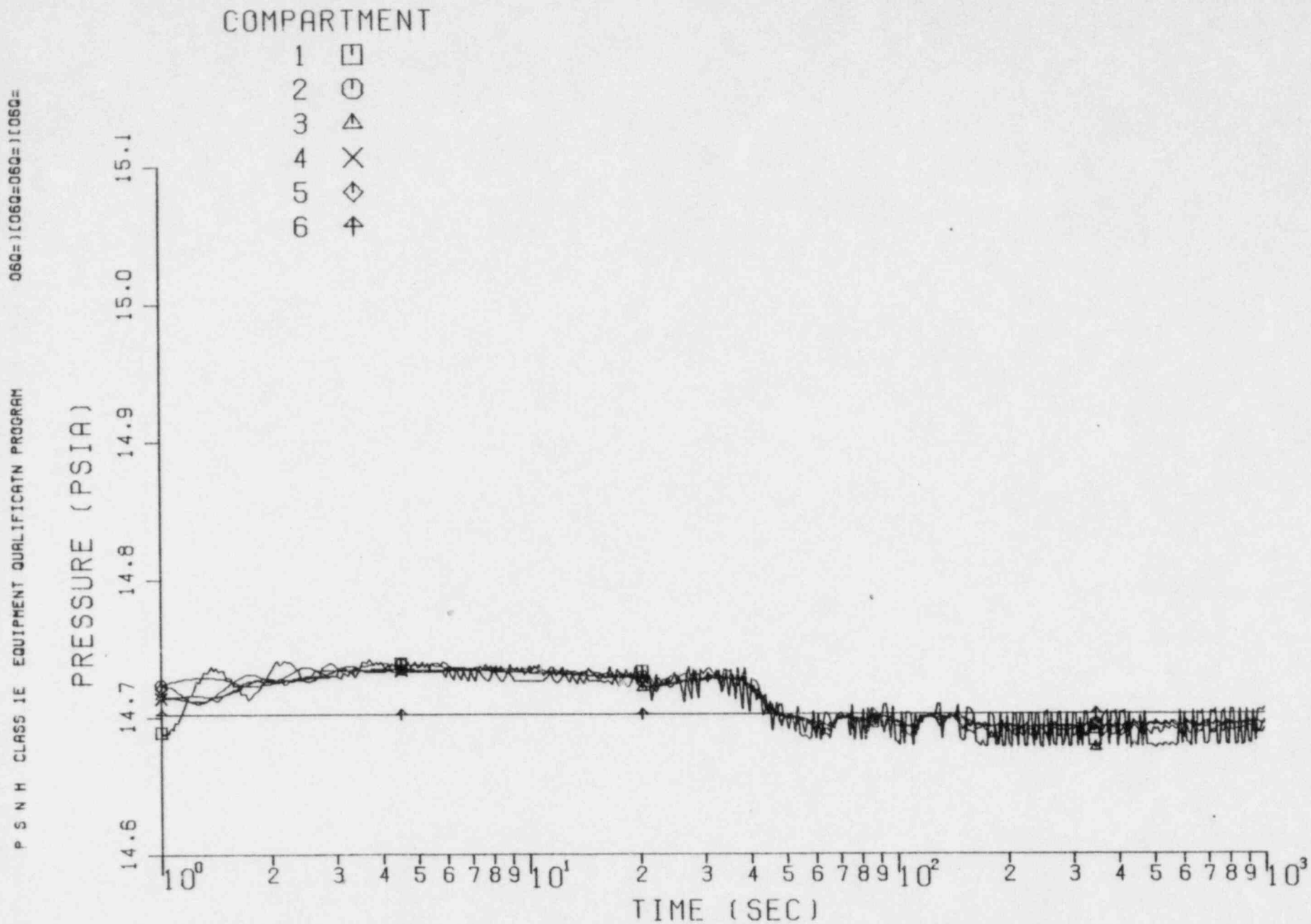
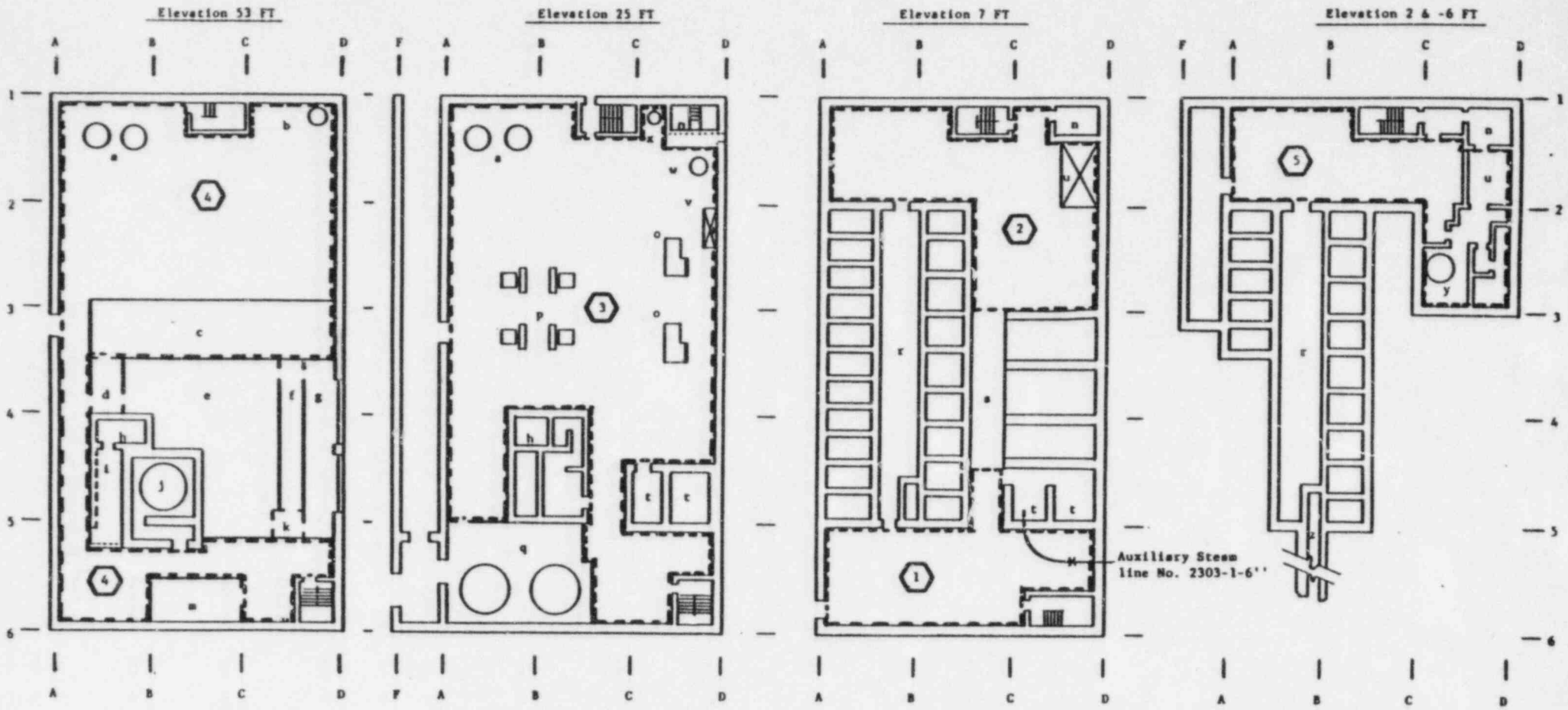
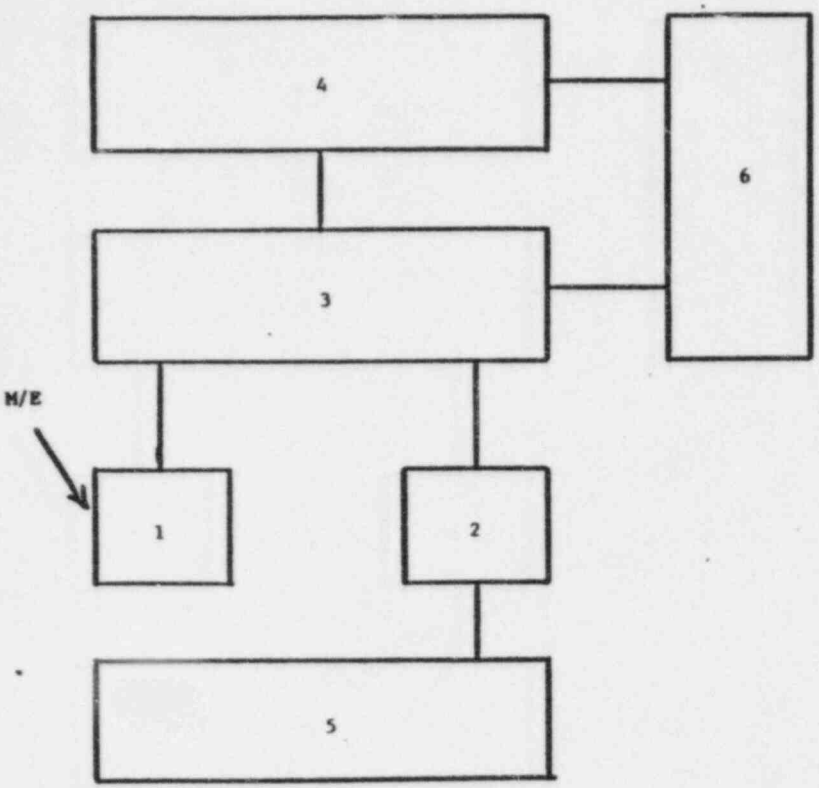


Figure 3.1-3D: Pressure Responses in Primary Auxiliary Building Following a Rupture of 8" Auxiliary Steam Line



a. PCCW Heat Exchangers
b. Blowdown Flash Tank
c. PAB Exhaust Fan Room
d. Air Lock
e. PAB Inlet & Containment Purge Fans
f. Inlet Heaters
g. Inlet Filters
h. RAACT Pipe Chase
i. Valve Aisle
j. CVCS Tank
k. Air Lock
m. Storage Area
n. Electrical Chase
o. 480 v. Load Centers
p. PCCW Pumps
q. Boric Acid Tanks
r. CVCS Vaults
s. Charging Pump Vaults
t. Letdown Degassifier
u. Non-RAACT Pipe Chase
v. HVAC Opening
w. Boron Injection Tank
x. Chiller Surge Tank
y. Aux. Steam Condensate Tank
z. Pipe Trench

Figure 3.1-4A: Nodal Arrangement of Primary Auxiliary Building at Various Elevations for Auxiliary Steam Line AS-2303-1-6" Break Analysis



NODE	VOLUME (ft^3)	HEAT SINK AREA(ft^2)
1	38,200	8,500
2	49,700	10,000
3	243,400	42,670
4	172,940	26,560
5	38,235	15,900
6	ATMOSPHERE	

FLOW PATHS CHARACTERISTICS

FROM NODE	TO NODE	AREA(ft^2)	INERTIA (ft^{-1})	LOSS FACTOR K_c	K_{exp}	K_{fric}	K_{total}
1	3	60.0	.04	.78	1.0	.02	1.80
2	3	44.8	.80	.78	1.0	.30	2.08
2	5	5.9	8.50	.78	1.0	3.20	4.98
3	4	51.5	1.33	.78	1.0	.33	2.11
3	6	20.0	.50	.78	1.0	1.60	3.38
4	6	20.0	5.00	.78	1.0	3.50	5.28

Figure 3.1-4B: Nodal Parameters of Primary Auxiliary Building for Auxiliary Steam Line AS-2303-1-6" Break Analysis

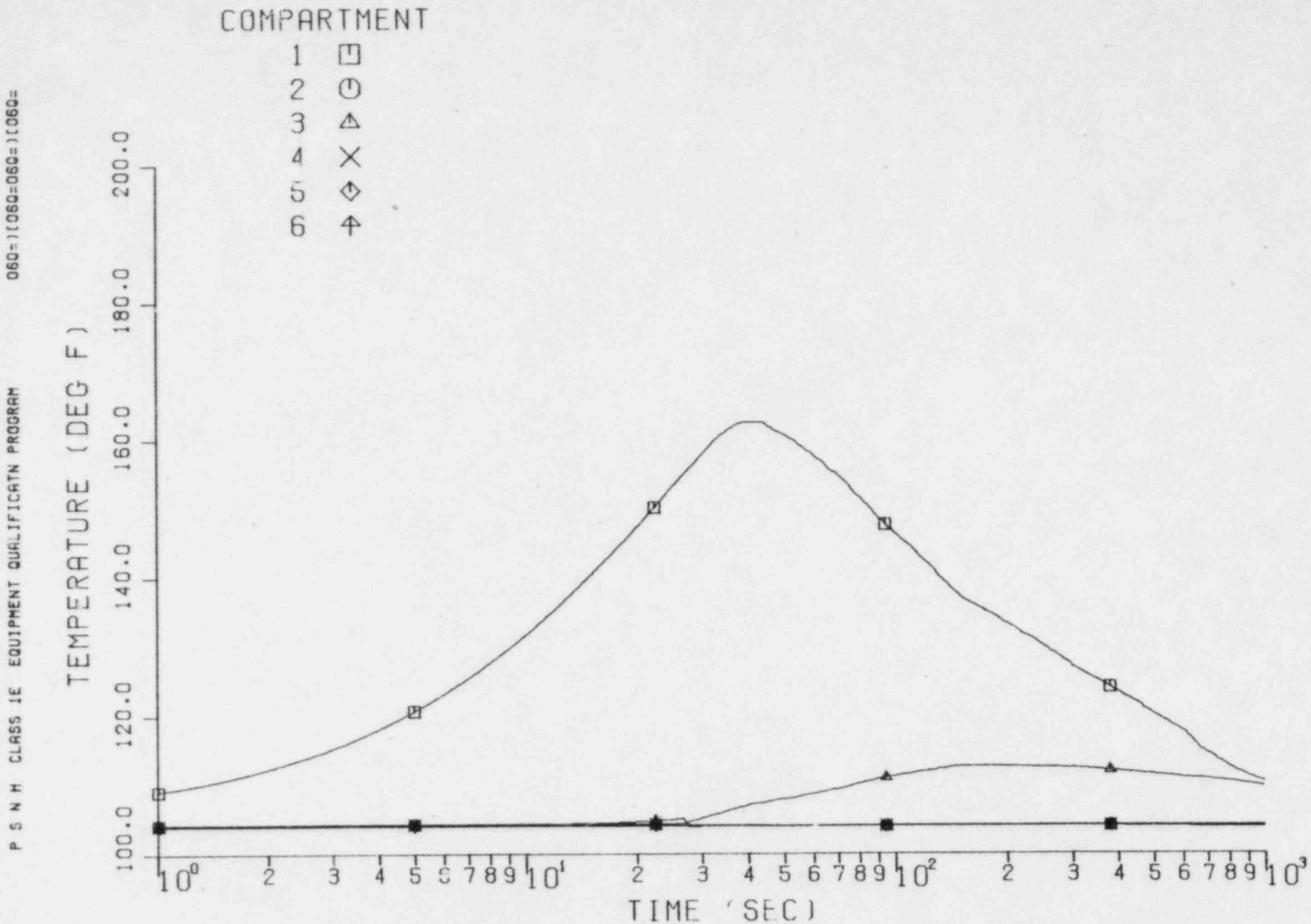


Figure 3.1-4C: Temperature Responses in Primary Auxiliary Building Following a Rupture of 6" Auxiliary Steam Line

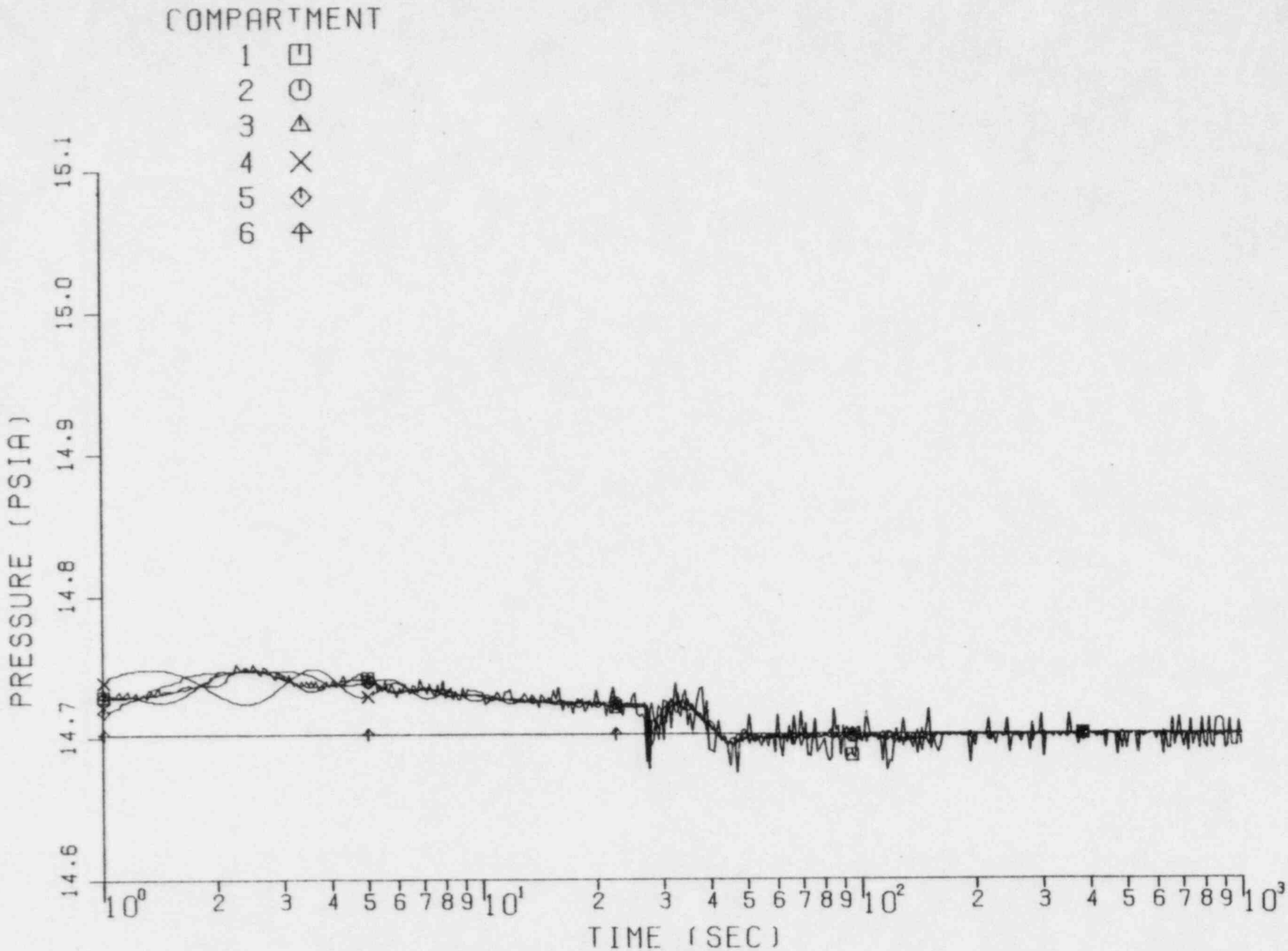
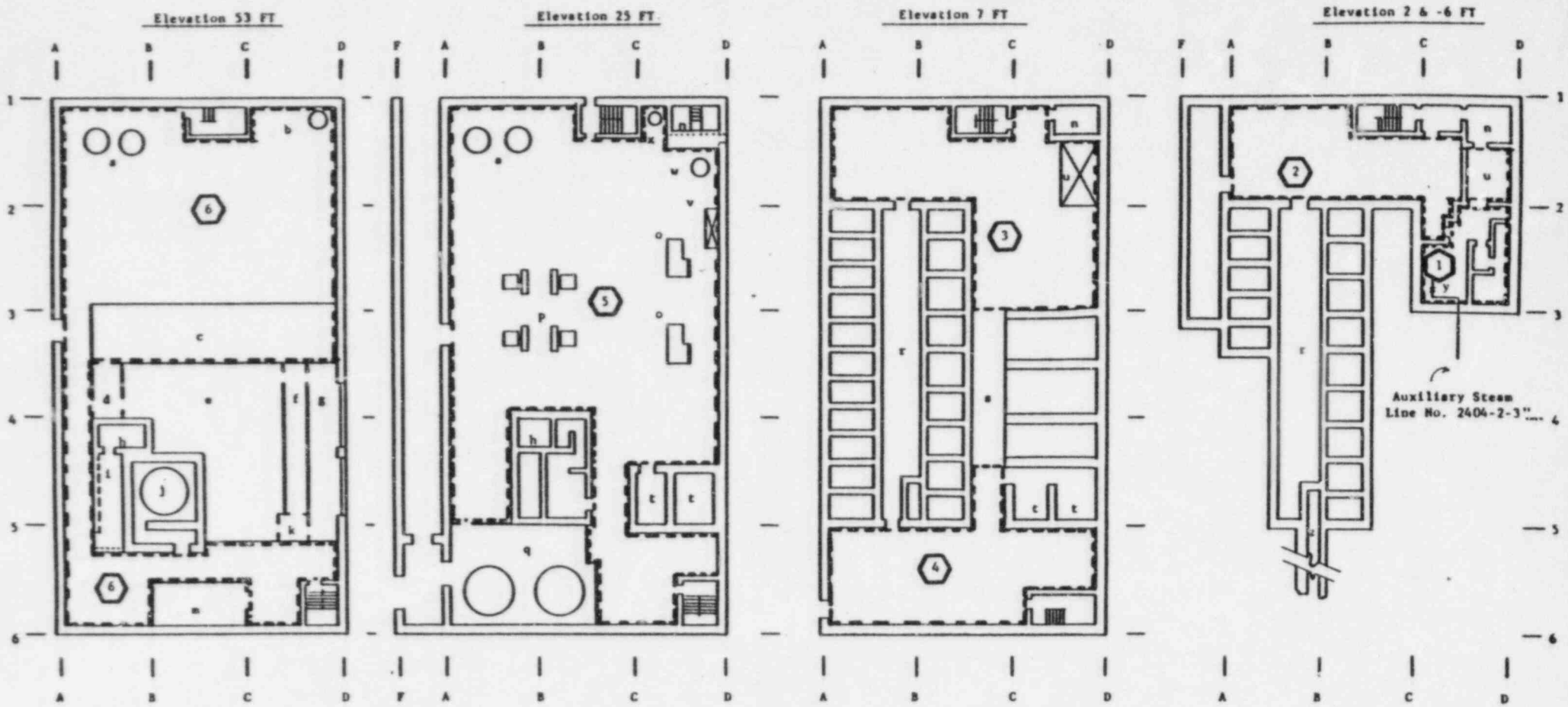
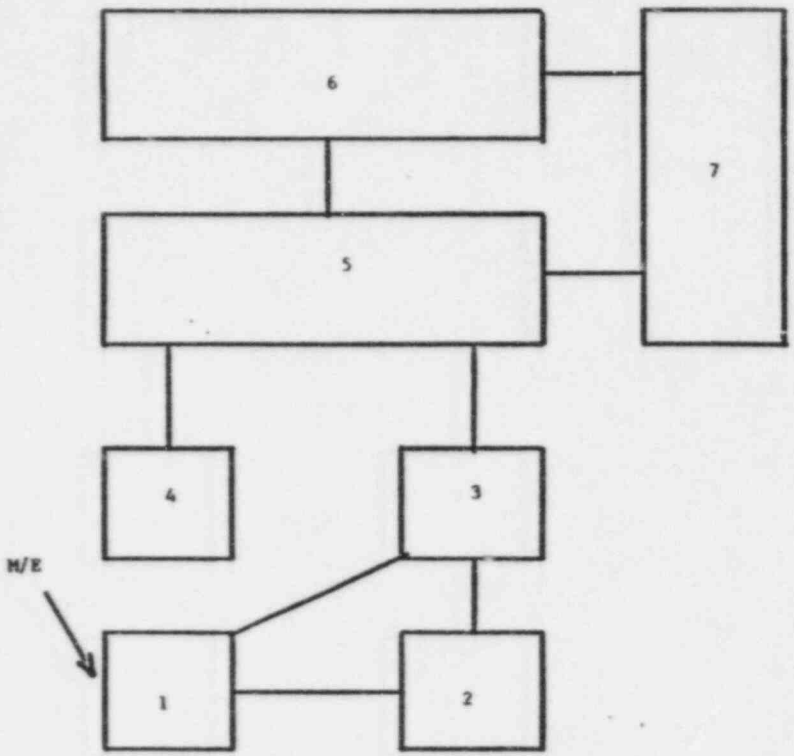


Figure 3.1-4D: Pressure Responses in Primary Auxiliary Building Following a Rupture of 6" Auxiliary Steam Line



a. PCCW Heat Exchangers
b. Blowdown Flash Tank
c. PAB Exhaust Fan Room
d. Air Lock
e. PAB Inlet & Containment Purge Fans
f. Inlet Heaters
g. Inlet Filters
h. RAACT Pipe Chase
i. Valve Aisle
j. CVCS Tank
k. Air Lock
m. Storage Area
n. Electrical Chase
o. 480 v. Load Centers
p. PCCW Pumps
q. Boric Acid Tanks
r. CVCS Vaults
s. Charging Pump Vaults
t. Letdown Degassifier
u. Non-RAACT Pipe Chase
v. HVAC Opening
w. Boron Injection Tank
x. Chiller Surge Tank
y. Aux. Steam Condensate Tank
z. Pipe Trench

Figure 3.1-5A: Nodal Arragement of Primary Auxiliary Building at Various Elevations for Auxiliary Steam Condensate Line ASC-2404-2-3" Break Analysis



NODE	VOLUME (ft^3)	HEAT SINK AREA(ft^2)
1	8,645	4,180
2	29,700	11,700
3	49,700	10,000
4	38,200	8,500
5	243,400	42,670
6	172,940	26,560
7	ATMOSPHERE	

FLOW PATHS CHARACTERISTICS

FROM NODE	TO NODE	AREA(ft^2)	INERTIA (ft^{-1})	LOSS FACTOR K_c	K_{exp}	K_{fric}	K_{total}
1	2	2.1	15.0	.78	1.0	1.5	3.28
1	3	3.0	10.3	.78	1.0	1.4	3.18
2	3	5.9	8.5	.78	1.0	3.20	4.98
3	5	44.8	.80	.78	1.0	.30	2.08
4	5	6.3	.32	.78	1.0	.10	1.88
5	6	51.5	1.33	.78	1.0	.33	2.11
5	7	20.0	.50	.78	1.0	1.60	3.38
6	7	20.0	5.00	.78	1.0	3.50	5.28

Figure 3.1-5B: Nodal Parameters of Primary Auxiliary Building for Auxiliary Steam Condensate Line ASC-2404-2-3" Break Analysis

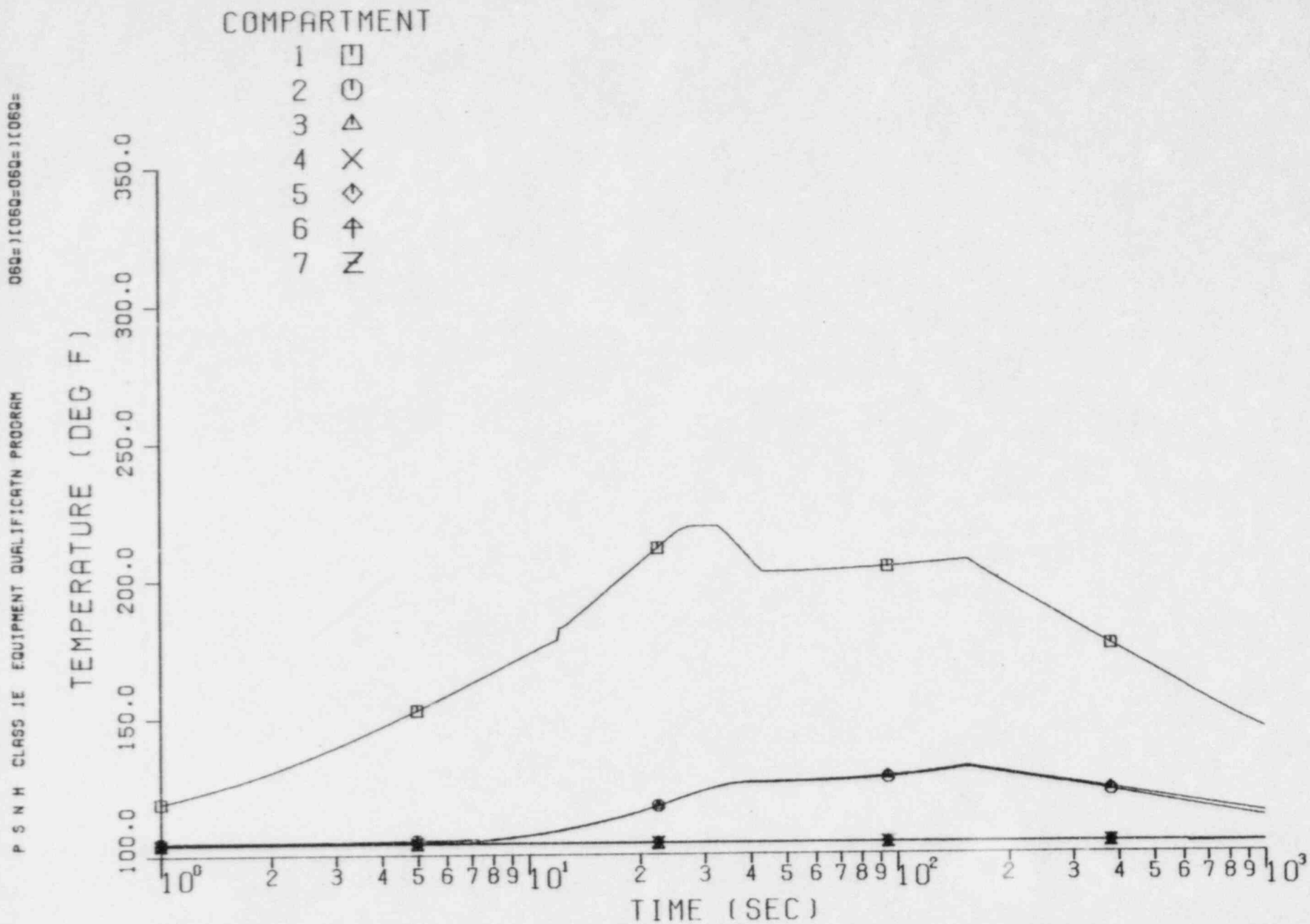


Figure 3.1-5C: Temperature Responses in Primary Auxiliary Building Following a Rupture of 3" Auxiliary Steam Condensate Line

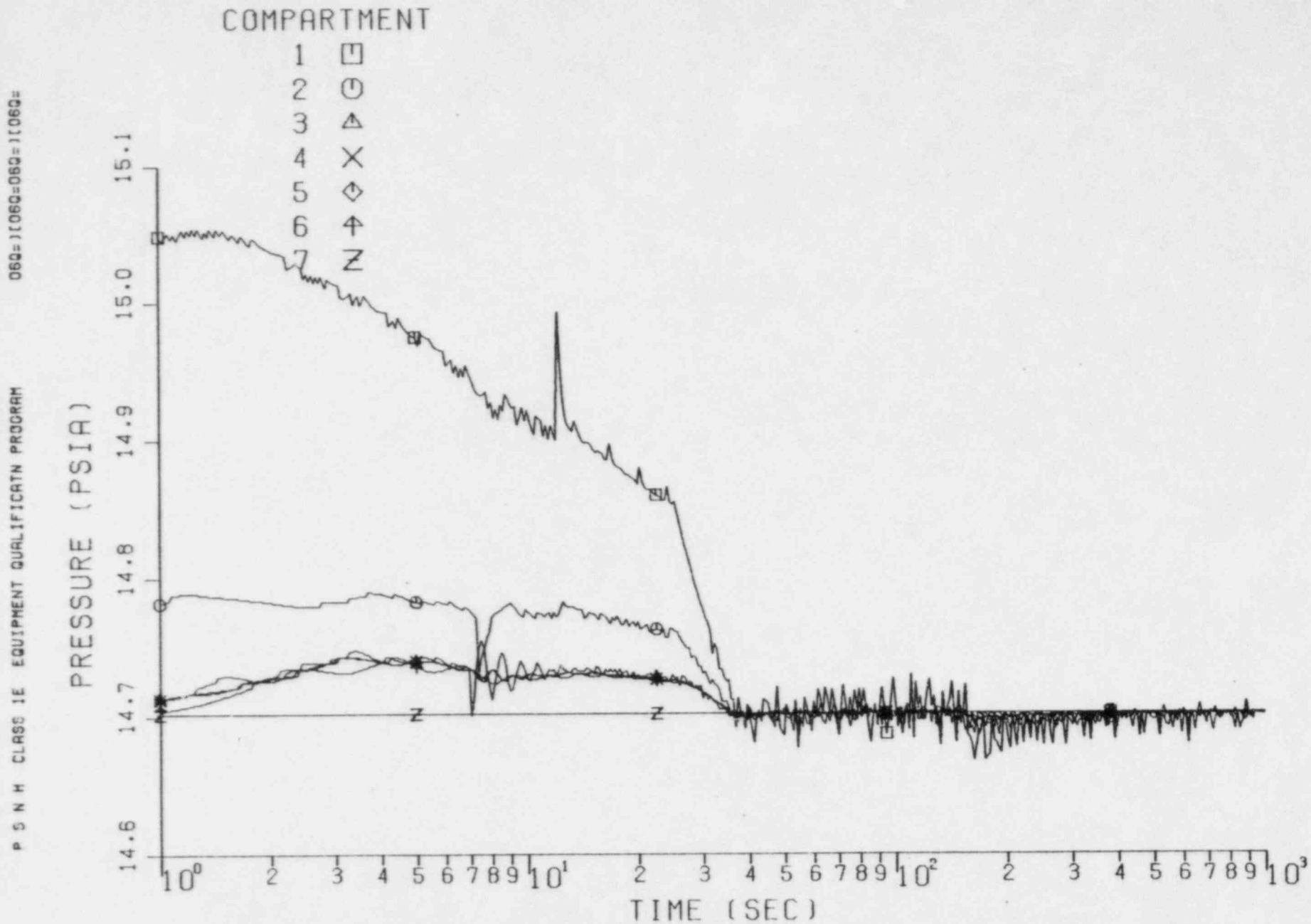
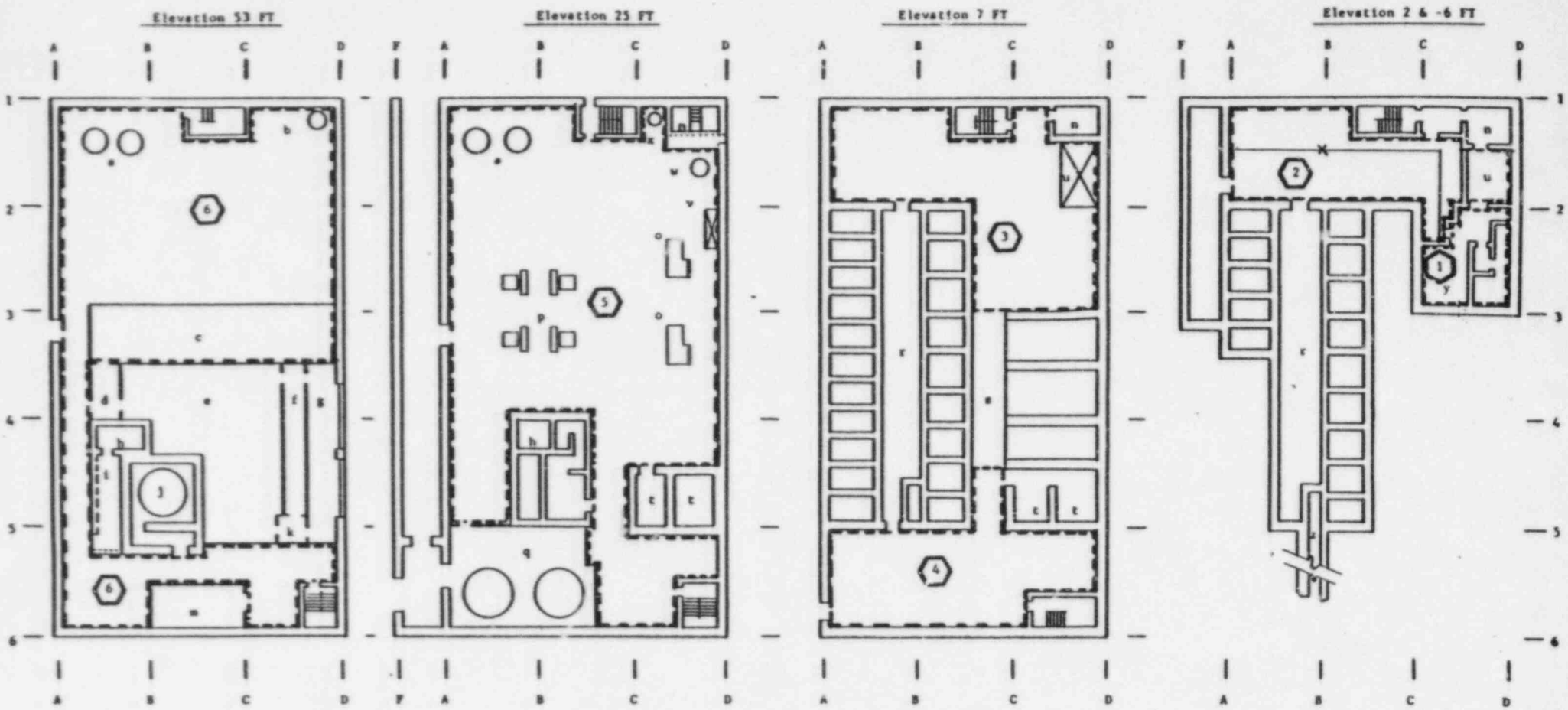
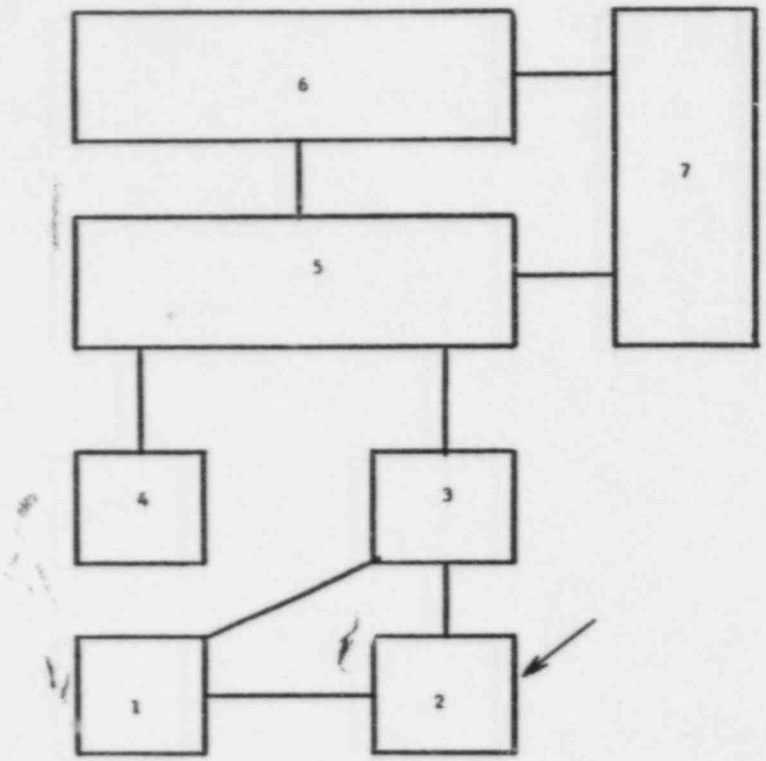


Figure 3.1-5D: Pressure Responses in Primary Auxiliary Building Following a Rupture of 3" Auxiliary Steam Condensate Line



a. PCCW Heat Exchangers
b. Blowdown Flash Tank
c. PAB Exhaust Fan Room
d. Air Lock
e. PAB Inlet & Containment Purge Fans
f. Inlet Heaters
g. Inlet Filters
h. RAACT Pipe Chase
i. Valve Aisle
j. CVCS Tank
k. Air Lock
m. Storage Area
n. Electrical Chase
o. 480 v. Load Centers
p. PCCW Pumps
q. Boric Acid Tanks
r. CVCS Vaults
s. Charging Pump Vaults
t. Letdown Degassifier
u. Non-RAACT Pipe Chase
v. HVAC Opening
w. Boron Injection Tank
x. Chiller Surge Tank
y. Aux. Steam Condensate Tank
z. Pipe Trench

Figure 3.1-6A: Nodal Arrangement of Primary Auxiliary Building at Various Elevations for Auxiliary Steam Condensate Line ASC-2406-1-4" Break Analysis



NODE	VOLUME (ft^3)	HEAT SINK AREA(ft^2)
1	8,645	4,180
2	29,700	11,700
3	49,700	10,000
4	38,200	8,500
5	243,400	42,670
6	172,940	26,560
7	ATMOSPHERE	

FLOW PATHS CHARACTERISTICS

FROM NODE	TO NODE	AREA(ft^2)	INERTIA (ft^{-1})	K_c	LOSS FACTOR K_{exp}	K_{fric}	K_{total}
1	2	2.1	15.0	.78	1.0	1.5	3.28
1	3	3.0	10.3	.78	1.0	1.4	3.18
2	3	5.9	8.5	.78	1.0	3.20	4.98
3	5	44.8	.80	.78	1.0	.30	2.08
4	5	6.3	.32	.78	1.0	.10	1.88
5	6	51.5	1.33	.78	1.0	.33	2.11
5	7	20.0	.50	.78	1.0	1.60	3.38
6	7	20.0	5.00	.78	1.0	3.50	5.28

Figure 3.1-6B: Nodal Parameters of Primary Auxiliary Building for Auxiliary Steam Condensate Line ASC-2406-1-4" Break Analysis

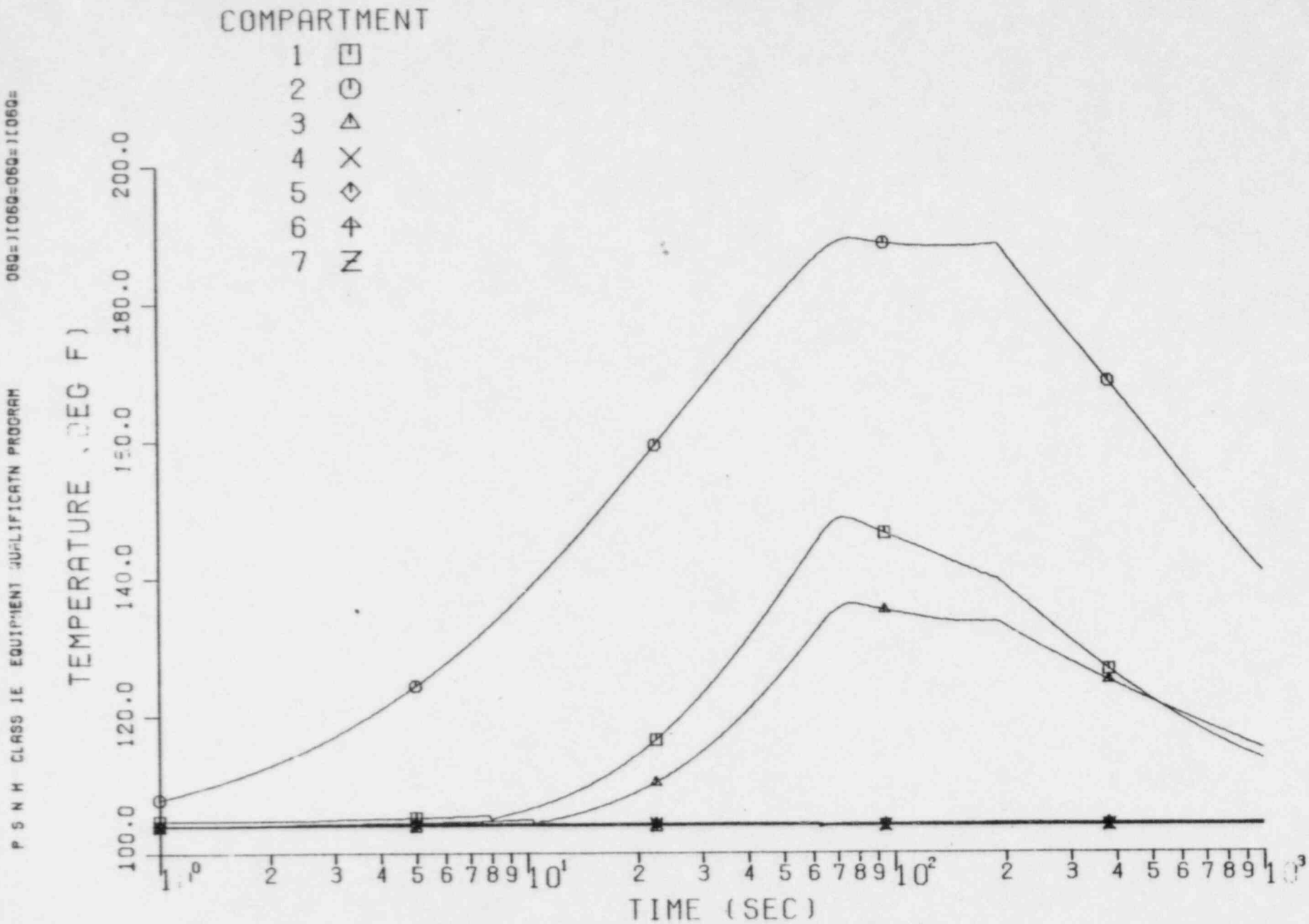


Figure 3.1-6C: Temperature Responses in Primary Auxiliary Building Following a Rupture of 4" Auxiliary Steam Condensate Line

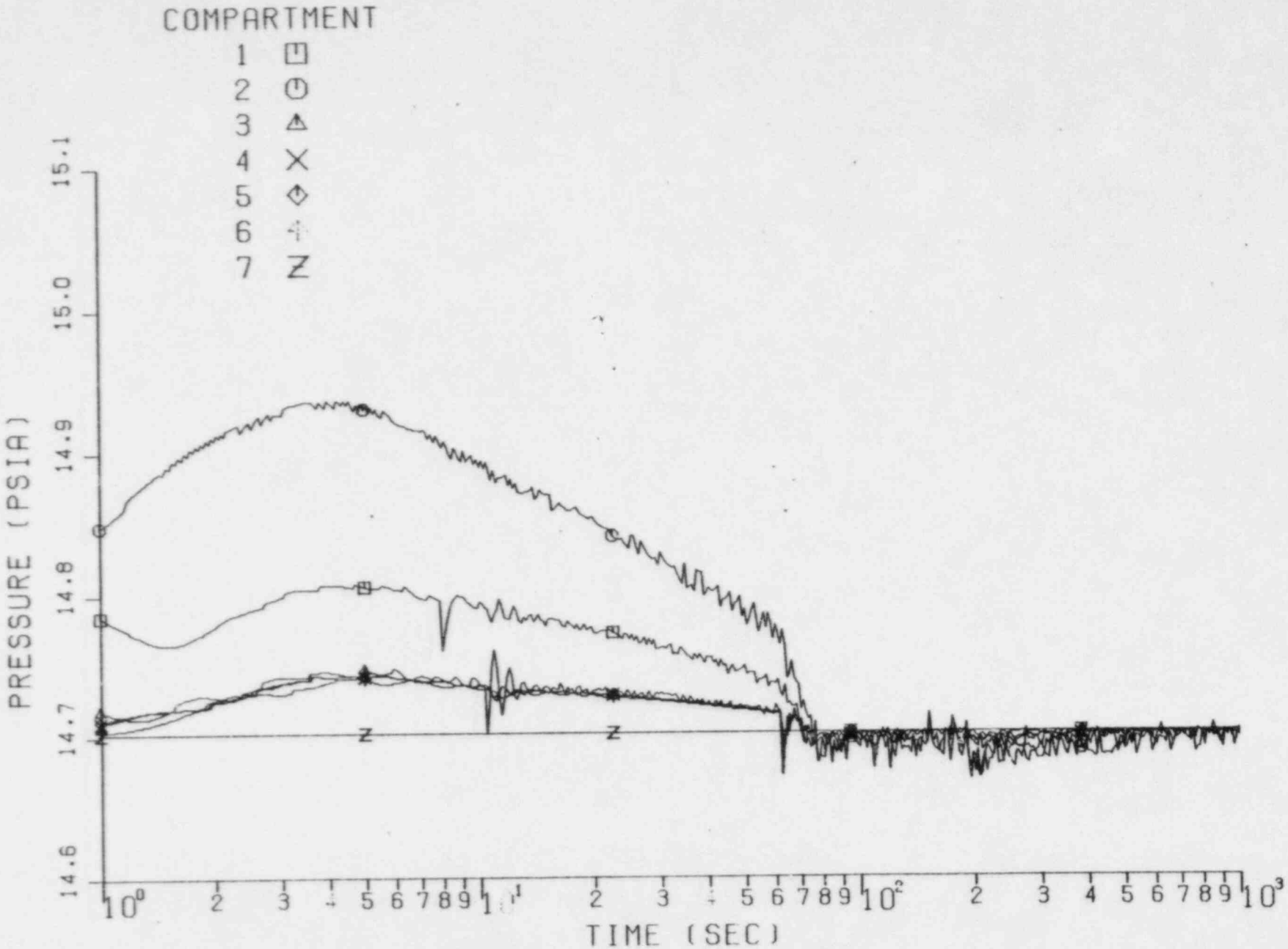
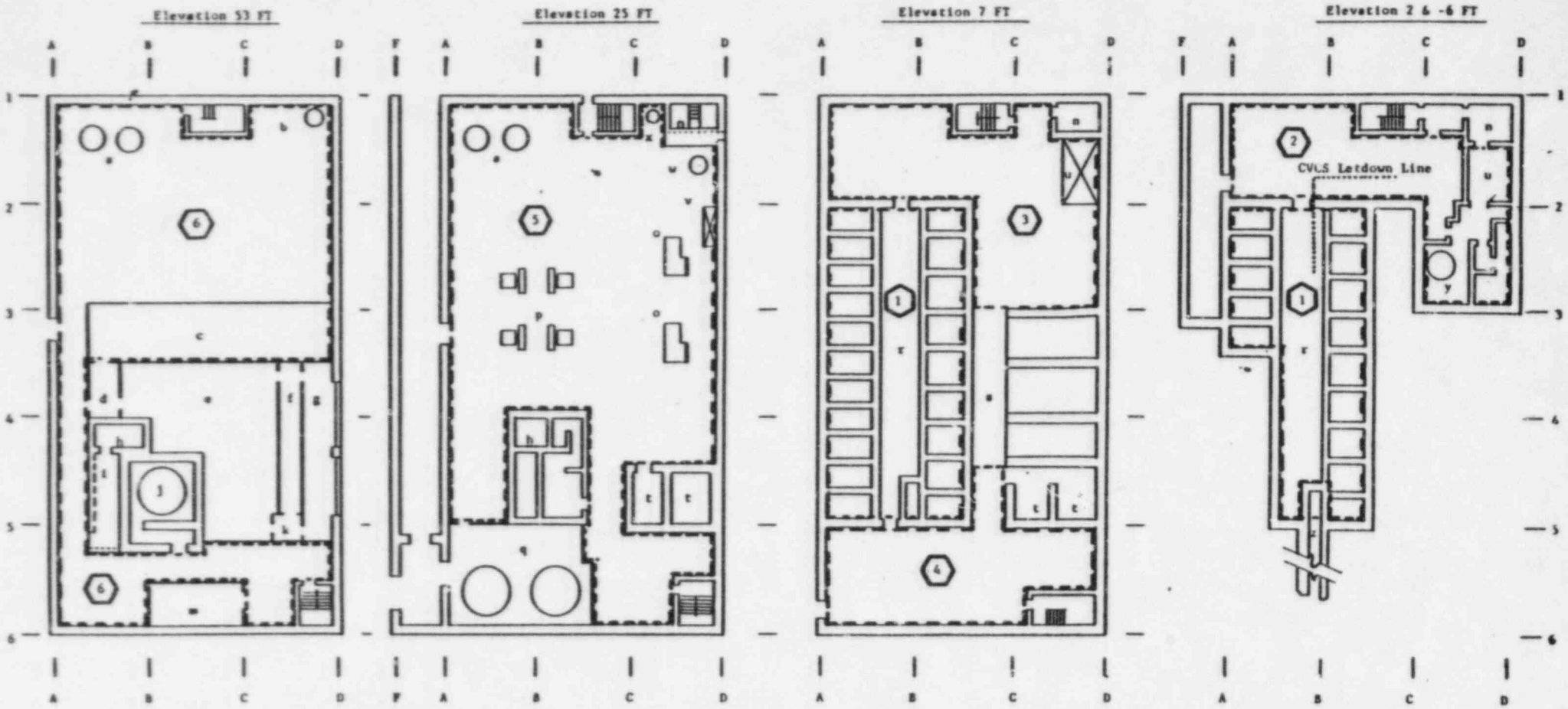
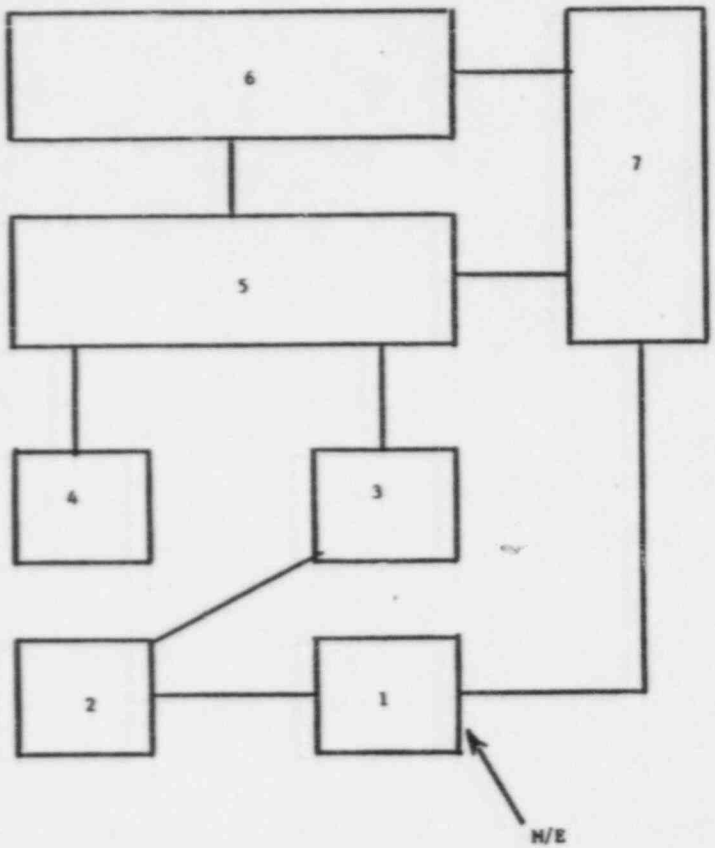


Figure 3.1-6D: Pressure Responses in Primary Auxiliary Building Following a Rupture of 4" Auxiliary Steam Condensate Line



a. PCCW Heat Exchangers
b. Blowdown Flash Tank
c. PAB Exhaust Fan Room
d. Air Lock
e. PAB Inlet & Containment Purge Fans
f. Inlet Heaters
g. Inlet Filters
h. RAACT Pipe Chase
i. Valve Aisle
j. CVCS Tank
k. Air Lock
m. Storage Area
n. Electrical Chase
o. 480 v. Load Centers
p. PCCW Pumps
q. Boric Acid Tanks
r. CVCS Vaults
s. Charging Pump Vaults
t. Letdown Degassifier
u. Non-RAACT Pipe Chase
v. HVAC Opening
w. Boron Injection Tank
x. Chiller Surge Tank
y. Aux. Steam Condensate Tank
z. Pipe Trench

Figure 3.1-7A: Nodal Arrangement of Primary Auxiliary Building at Various Elevations for CVCS Letdown Line Break Analysis



NODE	VOLUME (ft^3)	HEAT SINK AREA(ft^2)
1	47,100	23,000
2	38,235	15,900
3	49,700	10,000
4	38,200	8,500
5	243,400	42,670
6	172,940	26,560
7	ATMOSPHERE	

FLOW PATHS CHARACTERISTICS

FROM NODE	TO NODE	AREA (ft^2)	INERTIA (ft^{-1})	LOSS FACTOR K_c	K_{exp}	K_{fric}	K_{total}
1	2	.80	45.0	.11	.11	.22	.44
1	7	1.4	37.5	.34	.20	.67	1.21
2	3	2.3	47.0	.78	1.0	1.80	3.58
3	5	44.8	.80	.78	1.0	.30	2.08
4	5	6.3	.32	.78	1.0	.10	1.88
5	6	51.5	1.33	.78	1.0	.33	2.11
5	7	20.0	.50	.78	1.0	1.6	3.38
6	7	20.0	5.00	.78	1.0	3.5	5.28

Figure 3.1-7B: Nodal Parameters of Primary Auxiliary Building for CVCS Letdown Line Break Analysis

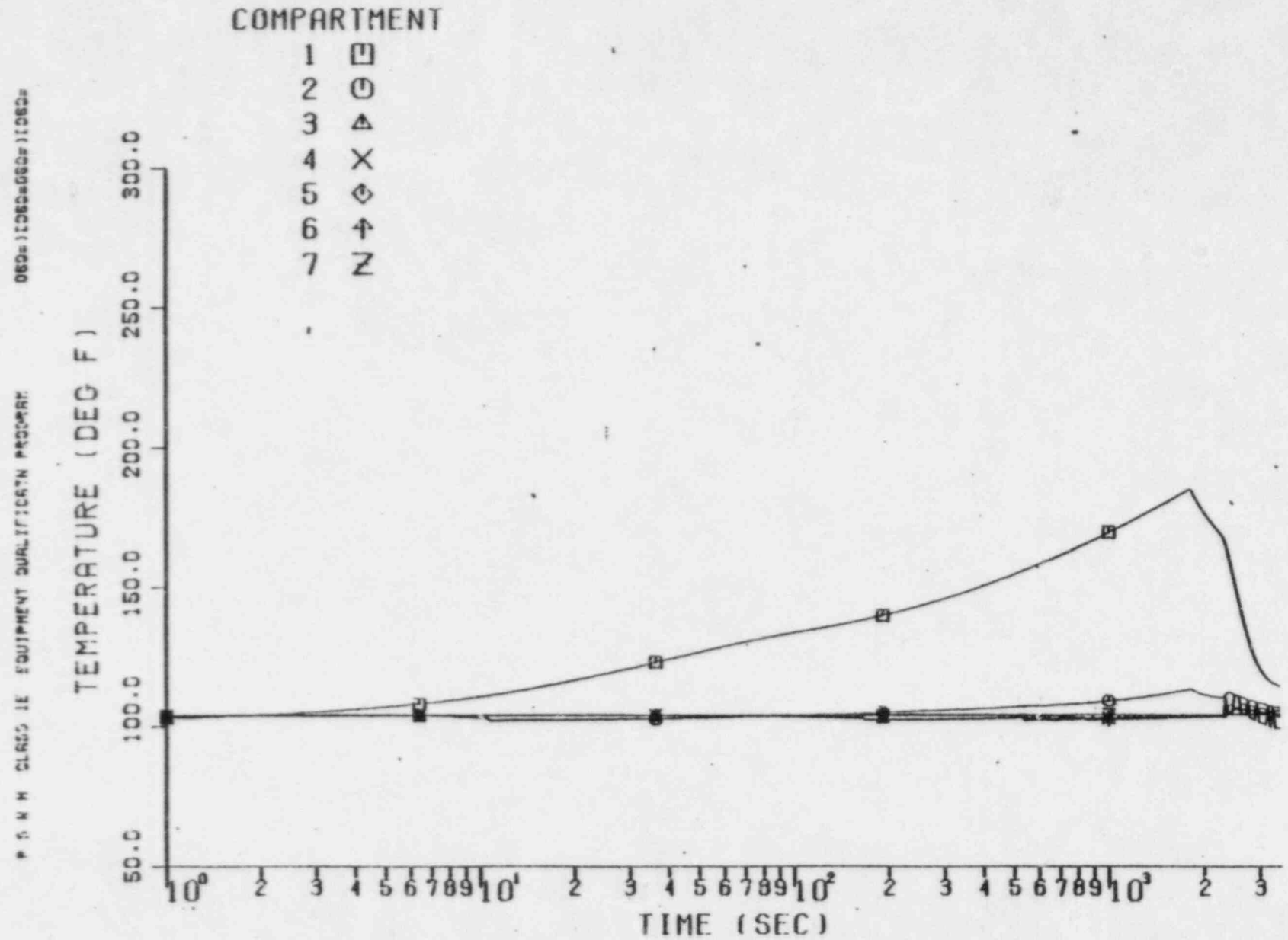


Figure 3.1-7C: Temperature Respons s in Primary Auxiliary Building Following a Rupture of CVCS Letdown Line

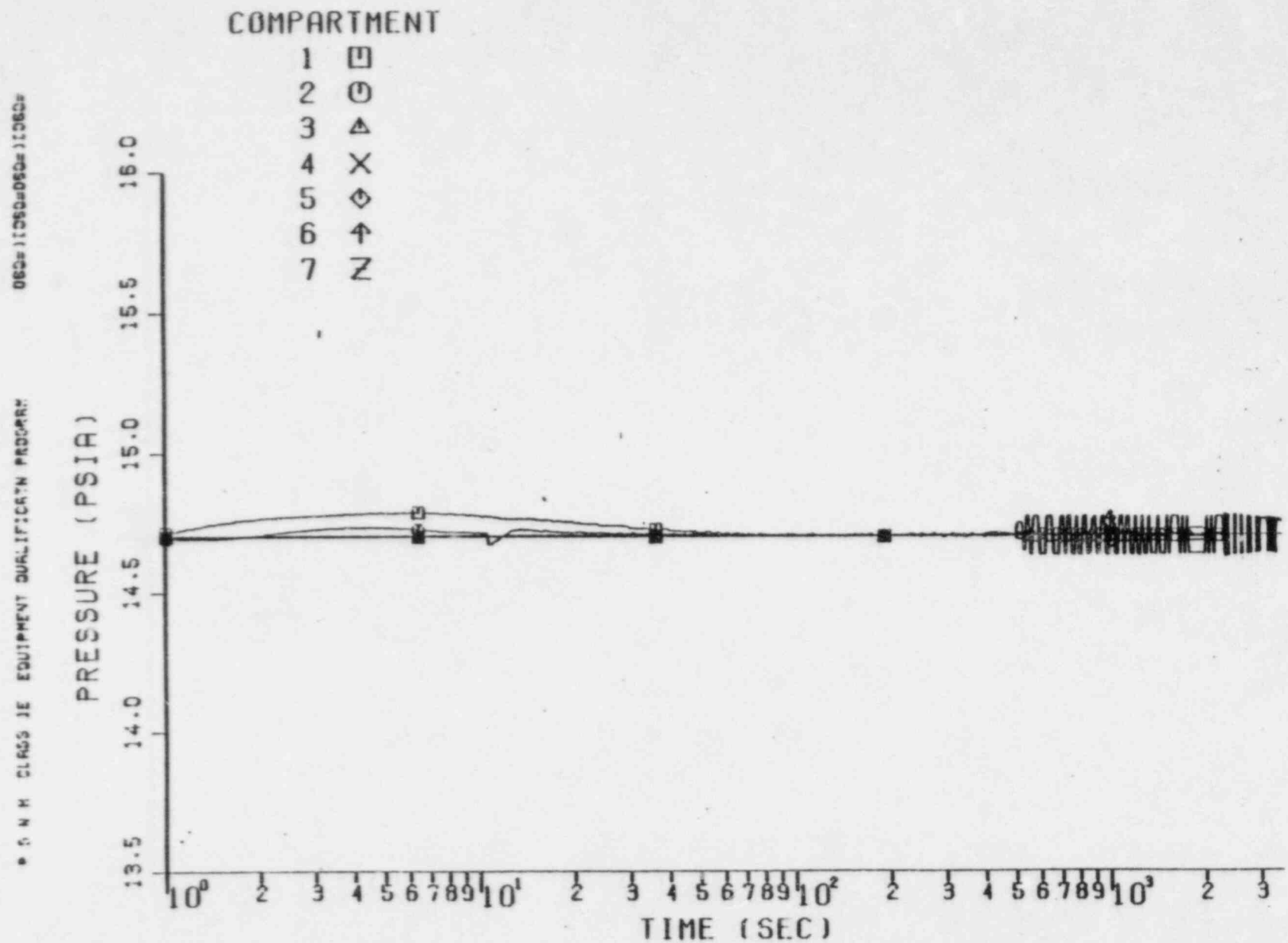


Figure 3.1-7D: Pressure Responses in Primary Auxiliary Building Following a Rupture of CVCS Letdown Line

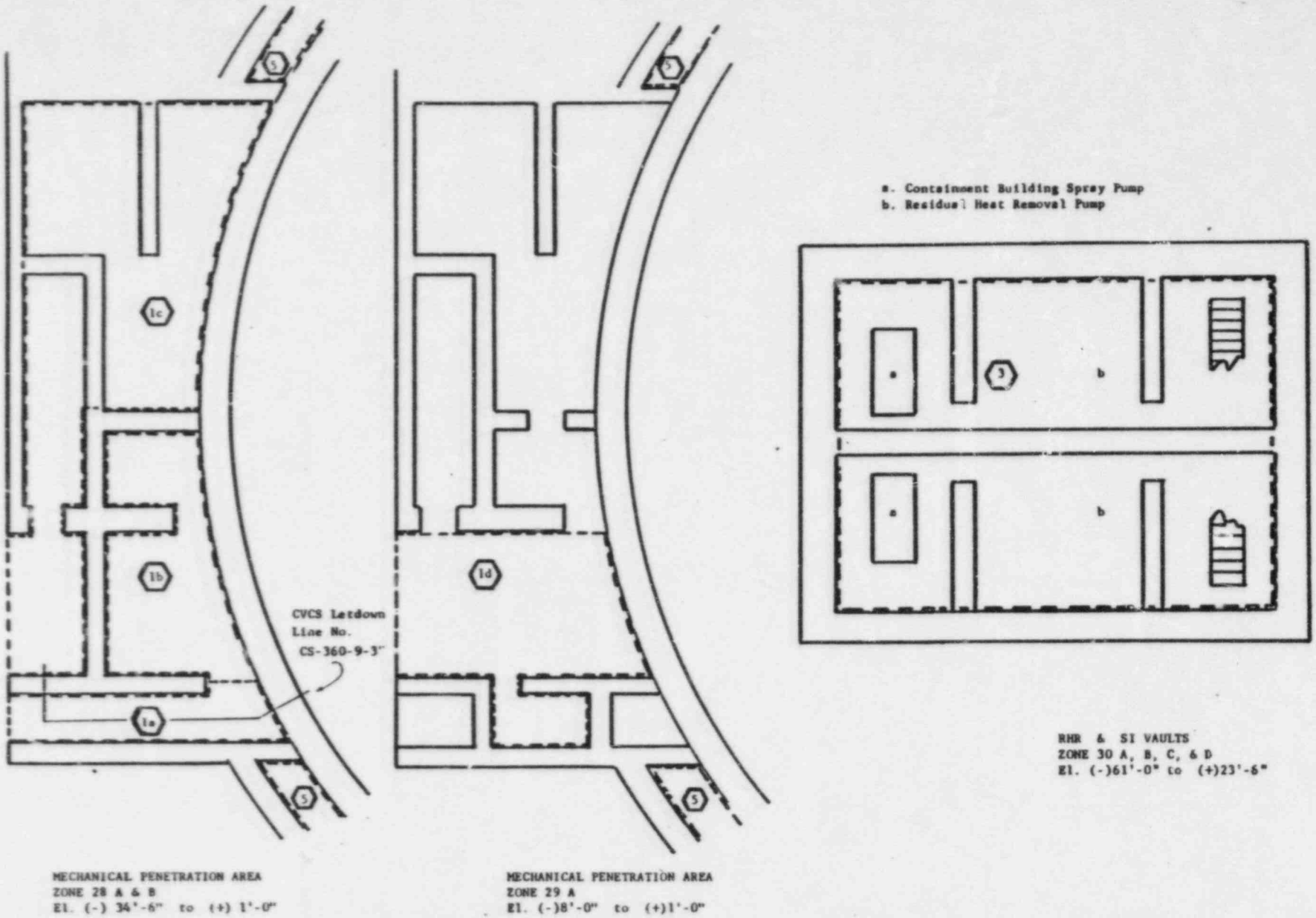
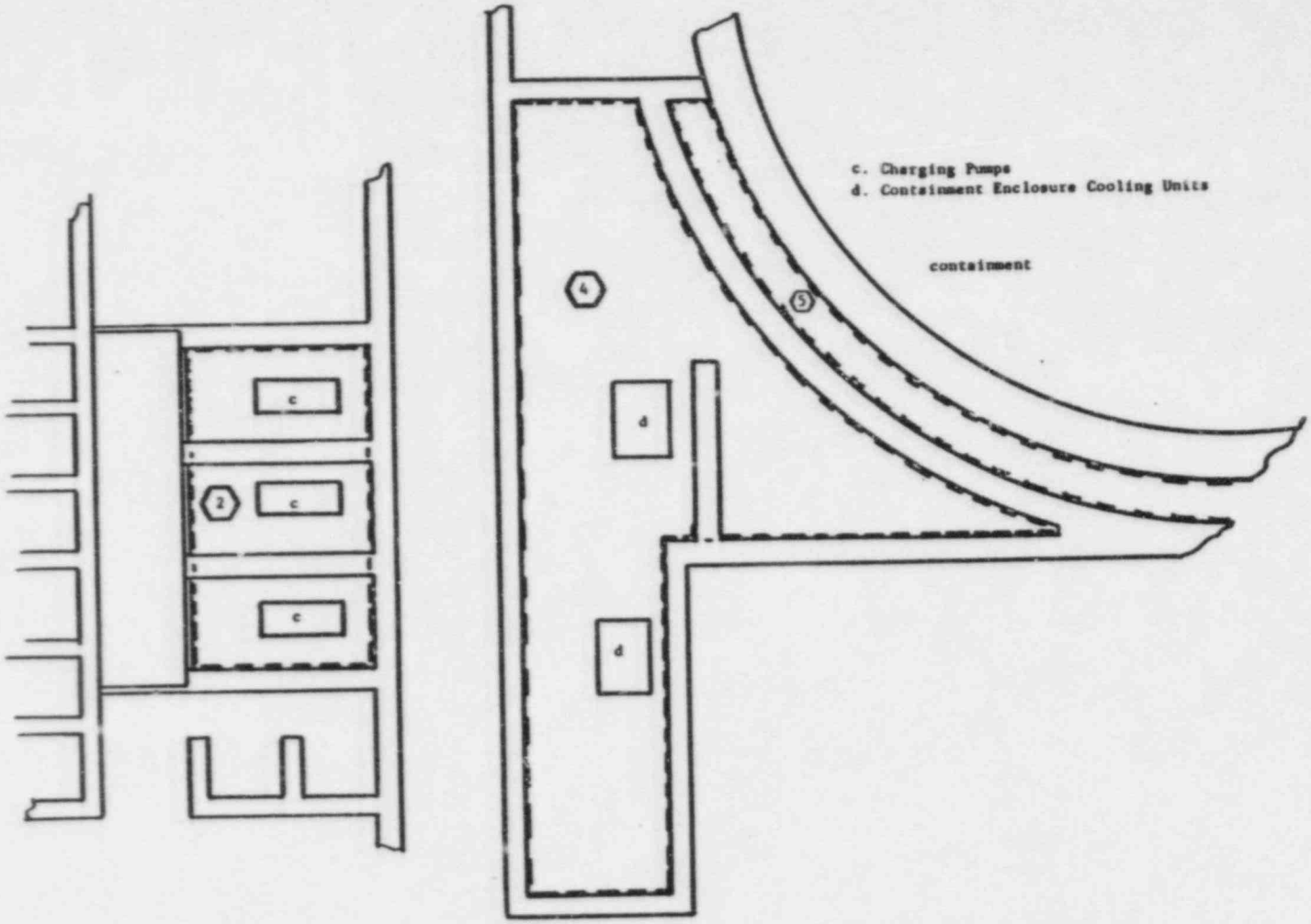


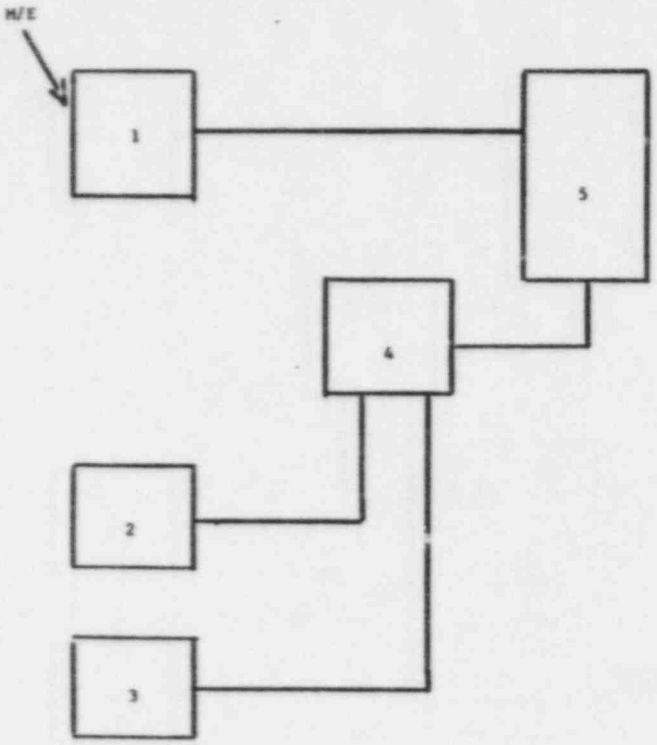
Figure 3.2-1A: Containment Enclosure Area Showing Nodal Arrangement
(Sheet 1 of 2) for CVCS Letdown Line Break Analysis



CHARGING PUMPS AREA
ZONE 32 & 33 C
El. 7'-0" to 23'- 0"

CONTAINMENT VENTILATION ENCLOSURE AREA
ZONE 41 B
El. 21'-6" to 49'-0"

Figure 3.2-1A : Containment Enclosure Area Showing Nodal
(Sheet 2 of 2) Arrangement for CVCS Letdown Line Break Analysis



NODE	VOLUME (ft^3)	HEAT SINK AREA(ft^2)
1	66,355	21,400
2	12,000	4,050
3	144,000	61,170
4	92,570	15,000
5	524,350	145,000

FLOW PATHS CHARACTERISTICS

FROM NODE	TO NODE	AREA (ft^2)	INERTIA (ft^{-1})	LOSS FACTORS K_c	K_{exp}	K_{fric}	K_{total}
1	5	20.0	.20	.78	1.0	.02	1.80
2	4	8.0	5.50	.78	1.0	.74	2.52
3	4	18.9	4.07	.78	1.0	7.1	8.88
4	5	28.0	.18	.78	1.0	.10	1.88

Figure 3.2-1B: Nodal Parameters of Containment Enclosure Area for CVCS Letdown Line Break Analysis

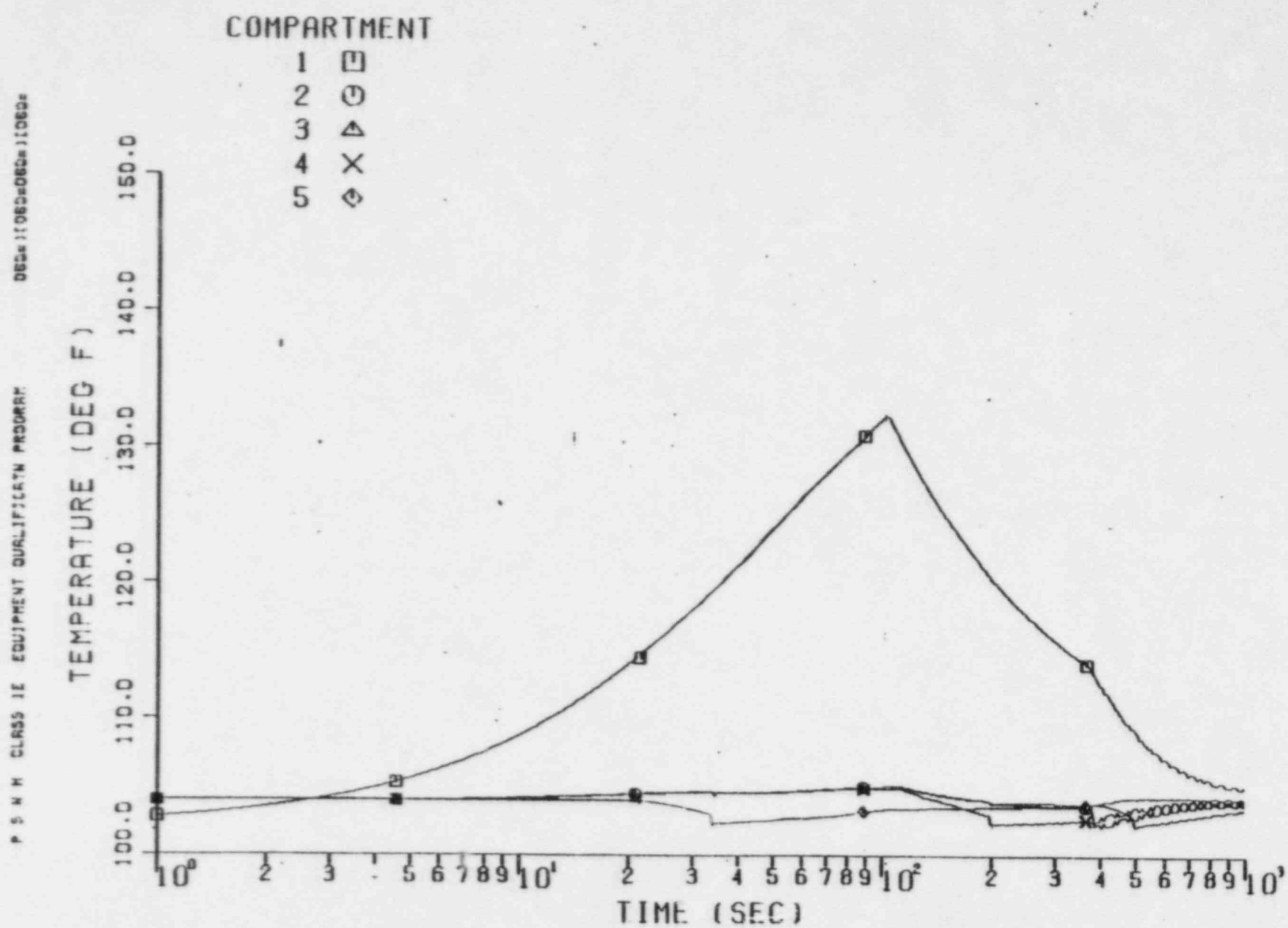


Figure 3.2-1C: Temperature Responses in Containment Enclosure Area Following a Rupture of 3" CVCS Letdown Line

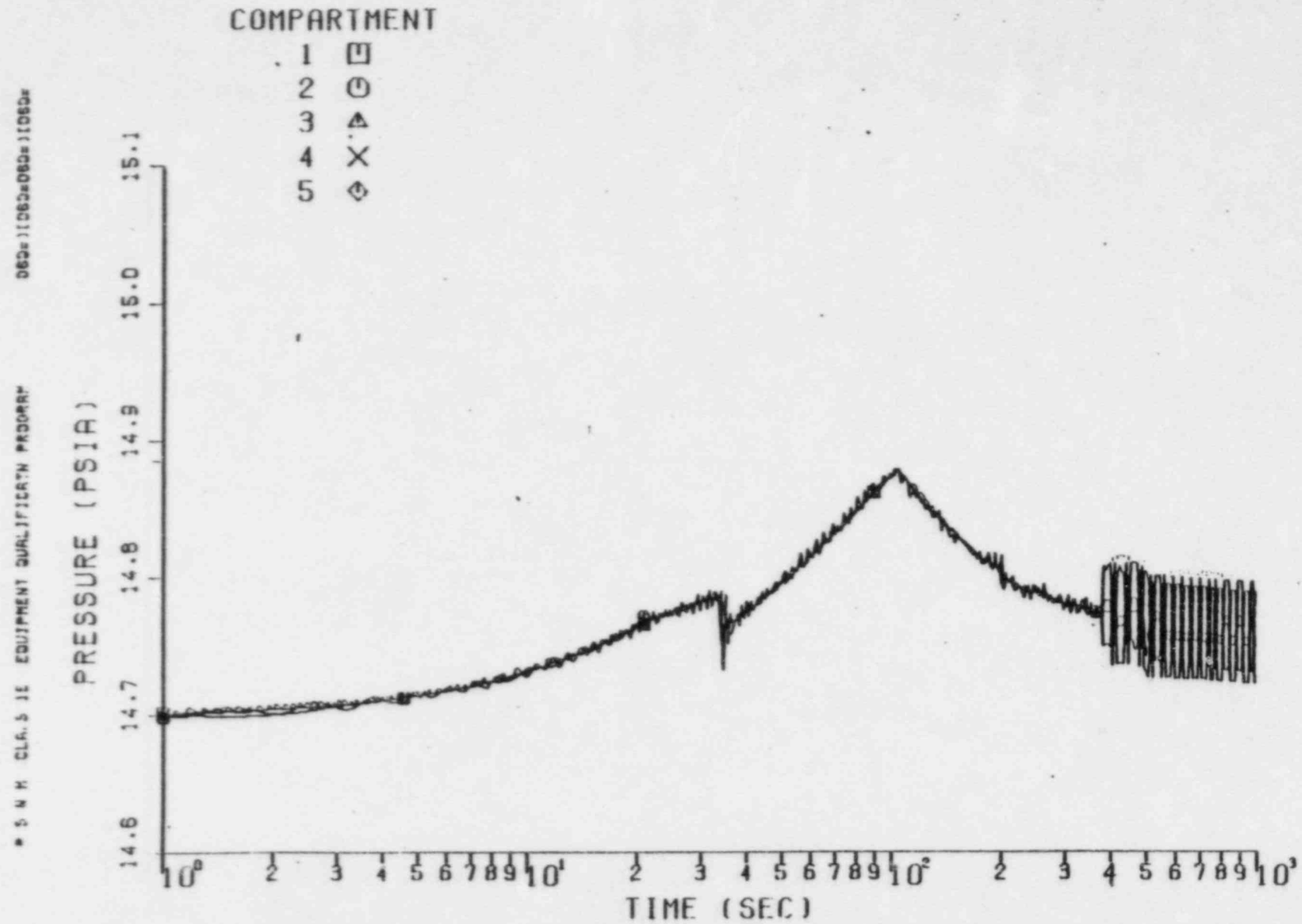


Figure 3.2-1D: Pressure Responses in Containment Enclosure Area Following a Rupture of 3" CVCS Letdown Line

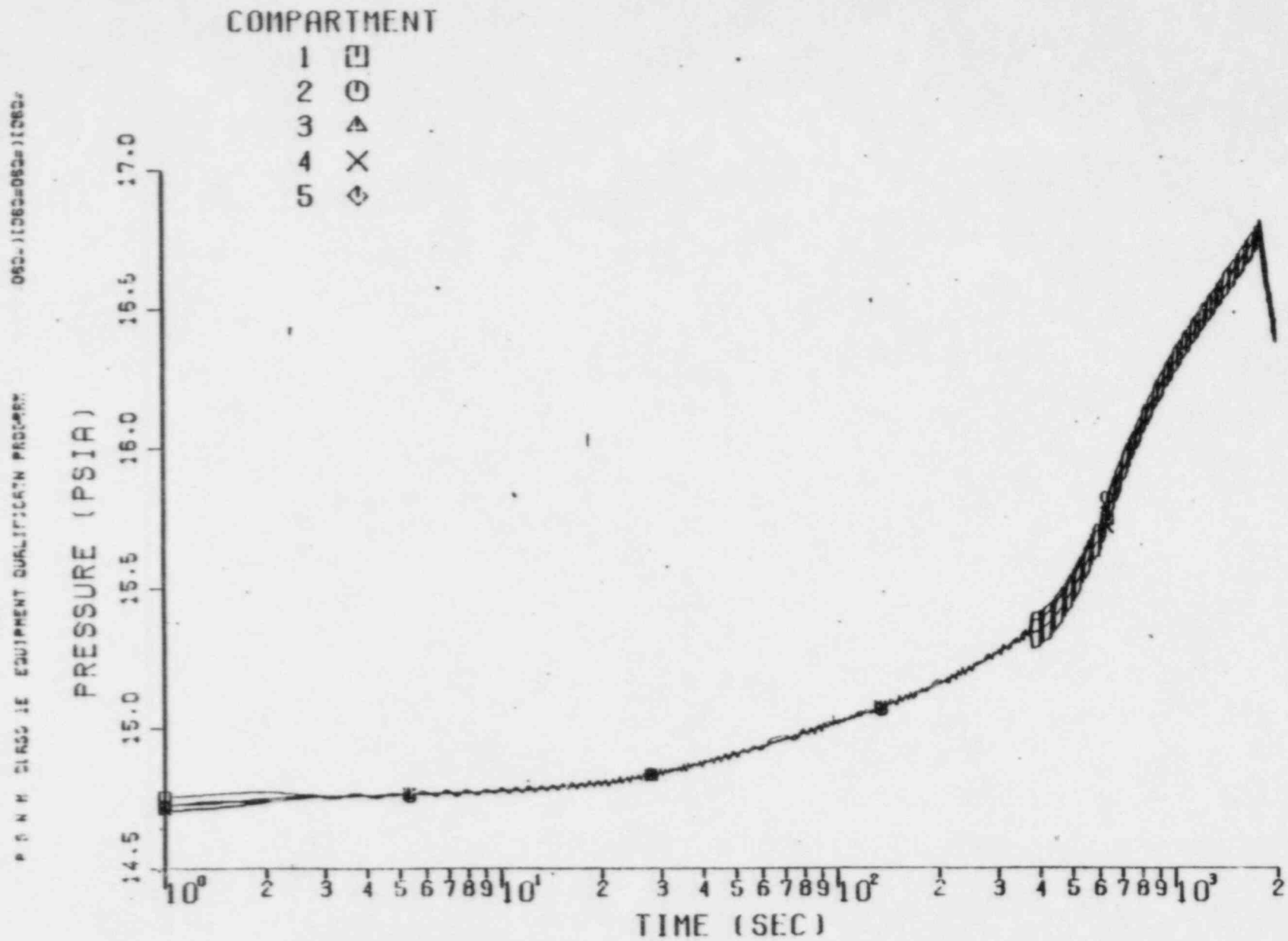


Figure 3.2-1E: Maximized Pressure Responses in Containment Enclosure Area Following a Rupture of 3" CVCS Letdown Line

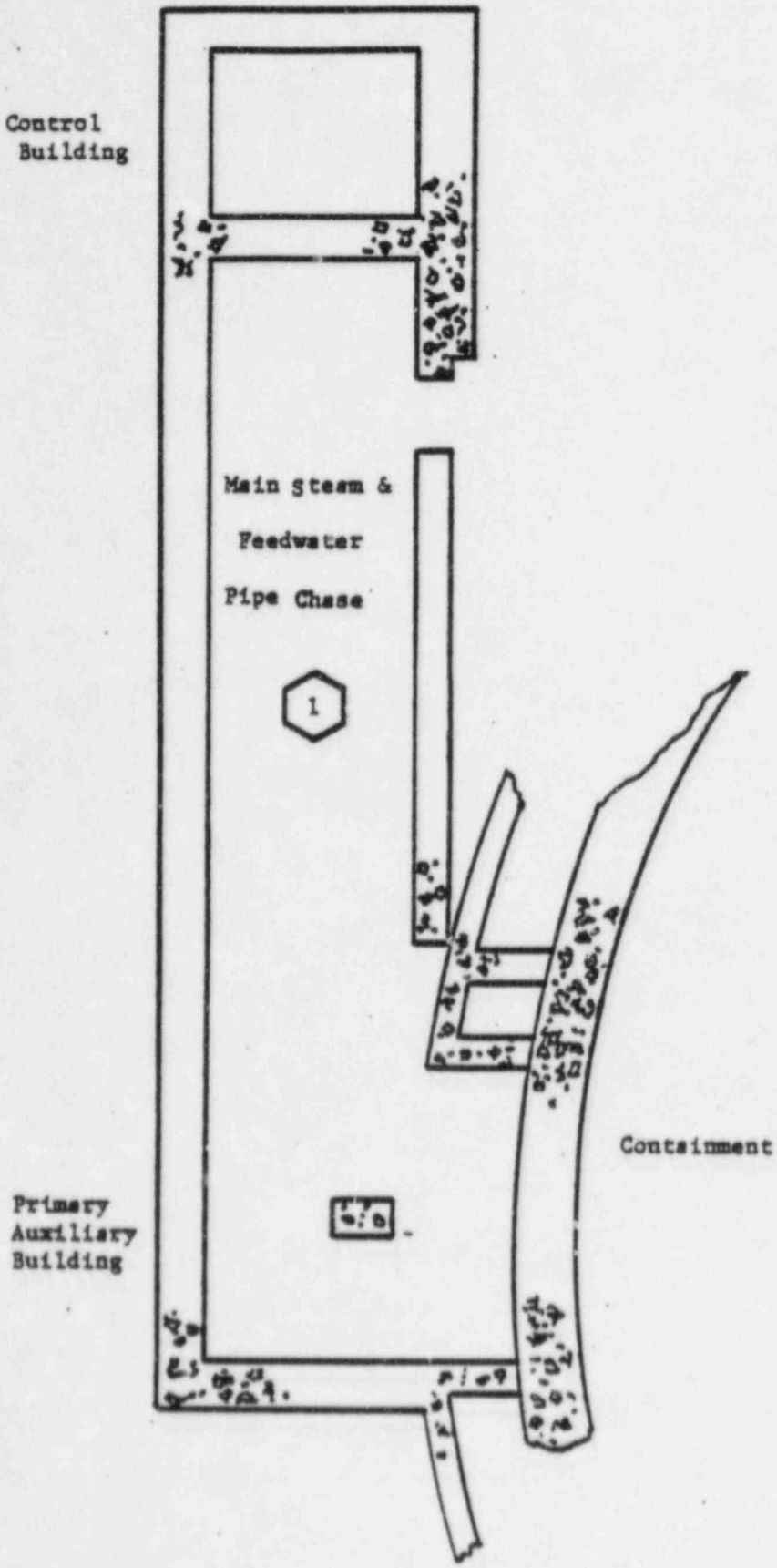
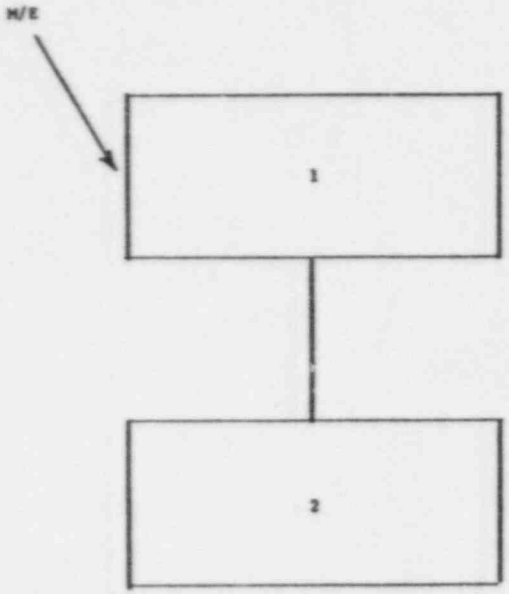


Figure 3.3-1A: Nodal Arrangement of Main Steam/
Feedwater Pipe Chase

NODE NODE	VOLUME (ft^3)	HEAT SINK Area (ft^2)
1	69,270	16,930
2	Atmosphere	



FLOW PATH CHARACTERISTICS

FROM NODE	TO NODE	AREA (ft^2)	INERTIA (ft^{-1})	LOSS FACTORS K_c	K_{exp}	K_{fric}	K_{total}
1	2	856	.01	.78	1.0	.10	1.88

Figure 3.3-1B: Nodal Parameters of Main Steam/Feedwater Pipe Chase for Main Steam Line Break Analysis

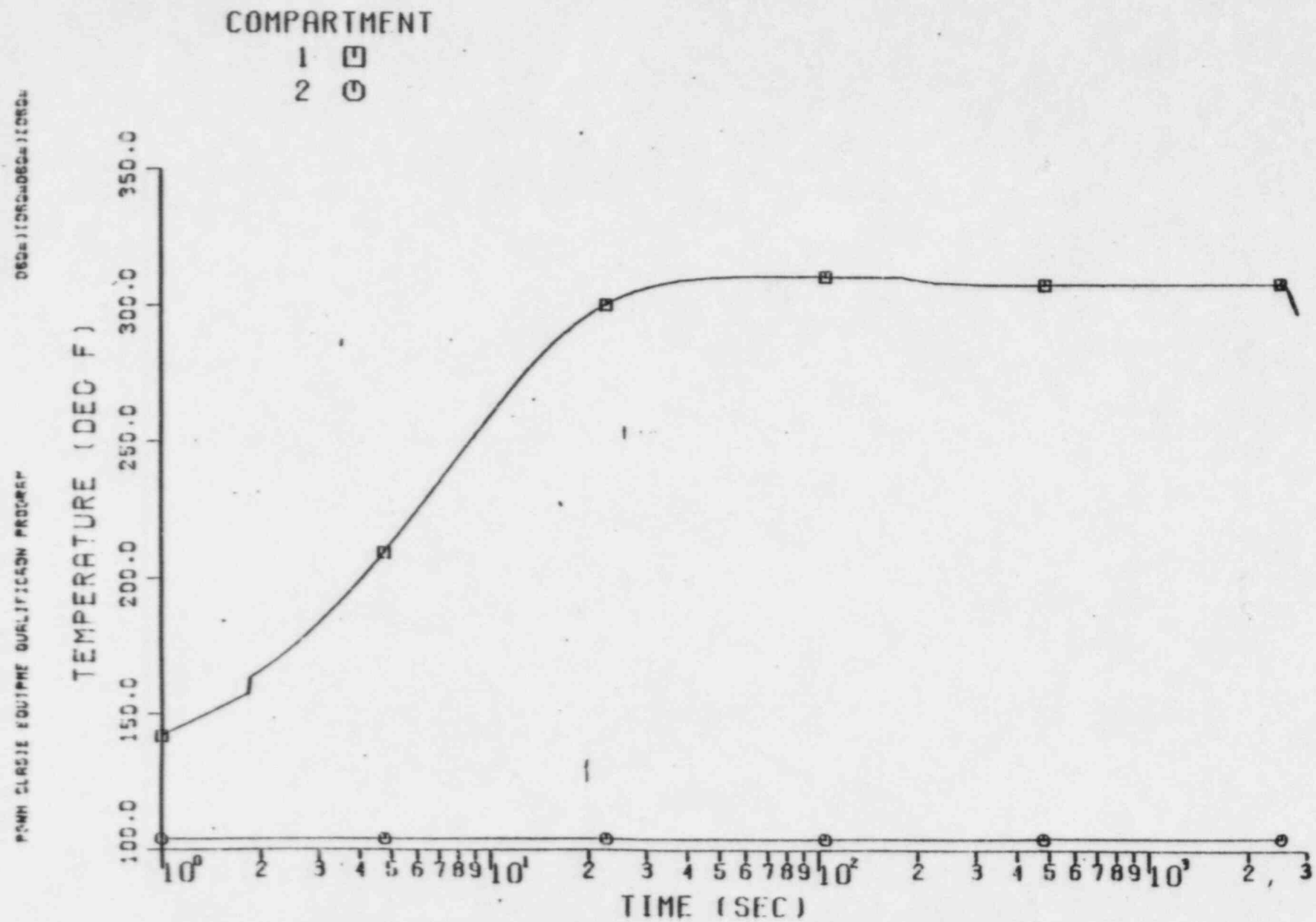
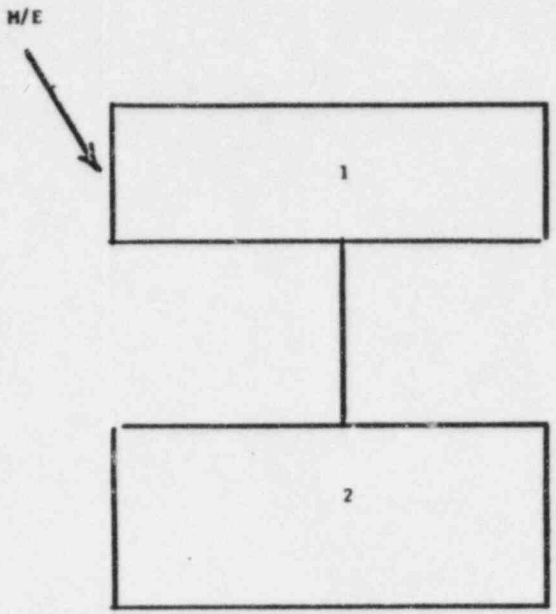


Figure 3.3-1C: Temperature Response of Main Steam/Feedwater Pipe Chase Following a Small (0.10 Square Feet) Rupture of Main Steam Line



NODE	VOLUME (ft^3)	HEAT SINK AREA (ft^2)
1	240,000	11,000
2	Atmosphere	

FLOW PATH CHARACTERISTICS

FROM NODE	TO NODE	AREA (ft^2)	INERTIA (ft^{-1})	K_c	LOSS FACTORS K_{exp}	K_{fric}	K_{total}
1	2	10.00	.006	.78	1.0	0.01	1.79

Figure 3.4-1A: Nodal Parameters of Tank Farm Area for Auxiliary Steam Line AS-2302-32-8" Break Analysis

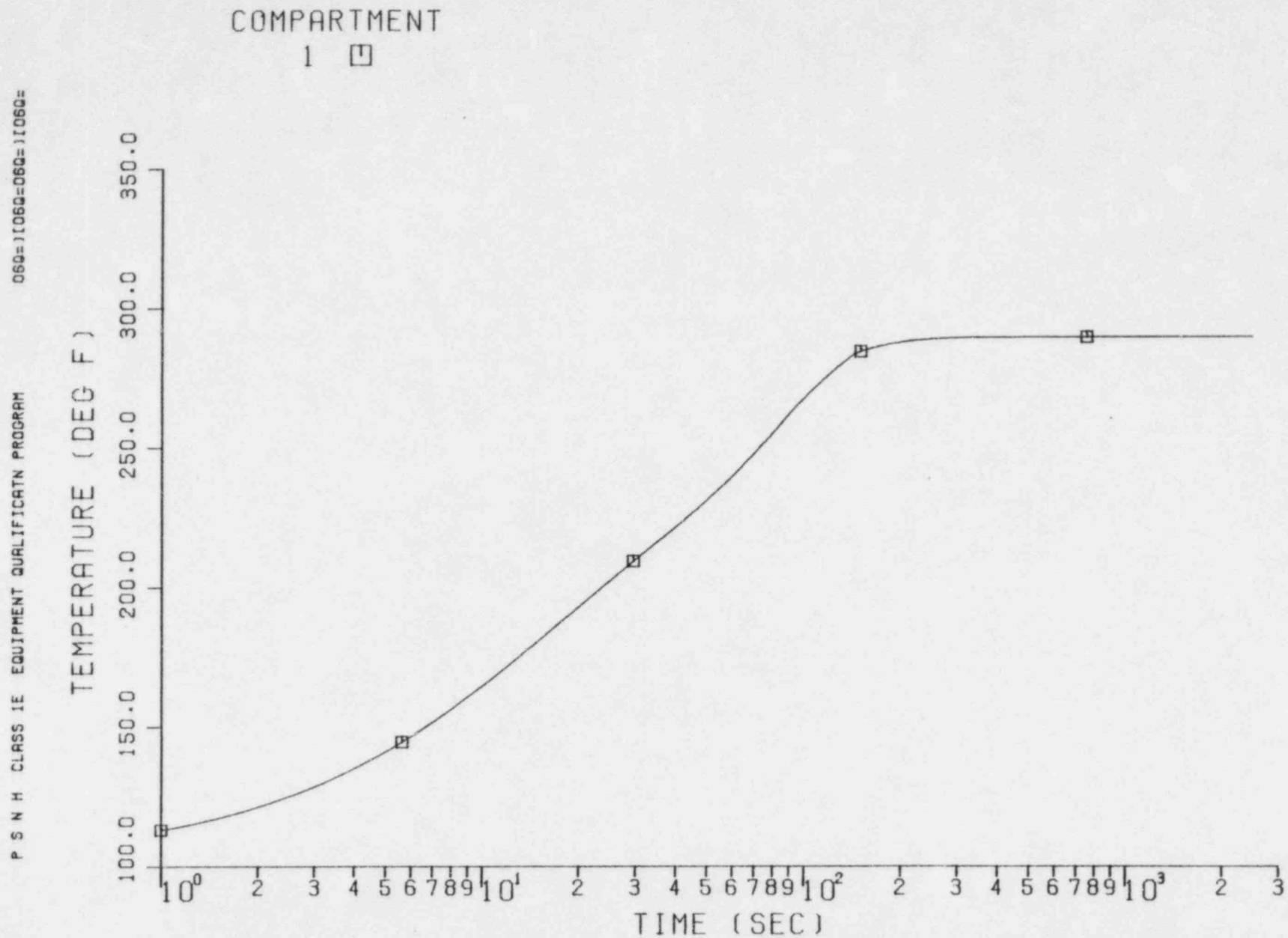


Figure 3.4-1B: Temperature Response of Tank Farm Area
Following a Rupture of 8" Auxiliary Steam Line

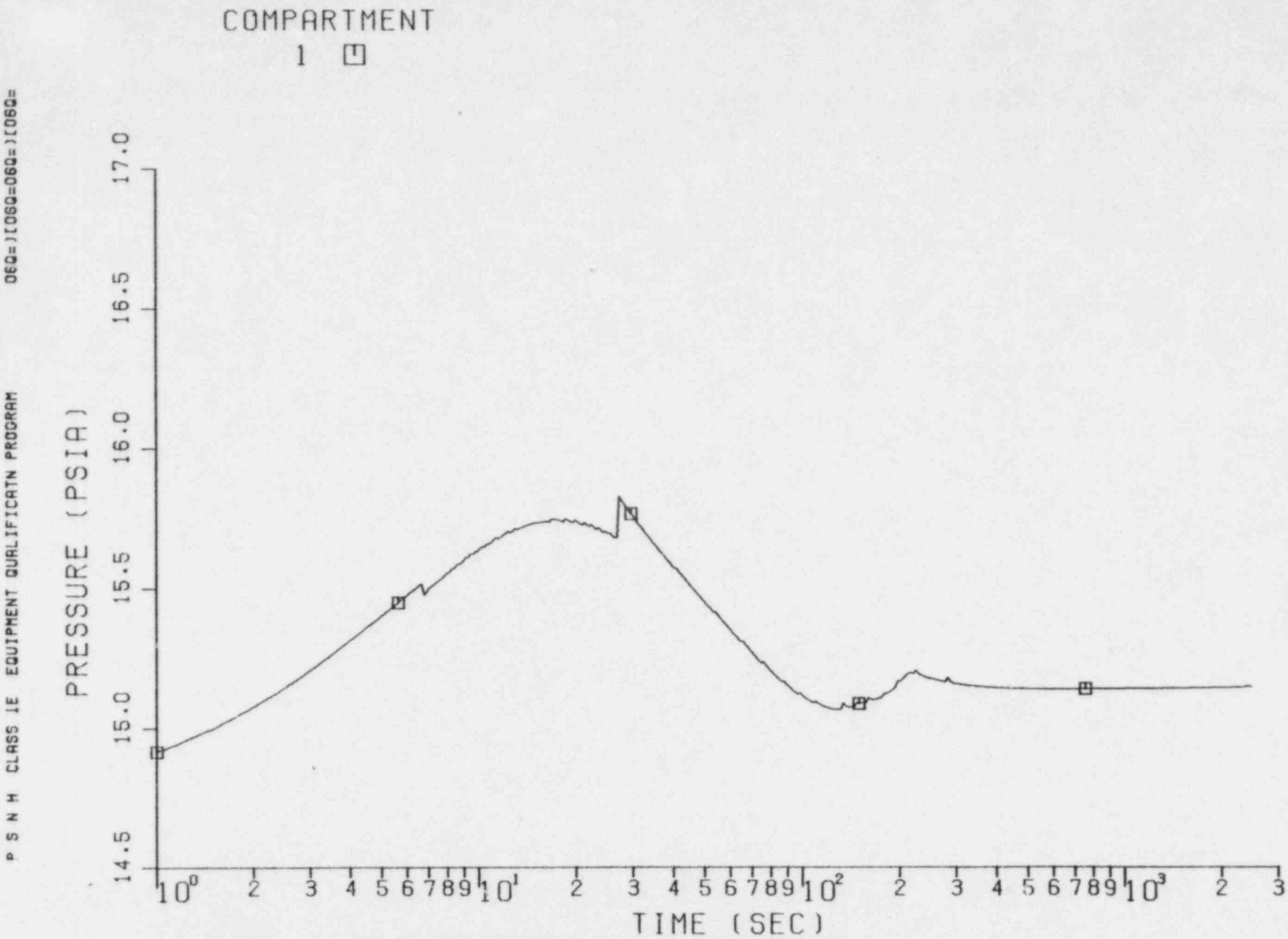
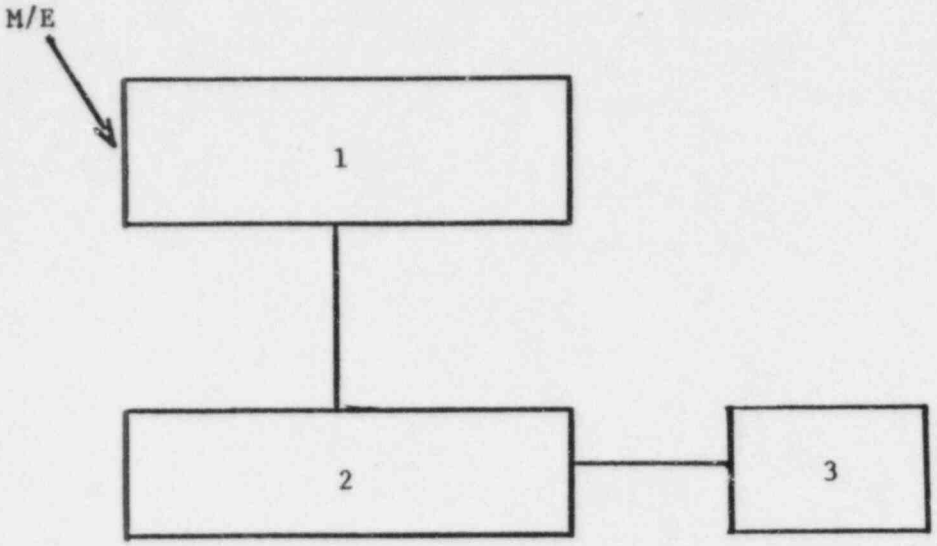


Figure 3.4-1C: Pressure Response of Tank Farm Area Following a Rupture of 8" Auxiliary Steam Line



NODE	VOLUME (ft^3)	HEAT SINK AREA(ft^2)
1	19,030	3,890
2	17,500	4,760
3	Atmosphere	

FLOW PATHS CHARACTERISTICS

FROM NODE	TO NODE	AREA (ft^2)	INERTIA (ft^{-1})	K_c	LOSS FACTORS K_{exp}	K_{fric}	K_{total}
1	2	8.40	0.24	.78	1.0	0.01	1.79
2	3	1.75	1.14	.78	1.0	0.06	1.84

Figure 3.5-1A: Nodal Parameters of Waste Processing Building/Primary Auxiliary Building Chase for Auxiliary Steam Line AS-2339-1-1 1/2" Break Analysis

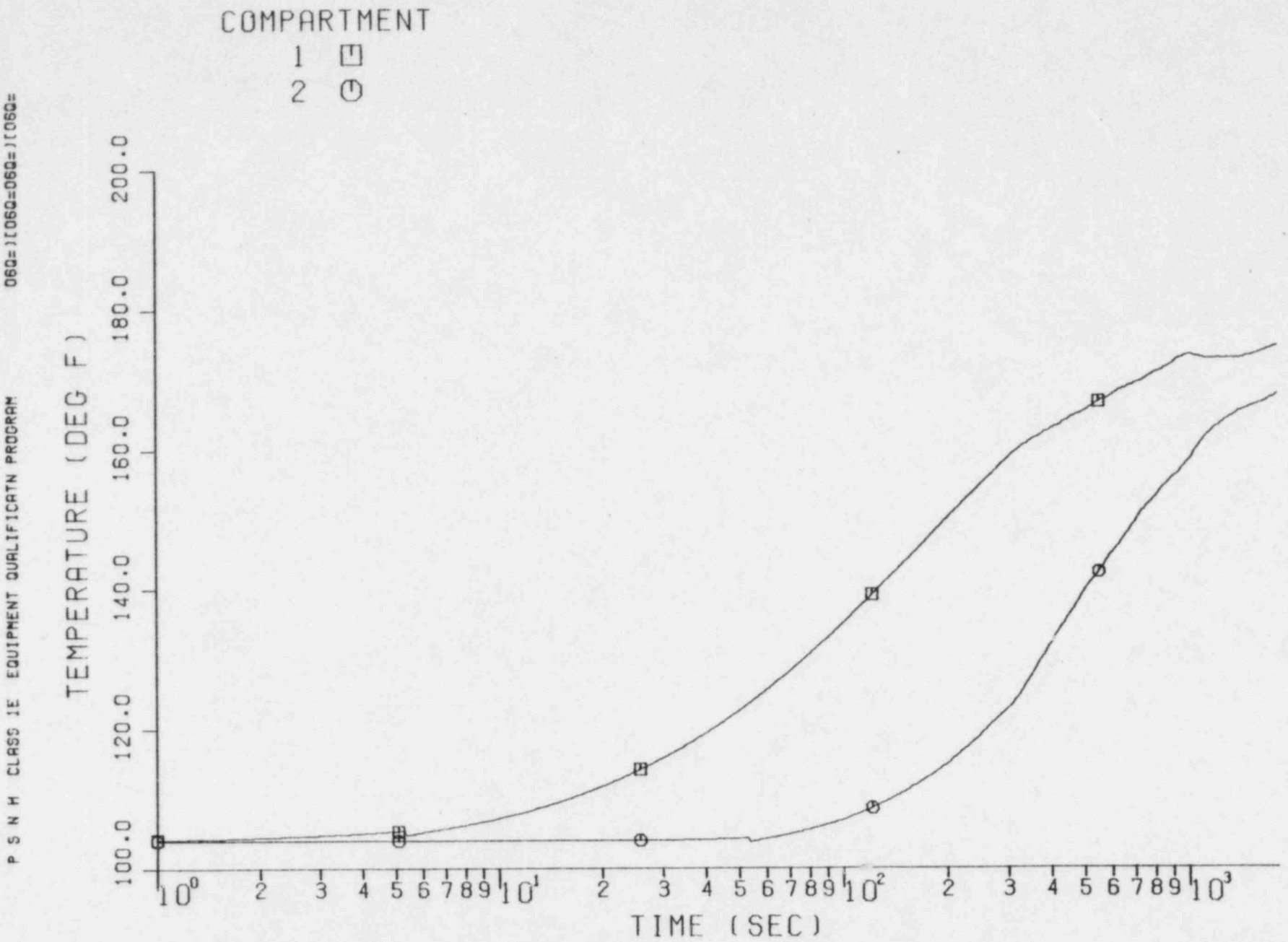


Figure 3.5-1B: Temperature Response of WPB/PAB Chase
Following a Rupture of 1 1/2" Auxiliary Steam Line

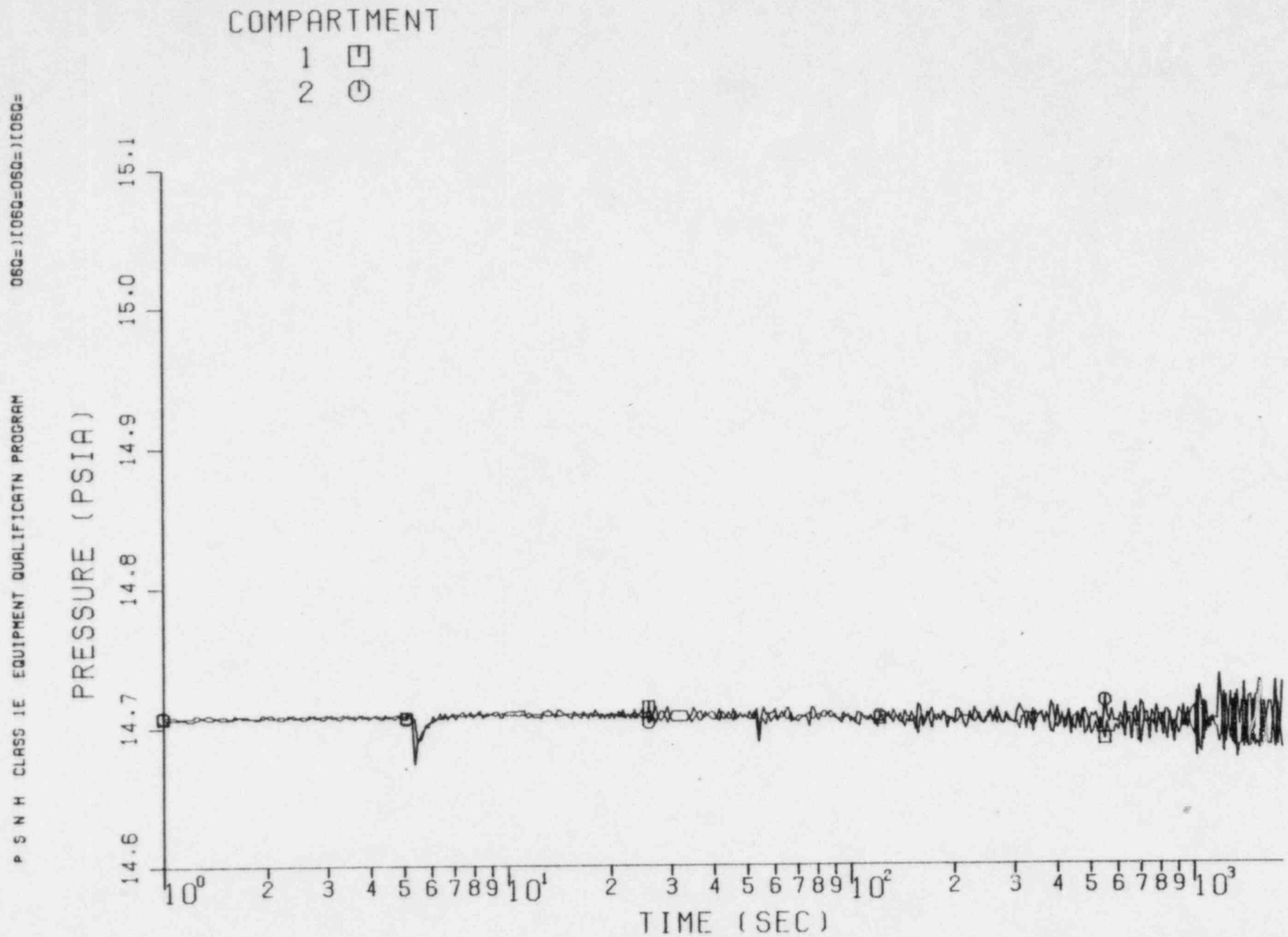


Figure 3.5-1C: Pressure Response of WPB/PAB Chase
Following a Rupture of 1 1/2" Auxiliary Steam Line

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
SEABROOK STATION
ENVIRONMENTAL QUALIFICATION OF
ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY

APPENDIX E

SERVICE ENVIRONMENT CHART - DESIGN BASES

(UE&C Calculation Set 6.01.000)

Revision 2
10/31/85

Form 5604 Rev. 12/16/83

united engineers & constructors inc.

CALCULATION CONTROL SHEET

PROJECT TITLE PSNH-Seabrook Station DISCIPLINE Mech. Serv.

CALCULATION SET NO. 6.01.00.00	
PRELIMINARY	
FINAL	X
VOID	

STRUCTURE OR SYSTEM All

SUBJECT Service Environment Chart Calculations - Design Bases

DESIGN CLASSIFICATION ☒ Safety Related ☐ Non - Safety Related

STARTED BY W. G. Wilson DATE 6/12/85

AUTHORIZED BY J. F. Scarduzio DATE 6/12/85

CHECKED BY M. J. DiDonato DATE 10/2/85

PROBLEM STATEMENT

Establish the design bases to be used for developing the temperature, pressure and relative humidity values which will be put on the Service Environment Chart (Drawing No. 9763-F-300219) for the various environmental zones.

DESIGN BASIS AND ASSUMPTIONS

See pages 2 thru 12 of 12.

ADMINISTRATIVE CLOSE OUT

TOTAL NUMBER OF SET COMPUTATION SHEETS 12 LATEST REVISION OF CALC. SET. 0 DATE NOTED 9/23/85

CALCULATION FINISHED BY BCGandhi (Signature) DATE 9/23/85

CALCULATION RELEASED BY J. F. Scarduzio (Supervisor - Design / Administrative) DATE 10/3/85

CONCURRED BY J. F. Scarduzio (Manager (Staff) or SDE) DATE 10/3/85

Form 5603

united engineers & constructors inc.

CALCULATION SUMMARY & REFERENCE SHEET

PROJECT TITLE: PSNH - Seabrook Station

DISCIPLINE: Mech.Serv.

CALC. SET NO.	
PRELIM.	
FINAL	6.01.00.00
VOID	
SHEET 1 OF 12	
J.O. 9763.102	

REV	COMP. BY	CHK'D BY
0	BCGandhi DATE 9/23/85	MJD DATE 10/2/85
	DATE	DATE

SYSTEM: ALL

SUBJECT: Service Environment Chart Calc. - Design Bases

DESIGN CLASSIFICATION: Safety & Non-Safety Related

SUMMARY/CONCLUSIONS

Temperature, pressure and relative humidity values were determined in accordance with the design parameters given on pages 2 thru 12 of 12.

REFERENCES: (SPECIFICATIONS, DRAWINGS, CODES, CALCULATION SETS, TEXTS, REPORTS, COMPUTER DATA PSAR ETC.)

1. References shall be as indicated on pages 2 thru 12 of 12 and as stated in the various calculation set numbers given on the "Calculation Matrix" (attached).
2. Environmental zone drawings 1 thru 44 of 44 (attached).
3. Attachment 1, Operational Matrix.
4. Service Environment Chart, Dwg. No. 9763-F-300219, Rev. 17.
5. Insulation Specifications: 9763-006-249-1, Rev. 6
   9763-006-249-2, Rev. 2
   9763-006-249-4, Rev. 5
6. Piping Discipline Calculation No.: 04-HLC-GEN-01 and
   04-HLC-SPT-01
   Revision 0, dated 4/18/85

I. GENERAL

1. Each discipline (Mechanical/Nuclear, Electrical, Mechanical Services, and I&C) is responsible for determining heat releases (loads) from equipment in purchase orders for which they are responsible or equipment field purchased from their Bill of Material. The Piping discipline is responsible for heat releases from piping and supports. The Mechanical/Nuclear discipline is responsible for heat releases from Westinghouse NSSS equipment.

2. Heat releases will be determined on an "environmental zone" basis. Environmental zone boundaries will be as established by Mechanical Services on a set of marked up General Arrangement Drawings (copy attached).

3. The Mechanical Services discipline will add a 15% safety factor to the total ventilation load for each environmental zone for the normal operating conditions except in the Control Building, Containment Building, Diesel Generator Building and the PAB Charging Pump Rooms. No safety factor was used in the Control Bldg. so as to maintain the installed equipment because internal loads have been well defined and documented. No safety factor was used in Containment based on the fact that only 5 of 6 units are required to maintain the design environment and loads have been well defined and documented. No safety factor was used in the Diesel Generator Building because the bulk of the load for this building is from the diesel generator equipment for which values were obtained from the manufacturer. A 5% safety factor was used in the PAB Charging Pump Rooms because internal loads have been well defined and documented. The other disciplines shall not add any safety factor to their loads.

4. No safety factors were applied to abnormal and accident conditions in any environmental zones.

5. I&C loads are generally not significant and will not be considered inside Containment.

6. The maximum normal allowable temperature in each environmental zone for equipment qualification purposes is 104°F with the following exceptions:

   a. Containment Bldg.: 120°F
   b. Main Steam and Feedwater Pipe Chase Zones PCW-1 through PCW-5 and PCE-1 through PCE-4: 130°F
   c. PAB zones PB-19: 125°F (Max. Equipment Operating Temperature).
   d. Control Building Zones CB-1:75°F and CB-1A through 1G: 75°F; CB-2: 72°F; CB-3: 83°F; CB-5A,5B: 89°F; CB-7A,7B,8A,8B: 95°F; CB-11: 107°F.
   e. Electrical Penetration Area Zone ET-3A: 100°F; ET-3B: 85°F.
   f. Containment Annulus: 109°F.

   Note: Refer to the various heat load calculations (Ref. No. 1) for design temperatures.

7. The Normal, Abnormal, and Accident conditions to be analyzed are shown on Attachment 1. For the loss of off site power (LOP) case, all equipment not supplied from the diesel generators will be considered inoperable and no heat gain from them will be considered.

8. Calculation clarity - the calculations should be completed in a manner such that they can be readily followed and understood by a qualified engineer for the applicable discipline.

9. All calculations shall identify the Service Environment Zones.

II. MECHANICAL/NUCLEAR

1. Piping Operating Temperatures

a. For safety class piping, if the applicable temperature/pressure (T/P) sheet does not list a temperature for a given mode of operation, assume that the line does not operate.

b. For non-safety class piping, assume that the "normal" temperature from the line list applies to both 100% power and heat-up/cool-down.

c. For non-safety class piping, assume ambient temperatures for abnormal modes of operation.

d. For non-safety class piping, when the line list does not give a temperature for a given line, use P&ID and engineering judgment to apply a line list temperature from an upstream line, then note which line was used.

2. Equipment Heat Loads

a. For safety class equipment surface temperature, use connected piping temperature as the equipment surface temperature for the modes of operation. T/P sheets were used to determine the piping temperature.

b. For non-safety class equipment, use the line list for operating temperature.

c. For heat exchanger surface temperature and associated heat load, use average of the inlet and outlet fluid temperatures.

d. For motors of less than 50 hp, assume 80% efficiency. For motors of 50 hp or greater, refer to specific foreign printed vendor motor data sheets for efficiency.

e. Assume 104°F ambient temperature for all normal modes of operation outside of containment. Use 120°F inside containment.

f. Provide heat loss equation for abnormal modes of operation with ambient temperature as the unknown.

g. For insulated equipment, use a maximum heat loss of 65 BTU/Hr-ft^2 (Ref. 5) for all modes of equipment operation where equipment operates. If based on engineering judgment, the load for a particular piece of equipment is significant, then a more exact detailed calculation will be performed instead of using 65 BTU/HR-ft^2.

h. Use ASHRAE Handbook of Fundamentals 1981 equations for convective heat losses. Factors in the equations are based on 70°F air but do not significantly change if corrected to 104°F air. Therefore, the temperature differential in the heat loss equation is based on space temperature of 104°F.

i. ASHRAE provides equations for cylinderical shapes applicable to horizontal and vertical orientations. ASHRAE gives equations for both cylinders and flat plates, but for simplification, model equipment as cylinders since differences are negligible.

j. Type and size of the equipment insulation is based on insulation specifications. (Ref. 5.)

k. Assume still air.

l. Assume radiation heat losses are completely transferred to the air. Equipment heat losses radiate to the cubicle walls and the heat is transferred to the air by convection.

m. Where equipment is in more than one cubicle (environmental zone), specify heat load applicable to each cubicle.

n. As an average value, E (emissivity) for steel is taken to be 0.85.

o. Temperature reduction from fluid stream to surface film is considered negligible therefore surface film temperature equals process (operating) temperature.

p. Equipment orientation is taken from general arrangement drawings.

III. PIPING

1. All pipe operating temperatures will be provided by the System's Engineers using T/P sheets. The following systems are considered to operate at ambient or lower temperatures.

Roof Drains	(DR)
Floor Drains	(DF)
Waste Liquid Drains	(WLD)
Instrument Air	(IA)
Service Air	(SA)
Fire Protection	(FP)
Potable Water	(PW)
Demineralized Water	(DM)

2. For estimating purposes all piping is assumed to be in the horizontal position as this reflects the majority of the installed pipe.

3. The film coefficients of the fluid inside the pipe, and of the pipe wall have been neglected when calculating the total quantity of heat rejected. Thus, the outer surface temperature of bare piping is assumed as equal to the fluid temperature.

4. The overall outside surface coefficient of bare piping will be calculated using the Heilman equation (empirical equation).

5. The overall outside surface coefficient of insulated piping have been assumed in order to avoid the iterative process required in calculating the heat flux. The following values will be used for the maximum normal environmental zone temperature indicated:

Maximum Normal Environmental Zone Temperature (°F)	Film Coefficient (Btu/Hr. Ft^2.°F
100	1.10
104	1.10
105	1.10
120	1.14
125	1.17
130	1.17
140	1.21

These film coefficients are maximum values which were calculated by Certainteed Products Corporation using their Q Flux Program. The Q Flux Program is based on the Heilman equation and the ASTM C-680 computer program.

FORM 5007 REV. 7/79

GENERAL COMPUTATION SHEET

(DISCIPLINE)

united engineers & constructors inc.

CALC. SET NO.		REV	COMP. BY	CHK'D. BY
PRELIM.		0	BCG	MLD
FINAL	6.01.00.00		DATE 9/23/85	DATE 10/2/85
VOID				
SHEET 6 OF 12			DATE	DATE
J.O. 9763.102				

NAME OF COMPANY PSNH - Seabrook Station UNIT/S 1/2

SUBJECT SERVICE ENVIRONMENT CHART CALCULATIONS-DESIGN BASES

The following data will be used in calcualting the film coefficients:

Wind Velocity = 0 mph Still Air

Emissivity

Bare Pipe = .85

Aluminum Jacketed Insulated Pipe = .20

6. All insulation thicknesses are obtained from the Piping Discipline's master marked up Line Designation Table (PCS Report No. 26).

7. The following criteria will be used when determining the heat rejected from lines with personnel protection.

Total Length of Line	Insulated Length
0' - 10'	100%
10'1" & greater	25%

Explanatory Note: For lines requiring insulation for personnel protection, the entire length of the line is not insulated except that portion of the line accessible to personnel will be insulated. For calculation purposes, it is estimated that only 25% of a line, 10'-0" and longer will rerequire insulation and that 100% of lines shorter than this will require insulation.

8. Heat transfer equations were developed from PABCO's Insulation Manual III, page 84. These equations account for convection and radiation heat transfer.

9. Valves and flanges will be considered to be insulated.

10. The following correction factors will be applied to heat generated by totally insulated piping systems to account for the additional heat load resulting from breaks in the insulation at support points.

CORRECTION FACTOR (Reference No. 6)

PIPE SIZE (in)	OPERATING TEMPERATURE (°F) 200	300	350	450	550
2	1.41	1.49	1.51	1.70	1.66
3	1.36	1.42	1.45	1.63	1.70
4	1.40	1.45	1.48	1.68	1.76
6	1.33	1.38	1.40	1.75	1.79
8	1.36	1.41	1.59	1.79	1.85
12	1.34	1.39	1.56	1.75	1.91
18	1.29	1.56	1.60	1.83	2.06

These corrections factors will not be applied to lines requiring personnel protection.

A correction factor will not be applied to heat gain quantities from insulated piping systems and/or equipment operating below 120°F.

The following assumptions were used in developing these correction factors.

a. All supports were boxed framed type without insulation saddles. Approximately 70% of the supports in seismic buildings are of this type.

b. The fin effect of supports was neglected because the supports and piping only come into point contact with each other (negligible heat transfer between them).

c. Insulation joint efficiency and gaps due to thermal expansion of piping were neglected.

d. The bare lengths of pipe include 2 inches on either side of support as indicated in the insulation specifications.

11. Additional heat gains due to the fin effect of supports have been neglected.

IV. MECHANICAL SERVICES

1. Heating

a. No credit taken for:

1) Lighting, MCC, panels, etc. (except for Control Rm, CB-1)

2) Equipment (except for Control Rm, CB-1)

3) Solar

4) Ventilation fans may operate; see applicable FSAR sections and I&C loop and logic diagrams.

5) Personnel.

b. "U" factors have been calculated in accordance with recognized authoritative sources, such as CARRIER, ASHRAE, etc. All new calculations shall utilize "U" values taken from Carrier except 0.11 as the 1/K value for poured concrete.

c. Heat transfer surfaces (wall, etc.) shall be based on either inside or outside dimensions of the dimensions of the structure, but shall be consistent throughout the calculation (the difference in the calculation between using inside and outside dimensions is considered negligible).

d. Outside Design Conditions:

1) 0°F dry bulb (FSAR)

2) Should you require a wet bulb temperature (WBT) the 1978 "Engineering Weather Data," AFM 88-29 lists a mean coincident wet bulb (MCWB) temperature of 1°F with dry bulb temperatures ranging between 0°F and 4°F. For our condition, we shall use 0°FDB and 30% RH. At winter dry bulb temperatures ranging between 0° and 60°F it is not unusual for the RH to be 100%.

3) Wind velocity - 15 mph (winter).

e. Indoor Design Conditions:

Indoor conditions should be based, as nearly as possible, on the Service Environment Chart, Drawing No. 9763-F-300219 (FSAR Fig. 3.11(B)-1) latest revision. Where the chart does not present information, then the ambient conditions will be selected by the Responsible Engineer, reviewed by the Supervising Discipline Enginer, and confirmed with the Environmental Qualification Task Force and/or the disciplines which have equipment in the area.

f. Plant Conditions

Consideration must be given (and stated) in the problem statement as to the plant operating mode on which the calculation is based. Normally, this would be a winter shutdown with aux. steam and the hot water heating system available. Electric U.H.'s are also considered available.

g. Winter ground temperature: +50°F.

h. Include a 10% safety factor in the calculation.

2. Cooling

a. All normal internal loads must be considered. These include but not limited to:

1) Piping
2) Pumps and other rotating equipment
3) Solar
4) Lighting, MCC, panels, cable, etc.
5) Each discipline will provide input to these loads in the the form of a memo, calculation, vendor input, etc. such that actual values can be identified and referenced.

b. Credits shall be taken where possible for heat losses through floors, walls and ceilings if required to justify specified equipment sizing.

c. Heat transfer surfaces shall be based on either inside or outside dimensions of the structure, but shall be consistent throughout a given calculation (the difference in the calculation results between using inside or outside dimensions is negligible.)

d. "U" and ETD factors should be the same as 1.(b) except as otherwise noted.

e. Outdoor Design Temperatures

1) 88°F dry bulb (FSAR)
2) Should a calculation require a wet bulb temperature (or R.H.), a mean coincident wet bulb of 73°F (obtained from the reference mentioned in 1.(d)above), or a worst case of 88°FDB/100% R.H. which is more conservative may be used.
3) 7 1/2 mph wind velocity (summer).

f. Indoor Design Condition.

same as 1(e).

g. Plant Conditions

1) Similar to Section 1(f) above, except the Normal operating conditions shall be as indicated in Section 2(e) for design ambients.
2) Emergency conditions during and post-LOCA and HELB with outdoor conditions as outlined in 2.(e).

h. Summer ground temperature: +60°F.

i. Include a 15% safety factor in the calculation on all heat gains except in Containment, the Control Building, PAB Charging Pump Rooms and the Diesel Generator Building (see Section I, paragraph 3).
A safety factor will not be applied on credits (heat losses).

3. Heat Loss/Gain Through Subgrade Walls

a. Previously three methods of calculating winter heat losses through subgrade walls were used.

1) ASHRAE method per Chapter 25, 1981, Handbook of Fundamentals.
2) Carrier System Design Manual 1972, Part 1, Chapter 5. This method shall be used for all "new" winter calculations
3) Composite method developed by Project from ASHRAE & Carrier.

All new calculations shall use Carrier method for winter heat losses a "U" value of 0.08 for summer heat losses (over entire wall) and 0.05 for the floor.

4. "Pressure Calculations"

The Service Environment Chart (Dwg. No. 9763-F-300219) lists maximum and minimum pressures for various areas and buildings. These numerical values are indicated as "slightly negative" and "slightly positive." The former shall be taken to range between (-)0.009 psig (-0.25" W.G.) and 0 psig (0"W.G.); the latter ranges between +0.009 psig (+0.25" W.G.) and 0 psig (0"W.G.).

V. ELECTRICAL

1. Data shall be developed per item basis to allow heat load calculation by equipment and quantity take off from drawings. Heat loss for specific equipment shall be determined only when actual loading varies for similar equipment.

2. Only equipment procured by electrical discipline purchase orders or field purchased electrial "Bill of Material" items shall be considered.

3. Heat loss shall be based on actual loading for 100% power at nominal voltage. This heat loss will be used for all normal conditions. Heat loss for other conditions (LOCA, LOP) will be determined on an as needed basis. The Loss of Power (LOP) during LOCA heat losses, will be used both for loss of power during a LOCA and loss of power during normal conditions (conservative approach).

4. Switchgear and motor control center space heaters shall not be considered.

5. Heat loss from power level (H, J, K, L, and P) cable tray only shall be considered.

6. Heat loss from cables in exposed or below grade conduit shall not be considered.

7. All lighting is considered "ON" except DC emergency lighting or as noted in the calculation.

8. Heat loss from disconnect switches shall not be considered.

9. Heat losses for the DC switchgear for normal conditions are based on the continuous loads which are supplied from the battery chargers.

VI. FLUID ANALYSIS GROUP

1. Computer Program Development

a. Simultaneous solution for resulting temperatures in adjacent environmental zones is based on inputed data corresponding to heat transfer area and coefficients between zones, non-piping equipment heat loads, and definition of piping temperatures, diameters and lengths.

These temperatures will be calculated based on the following assumptions:

1) Calculation of "steady state" temperatures only, i.e., transient heatup response will not be calculated.

2) No credit will be taken for development of natural ventilation due to a stack effect.

3) Piping temperatures assumed constant, i.e., no decay of pipe temperatures if system shut down.

4) Constant design temperature is used in adjacent non-studied area. For outside ambient temperature, 88°F is used. For Class 1E ventilated areas, use normal maximum temperature. For non-Class 1E ventilated areas, use estimated maximum temperature expected following a loss of HVAC.

2. Mechanical Services Input Required.

   a. All non-piping heat loads for each environmental zone for plant conditions to be studied.

   b. Initial temperature to be assumed for all studied areas.

   c. Maximum temperatures to be assumed in adjacent non-studied areas.

3. Piping Input Required

   a. For each plant condition to be studied, piping temperature, diameter, length and insulation.

VII. INSTRUMENTATION & CONTROL

1. I&C loads are typically not significant with the exception of areas such as the Main Control Room; therefore, I&C heat loads are used to calculate Main Control Room temperature.

ATTACHMENT 1
OPERATIONAL MATRIX

BUILDING/CONDITION*	NORMAL			ABNORMAL			ACCIDENT									
	100% FULL POWER (TYP) * 1	HEAT UP & COOL DOWN 2	REFUELING 3	DIESEL GEN. TEST 1	TUNNEL HEAT TREATMENT 2	LOSS OF OFF SITE PWR 100% PWR 3	LOCA LOSS OF OFF SITE PWR 1	MSLB 2	HELB 3	MELB 4	HWLB 5	100% POWER LOSS TUNNELS 6	LOCA LOSS TUNNELS 7	LONG TERM LOCA 8	SEISMIC EVENT 100% FULL PWR OR LOCA 9	FUEL HANDLING ACCIDENT 10
PAB	X	X				X	X		X	X						
CONTAINMENT STRUCTURE (CS)	X	X	X			X	X	X	X					X		
EQUIPMENT VAULTS (EV)	X	X				X	X		X	X						
FSB	X		X			X	X				X					X
MSFW PIPE CHASE (PCE/PCW)	X					X	X	X								
MECH. PENETRATION AREA (MPA)	X	X				X	X		X	X						
CONTAINMENT ENCLOSURE (CE)	X	X				X	X		X	X						
ELEC. PENETRATION AREA (ET)	X					X	X								X	
ELEC. TUNNEL (ET)	X					X	X								X	
CONTROL BLDG. (CB)	X					X	X									
DGB	X			X		X	X									
TANK FARM (TF)	X					X	X		X							
COOLING TOWER (CT)	X				X							X	X			
SERVICE WATER PUMP HOUSE(SW)	X				X						X					
EMERGENCY FEEDWATER PUMP HOUSE(EFW)	X						X				X					
AIR INTAKE (MUA)	X															

* For detailed definition of each condition, see Reference No. 4.

CALC. SET NO.	6.01.00.00
PRELIM.	
FINAL	
VOID	
SHEET	ATTACHMENT-1
J.O.	9763.102
REV	0
COMP BY	BCG DATE 9/23/85
CHK'D BY	DATE 10/2/85
DATE	
DATE	

[redacted]	NORMAL			ABNORMAL		[redacted]	ACCIDENT			RADIATION DOSE		[redacted]	LOCATION
ZONES	TEMPERATURE	PRESSURE	RELATIVE HUMIDITY	TEMPERATURE	PRESSURE	RELATIVE	TEMPERATURE	PRESSURE	RELATIVE HUMIDITY	NORMAL/ABNORMAL	ACCIDENT		
PZ-1	[illegible]	[illegible]	[illegible]	[illegible]	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
PZ-2	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PZ-3	↓	↓	↓	↓	—	—	↓	↓	↓	[illegible]	—	—	↓
PZ-4	[illegible]	[illegible]	[illegible]	↓	—	—	[illegible]	[illegible]	[illegible]	[illegible]	—	—	↓
PZ-5	[illegible]	[illegible]	[illegible]	↓	—	—	↓	↓	↓	↓	[illegible]	—	↓
PZ-6	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PZ-1	[illegible]	[illegible]	[illegible]	[illegible]	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
PZ-2	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PZ-3	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PZ-4	[illegible]	[illegible]	[illegible]	↓	—	—	[illegible]	[illegible]	[illegible]	↓	[illegible]	—	↓
PZ-5	[illegible]	[illegible]	[illegible]	↓	—	—	[illegible]	[illegible]	[illegible]	↓	[illegible]	—	↓
SR-1	[illegible]	[illegible]	[illegible]	[illegible]	—	—	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]	[illegible]
SR-2	[illegible]	↓	↓	(2)6.01.51.02	—	—	↓	↓	↓	↓	↓	↓	↓
SR-3	↓	↓	↓	(2)6.01.51.01	—	—	↓	↓	↓	↓	↓	↓	↓
SR-4	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	↓	↓
TF-1	[illegible]	[illegible]	[illegible]	[illegible]	—	—	[illegible]	[illegible]	[illegible]	[illegible]	—	—	[illegible]
TF-2	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	↓	↓
PB-1	[illegible]	[illegible]	[illegible]	(3)MSVCS-FAG-08	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
PB-2	↓	↓	↓	↓	—	—	[illegible]	[illegible]	[illegible]	↓	↓	—	↓
PB-3	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-4	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-5	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-6	↓	↓	↓	↓	—	—	↓	↓	↓	↓	[illegible]	—	↓
PB-7	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-8	[illegible]	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-9	[illegible]	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-10	[illegible]	[illegible]	[illegible]	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-11	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-12	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-13	[illegible]	[illegible]	[illegible]	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-14	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-15	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-16	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-17	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-18	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-19	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-20	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-21	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-22	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-23	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-24	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-25	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-26	[illegible]	[illegible]	[illegible]	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-27	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-28	[illegible]	[illegible]	[illegible]	↓	—	—	↓	↓	↓	↓	↓	—	↓
PB-29	↓	↓	↓	↓	—	—	[illegible]	[illegible]	[illegible]	↓	↓	—	↓

NOTES:
1. FOR DEFINITIONS TO OPERATIONAL MODES (AS DEPICTED BY ( )) SEE DRAWING 9763-F-300219 SHEET 1 OF 4.
2. DASHED (-) LINE INDICATES INFORMATION NOT REQUIRED FOR THIS ANALYSIS.
3. FOR CONTAINMENT STRUCTURE ACCIDENT CONDITIONS NOTE ONLY: (1) FIGURES 1 & 2 ON SHEET 1 OF 4 OF SERVICE ENVIRONMENT CHART

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CALCULATION MATRIX
MECHANICAL SERVICES

PUBLIC SERVICE CO OF NEW HAMPSHIRE
SEABROOK STATION

United Engineers

9763-F-6.01.00.00 SHEET 1 OF 3

7-29-85

[redacted]	NORMAL			ABNORMAL			ACCIDENT			RADIATION DOSE		[redacted]	LOCATION
[redacted]	TEMPERATURE	PRESSURE	RELATIVE HUMIDITY	TEMPERATURE	PRESSURE	RELATIVE HUMIDITY	TEMPERATURE	PRESSURE	RELATIVE HUMIDITY	NORMAL/ABNORMAL	ACCIDENT		
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	—	[redacted]
[redacted]	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
[redacted]					—	—						—	
[redacted]					—	—						—	
[redacted]					—	—						—	
[redacted]					—	—						—	
[redacted]					—	—						—	
[redacted]					—	—						—	
[redacted]					—	—						—	
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[redacted]					—	—						—	
[redacted]					—	—						—	
[redacted]					—	—						—	
[redacted]	[redacted]				—	—						—	
[redacted]	[redacted]				—	—						—	
[redacted]	↓	↓	↓	↓	—	—	↓	↓	↓	↓	↓	—	↓
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]
[redacted]					—	—					—	—	
[redacted]					—	—					—	—	
[redacted]					—	—					—	—	
[redacted]	↓	↓	↓	↓	—	—	↓	↓	↓	↓	—	—	↓
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]
[redacted]					—	—							
[redacted]					—	—							
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[redacted]	[redacted]	—	—	—	—	—	—	—	—	[redacted]	—	—	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]
[redacted]					—	—					—		
[redacted]					—	—					—	[redacted]	
[redacted]					—	—					—		
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[redacted]	[redacted]	[redacted]	[redacted]	—	—	—	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	—	—	—	[redacted]	[redacted]	[redacted]	↓	—	—	↓
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]	[redacted]	[redacted]		—	—	
[redacted]	↓	↓	↓	↓	—	—	↓	↓	↓		—	—	↓
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]	[redacted]	[redacted]		—	—	
[redacted]	↓	↓	↓	↓	—	—	↓	↓	↓		—	—	↓
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	—	—	[redacted]	[redacted]	[redacted]		—	—	
[redacted]	↓	↓	↓	↓	—	—	↓	↓	↓		—	—	↓

NOTE:
FOR NOTES SEE THIS DRAWING SHEET 1 OF 3

ENGINEER
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CALCULATION MATRIX
MECHANICAL SERVICES

PUBLIC SERVICE CO OF NEW HAMPSHIRE
SEABROOK STATION

9763-F-6.01.00.00 SHEET 2 OF 3

ZONE	NORMAL			ABNORMAL			ACCIDENT			RADIATION DOSE		PRAY	LOCATION
	TEMPERATURE	PRESSURE	RELATIVE HUMIDITY	TEMPERATURE	PRESSURE	RELAT	TEMPERATURE	PRESSURE	RELATIVE HUMIDITY	NORMAL/ABNORMAL	ACCIDENT		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—	(1)6.01.65.01 (5)MSVCS-FAG-08	(1)6.01.65.01 (5)MSVCS-FAG-08	(1)6.01.65.01 (5)MSVCS-FAG-08	[illegible]	[illegible]	—	ELECTRICAL PENETRATION AREA
[illegible]					—	—						—	
[illegible]					—	—						—	
[illegible]	[illegible]	[illegible]	[illegible]	(3)6.01.41.02	—	—	(1)6.01.41.02	(1)6.01.41.02	(1)6.01.41.02	[illegible]	—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]				—	—	—	—	—	—		—	—	
[illegible]				(3)6.01.41.02	—	—	(1)6.01.41.02	(1)6.01.41.02	(1)6.01.41.02		—	—	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—	(1)6.01.42.05	(1)6.01.42.08	(1)6.01.42.08		—	—	
[illegible]				(3)6.01.42.01	—	—	(1)6.01.42.01				—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]					—	—					—	—	
[illegible]	[illegible]	[illegible]	[illegible]	—	—	—	—	—	—		—	—	
[illegible]	(1)6.01.53.07 (2)6.01.53.07	(1)6.01.53.13 (2)6.01.53.13	(1)6.01.53.13 (2)6.01.53.13	[illegible]	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	CONTAINMENT ENCLOSURE [illegible] AREA
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—	[illegible]	[illegible]	SEE SERVICE ENVIRONMENTAL CHART SH 1 OF 5	[illegible]	SEE SERVICE ENVIRONMENTAL CHART SH 1 OF 5	SEE SERVICE ENVIRONMENTAL CHART SH 1 OF 5	CONTAINMENT STRUCTURE
[illegible]					—	—							
[illegible]					—	—							
[illegible]					—	—							
[illegible]					—	—							
[illegible]					—	—							
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[illegible]					—	—							
[illegible]					—	—							
[illegible]					—	—							
[illegible]					—	—							
[illegible]					—	—							

NOTES:
FOR NOTES SEE THIS DRAWING SHEET 1 OF 3.

ENGINEER
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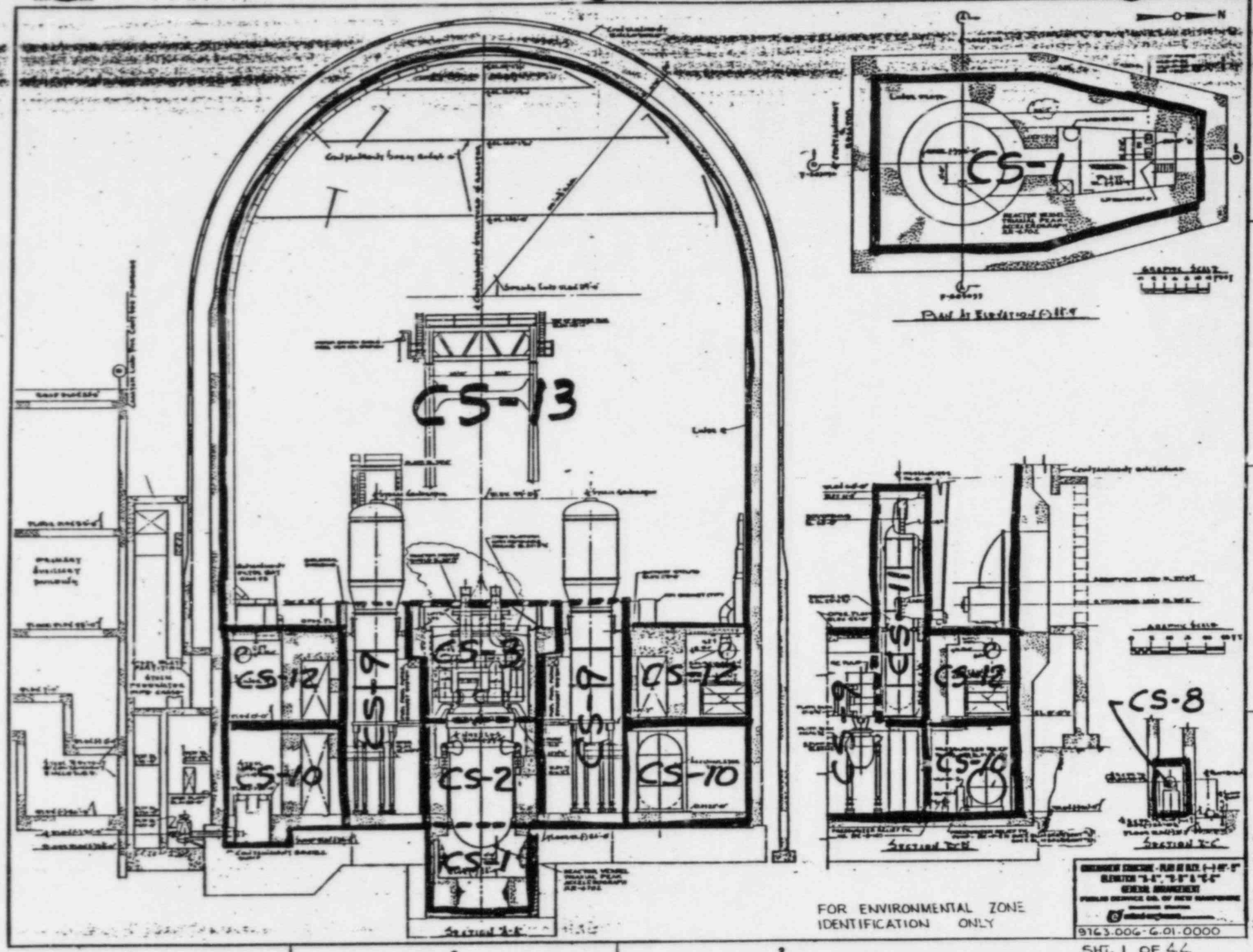
MECHANICAL SERVICES

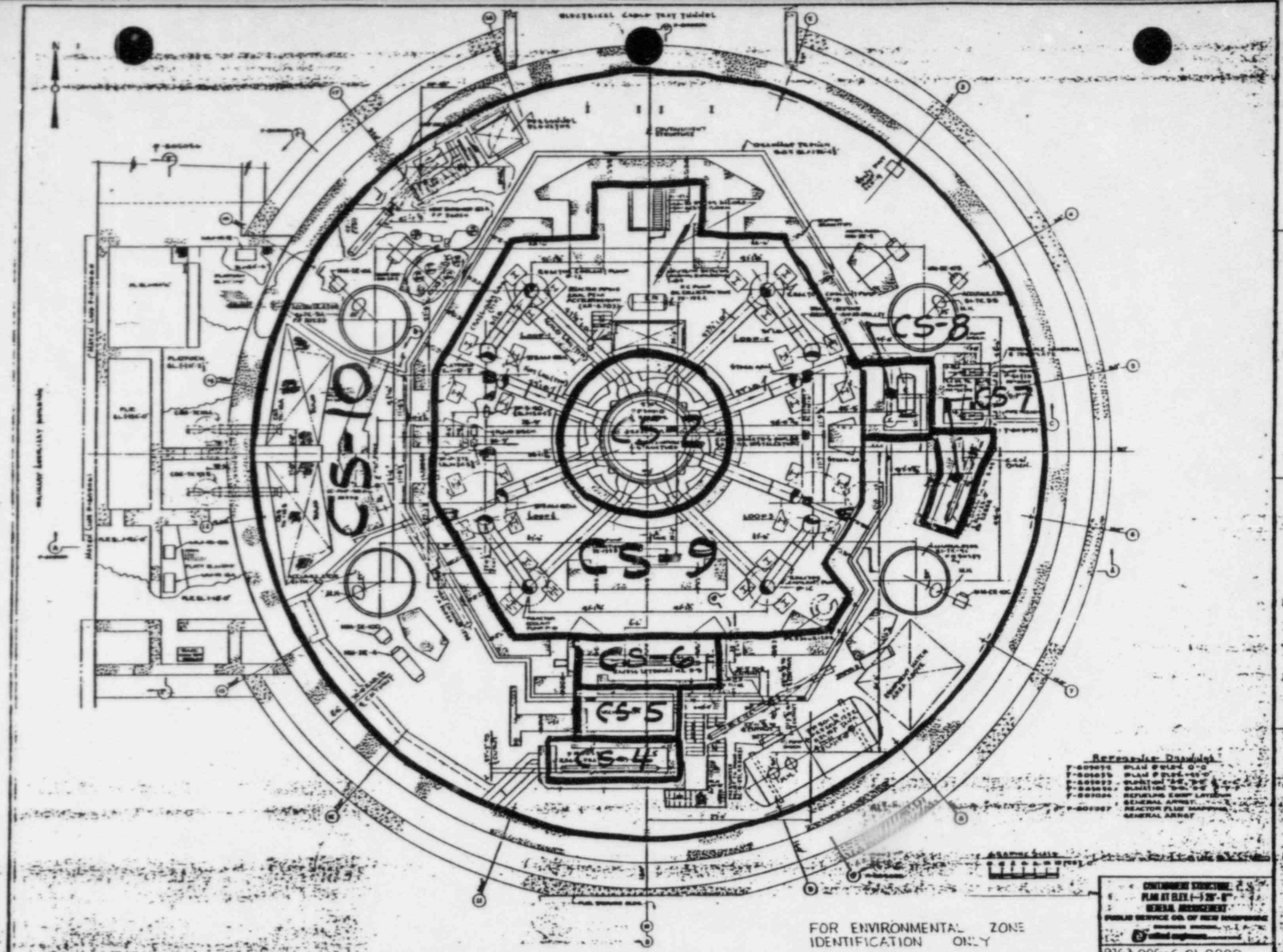
PUBLIC SERVICE CO OF NEW HAMPSHIRE
SEABROOK STATION
united engineers [illegible]

9763-F-6.01.00.00 SHEET 3 OF 3

7 27 84


CS-13
CS-12
CS-9
CS-3
CS-9
CS-12
CS-10
CS-2
CS-10
CS-1
CS-1
CS-11
CS-12
CS-9
CS-10
CS-8
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
9163.006-G.01-0000

SHT. 1 OF 42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CS-2
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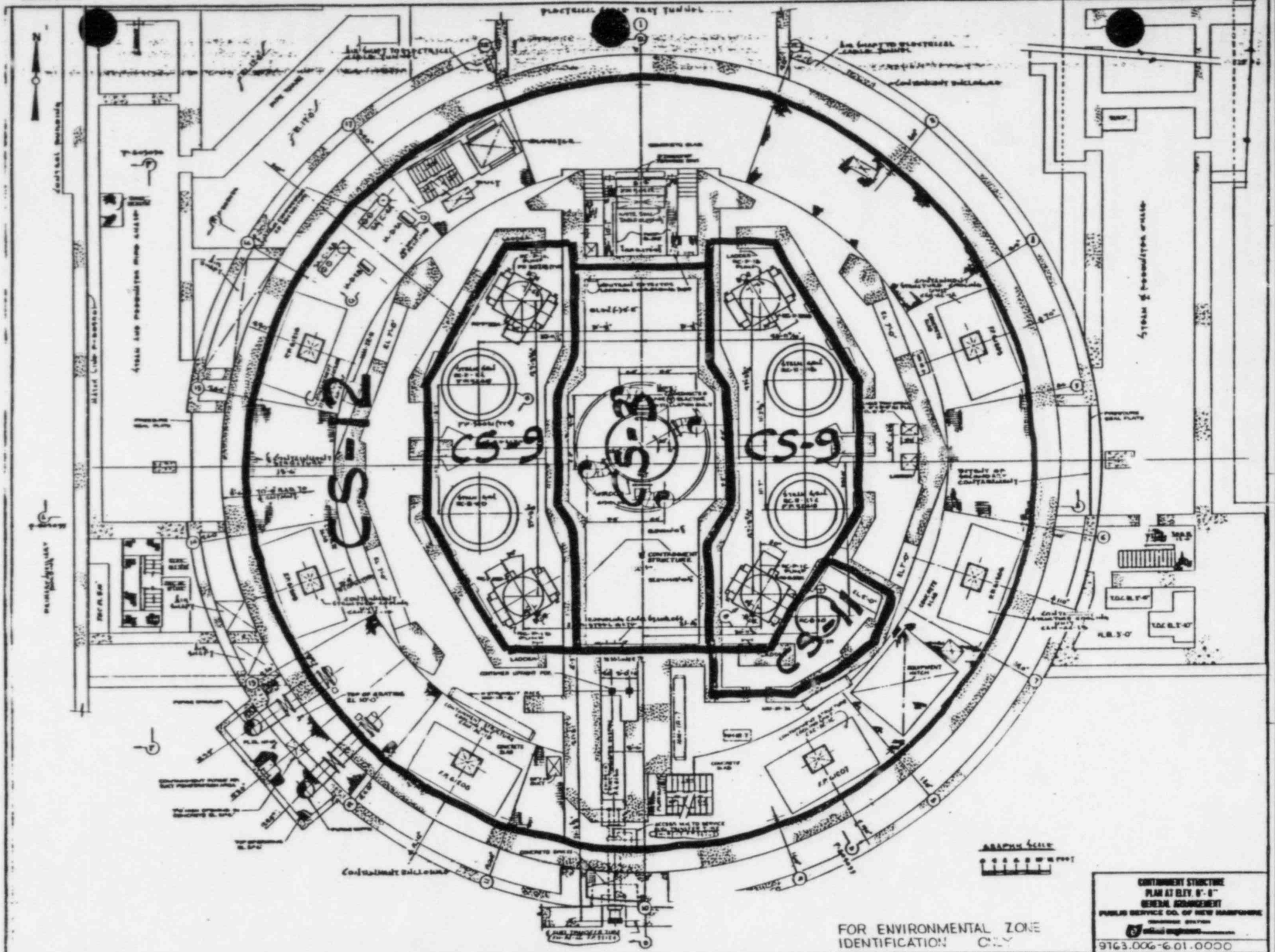
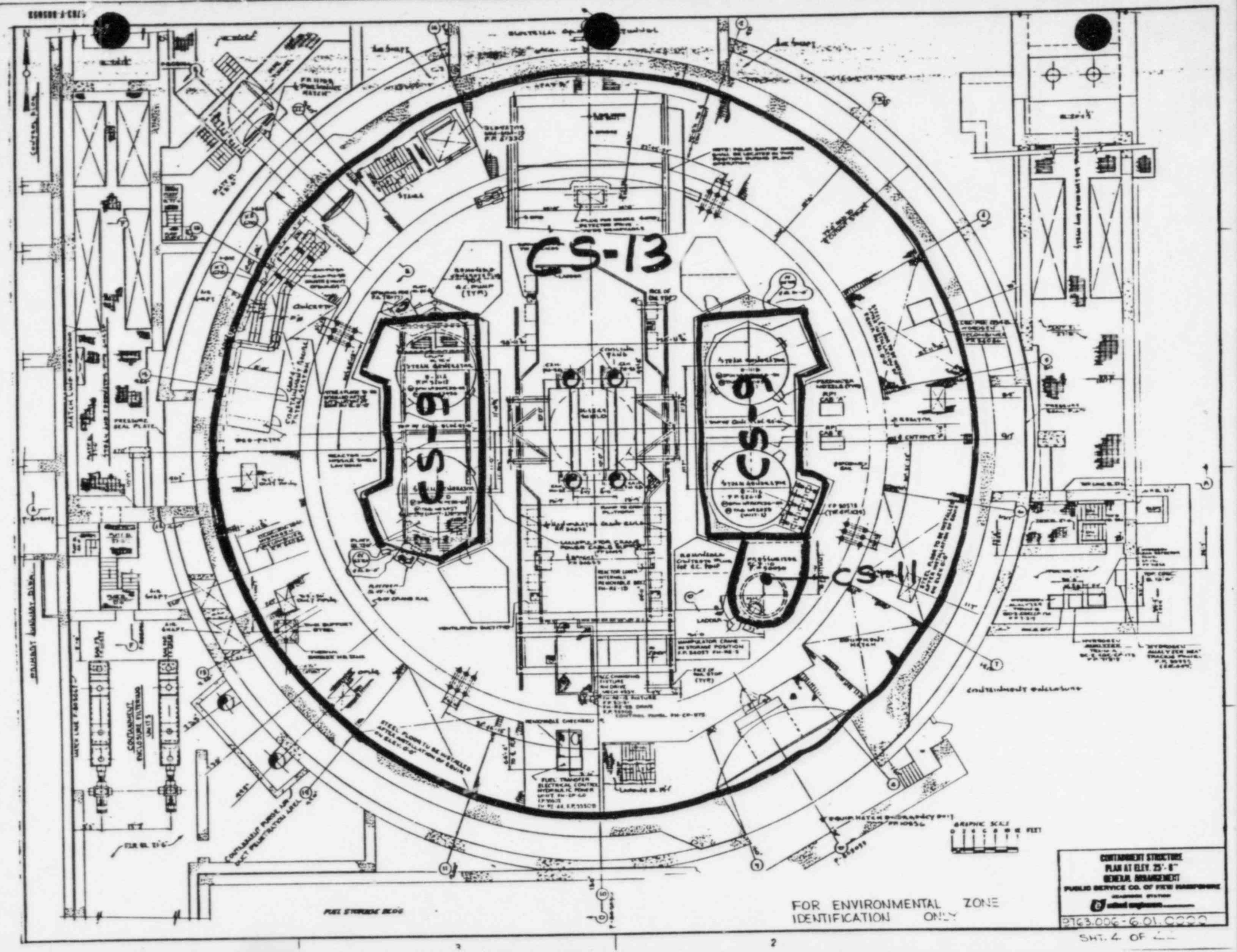
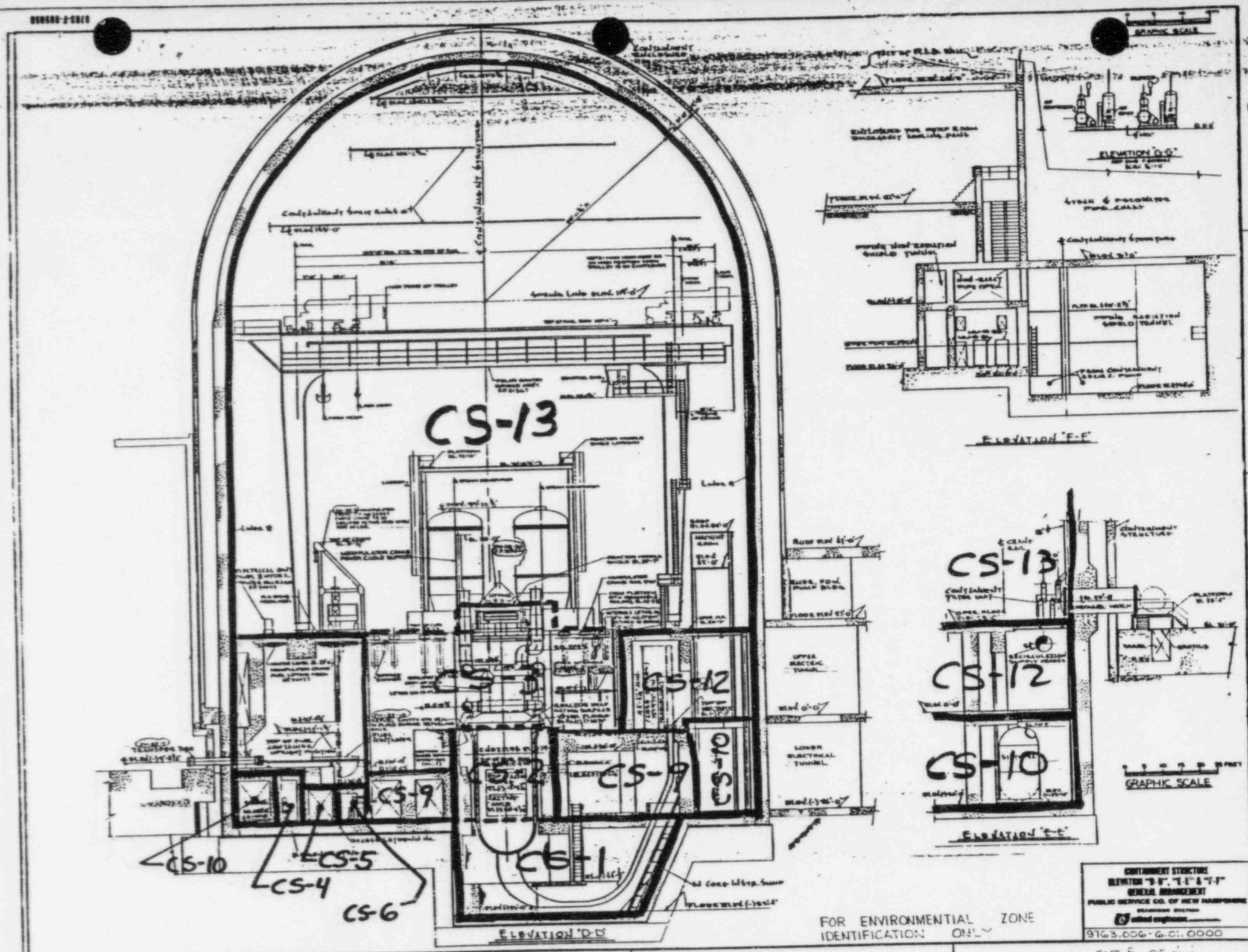
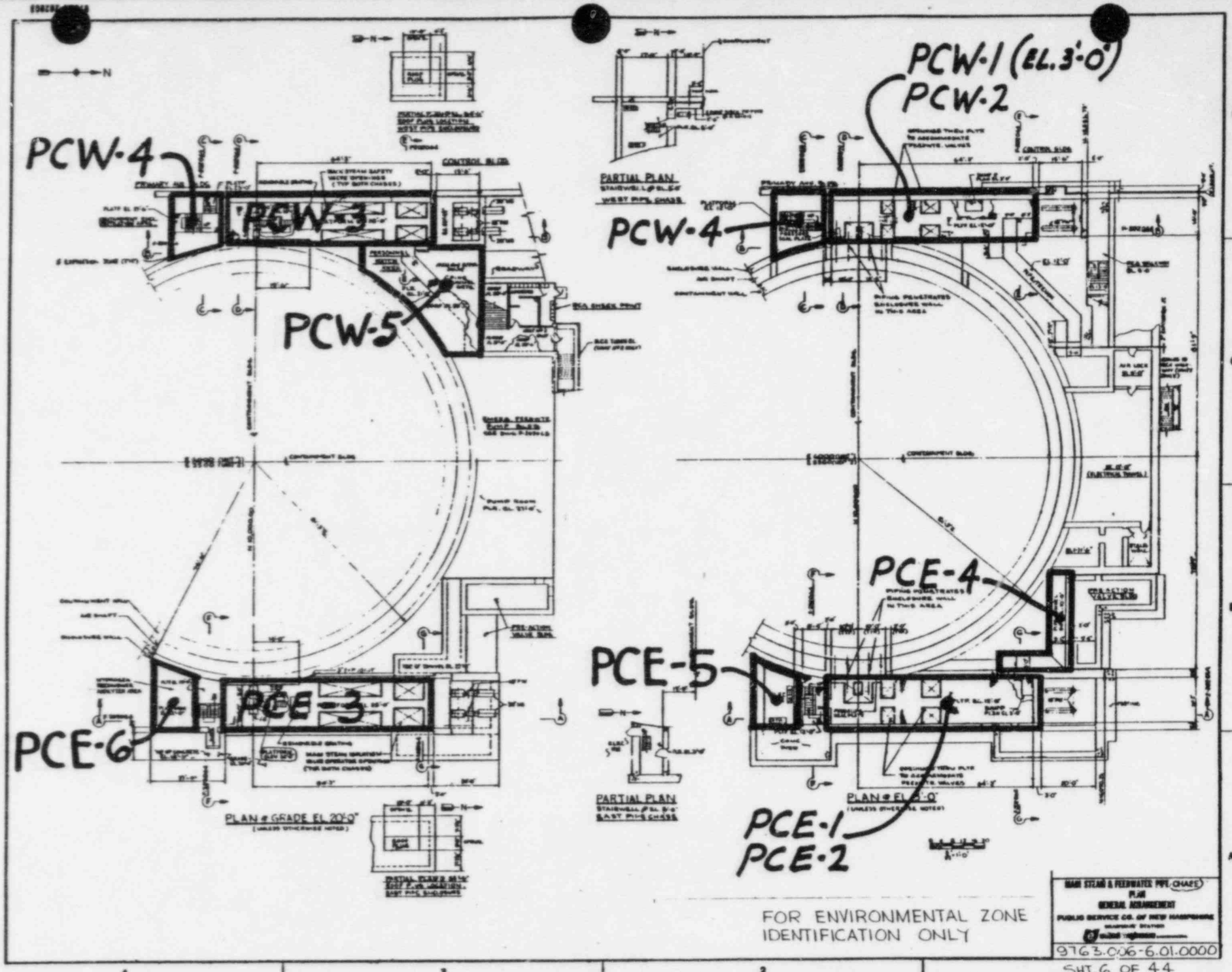
CS-7
CS-9
CS-6
CS-5
CS-4
Reference Drawings
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
9163.006-6.01.0000
SHT. 2 OF 44

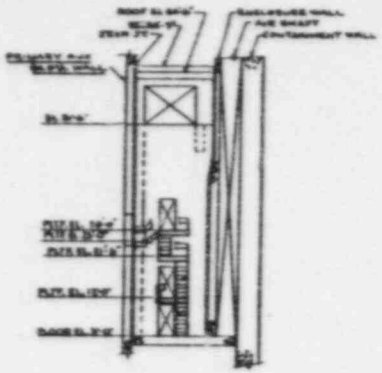

CS-12
CS-9
CS-8
CS-9
CS-11
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
CONTAINMENT STRUCTURE
PLAN AT ELEV. 0'-0"
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
9163.006-6.01.0000

SHT. 3 OF 22

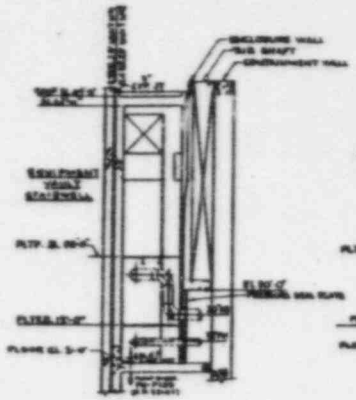

CS-13
CS-11
CONTAINMENT STRUCTURE
PLAN AT ELEV. 25'-6"
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
2763.006-6.01.0222
SHT. 4 OF


CS-13
CS-12
CS-10
CS-9
CS-5
CS-4
CS-6
CS-1
ELEVATION "D-D"
ELEVATION "E-E"
ELEVATION "F-F"
ELEVATION "G-G"
GRAPHIC SCALE
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
CONTAINMENT STRUCTURE
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
9763.006-G.01.0000
SHT. 5 OF

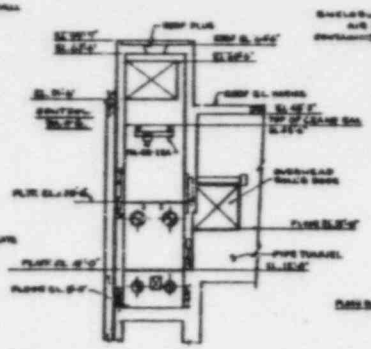

PCW-4
PCW-3
PCW-5
PCW-1 (EL. 3'-0")
PCW-2
PCW-4
PCE-4
PCE-5
PCE-3
PCE-6
PCE-1
PCE-2
PARTIAL PLAN
PARTIAL PLAN
PLAN @ GRADE EL. 20'-0"
PLAN @ EL. 3'-0"
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
MAIN STEAM & FEEDWATER PIPE CHASE
PLAN
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
9763.006-6.01.0000
SHT. 6 OF 44



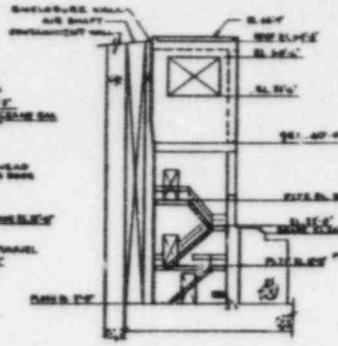
SECTION C-C
(F-360063)
WEST CHASE



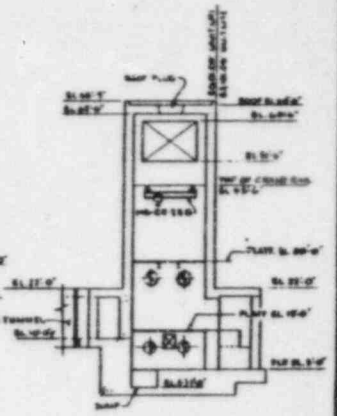
SECTION D-D
(F-360063)
WEST CHASE



SECTION E-E
(F-360063)
WEST CHASE



SECTION F-F
(F-360063)
EAST CHASE



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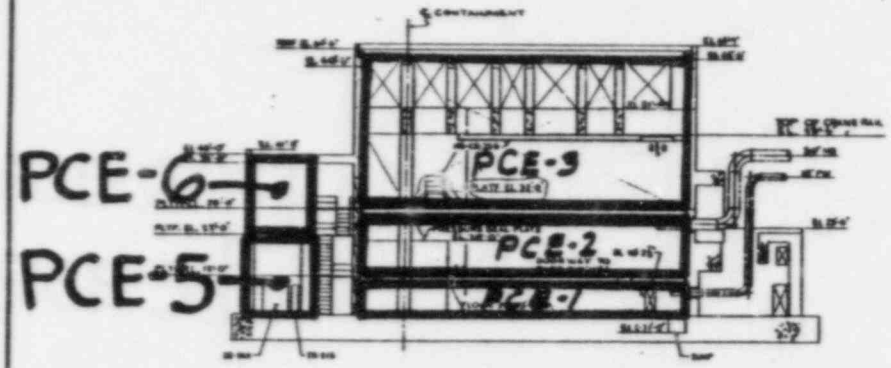
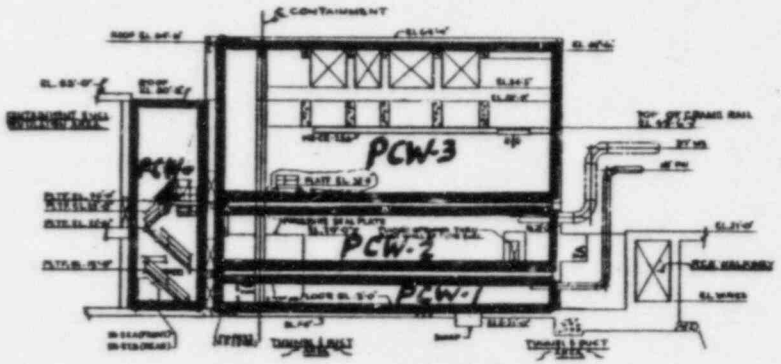
(F-207063)
EAST CHASE



SECTION A-A
(F-360063)
PIPE CHASE (EAST)



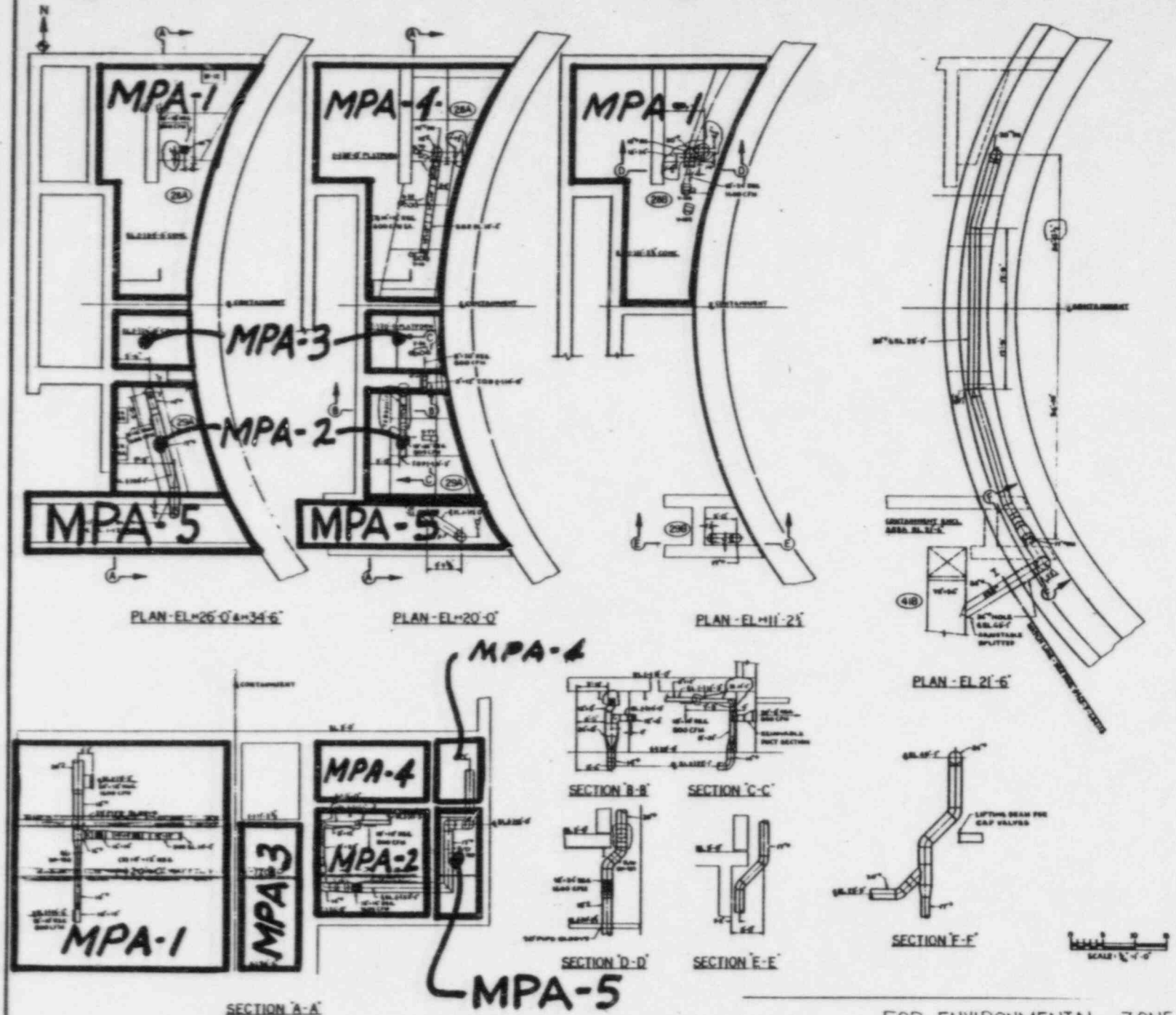
SECTION B-B
(F-207063)
PIPE CHASE (WEST)

FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

MAIN STEAM & FEEDWATER PIPE CHASE
SECTIONS
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

9763.006-6.01.0000

SHT. 7 OF 44



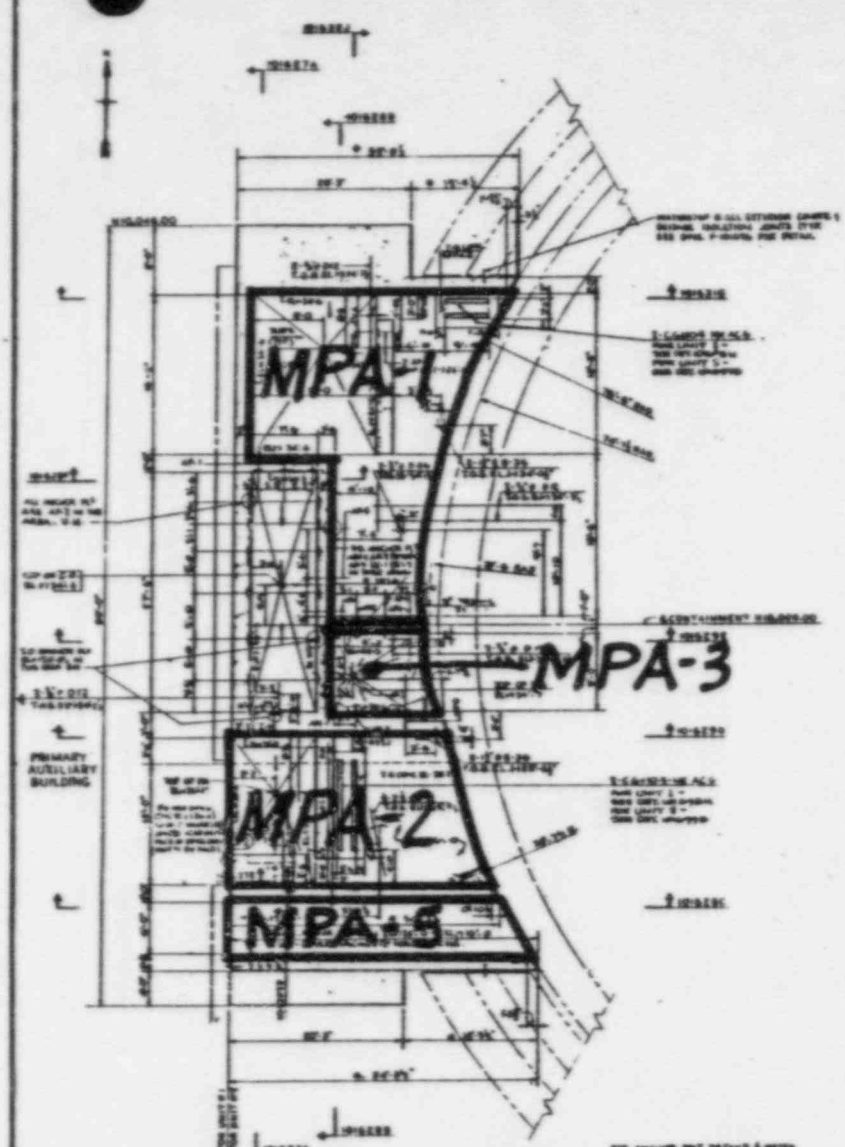
REFERENCE DRAWINGS

FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

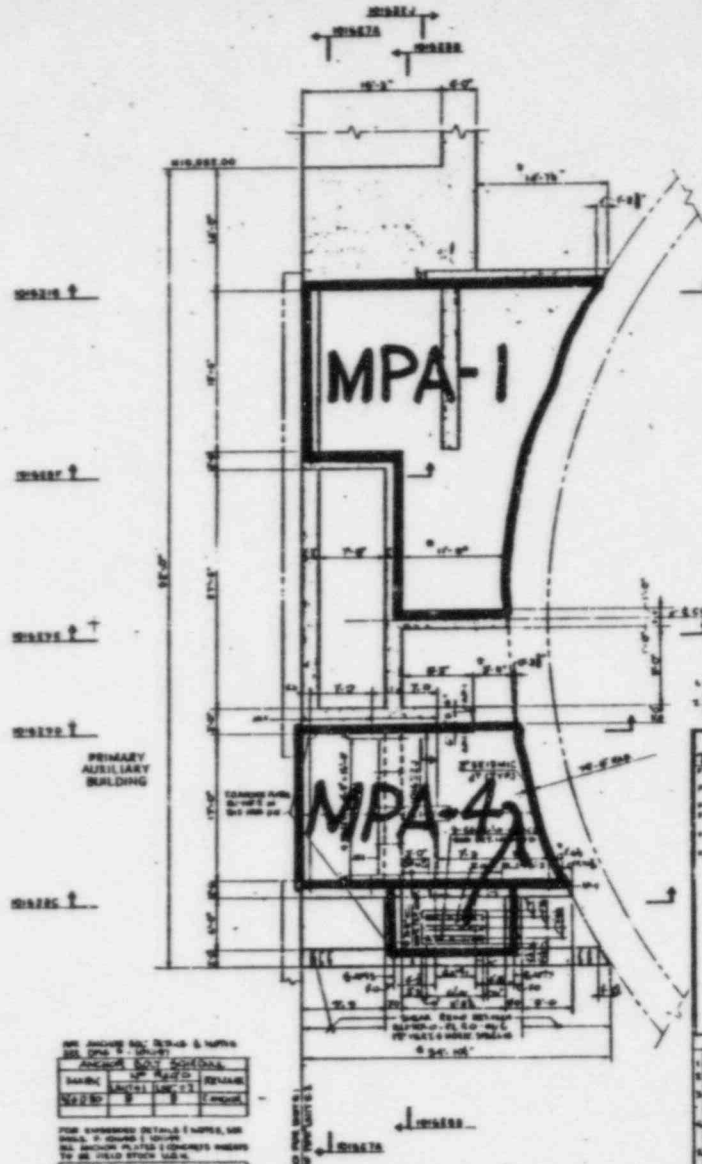
PRIMARY AUXILIARY BUILDING
VENT SYSTEMS - PLANS & SECTIONS
MECHANICAL PENETRATION AREA
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION

9763.006-6.01.0000

SHT. 8 OF 11



PLAN AT EL (-)24'-6"
UNLESS NOTED
LIVE LOAD



PLAN AT EL H 8'-0"
LIVE LOAD

FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

REFERENCE DRAWINGS

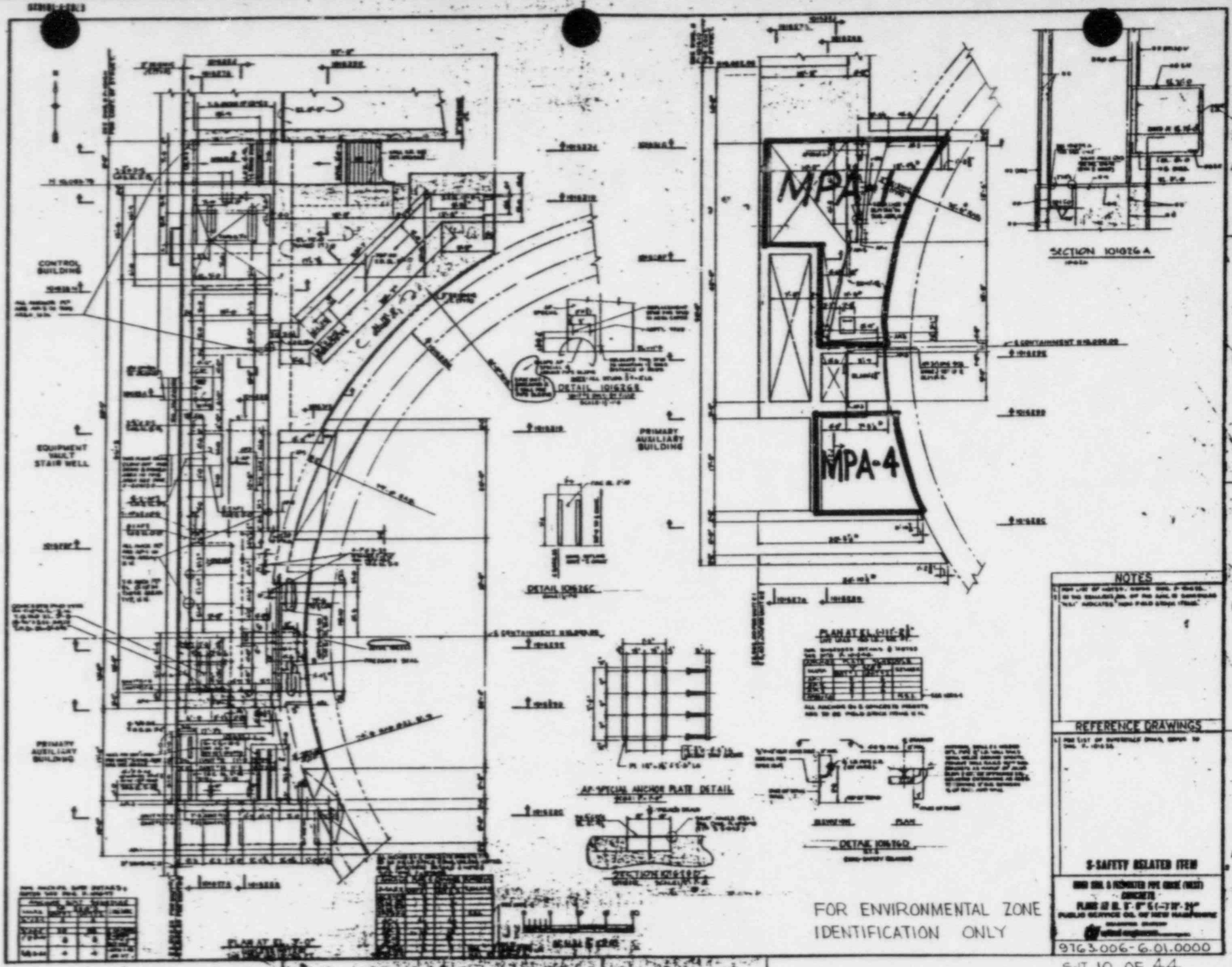
NOTES

S-SAFETY RELATED ITEM

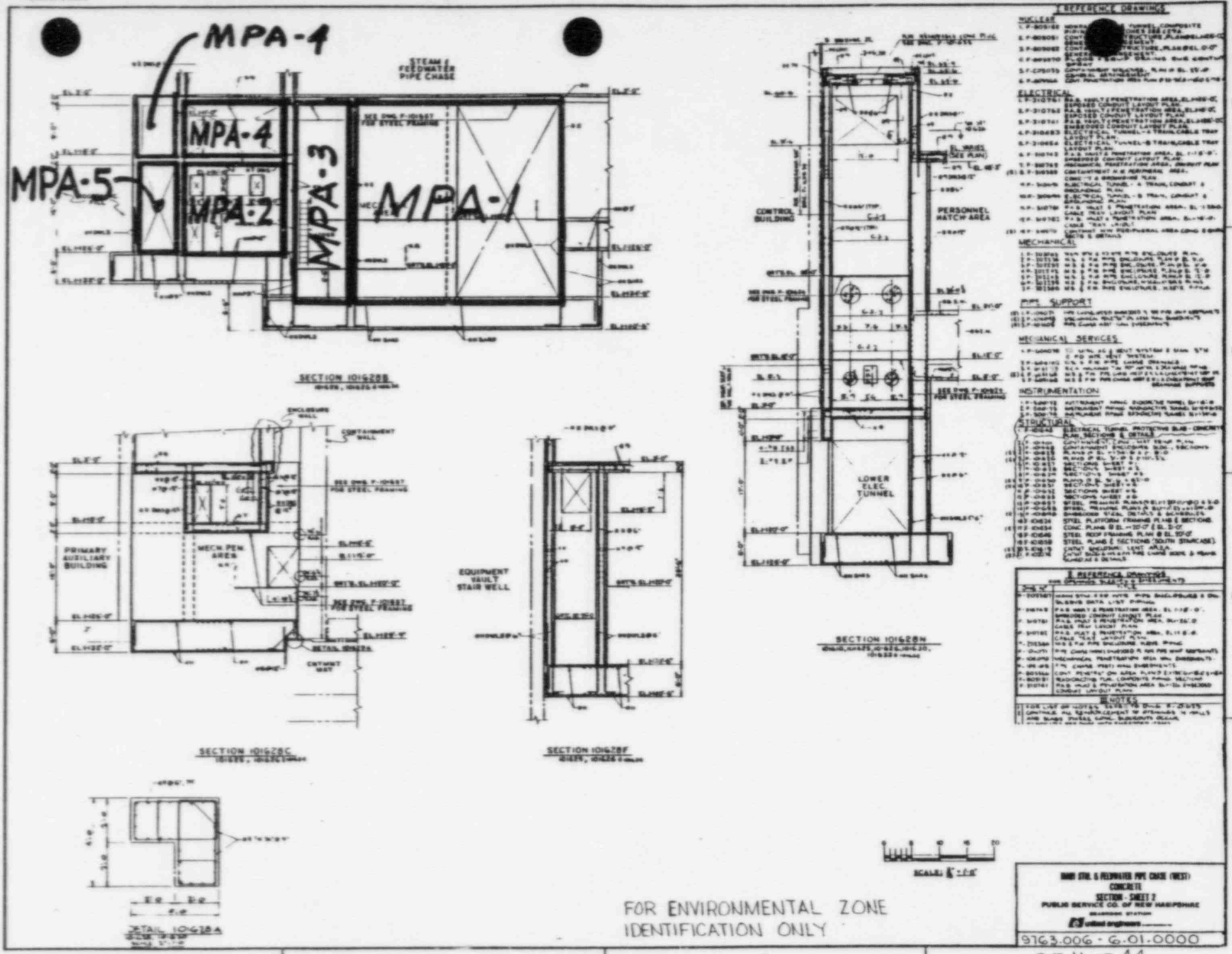
MECHANICAL PENETRATION AREA
CONCRETE
PLAN AT EL (-) 24'-6" & (-) 8'-8"

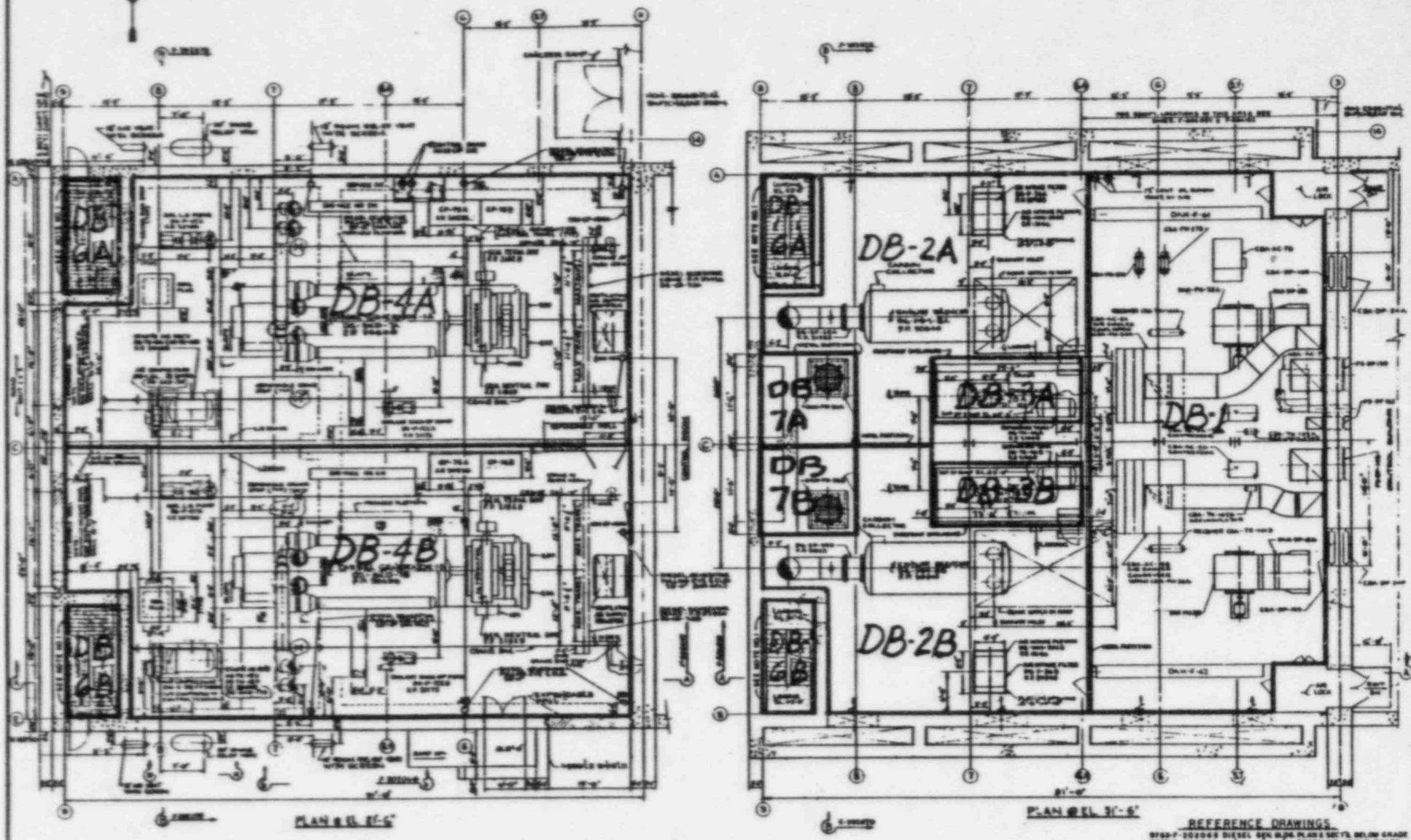
9163.006-6.01.0000

SHT. 9 OF 44


CONTROL BUILDING
EQUIPMENT VAULT STAIR WELL
PRIMARY AUXILIARY BUILDING
MPA-1
MPA-4
SECTION 101026A
DETAIL 101026B
DETAIL 101026C
PLAN AT EL. 110'-6"
AP VITAL ANCHOR PLATE DETAIL
DETAIL 101026D
NOTES
REFERENCE DRAWINGS
S-SAFETY RELATED ITEM
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
9763.006-6.01.0000

SHT. 10 OF 44


MPA-4
MPA-5
MPA-2
MPA-3
MPA-1
STEAM & FEEDWATER PIPE CHASE
SECTION 1016280
ENCLOSURE WALL
CONTAINMENT WALL
PRIMARY AUXILIARY BUILDING
MECH. PEN. AREA
CONTAINMENT WALL
SECTION 1016280
EQUIPMENT VAULT STAIR WELL
SECTION 1016280
CONTROL BUILDING
PERSONNEL HATCH AREA
LOWER ELEC. TUNNEL
SECTION 1016280
DETAIL 1016280A
REFERENCE DRAWINGS
NUCLEAR
ELECTRICAL
MECHANICAL
PIPE SUPPORT
MECHANICAL SERVICES
INSTRUMENTATION
STRUCTURAL
NOTES
SCALE: 1/8" = 1'-0"
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
MAIN STEAM & FEEDWATER PIPE CHASE (WEST)
CONCRETE
SECTION - SHEET 2
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
9763.006 - 6.01.0000
SHT. 11 OF 44



REFERENCE DRAWINGS

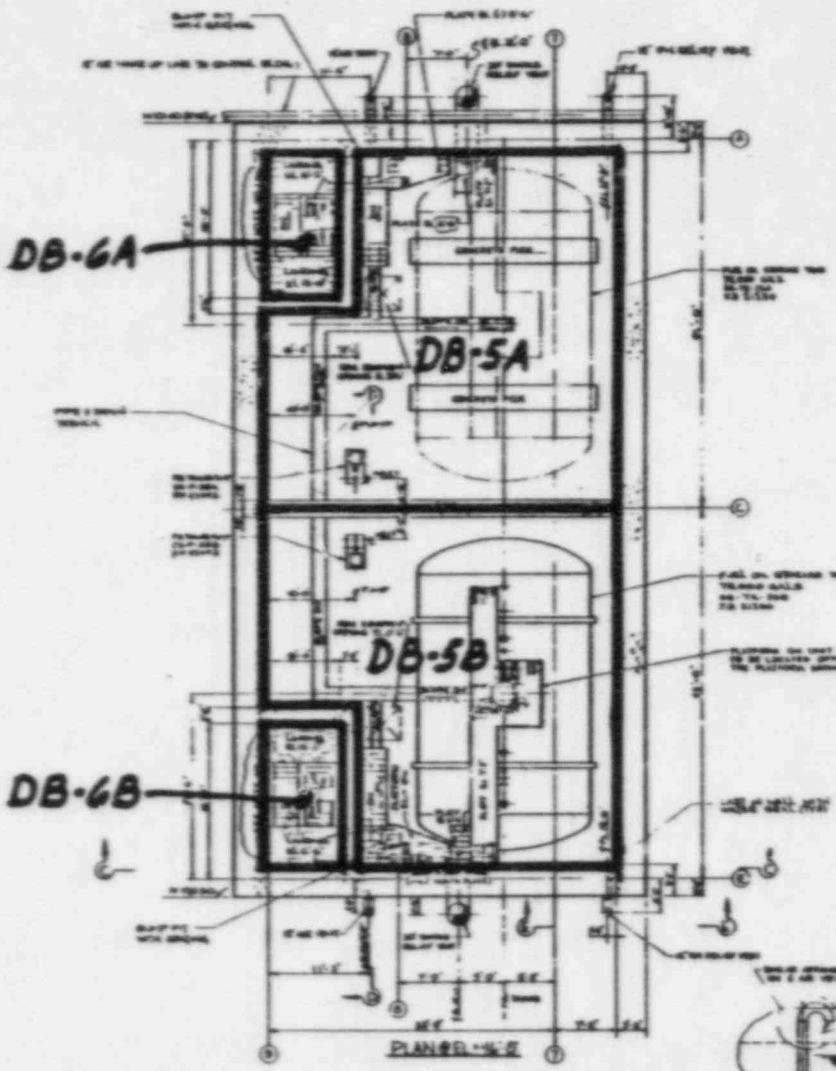
NOTES

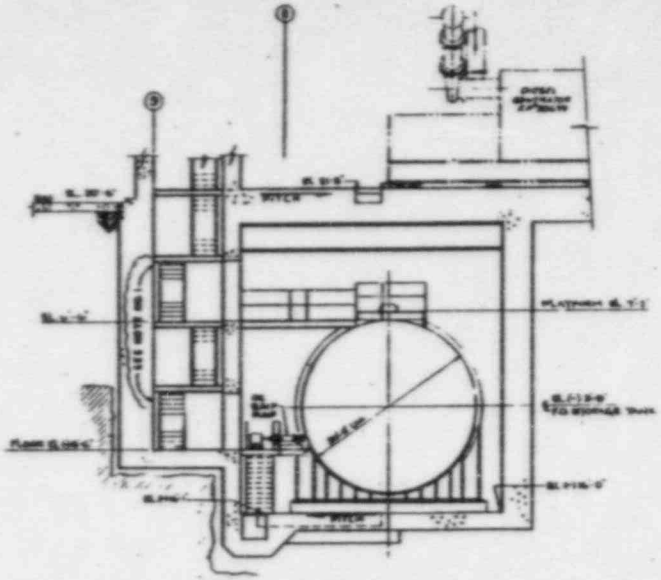
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

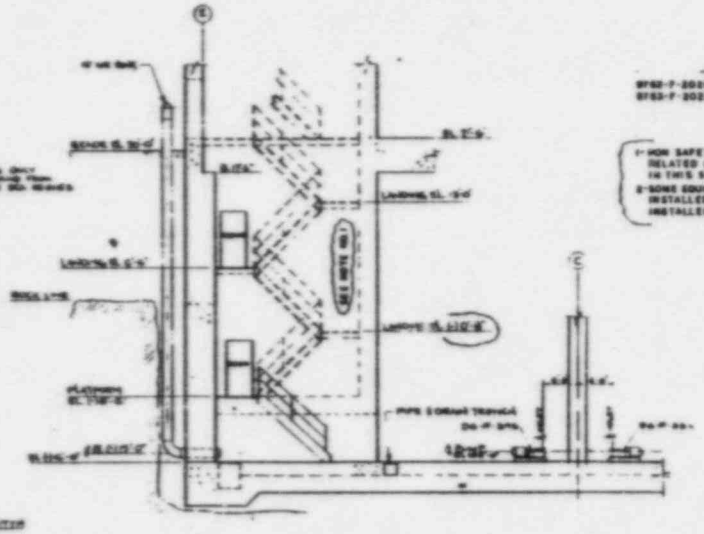
DIESEL GENERATOR BUILDING
PLANS BELOW GRADE
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
stone & webster engineers

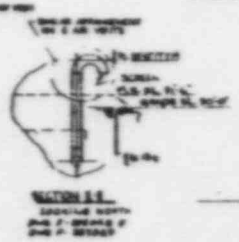
9763.006-6.01.0000

SHT. 12 OF 44









REFERENCE DRAWINGS

9763-F-302069 DIESEL GEN. BLDG. PLAN ABOVE GRADE
9763-F-302070 " " " SECTS. " "

NOTES

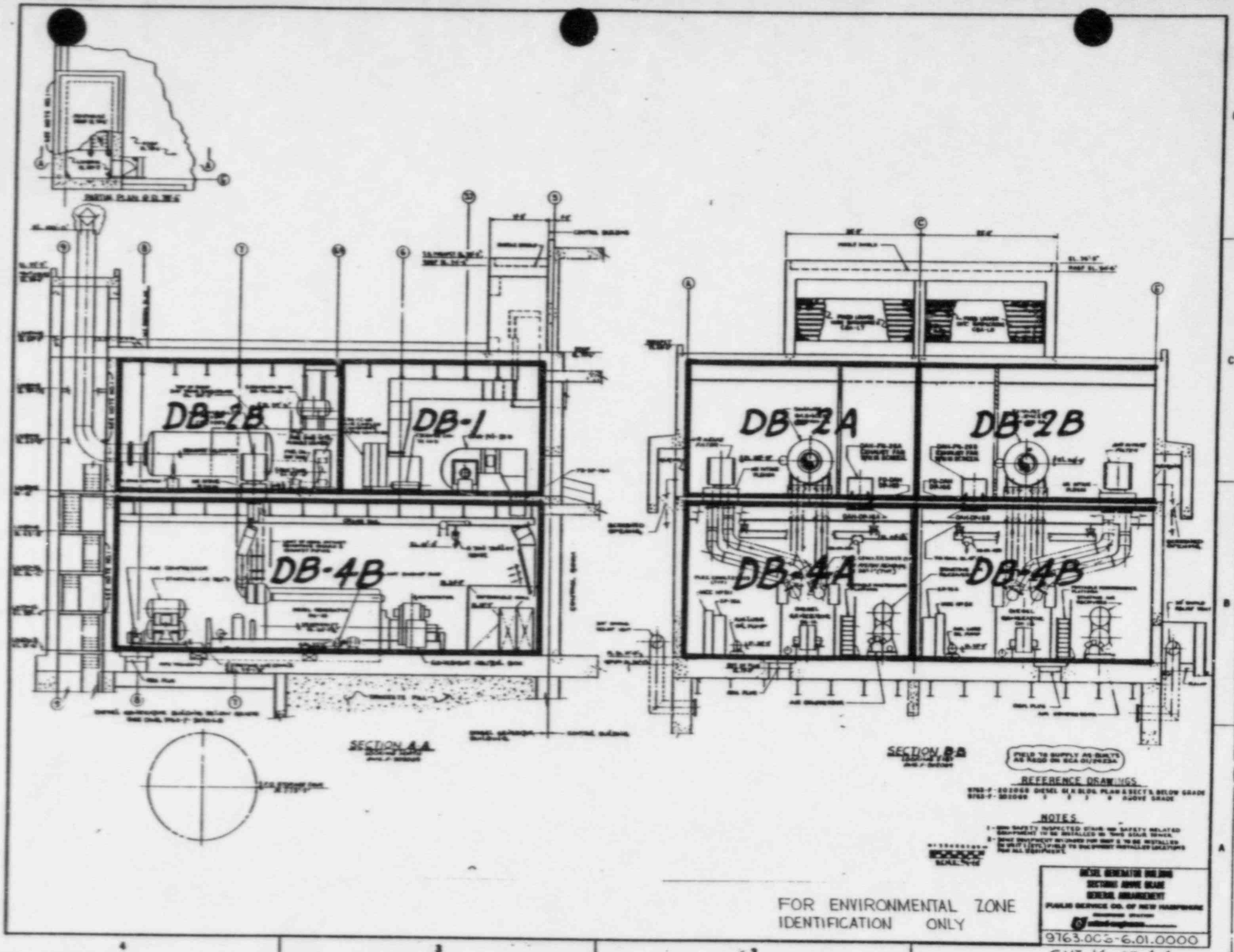
1. NON SAFETY INSPECTED STAIR - NO SAFETY RELATED EQUIPMENT TO BE INSTALLED IN THIS STAIR TOWER.
2. SOME EQUIPMENT INTENDED FOR UNIT NO.2 TO BE INSTALLED IN UNIT NO.1 (T.C) FIELD TO DOCUMENT INSTALLED LOCATIONS FOR ALL EQUIPMENT.

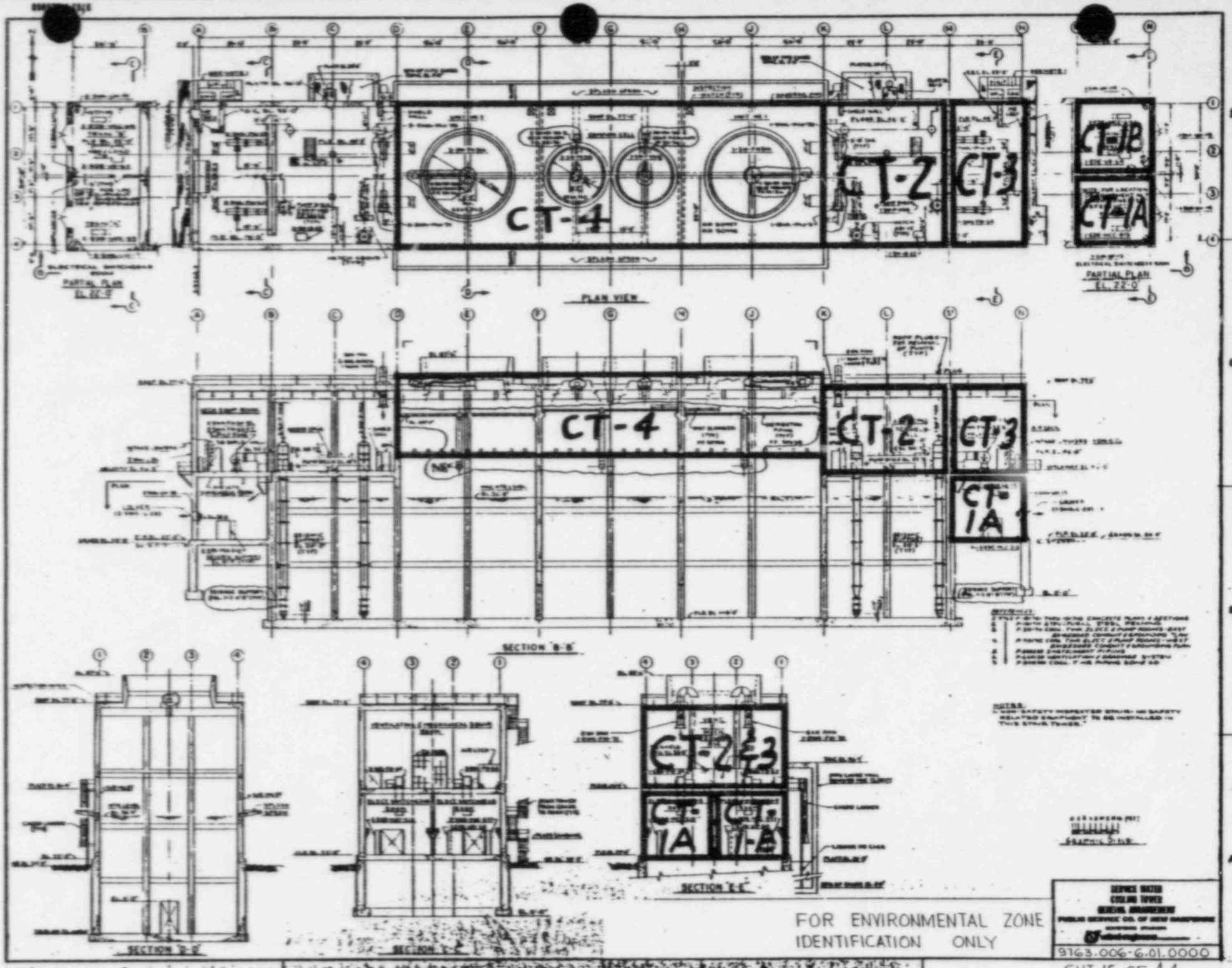
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

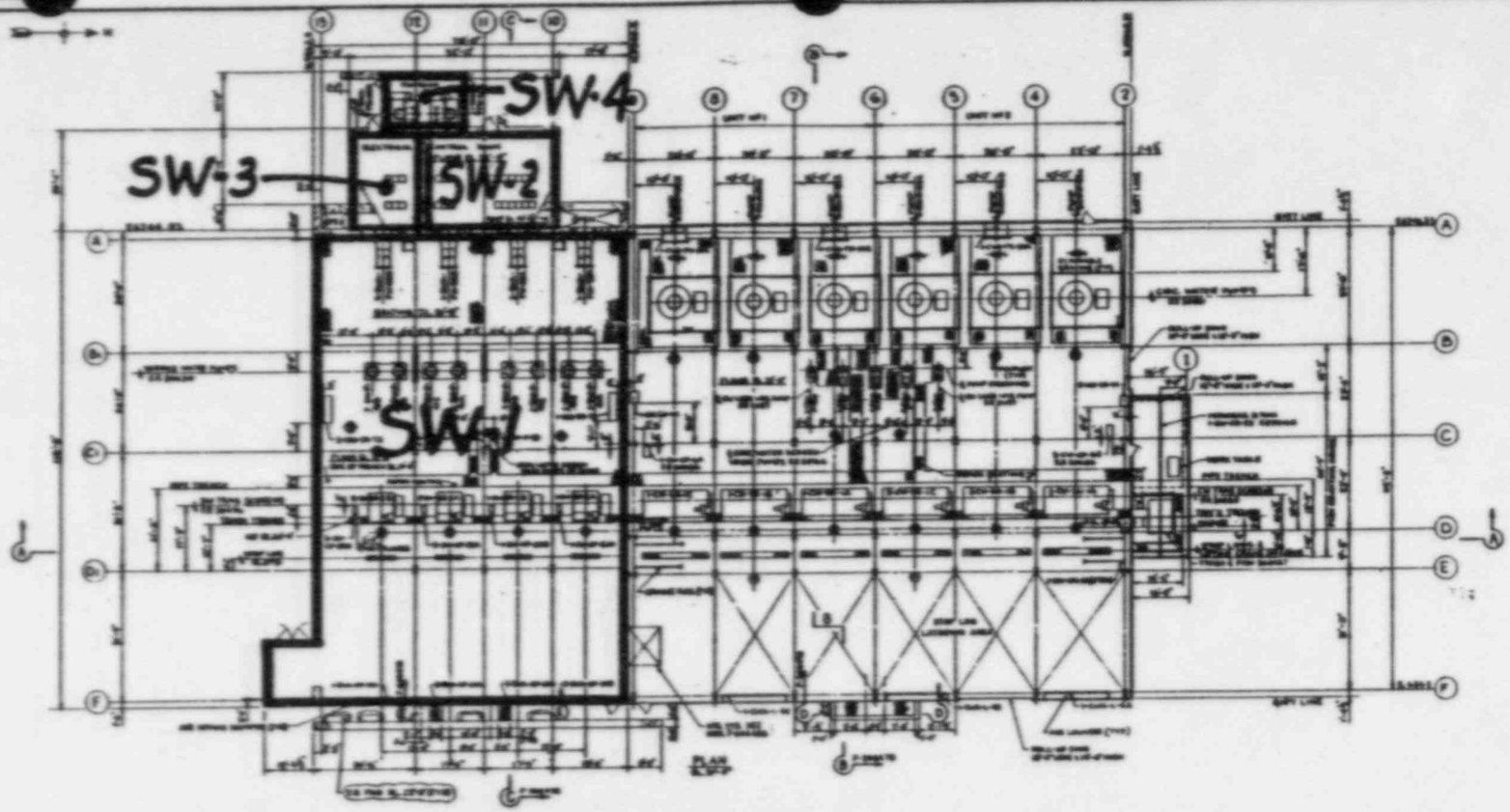
DIESEL GENERATOR BUILDING
PLAN & SECTIONS BELOW GRADE
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
seland engineers

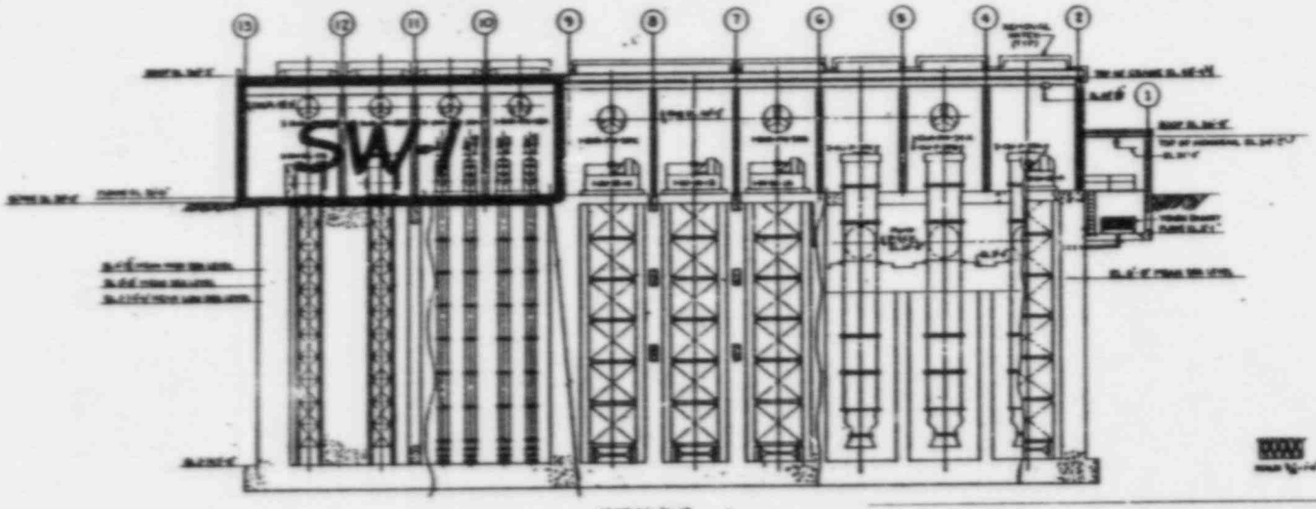
9763.006-6.01.0000

SHT. 13 OF 44


DB-2B
DB-1
DB-4B
DB-2A
DB-2B
DB-4A
DB-4B
SECTION A-A
SECTION B-B
REFERENCE DRAWINGS
NOTES
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
9763.003-6.01.0000
SHT. 14 OF 44


CT-4
CT-2
CT-3
CT-1B
CT-1A
PLAN VIEW
PARTIAL PLAN
EL. 22'-0"
SECTION 'B-B'
CT-2 & 3
SECTION 'D-D'
SECTION 'E-E'
SECTION 'C-C'
FOR ENVIRONMENTAL ZONE
IDENTIFICATION ONLY
9163.006-6.01.0000



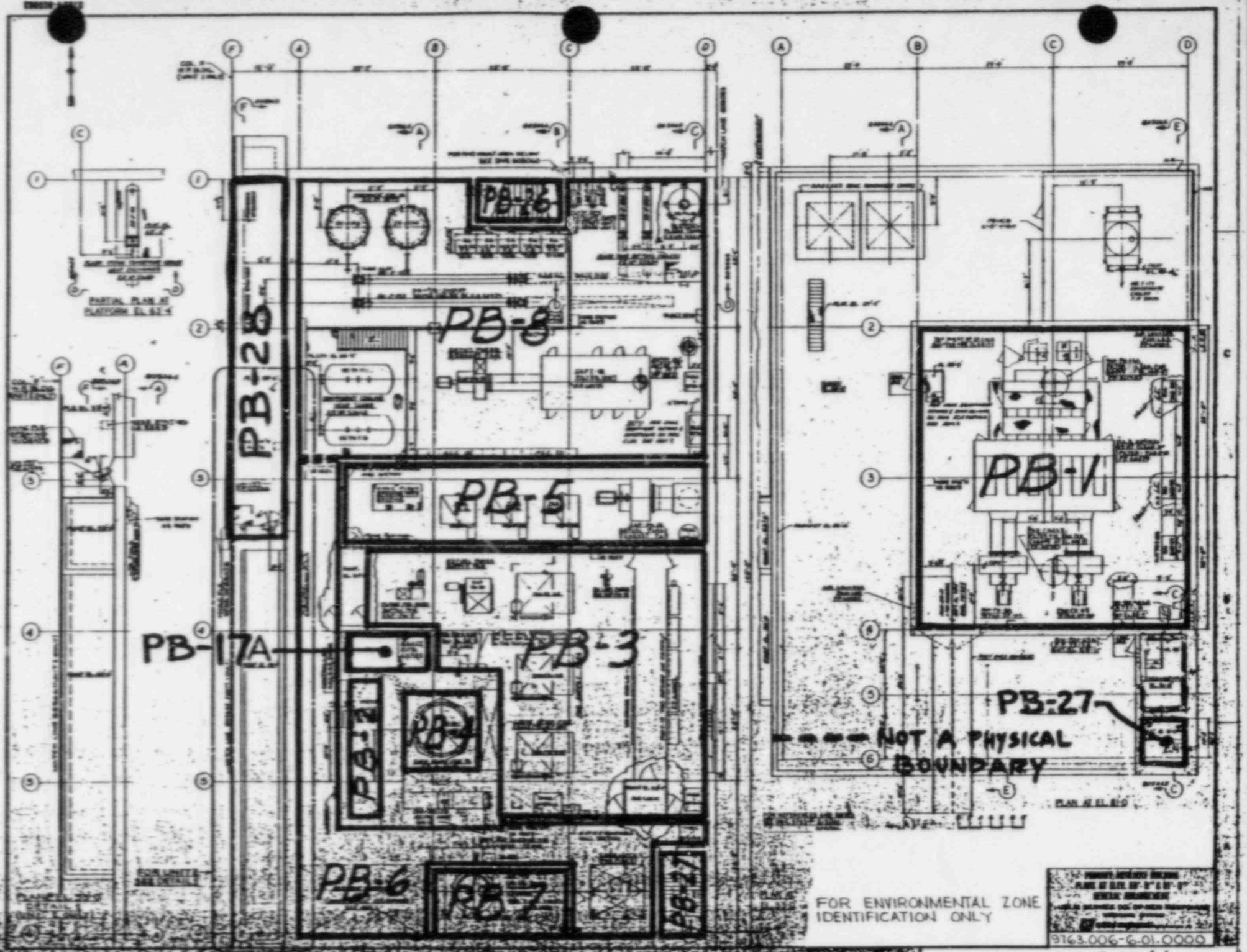


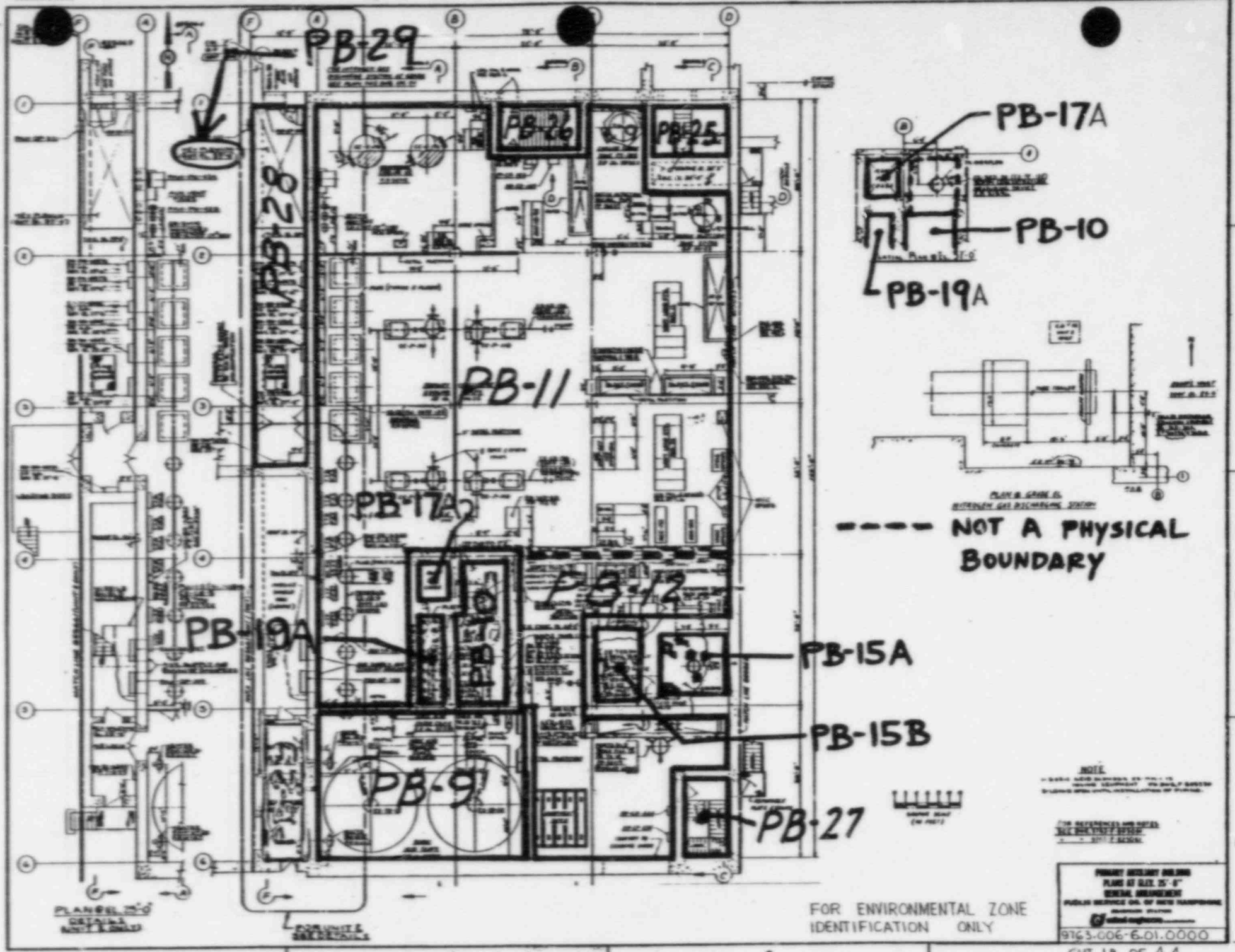
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

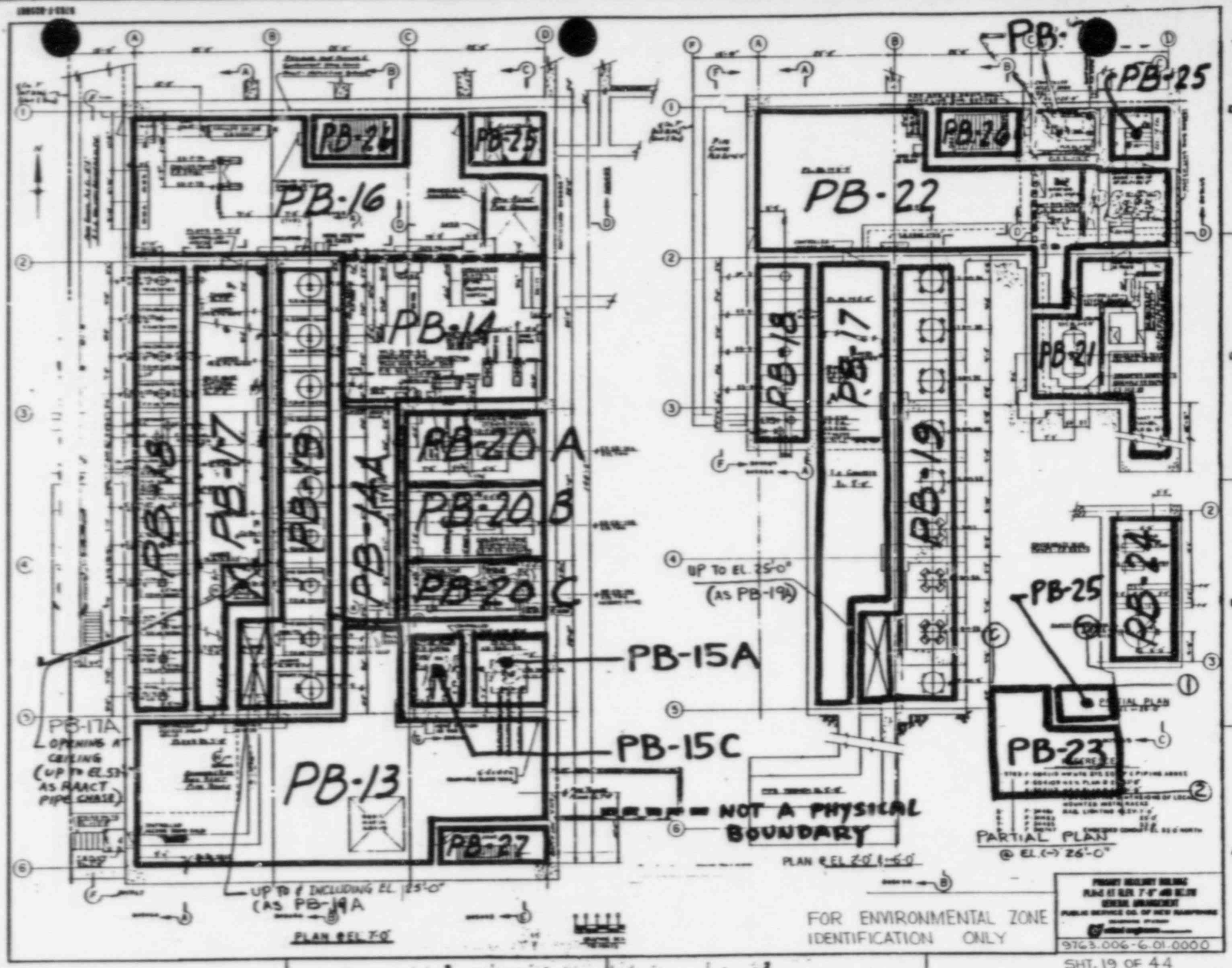
SERVICE & CIRC. WATER PUMP HOUSE
PLAN & SECTION
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE

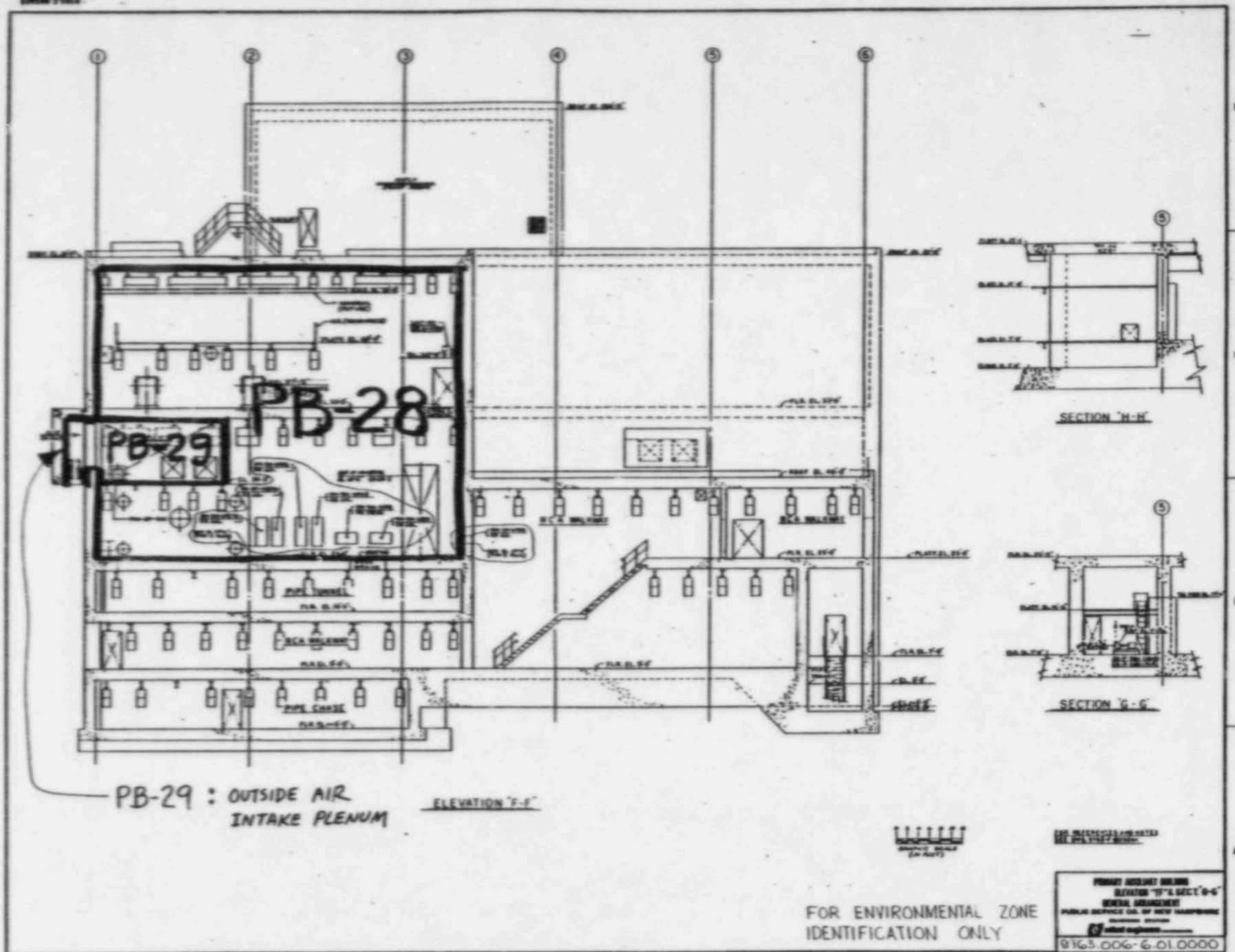
9763.006-6.01.0000

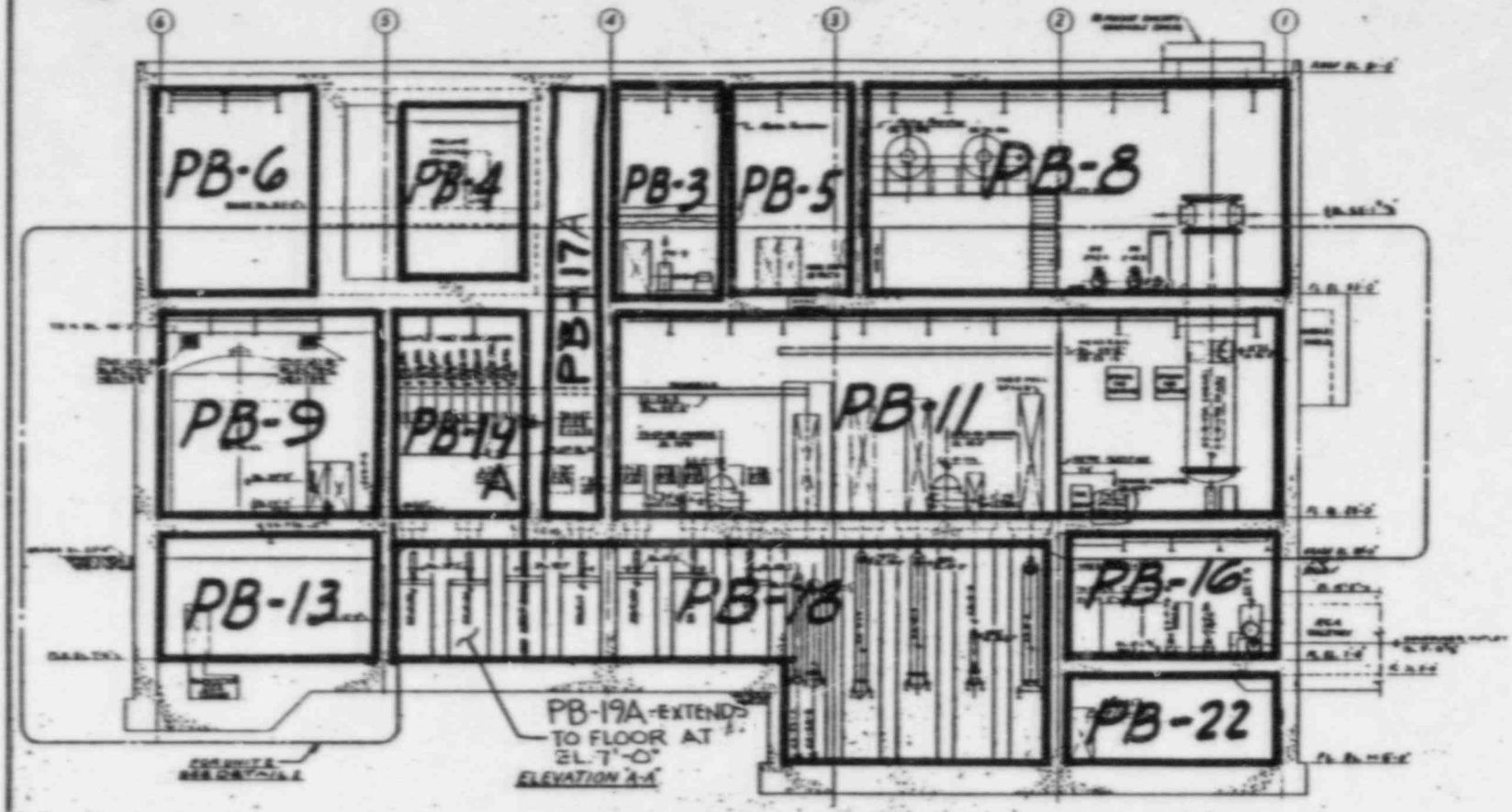
SHT. 16 OF 44

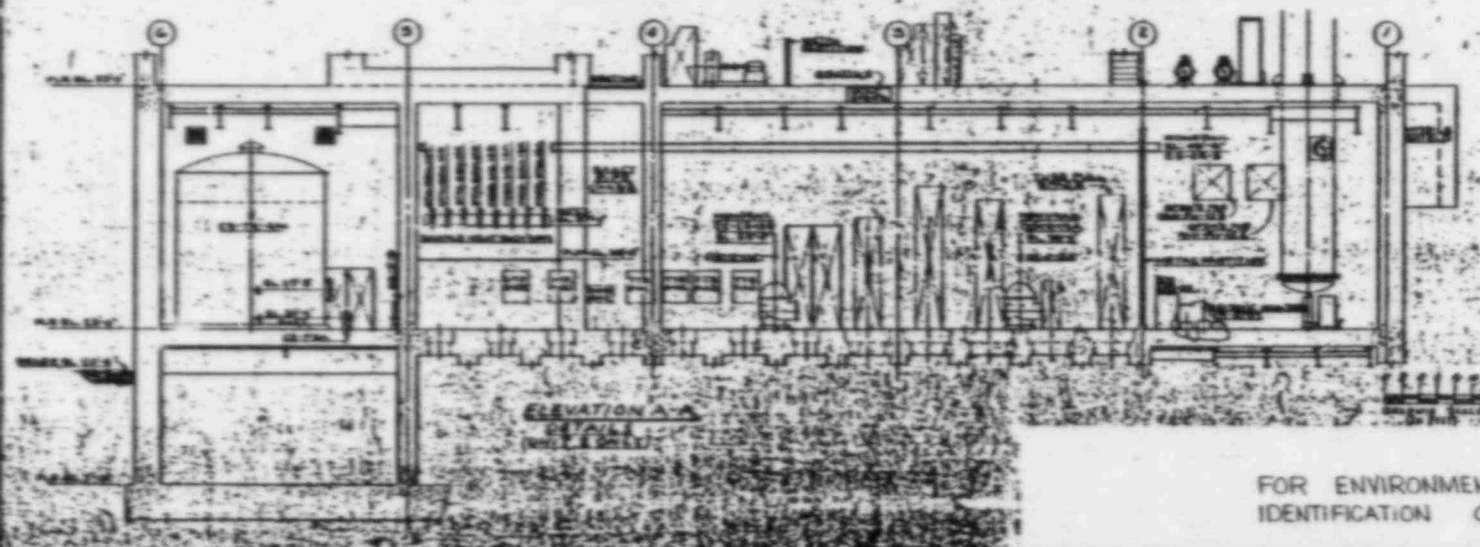

PB-28
PB-26
PB-8
PB-5
PB-3
PB-17A
PB-21
PB-4
PB-6
PB-7
PB-27
PB-1
NOT A PHYSICAL BOUNDARY
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
PARTIAL PLAN AT PLATFORM EL 62'-6"
PLAN AT EL 62'-0"
9163.006-6-01.0000


PB-29
PB-28
PB-26
PB-25
PB-11
PB-17A
PB-12
PB-19A
PB-15A
PB-15B
PB-9
PB-27
PB-17A
PB-10
PB-19A
NOT A PHYSICAL BOUNDARY
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
9163-006-6.01.0000


PB-16
PB-24
PB-25
PB-14
PB-14A
PB-20 A
PB-20 B
PB-20 C
PB-15A
PB-15C
PB-13
PB-27
PB-17A
OPENING AT CEILING (UP TO EL 5) AS REACT PIPE CHASE
UP TO & INCLUDING EL 25'-0" (AS PB-19A)
PLAN @ EL 7'-0"
PB-22
PB-26
PB-18
PB-17
PB-19
PB-21
PB-23
PB-24
UP TO EL 25'-0" (AS PB-19A)
NOT A PHYSICAL BOUNDARY
PLAN @ EL 20'-0"
PARTIAL PLAN @ EL (-) 26'-0"
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
9763.006-6.01.0000
SHT. 19 OF 44


PB-28
PB-29
PB-29 : OUTSIDE AIR INTAKE PLENUM
ELEVATION "F-F"
SECTION "H-H"
SECTION "G-G"
PIPE TUNNEL
PIPE CHASE
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
9163.006-6.01.0000
SHT. 20 OF 44

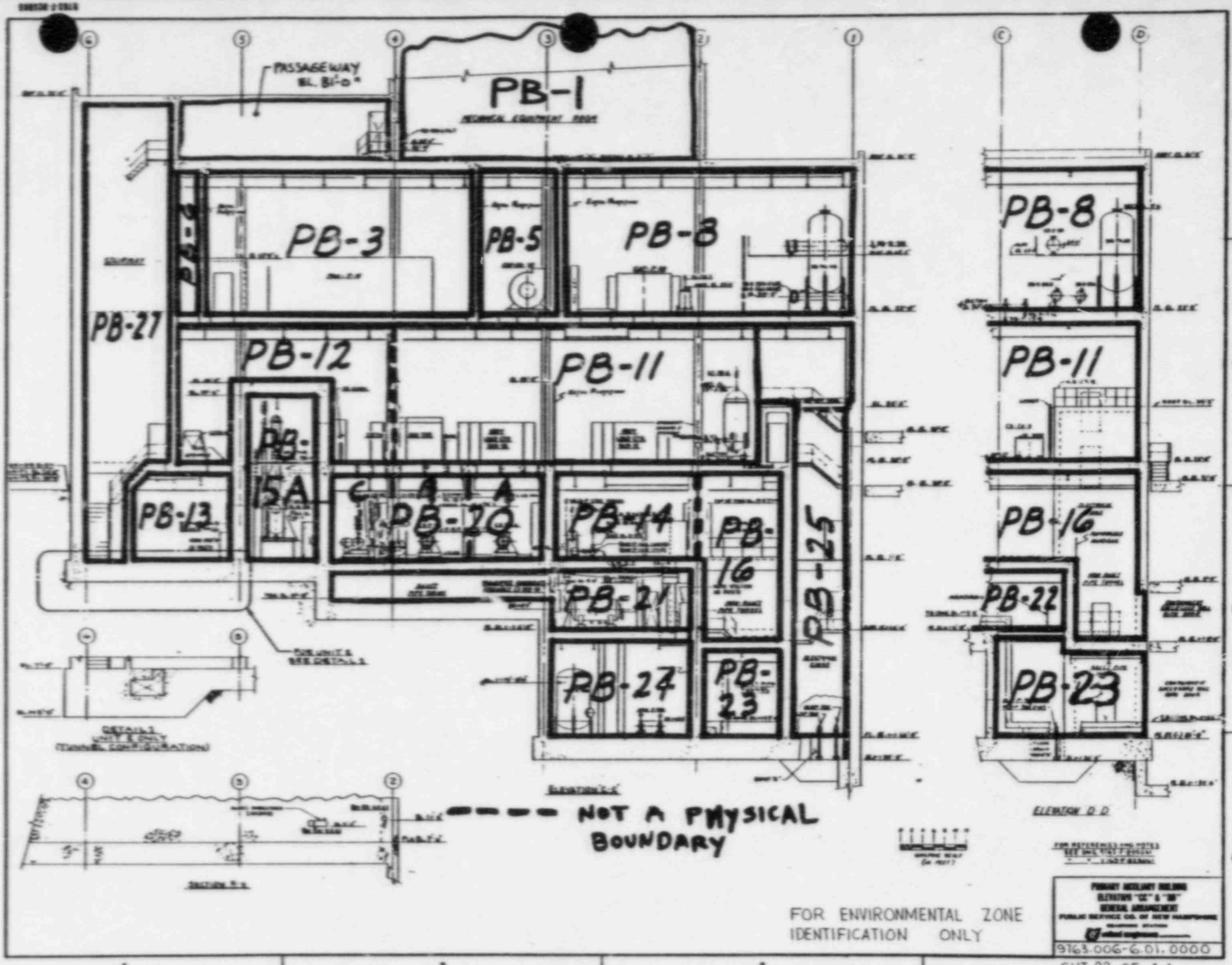


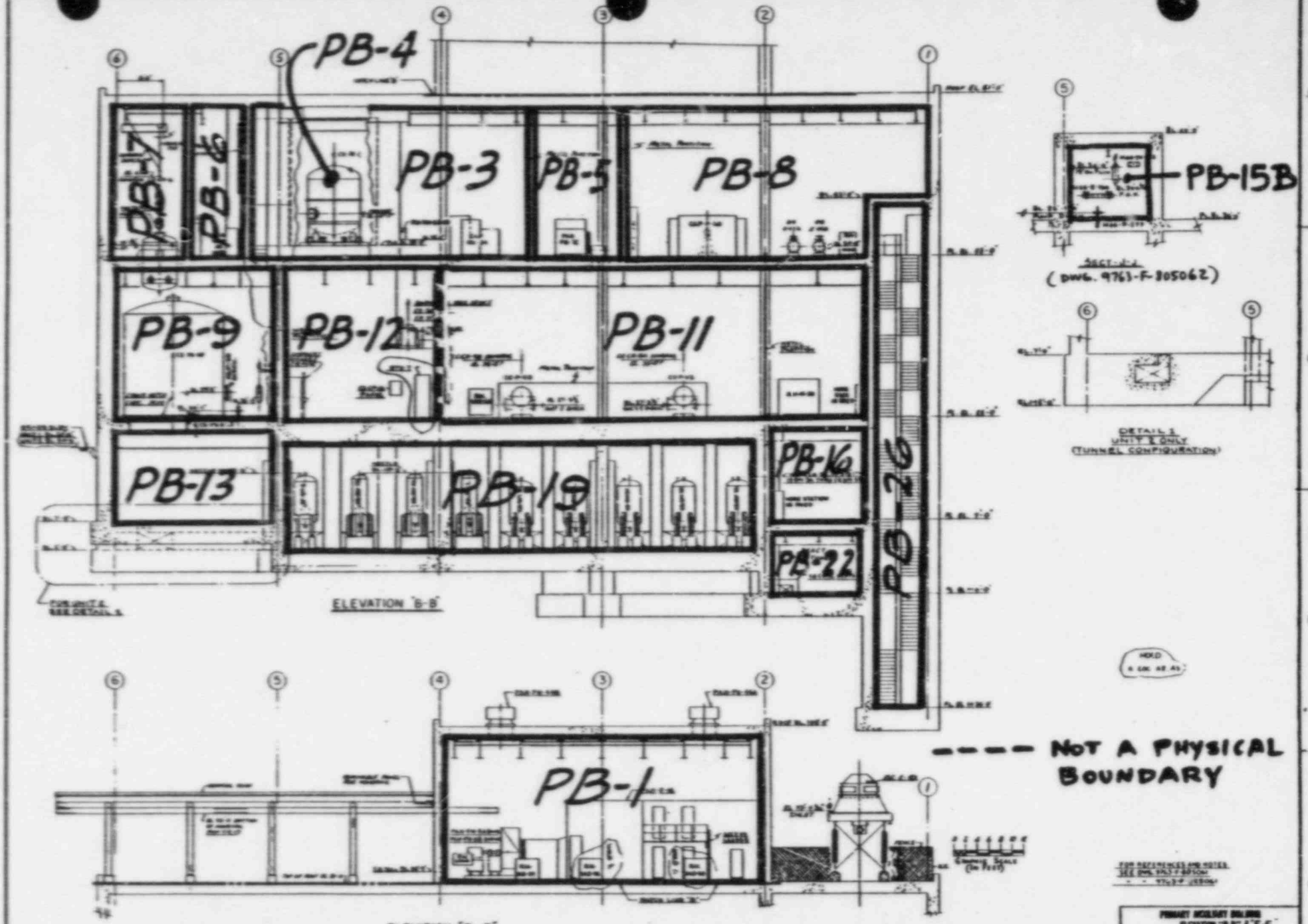


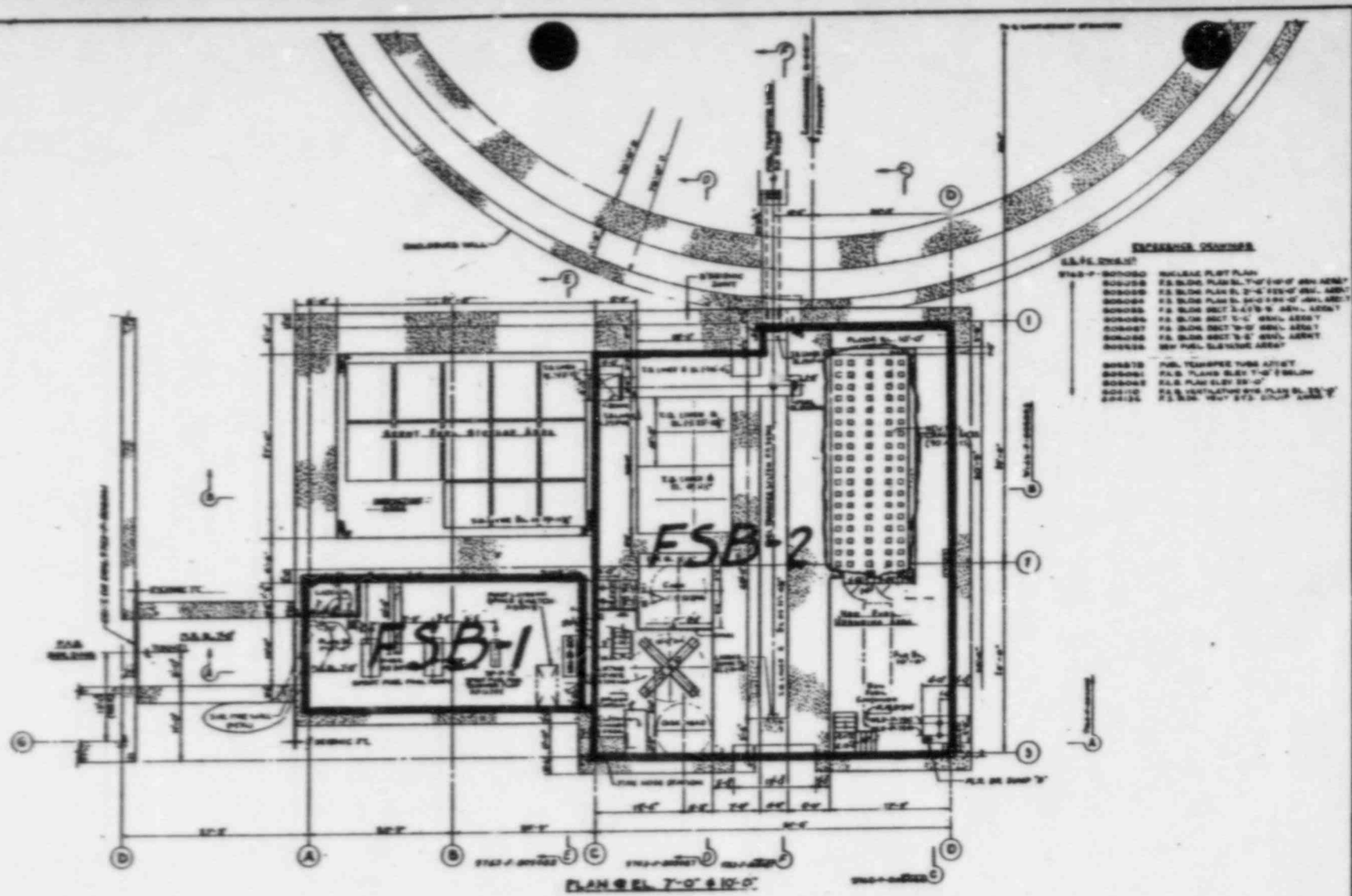
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

9163.006-6.01.0000

SHT. 21 OF 44


PASSAGEWAY
EL. 81'-0"
PB-1
PB-3
PB-5
PB-8
PB-27
PB-12
PB-11
PB-15A
PB-13
PB-20
PB-14
PB-16
PB-25
PB-21
PB-24
PB-23
PB-8
PB-11
PB-16
PB-22
PB-23
NOT A PHYSICAL BOUNDARY
ELEVATION D-D
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
9163.006-6.01.0000
SHT. 22 OF 44


PB-4
PB-17
PB-6
PB-3
PB-5
PB-8
PB-15B
SECT. J-J
(DWG. 9763-F-305062)
PB-9
PB-12
PB-11
DETAIL 3
UNIT 2 ONLY
(TUNNEL CONFIGURATION)
PB-13
PB-19
PB-16
PB-22
PB-26
ELEVATION "B-B"
PB-1
ELEVATION "E-E"
NOT A PHYSICAL BOUNDARY
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
9763.006-G.01.0000
SHT. 23 OF 44

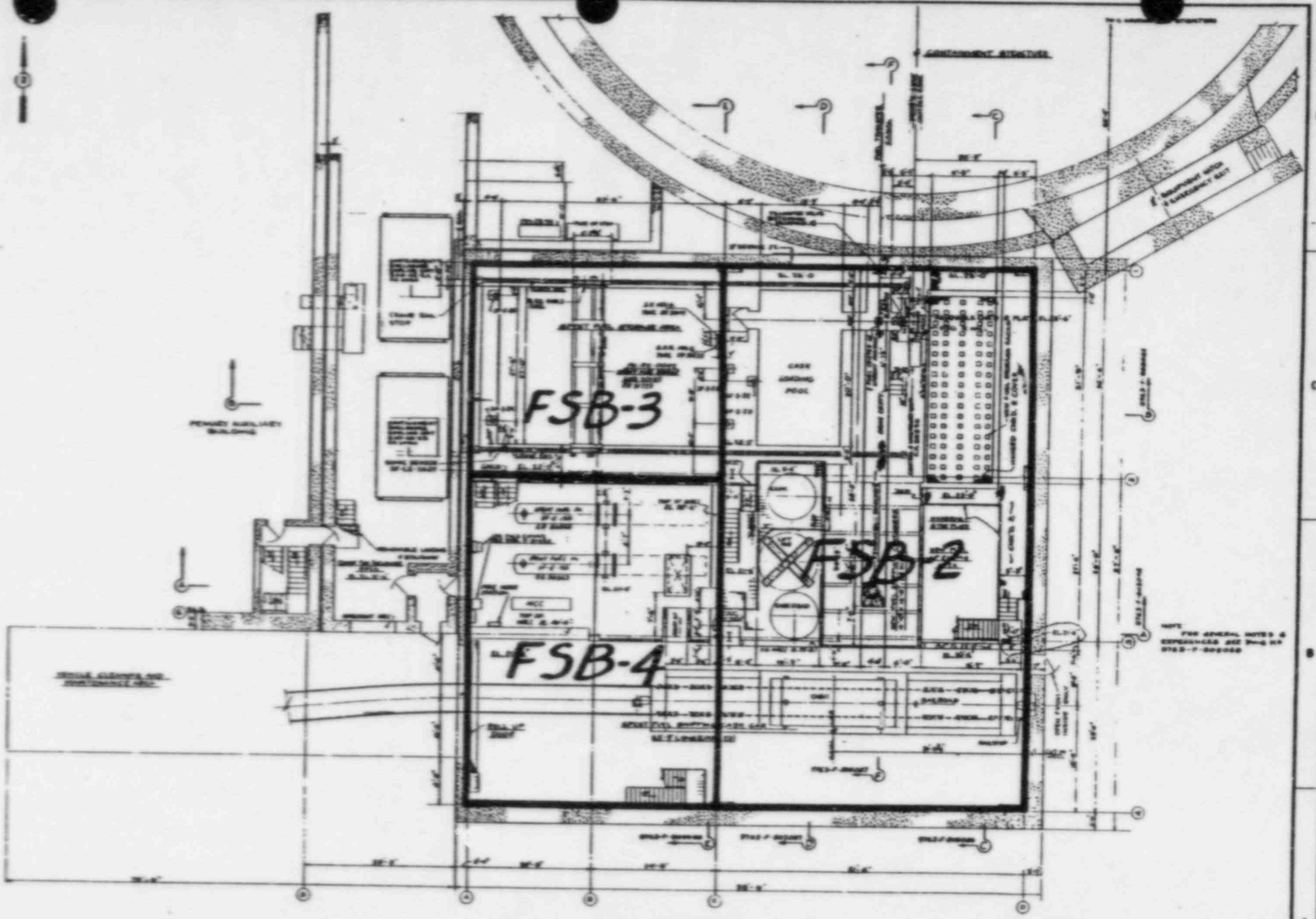


FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

FUEL STORAGE BUILDING
PLAN AT ELEVATIONS 7'-0" & 10'-0"
PUBLIC SERVICE CO. OF NEW HAMPSHIRE

9763.006-6.01.0000

SHT. 24 OF 44

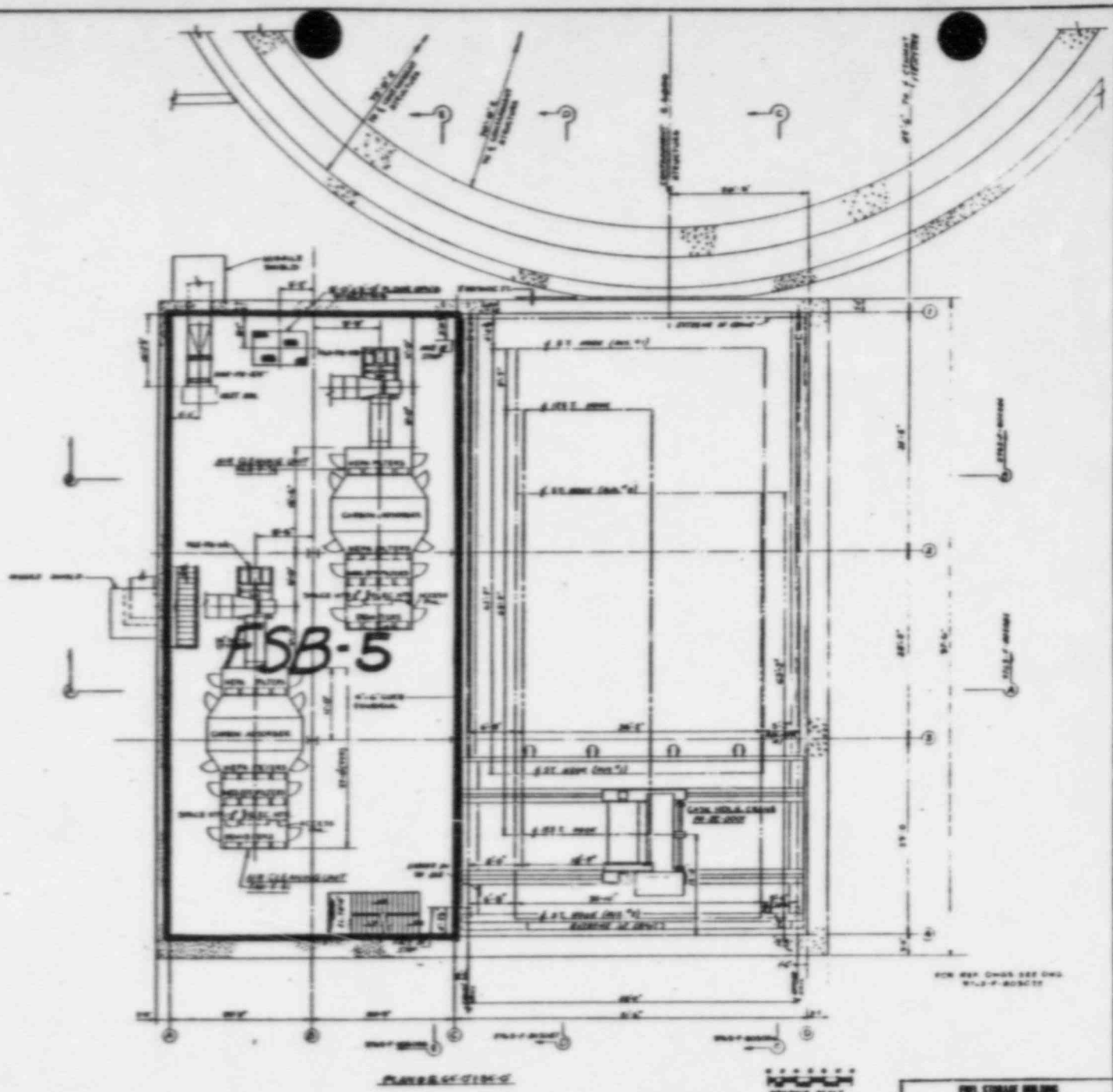


FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

FUEL STORAGE BUILDING
PLAN AT ELEVATION 21'-6" & 25'-0"
GENERAL ENGINEERING
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

9763/25-6.01-0000

SHT. 25 OF 44

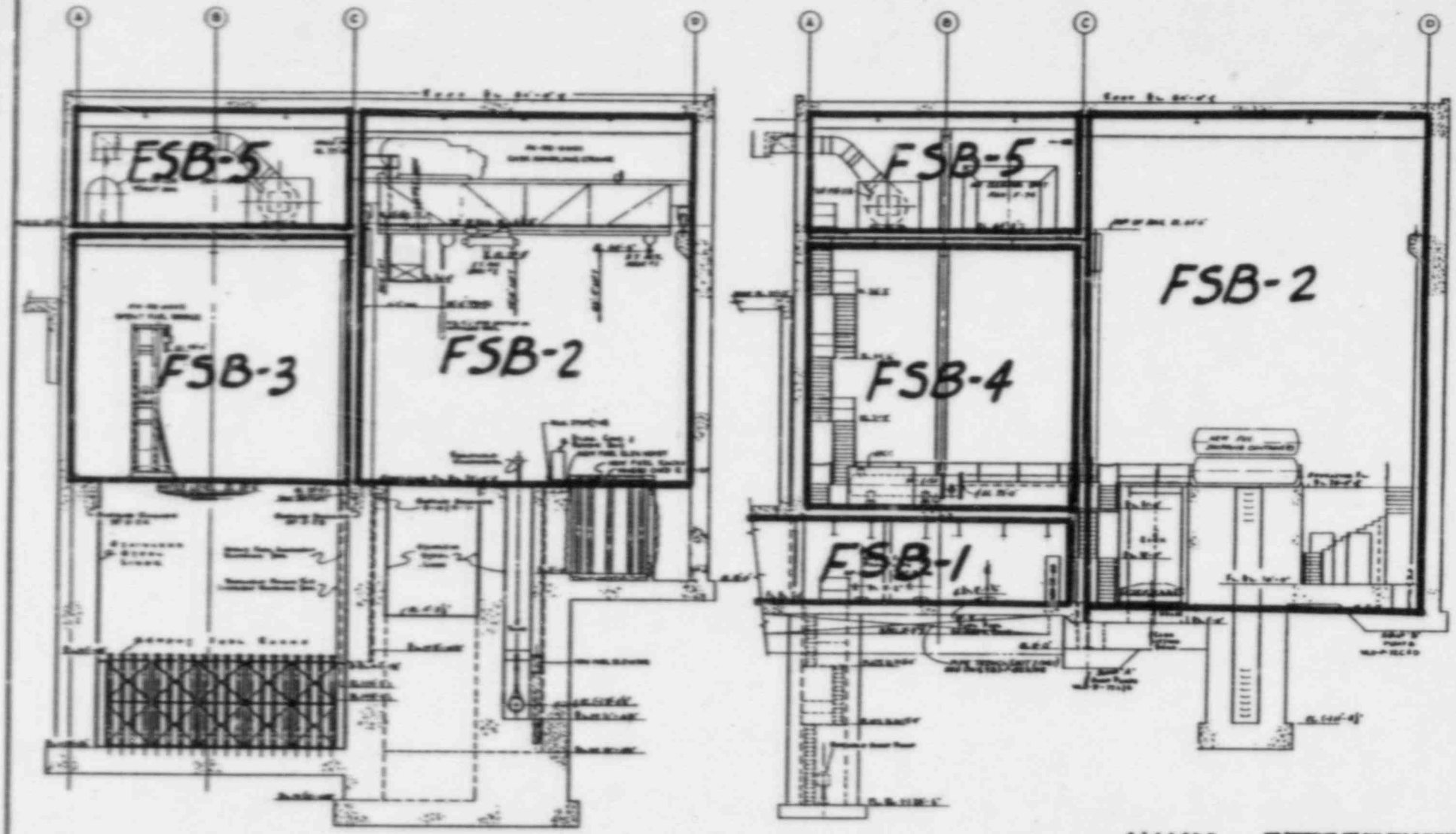


FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

FUEL STORAGE BUILDING
PLAN AT ELEVATIONS 64'-0" & 84'-0"
PUBLIC SERVICE CO. OF NEW HAMPSHIRE

9763-006-6-01-0000

SHT. 22 OF 41



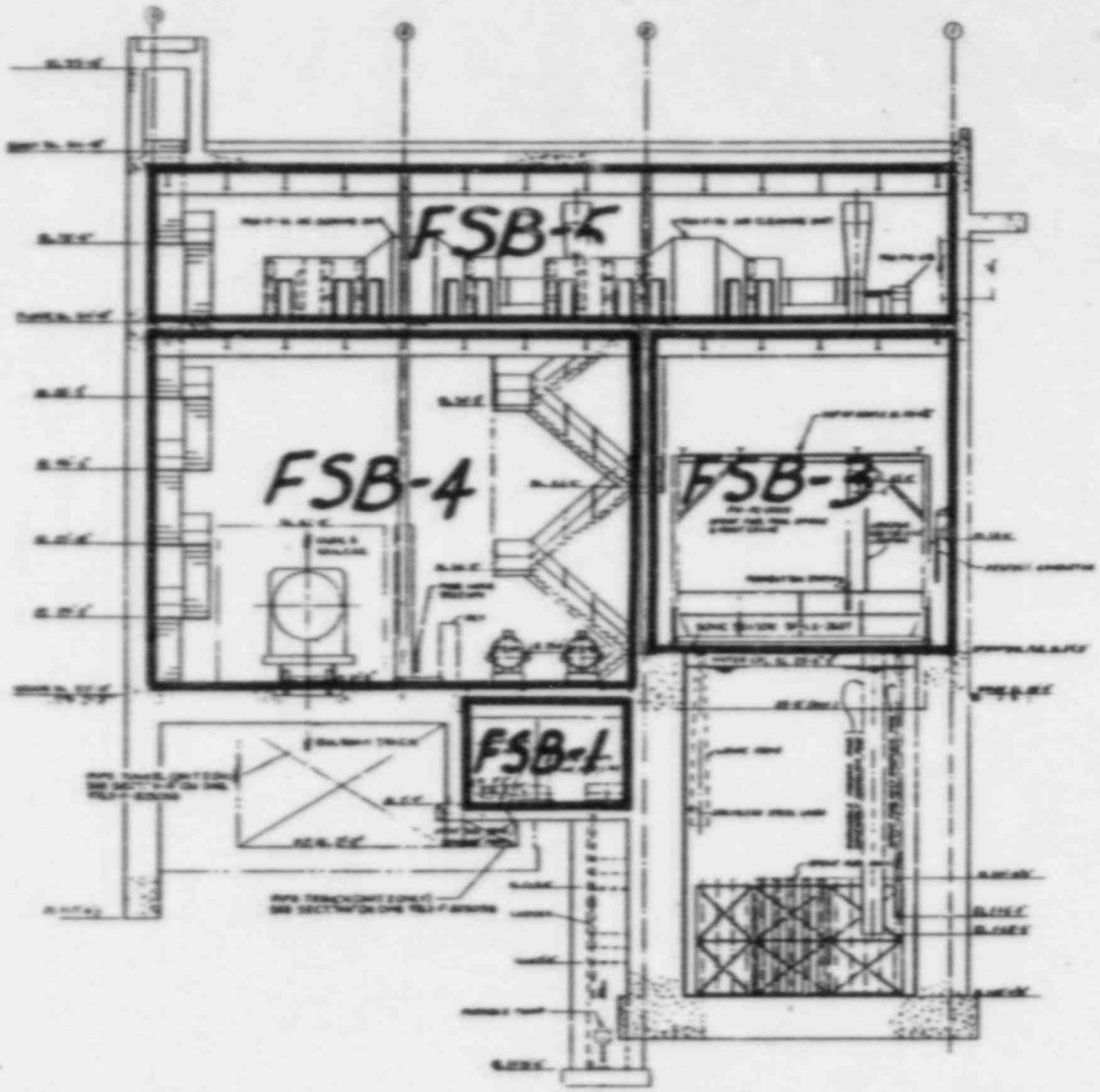
SECTION "B-B"

SECTION "A-A"

FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

9763-C06-6C-0000

SHT. 27 OF 44



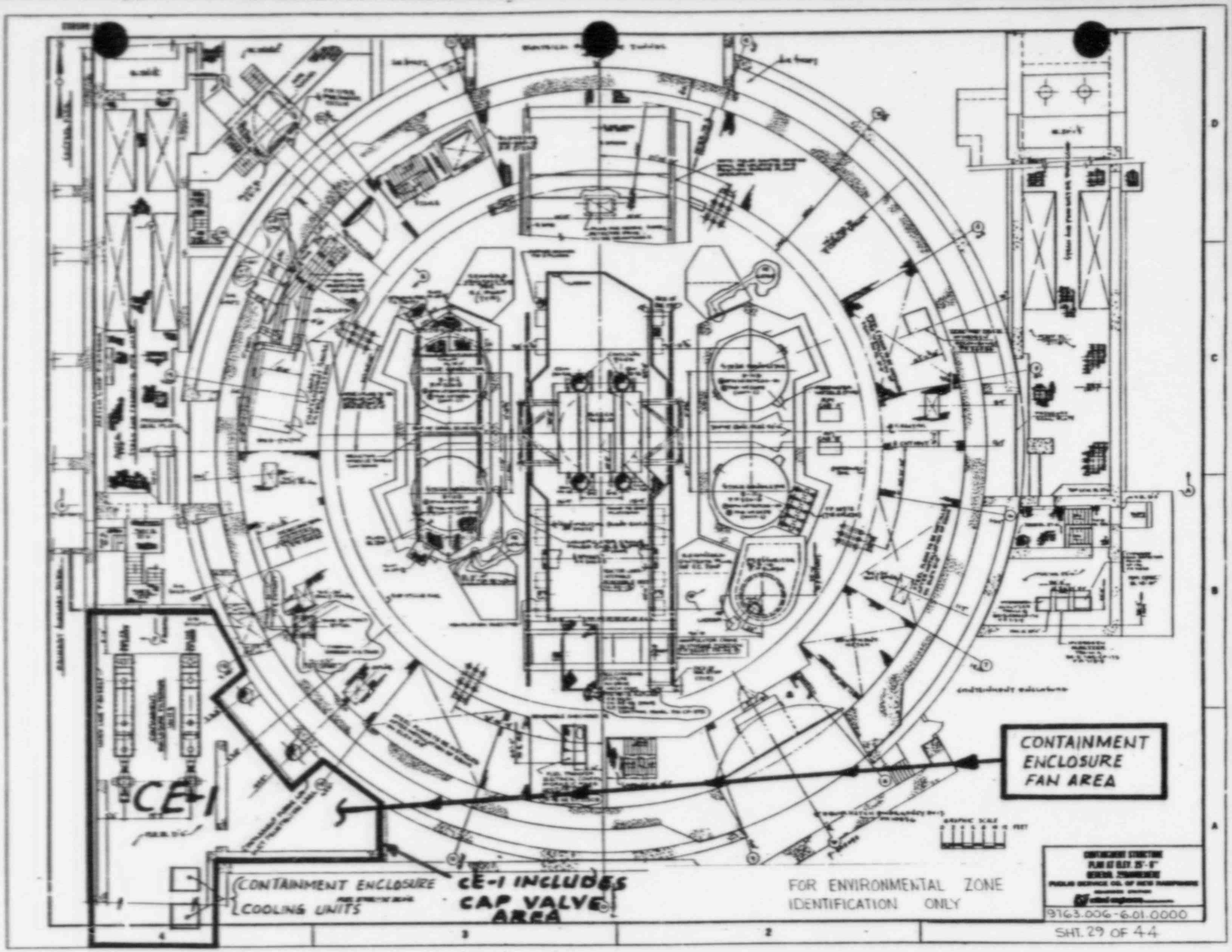
SECTION E-E
LOOKING WEST

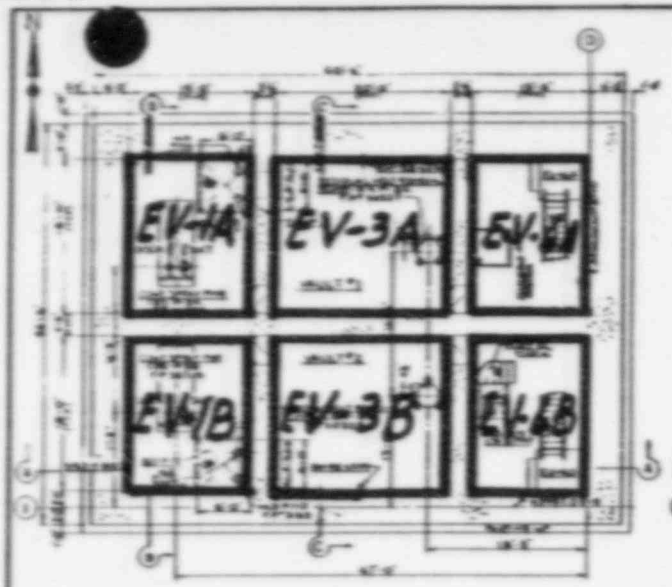
FOR ENVIRONMENTAL ZONE
IDENTIFICATION ONLY

FIRE STRIKE DESIGN
SECTION "E-E"
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE

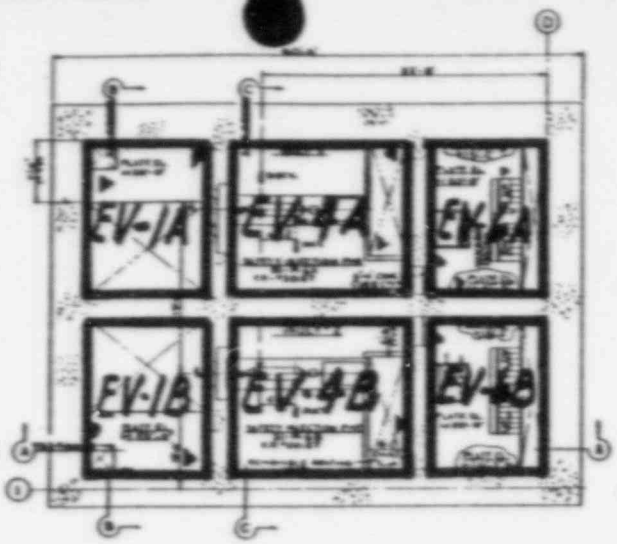
9763-0066-01.0000

SHT. 28 OF 44

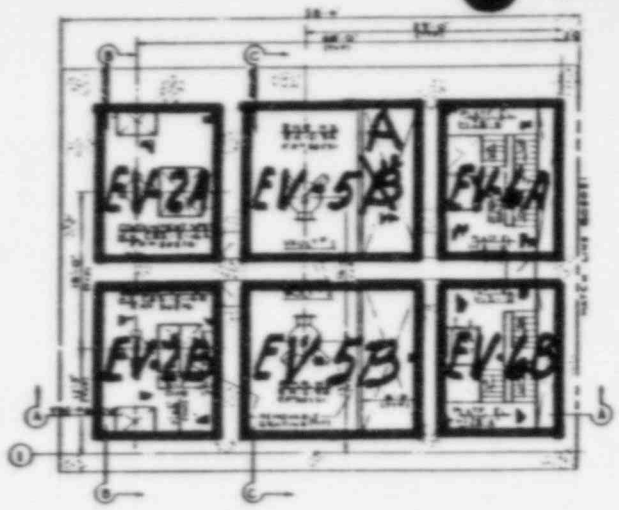

CONTAINMENT ENCLOSURE FAN AREA
CE-1
CONTAINMENT ENCLOSURE COOLING UNITS
CE-1 INCLUDES CAP VALVE AREA
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
9163.006-6.01.0000
SHT. 29 OF 44



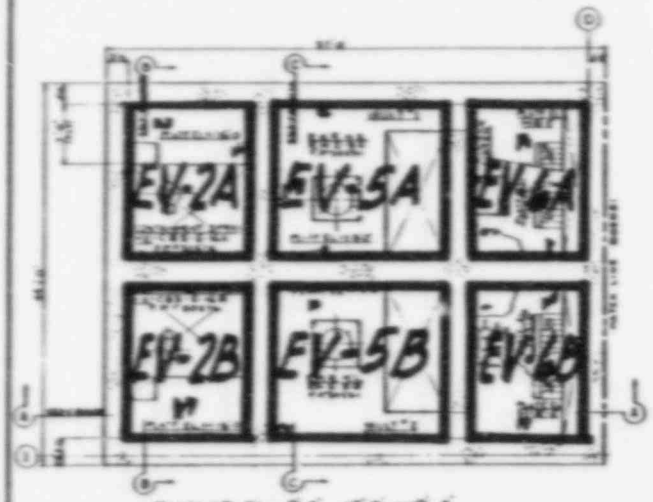
PLAN AT EL.-61-0



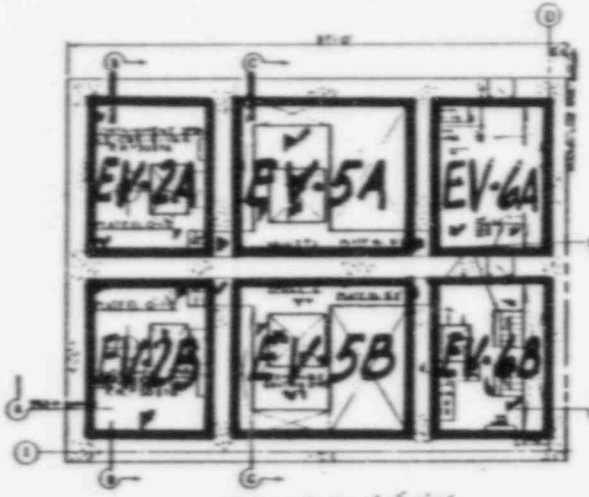
PLAN AT EL.-50-0



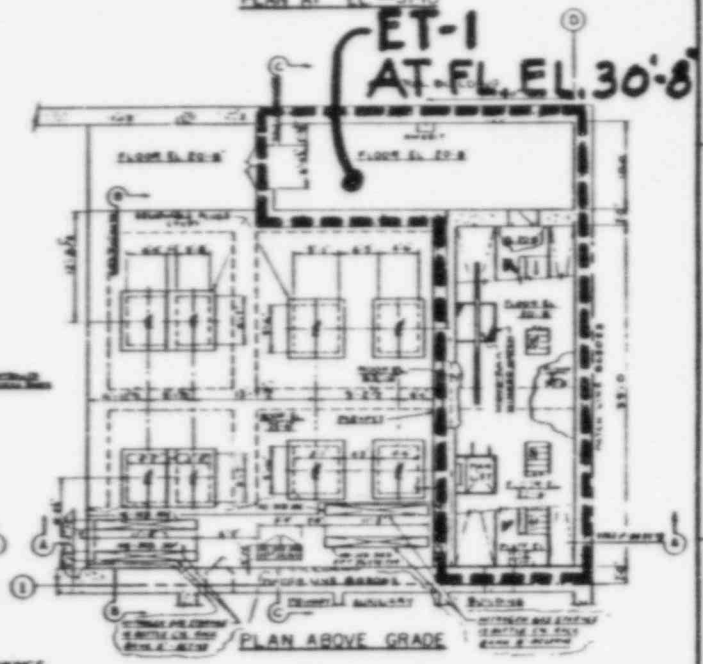
PLAN AT EL.-31-10



PLAN AT EL.-9-0 -16-0 -18-4



PLAN AT EL.0-1 1/2 3-2



PLAN ABOVE GRADE

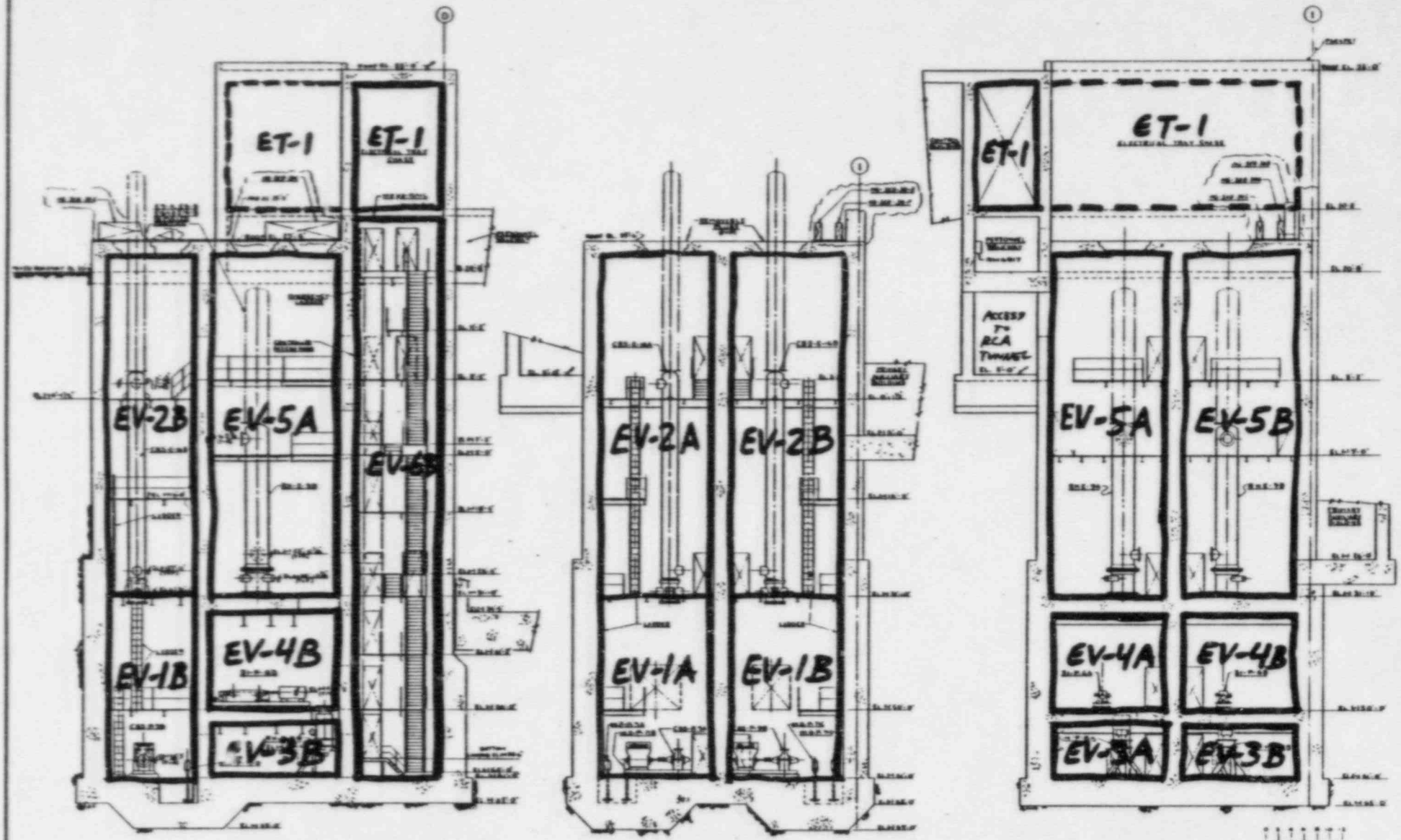
REFERENCE DRAWINGS

FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

RHR, CONTAINMENT SPRAY, S.I.
EQUIPMENT VAULT
GENERAL ARRANGEMENT—PLANS
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
NEWBURY STATION
United engineers

9763.006-6.01.0000

SHT. 30 OF 44



ELEVATION 'A-A'
DWG. 9763-F-805060

ELEVATION 'B-B'
DWG. 9763-F-805060

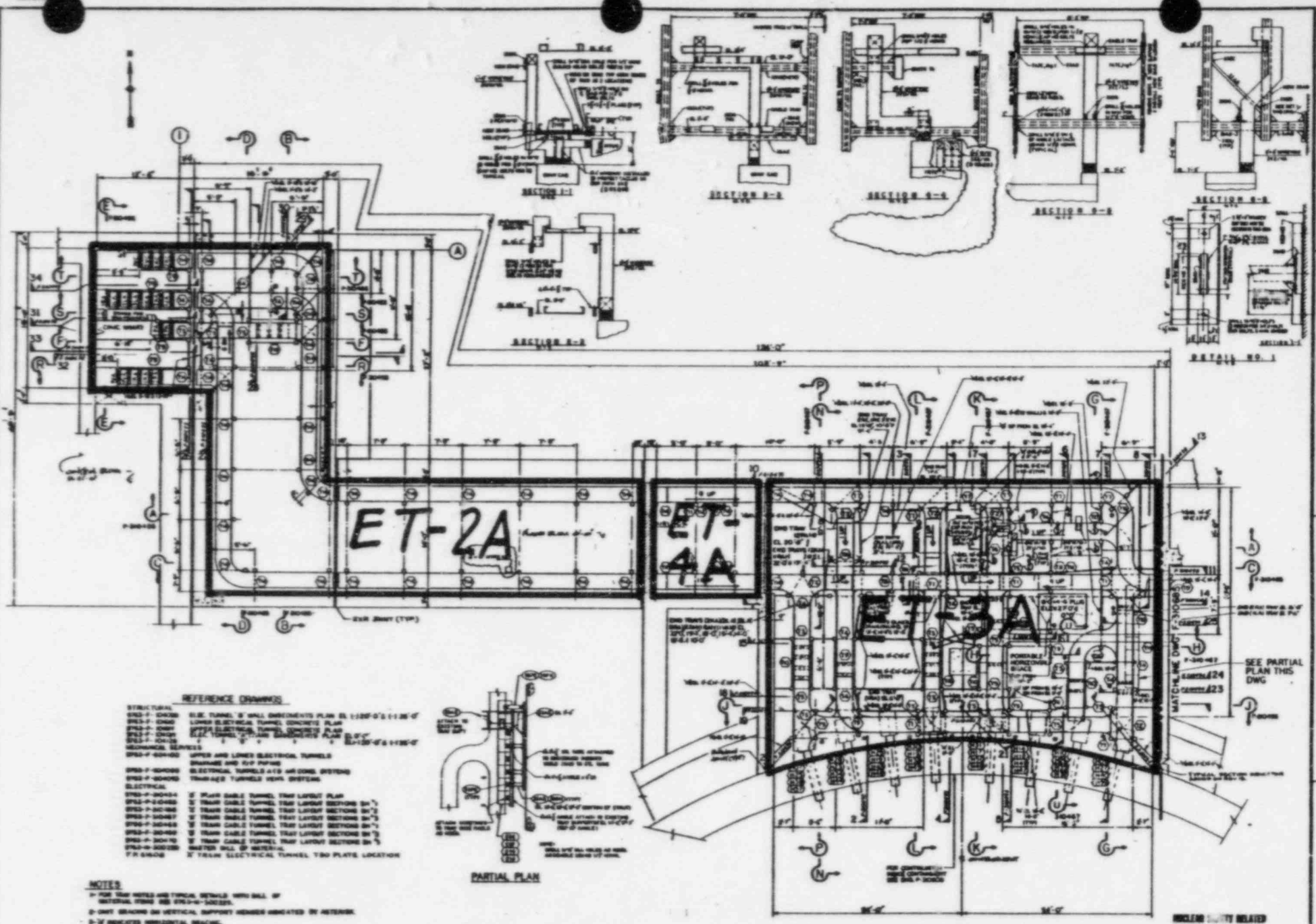
ELEVATION 'C-C'
DWG. 9763-F-805060

FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

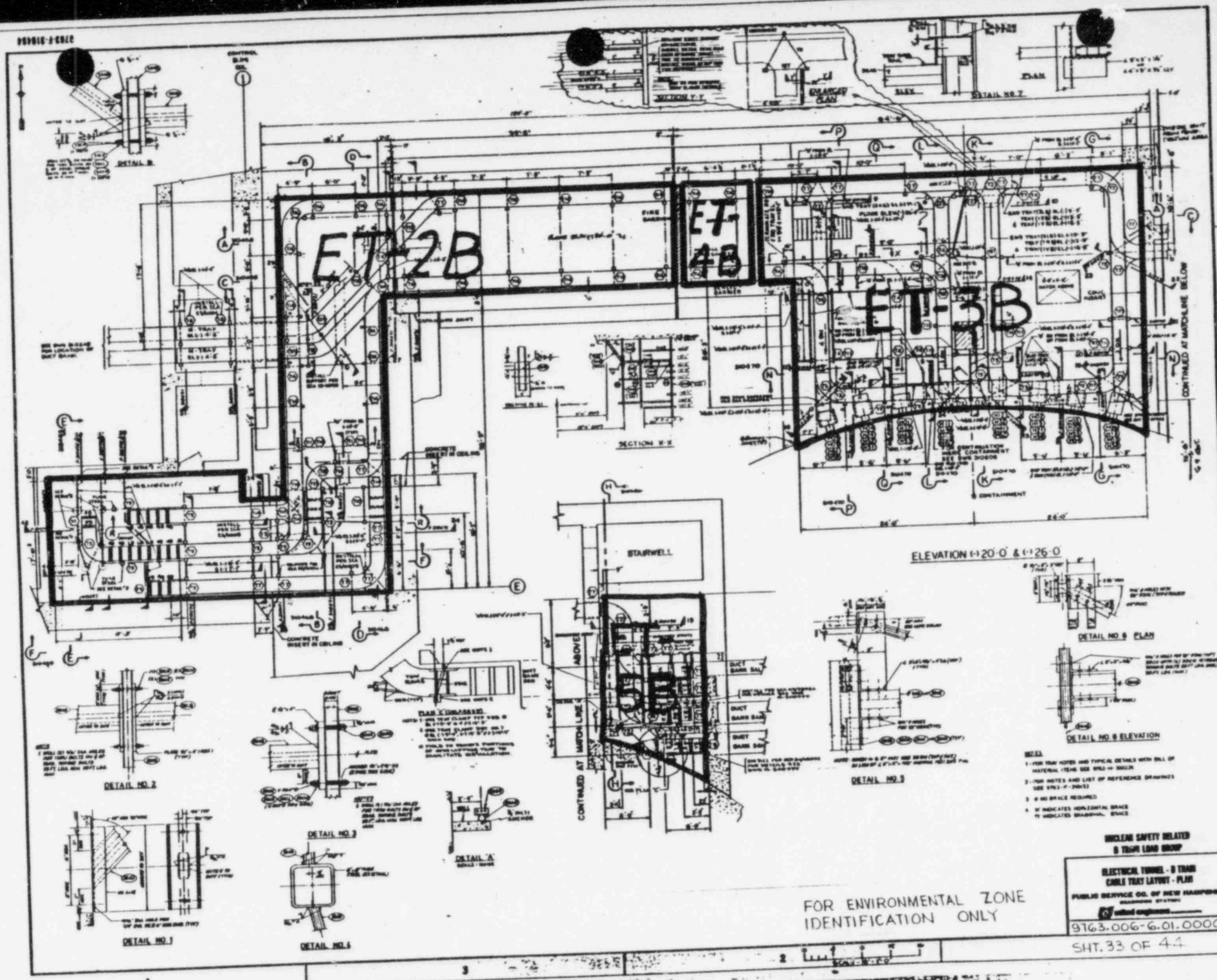
RHR, CONTAINMENT SPRAY, SI
EQUIPMENT VAULT
GENERAL ARRANGEMENT-SECTIONS
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
PLYMOUTH STATION
United Engineers

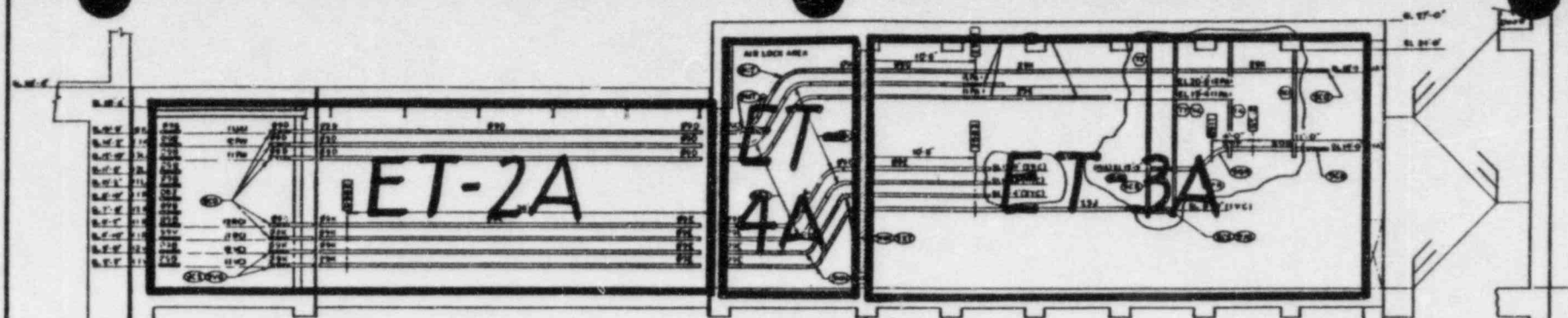
9763.006-6.01.0000

SHT. 31 OF 44

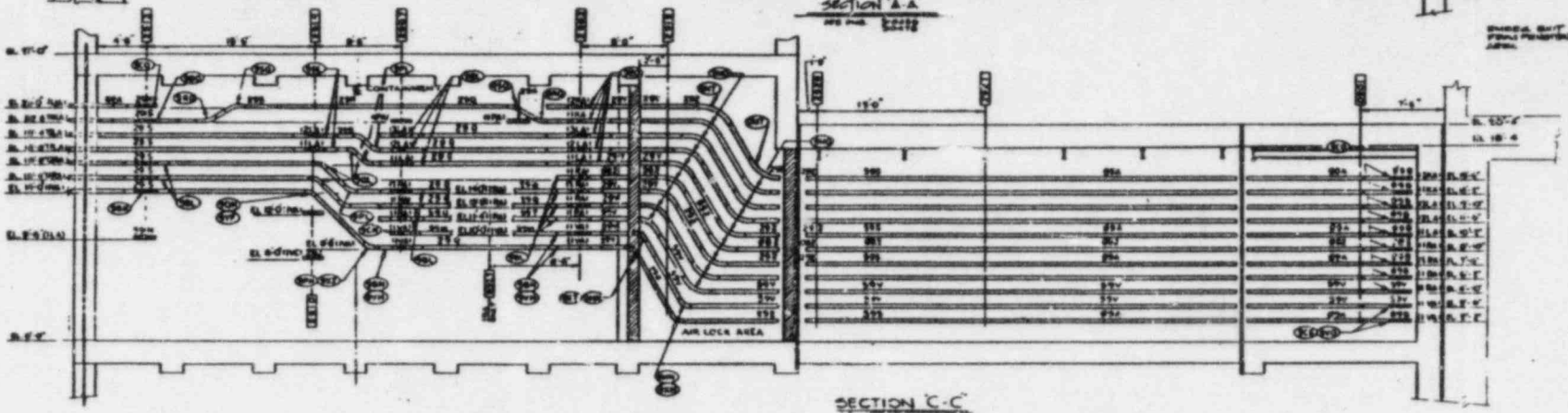


FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

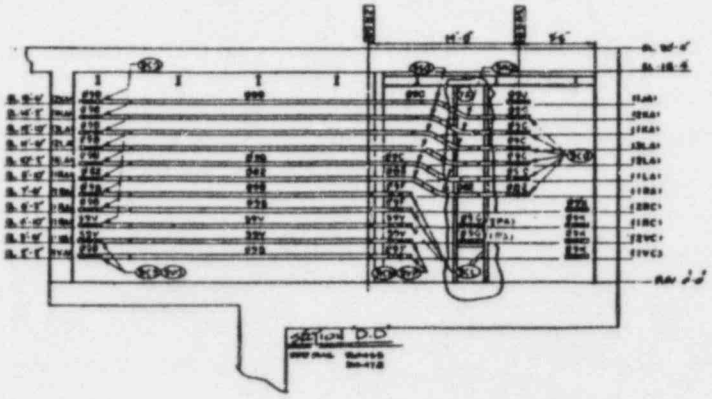

ET-2B
ET-4B
ET-3B
STAIRWELL
ELEVATION (-)20'-0" & (-)26'-0"
DETAIL NO. 2
DETAIL NO. 3
DETAIL NO. 4
DETAIL NO. 5
DETAIL NO. 6 PLAN
DETAIL NO. 6 ELEVATION
DETAIL NO. 7
DETAIL NO. 8
DETAIL 'A'
SECTION Y-Y
SECTION X-X
CONTINUED AT MATCHLINE BELOW
CONTINUED AT MATCH LINE 'A' ABOVE
NUCLEAR SAFETY RELATED
B TRAIN LOAD GROUP
ELECTRICAL TUNNEL - B TRAIN
CABLE TRAY LAYOUT - PLAN
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
9763-006-6.01.0000
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
SHT. 33 OF 44



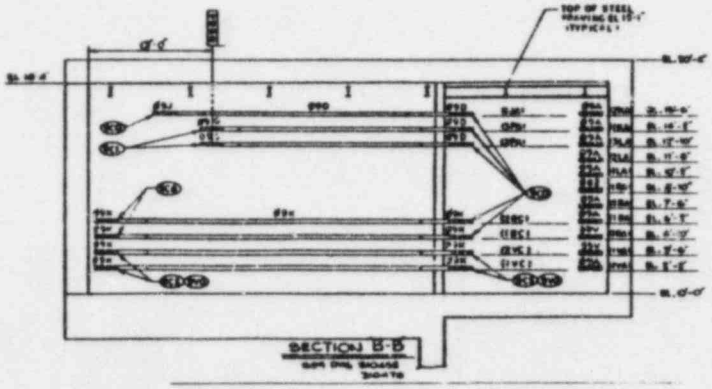
SECTION A-A



SECTION C-C



SECTION D-D



SECTION B-B

NOTES

1- FOR TRAY NOTES AND TYPICAL DETAILS WITH BILL OF MATERIAL REFER SEE DWG 9763-F-3006Fn

2- FOR NOTES AND LIST OF REFERENCE DRAWINGS SEE 9763-F-3004S3

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NUCLEAR SAFETY RELATED
A TRAIN LOAD GROUP

ELECTRICAL TUNNEL - A TRAIN
CABLE TRAY LAYOUT - SECTIONS - SHEET 1

PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION

United engineers

9763.006-6.01.0000

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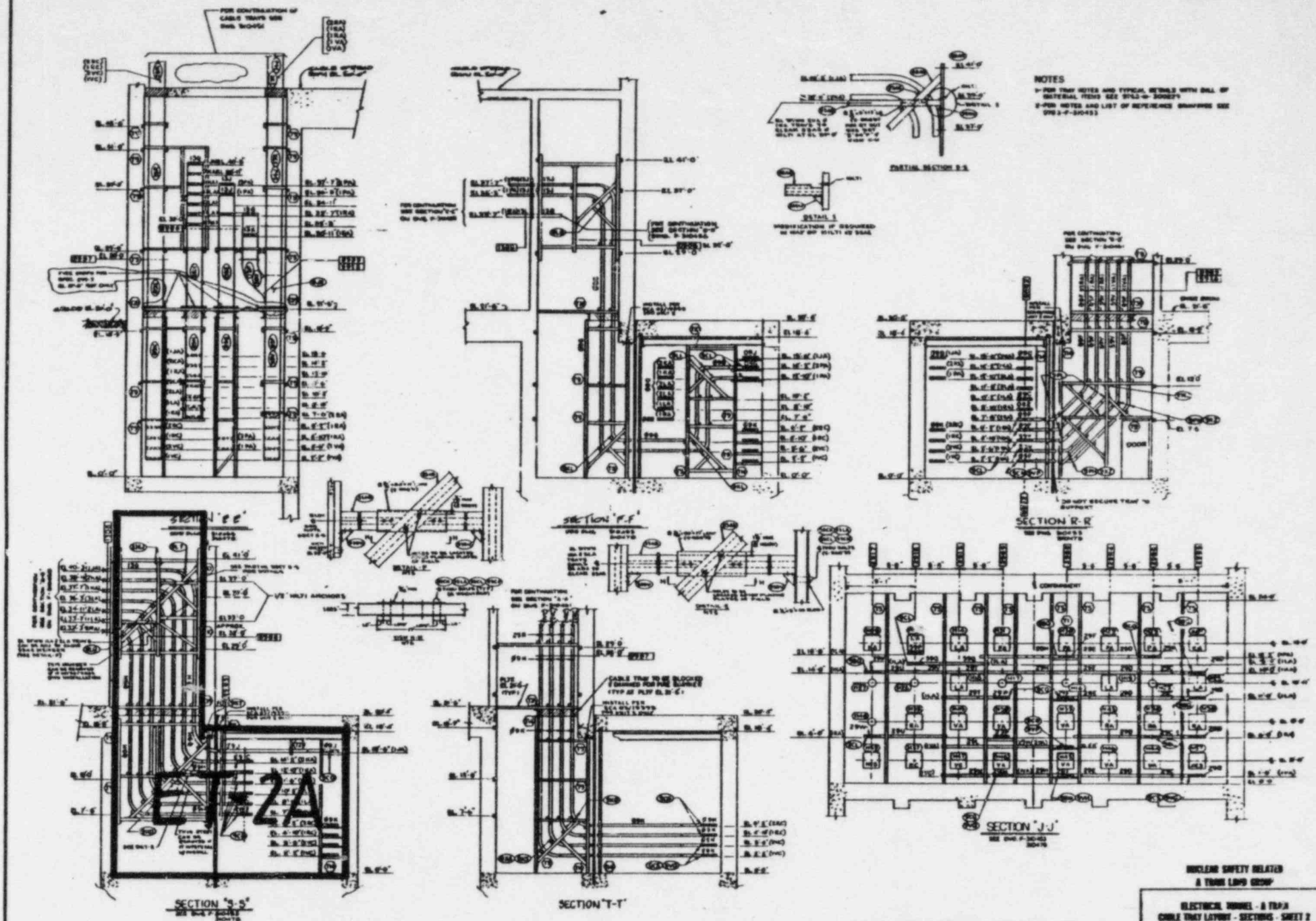
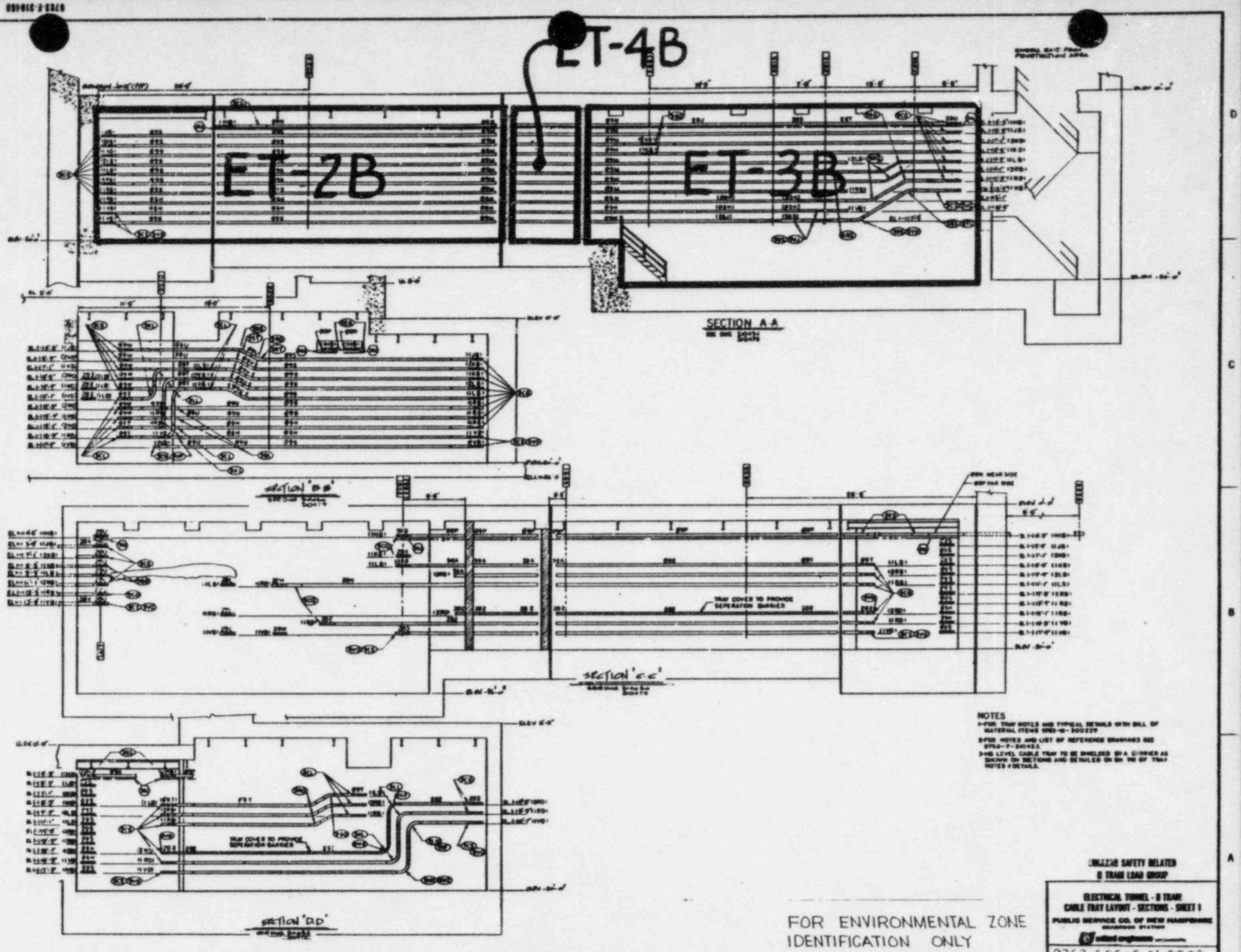

NOTES
SECTION "S-S"
SECTION "T-T"
SECTION "R-R"
SECTION "J-J"
SECTION "E-E"
SECTION "F-F"
DETAIL 1
NUCLEAR SAFETY RELATED
A TRAIN LOAD GROUP
ELECTRICAL TUNNEL - A TRAIN
CABLE TRAY LAYOUT - SECTIONS - SHEET 2
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
FOR ENVIRONMENTAL ZONE
IDENTIFICATION ONLY
ET-2A


ET-4B
ET-2B
ET-3B
SECTION A-A
SECTION 'B-B'
SECTION 'C-C'
SECTION 'D-D'
NOTES
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
ELECTRICAL TUNNEL - B TRAIN
CABLE TRAY LAYOUT - SECTIONS - SHEET 1
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
9763.C06-6.01.0000
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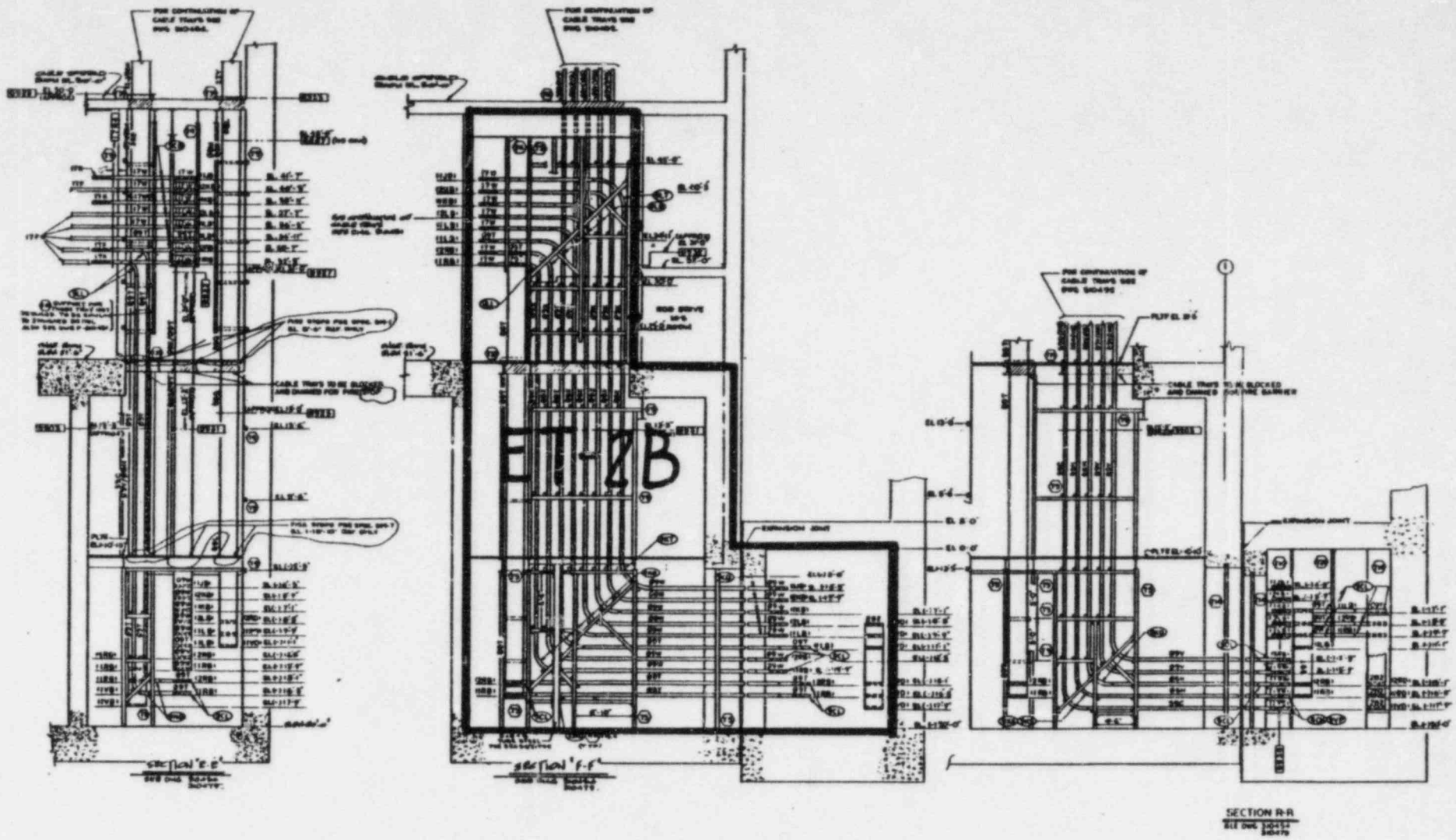

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IDENTIFICATION ONLY

NUCLEAR SAFETY RELATED
B TRAIN LOAD GROUP

ELECTRICAL TUNNEL - B TRAIN
CABLE TRAY LAYOUT - SECTIONS - SHEET 2

PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION

united engineers

9763.006-6.01.0000

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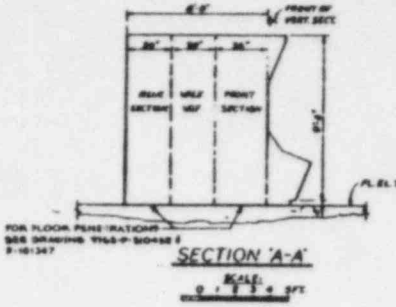
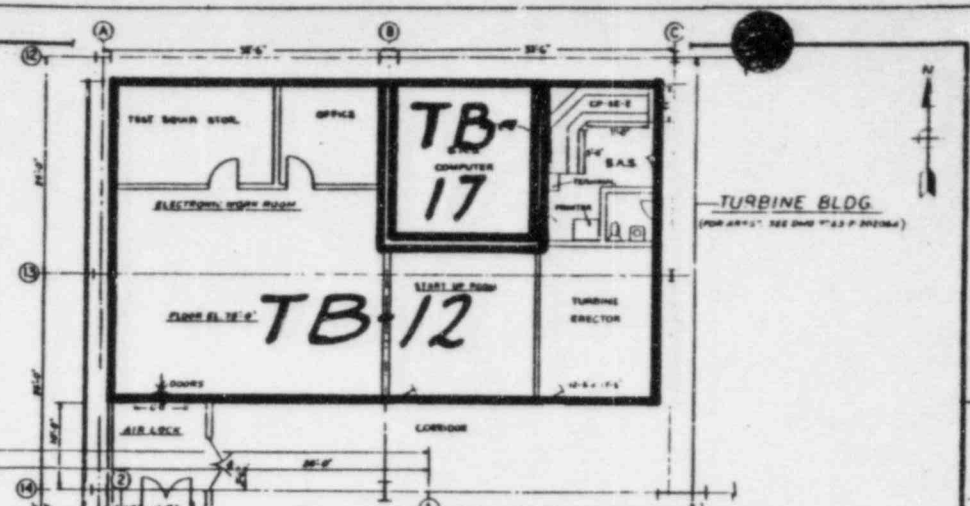
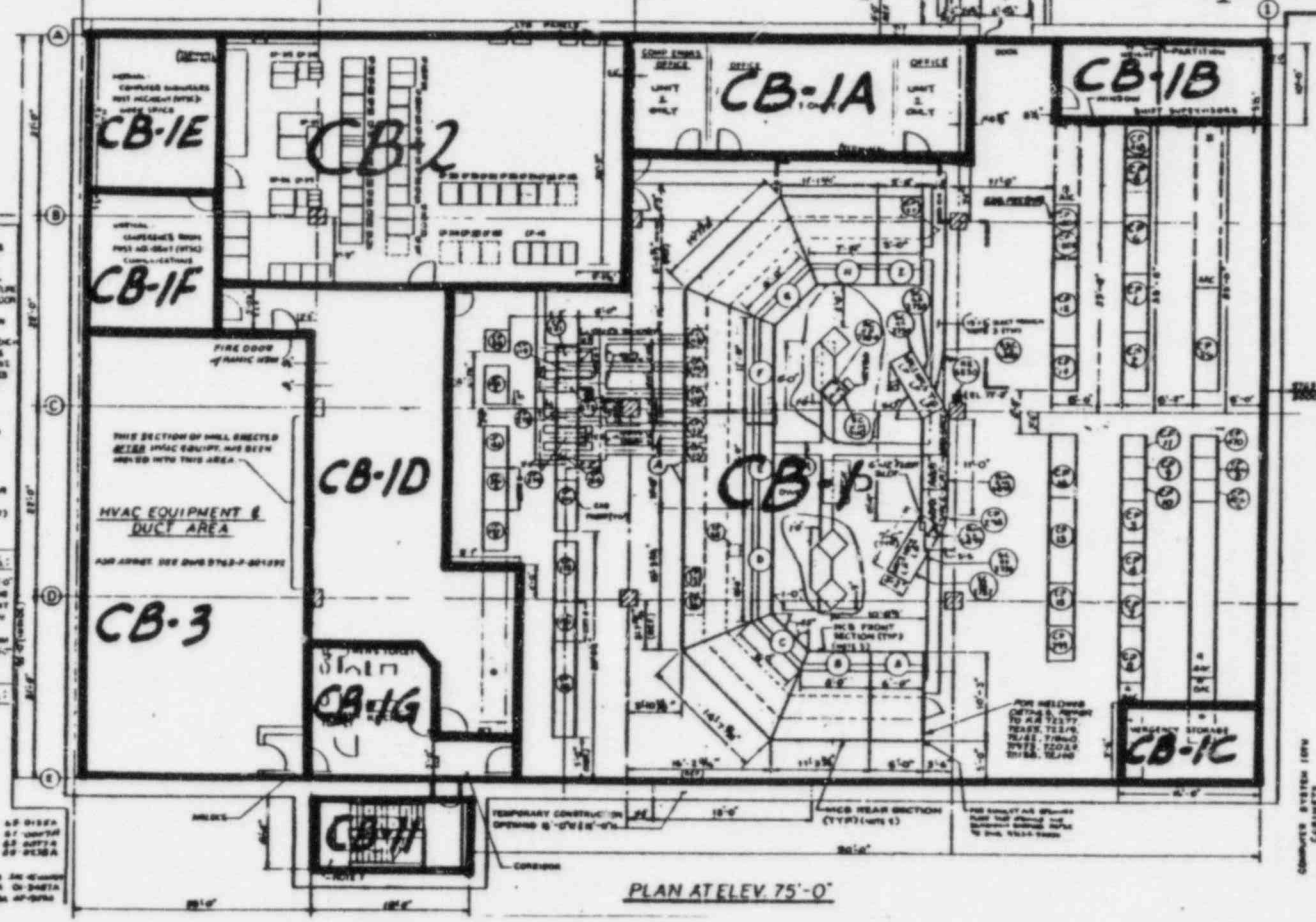
SCALE - 3/8"=1'-0"



COMPUTER ROOM CONTROL PANEL LIST

DESCRIPTION	DESCRIPTION	DESCRIPTION
WPCS RACK 1	SPDS IN CPU	
WPCS HMI & CPU	SPDS IN QDPS	
WPCS RACK 2	SPDS IN MAINS	
WPCS RACK 3	SPDS IN TRANSMITTER CABINET	
WPCS RACK 4	SPDS RACK P-1	
WPCS RACK 5	SPDS RACK P-2	
WPCS HMI & CPU	SPDS RACK P-3	
WPCS RACK 7	SPDS RACK P-4	
WPCS RACK 8	PLAN MAPPING CABINET 1	
WPCS RACK 9	PLAN MAPPING CABINET 2	
WPCS RACK 10	PLAN MAPPING CABINET 3	
WPCS RACK 11	PLAN MAPPING CABINET 4	
WPCS RACK 12	WPCS DISC 10	
WPCS RACK 13	WPCS DISC 11	
WPCS LINE PRINTER 1	WPCS DISC 20	
WPCS LINE PRINTER 2	WPCS DISC 21	
WPCS CARD READER		
WPCS CRT CONSOLE 1		
WPCS CRT CONSOLE 2		





NOTES

1. HCB SECTIONAL PANELS & CABS (TYPICAL) ON STL MOUNTING BASES OVER LEVELING STL EMBEDDED IN FLOOR SLABS.
2. 6-AREAS RESERVED FOR FUTURE EQUIP TO HAVE SLOTS IN FLOOR SLAB WITH STEEL COVER PLATES & LEVELING STEEL IN PLACE.
3. COMPUTER CABLE FLOOR TRENCH TO HAVE REMOVABLE COVERS FOR EASE OF ACCESS & REMOVAL.
4. FOR ORIENTATION OF CUBICLES IN PANELS SEE EQUIP. LIST FOR KEY.
5. FOR HCB CONCRETE PLAN SEE DWG 9163-F-500100.
6. EQUIPMENT NOT REQUIRED ON UNIT 2.
7. NON-SAFETY STAIR — NO SAFETY RELATED EQUIPMENT TO BE INSTALLED IN THIS STAIR TOWER.
8. NO VISIBLE GAP (IN FRONT)

U.E.&C. REFERENCE DWGS.:

9163-F-101347 CONC. P. AND E. 75'-0"
F-140035 PLR PENETRATIONS
F-240437 EMBEDDED CONDUIT
F-100054 OPEN FLOOR PLAN
F-500130 HCB CONC. PLATE
F-604496 HVAC EQUIP. ROOM
F-100022 CR. 106 PLAN EL. 75'-0"

PROJECT CHANGE DOCS.:

DCN'S

08-0095A	08-0182A	
08-0095A	08-0191A	
08-0106A	08-0196A	
08-0104A/B/C	08-0209A/B/C	
08-0198A	08-0201A	
08-0237A	08-0250A	
08-0238A	08-0267A	
08-0240A	08-0268A	
09-0149A	09-0200A	09-0182A
09-0400B	09-0097B	07-0097B
09-1105B	09-1230A	09-0473A
09-0411A	09-0095A	09-0183A
(CF 2)		
01-0170B	01-0171A	01-0473A
01-1080A	01-1070B	09-0171A
01-0182A	01-0172B	09-0080A

CONTROL ROOM HCB AND CONTROL PANEL LIST

	DESCRIPTION				DESCRIPTION		
HCB 8F	HCB ZONE 'A' FRONT LOW PRESS SAFETY HVAC			CP 10	RP AUX RELAY RACK 'B'	B	HI
HCB 8E	HCB ZONE 'A' REAR			CP 11	RP AUX RELAY RACK 'C'	AA	HI
HCB 8F	HCB ZONE 'B' FRONT LOW PRESS SAFETY HVAC			CP 12	SDPS CABINET	A	
HCB 8E	HCB ZONE 'B' REAR			CP 13	SDPS CABINET	B	
HCB CF	HCB ZONE 'C' FRONT (CVD/ REACTOR CUST			CP 14	SURVEILLANCE TESTS CABINET	A	
HCB 8E	HCB ZONE 'C' REAR HVAC			CP 15	SURVEILLANCE TESTS CABINET	B	
HCB 8F	HCB ZONE 'D' FRONT (NUCLEAR INSTR. CONTROL) NUCLEAR INSTR.			CP 16	NUCLEAR INSTR. SYS. CABINET	B	HI
HCB 8E	HCB ZONE 'D' REAR DEMULTIPLEXERS CABINETS			CP 170	REGULATION CABINET	HB	
HCB 8F	HCB ZONE 'E' FRONT NUCLEAR INSTR/RECORDER			CP 25	HVAC CABINET		
HCB 8E	HCB ZONE 'E' REAR (SPTU 2 TRAIN CAB			CP 25	COMPUTER & SUPPL DEMULTIPLEXER	B	
HCB 8F	HCB ZONE 'F' FRONT (RESTORATION/CTL/TURB MONITORING			CP 26	TG ENG CABINET	AA	
HCB 8E	HCB ZONE 'F' REAR (SPTU 1 TRAIN CAB			CP 27	TG SUPERVISORY INSTR CABINET	AA	
HCB 8F	HCB ZONE 'G' FRONT (CIRCULATING WATER/FLOOD DRAIN)						
HCB 8E	HCB ZONE 'G' REAR (VIB MONITORING INSTRUMENTS)			CP 30	HCB SSPS CTL BOARD DEMULTIPLEXER	A	
HCB 8F	HCB ZONE 'H' FRONT (WATER INJECTION/EMERG. WATER)			CP 38	SEISMIC MONITORING	AA	
HCB 8E	HCB ZONE 'H' REAR MISCELLANEOUS SYSTEMS			CP 60	SECURITY CONSOLE	AA	
HCB 8F	HCB ZONE 'I' FRONT SWITCHYARD	AA		CP 65	ROD DROP SYSTEM SW		
HCB 8E	HCB ZONE 'I' REAR TURB SUPERVISORY	AA		CP 65A	BOP PROCESS CONTROL CABINET	A	
CP 100	RVLIS/HELB CONTROL CABINET	A		CP 165	BOP PROCESS CONTROL CABINET	B	
CP 100	RVLIS/HELB CONTROL CABINET	B		CP 165	BOP PROCESS CONTROL CABINET NON-CLASS 1E	AA	
CP 1	PROCESS I&C (PROTECT I) CAB.	A		CP 175	BOP PROCESS CONTROL CABINET NON-CLASS 1E	AA	
CP 2	PROCESS I&C (PROTECT II) CAB.	B		CP 180	RAD MONITORING SYSTEM CABINET	A	
CP 3	PROCESS I&C (PROTECT III) CAB.	A		CP 180	RAD MONITORING SYSTEM CABINET	B	
CP 4	PROCESS I&C (PROTECT IV) CAB.	B		CP 264	BOP PROCESS CONTROL CABINET NON-CLASS 1E	AA	
CP 5	PROCESS I&C CTL (GROUP I) CABINET	A		CP 270	PRINTER COMMUNICATIONS & RAD MON CONSOLE	AA	
CP 6	PROCESS I&C CTL (GROUP II) CABINET	A		CP 270A	BOP PROCESS CONTROL CABINET	A	
CP 7	PROCESS I&C CTL (GROUP III) CABINET	A		CP 270B	BOP PROCESS CONTROL CABINET	B	
CP 8	PROCESS I&C CTL (GROUP IV) CABINET	A		CP 270A	HYDROGEN MONITORING	AA	
CP 9	RP AUX RELAY RACK 'A'	A		CP 270 A & B	RELAY PANEL FOR HYDROGEN MONITORING & RM. 270 CONSOLE	AA	
				CP 33	SPTU 1 TERMINATION CABINET	AA	SC
CP 110	SPTU 1 TERMINATION CABINET	AA	SC	CP 165	SPTU 1 ELECTRONICS CAB (CPU)	AA	SC
CP 110	SPTU 1 ELECTRONICS CABINET (DIGITAL)	AA	SC	CP 165	SPTU 2 TERMINATION CABINET	AA	SC
CP 120	SPTU 1 TERMINATION CABINET	AA	SC	CP 170	SPTU 2 ELECTRONICS CAB. (CPU)	AA	SC
CP 121	SPTU 1 ELECTRONICS CABINET (ANALOG)	AA	SC	CP 174	SPTU 2 ELECTRONICS CAB. (DIGITAL)	AA	SC
122	SPTU 1 TERMINATION CABINET	AA	SC	CP 175	SPTU 2 ELECTRONICS CAB. (ANALOG)	AA	SC

SAFETY RELATED ITEM

SCALE: 0 1 2 3 4 5 FT OR AS NOTED

ISSUED FOR CONSTRUCTION

CONTROL BUILDING
CONTROL ROOM ARRANGEMENT
PLAN AT ELEV. 75'-0"
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
DESIGNER UNITED ENGINEERS & CONSTRUCTORS

9163.006-6-01-0000

FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

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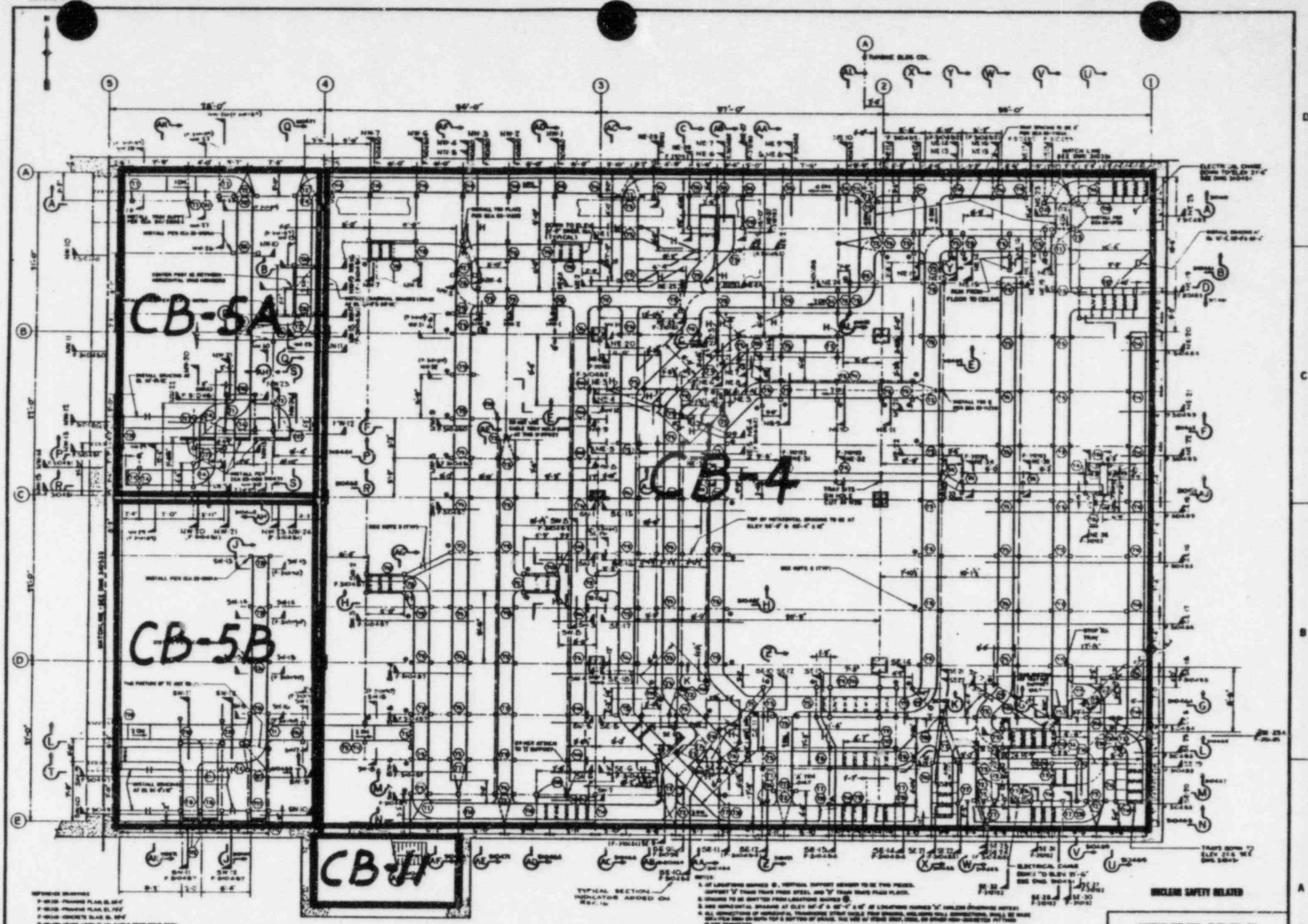
CB-5A
CB-5B
CB-4
CB-11
TYPICAL SECTION INDICATOR ADDED ON REV. 16
NUCLEAR SAFETY RELATED
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
CONTROL BUILDING - ELEV. 30'-0"
CABLE TRAY LAYOUT - PLAN
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
9163.006-6.01.0000

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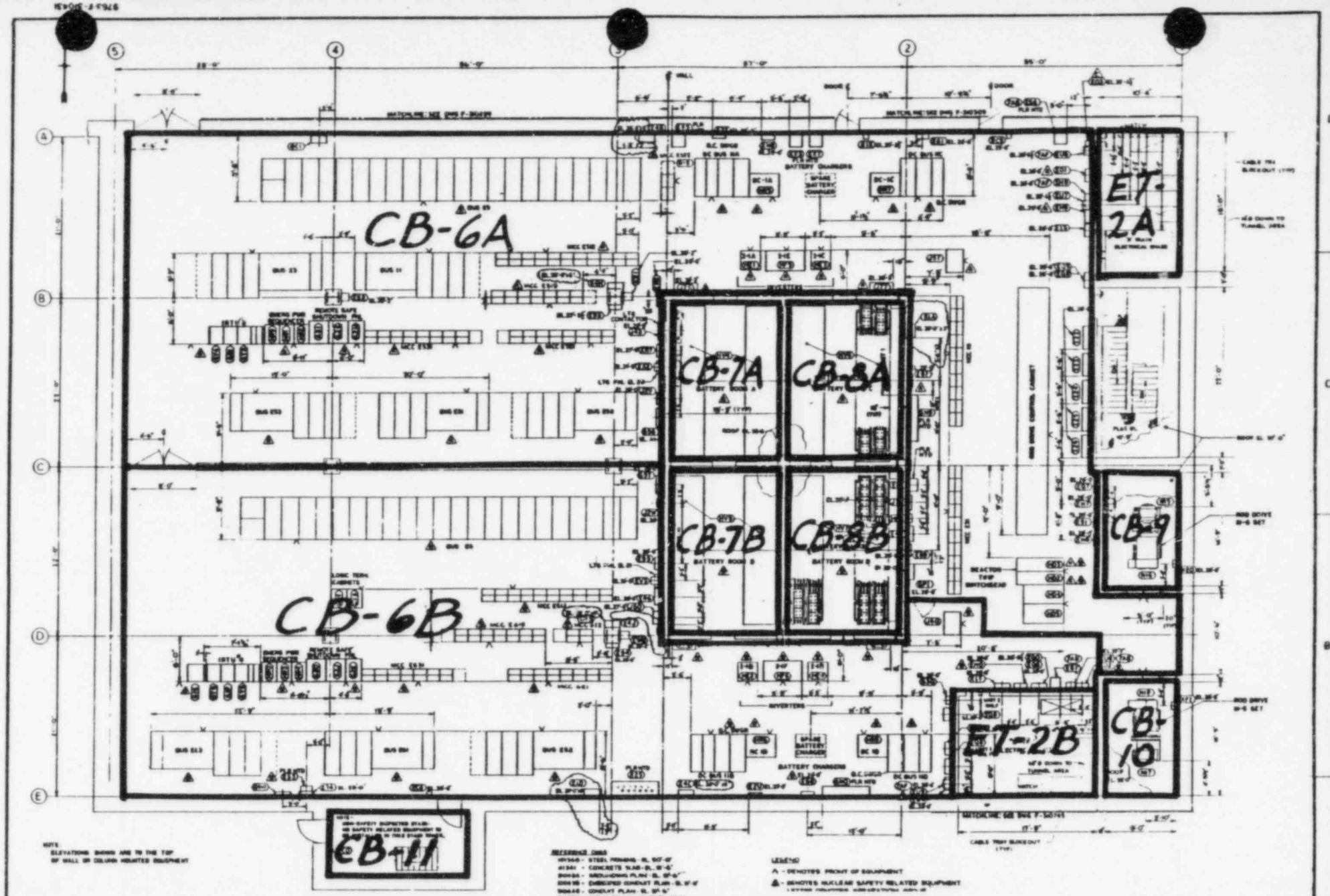

FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY

CONTROL BUILDING ELEV 21'-6"
ELECTRICAL GENERAL ARRANGEMENT

PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION

stone & webster engineers

9763.006-6.01.0000

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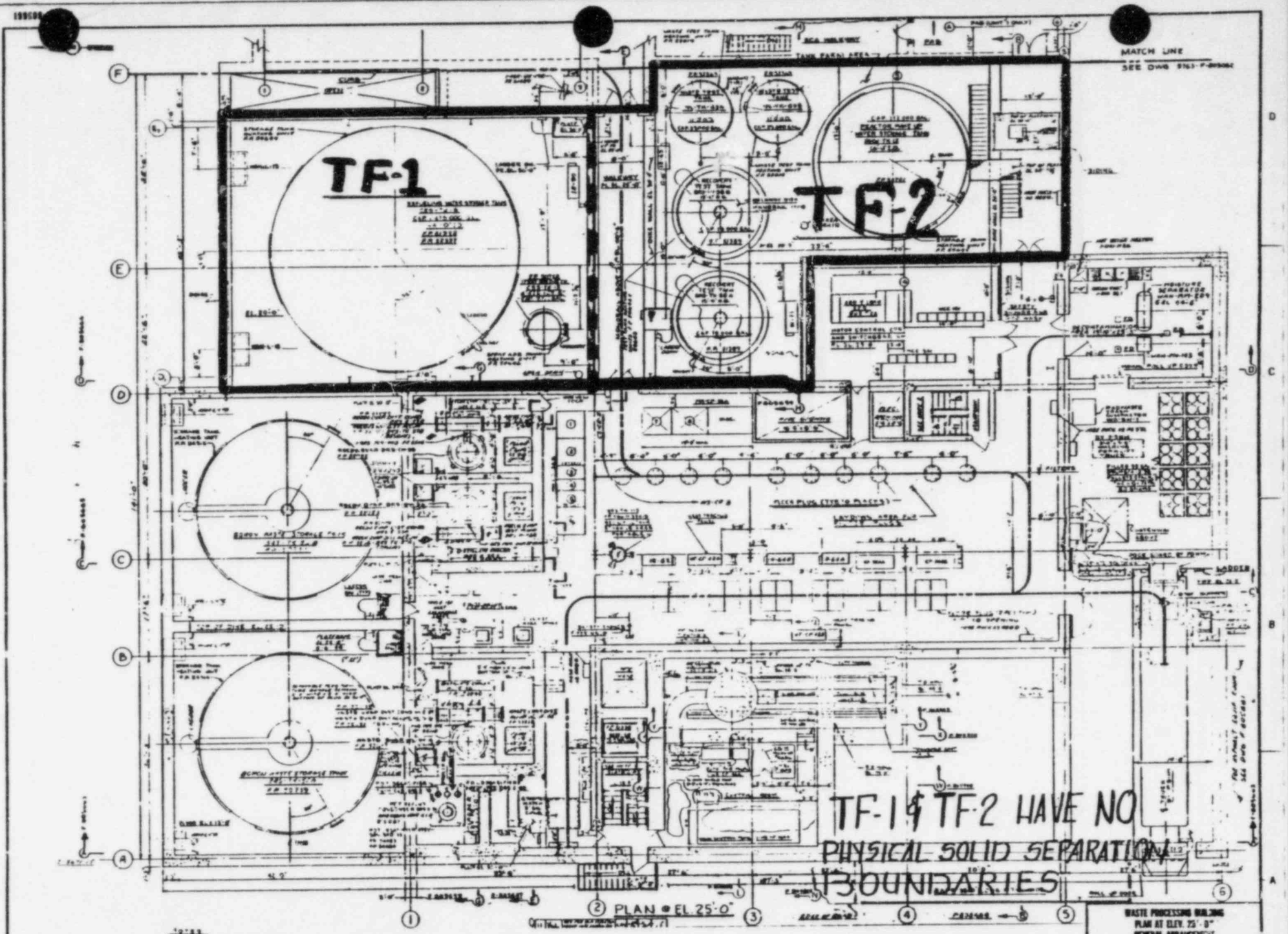
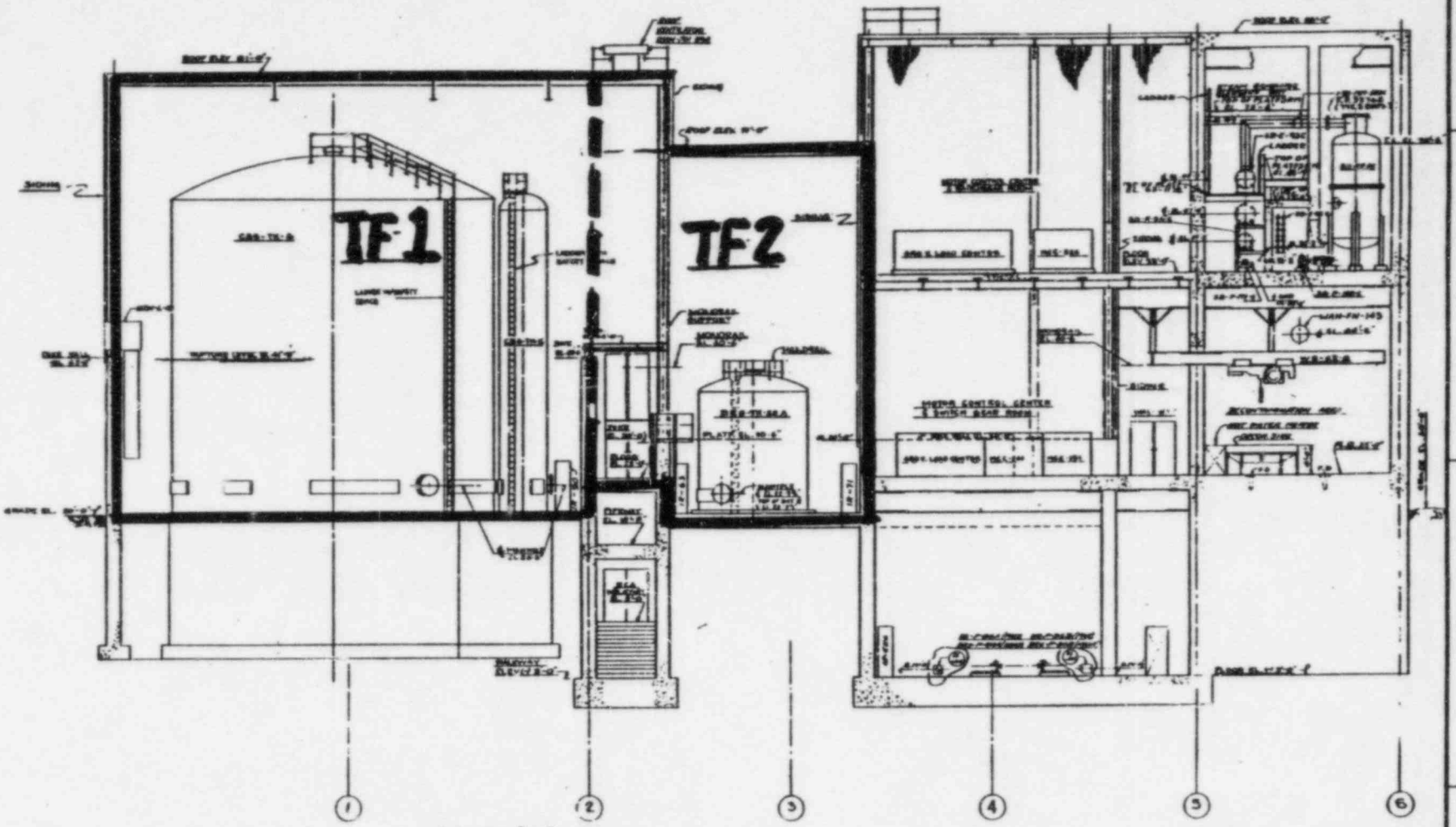

TF-1
TF-2
MATCH LINE
SEE DWG 9163-F-005002
TANK PARKING AREA
PLAN @ EL 25'-0"
TF-1 & TF-2 HAVE NO
PHYSICAL SOLID SEPARATION
BOUNDARIES
FOR ENVIRONMENTAL ZONE
IDENTIFICATION ONLY
WASTE PROCESSING BUILDING
PLAN AT ELEV. 25'-0"
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
9163.006-G.01



ELEVATION "D-D" LOOKING EAST

(DWGS F-805680, 805647, 805667, 805668)

GRAPHIC SCALE

FOR ENVIRONMENTIAL ZONE IDENTIFICATION ONLY

WASTE PROCESSING BUILDING
ELEVATION D-D
GENERAL ARRANGEMENT
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

9763.006-6-01.0000

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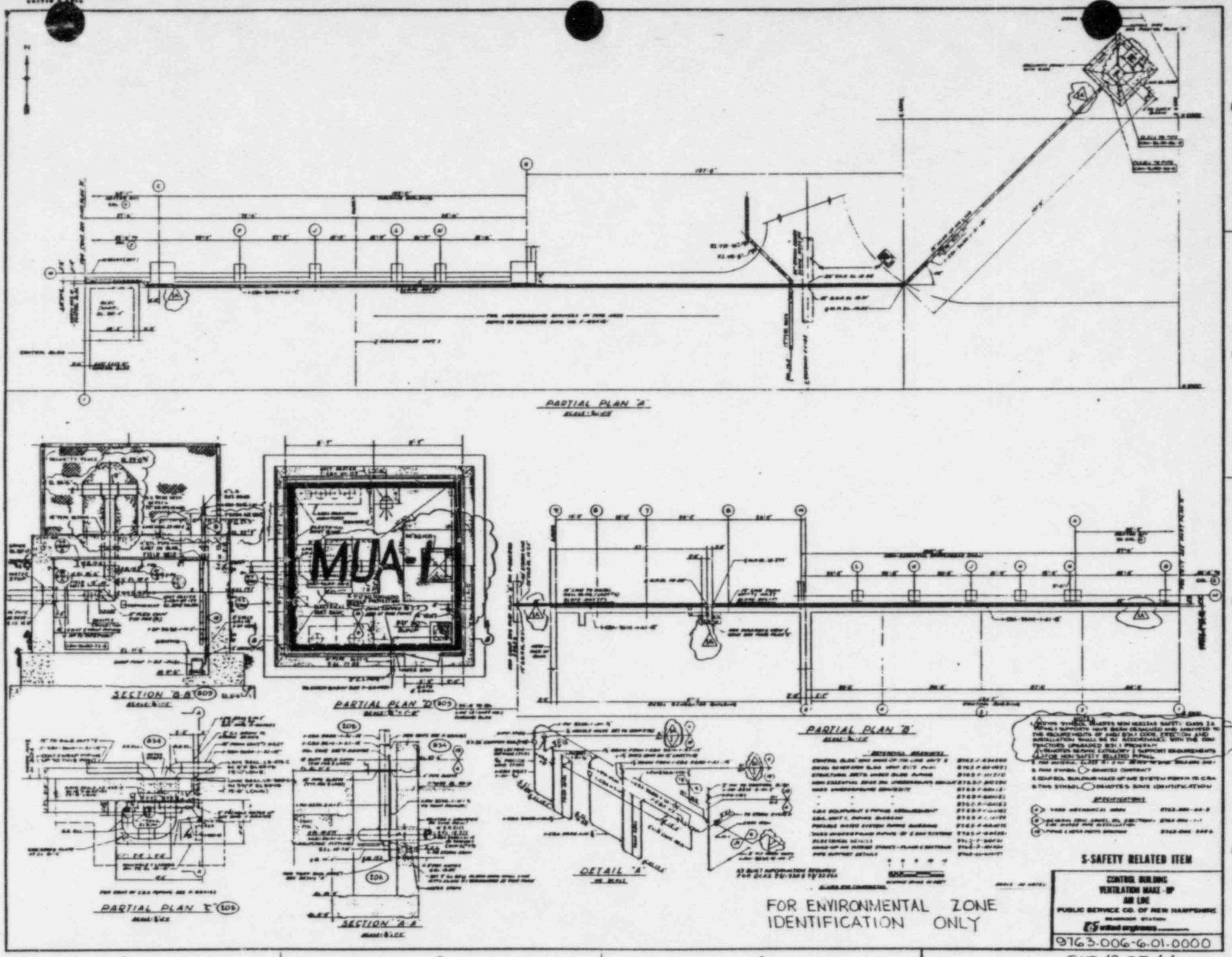
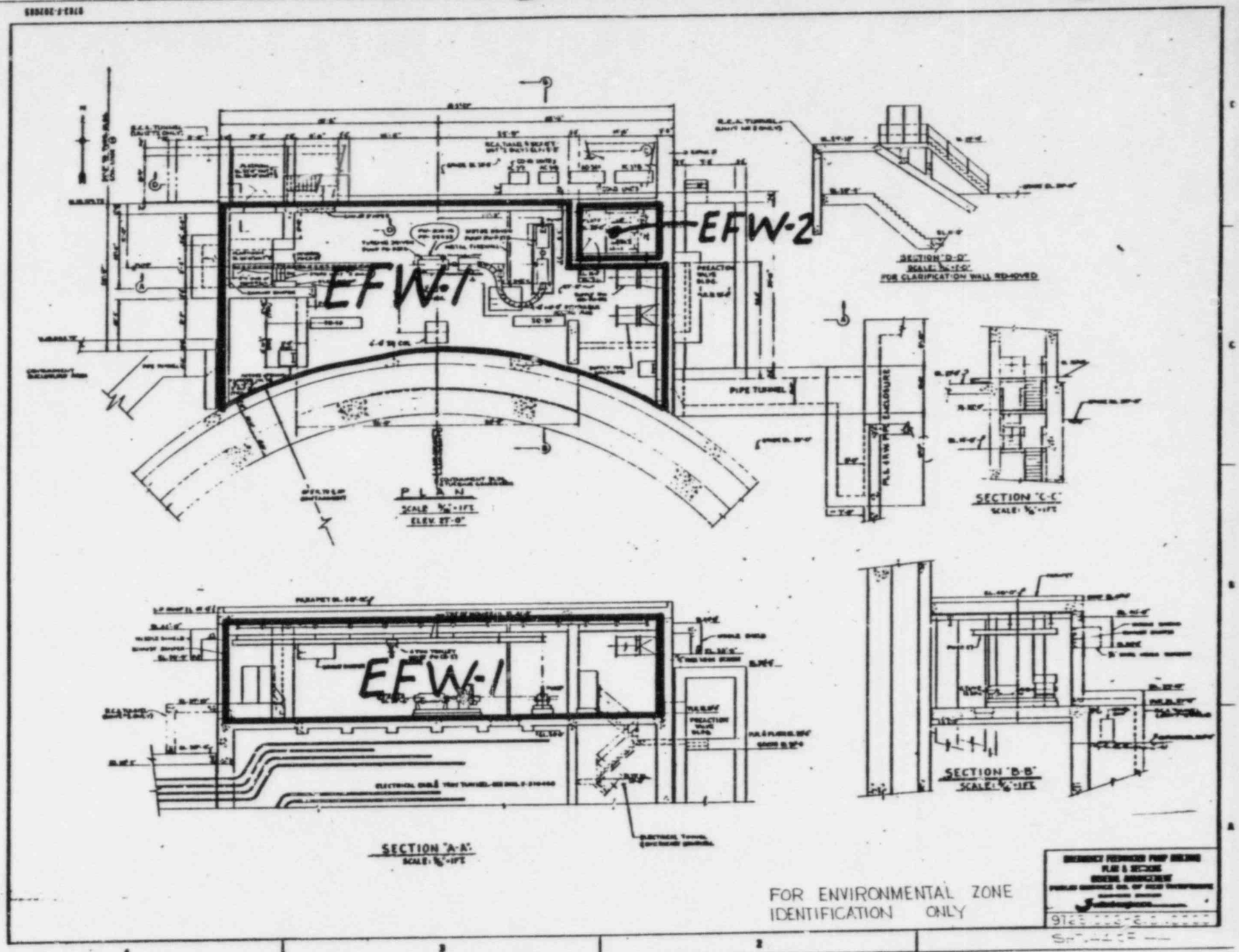

PARTIAL PLAN "A"
SECTION "B-B"
PARTIAL PLAN "D"
MUA-1
PARTIAL PLAN "B"
PARTIAL PLAN "C"
SECTION "A-A"
DETAIL "A"
FOR ENVIRONMENTAL ZONE IDENTIFICATION ONLY
S-SAFETY RELATED ITEM
CONTROL BUILDING
VENTILATION MAKE-UP
AIR LINE
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
9763.006-6.01.0000
SHT. 43 OF 44



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