MPR ASSOCIATES INC. ENGINEERS

EQE ENGINEERING CONSULTANTS

Duane Arnold Energy Center
USI A-46 Seismic Evaluation Report

MPR-1536
Revision 0

September 1995

Prepared For

IES Utilities, Inc.
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324

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Section 1

INTRODUCTION

PURPOSE

The purpose of this report is to document the evaluations performed to address Unresolved Safety Issue (USI) A-46 at the Duane Arnold Energy Center (DAEC), using the Generic Implementation Procedure (GIP) developed by the Seismic Qualification Utility Group (SQUG).

PLANT DESCRIPTION

The Duane Arnold Energy Center (DAEC) consists of a single unit, 540MW boiling water reactor located in Palo, Iowa. The plant was designed and constructed by General Electric (NSSS) and Bechtel (balance of plant), and began commercial operation in 1975. DAEC is owned and operated by IES Utilities, Inc. (formerly Iowa Electric Light & Power, IELP).

BACKGROUND

Because of the extent of the changes in the requirements for seismic qualification of equipment over the years, the U.S. Nuclear Regulatory Commission (NRC) initiated USI A-46, "Seismic Qualification of Equipment in Operating Nuclear Plants," in December 1980. The purpose of USI A-46 is to verify the seismic adequacy of essential equipment in operating plants which had not been qualified in accordance with more recent criteria.

In 1982, SQUG was formed to develop a practical approach for seismic qualification of equipment in operating plants. The approach developed by SQUG was to use experience with the performance of power plant and industrial equipment in actual earthquakes as the primary basis for evaluating the seismic ruggedness and functionality of essential equipment in nuclear power plants. In 1983, the NRC issued NUREG 1018 which includes a general endorsement of the use of experience data for verification of the seismic adequacy of equipment in nuclear plants.

In early 1987, the NRC issued Generic Letter (GL) 87-02 to owners of operating nuclear plants which were licensed prior to development of modern seismic qualification standards. The recipients of GL 87-02 are referred to as A-46 plants and include DAEC. Essentially, all owners of A-46 plants, including IES, are SQUG members. GL 87-02 requires owners to take action to verify the seismic adequacy of important equipment in their plants. The SQUG approach embodied in the GIP is explicitly recognized by the NRC as the preferred method for accomplishing this objective.

In 1992, the NRC issued Supplement No. 1 to GL 87-02 [Reference 2] which transmitted Supplemental Safety Evaluation Report No. 2 on SQUG GIP, Revision 2, as corrected on February 14, 1992 [Reference 1]. References 1 and 2 are the basis for the seismic evaluations described in this report.

In Reference 5, IES described their approach for resolving USI A-46. This approach was accepted by the NRC in Reference 6.

REPORT ORGANIZATION

The remaining sections of this report are organized in accordance with Section II.9.4 of the GIP [Reference 1]. These sections include the following:

- Section 2, "Safe Shutdown Earthquake" The DAEC Ground Response Spectra (GRS) and In-Structure Response Spectra (IRS) are described. The bases for determining how seismic demand is determined for each equipment are provided in Section 5, and documented on the Screening Verification Data Sheet (SVDS) forms in Appendix D of this report.

- Section 3, "Project Team" The IES project team and consultant Seismic Capability Engineers (SCEs) are discussed. Résumés for SCEs are included in Appendix A of this report.

- Section 4, "Safe Shutdown Equipment List (SSEL)" This section contains information from the SSEL report recommended for submittal to the NRC, per Section II.9.2 of the GIP. Descriptions of the safe shutdown path selection, plant operation procedures used, and IES Operations Department review of the SSEL are discussed. Lists of equipment on the Composite SSEL and Seismic Review SSEL are included in Appendices B and C of this report. The list of equipment included on the Relay Review SSEL is included in the Relay Report [Reference 3].

- Section 5, "Mechanical and Electrical Equipment Review" Screening Verification and Walkdown results for mechanical and electrical equipment are discussed, in addition to the SVDS forms provided in Appendix D. Instances in which the intent of a caveat is met without meeting the specific wording of the caveat rule are identified.

- Section 6, "Tank and Heat Exchanger Review" Results of the tanks and heat exchangers review are discussed, including instances in which the intent, but not the letter, of a caveat is met.

- Section 7, "Cable and Conduit Raceway Review" Results of the raceway review, including bounding samples and outliers, are summarized.

- Section 8, "Equipment Outliers" Equipment outliers are described, and plans for addressing remaining unresolved outliers are discussed.

Section 9, "Significant or Programmatic Deviations from the GIP" A statement is made that no significant or programmatic deviations from the GIP are made at DAEC.

Section 10, "Third-Party Audit" The initial and final Third-Party Audits are summarized, including resolution of recommendations made by the Auditors during the initial Audit. The Audit reports are included in Appendix E.

Section 2

SAFE SHUTDOWN EARTHQUAKE (SSE)

GROUND RESPONSE SPECTRA

The DAEC licensing basis design basis earthquake (DBE) ground motion acceleration response spectra are defined in Section 2.5.2.6 of the DAEC Updated Final Safety Analysis Report (UFSAR) [Reference 4]. Three different DBE ground response spectra (GRS) are provided:

1. For structures supported on bedrock or lean concrete over bedrock, the response spectra are based on the 1935 Helena, Montana, earthquake scaled to a peak ground acceleration (PGA) of 0.12g for the DBE.

2. For structures supported on about 10′ of compacted fill, natural glacial soil, or soil cement fill over bedrock, the response spectra are based on the 1952 Taft, California, earthquake scaled to a PGA of 0.12g for the DBE.

3. For structures supported on 30 to 50′ of overburden soil or compacted fill soil, the response spectra are based on the 1952 Taft, California, earthquake scaled to a PGA of 0.18g for the DBE.

IN-STRUCTURE RESPONSE SPECTRA

The DAEC in-structure response spectra (IRS) were generated using the procedures described in Sections 3.7.1 and 3.7.2 of the UFSAR. The design basis GRS used for all structures is the 1935 Helena, Montana earthquake normalized to 0.12g, and the effects of soil-structure interaction (SSI) for the structures founded on soil over bedrock are accounted for by the building/soil models. Input for the building models is an artificial time history (ATH) of the horizontal ground motion developed from the 1940 El Centro, California earthquake. The 5% damped spectrum of the ATH envelopes the design basis GRS at all frequencies, and conservatively exceeds the GRS by 30% to 50% in the 2 to 8Hz frequency range. The ATH was applied to the three-dimensional dynamic seismic building/soil models to generate floor time histories, which were in turn used to generate in-structure response spectra [Reference 6].

An IES (formerly IELP) letter dated September 21, 1992 [Reference 5] informs the USNRC that the DAEC IRS as described above would be used for the A46 Program. This letter also includes a description and plots of the IRS. In their response to IES [Reference 6], the USNRC defines the DAEC IRS as "conservative, design" per GIP Section II.4.2 [Reference 1].

Section 3

PROJECT TEAM

A key element of the approach adopted by IES for performing the DAEC seismic evaluation was the establishment of a multidiscipline project team. This team included both utility and contractor employees.

IES REPRESENTATIVES

The IES project team consisted of engineers in the structural, mechanical systems, and electrical and control systems disciplines. Operations and licensing representatives were also part of the IES project team. The IES project team provided plant-specific information to the Seismic Capability Engineers (described below) who performed the seismic evaluations. The IES team also performed in-process reviews of contractor activities, as well as reviews of contractor deliverables.

SEISMIC CAPABILITY ENGINEERS

MPR Associates, Inc. provided project coordination, SSEL preparation, relay review, and Seismic Capability Engineers. EQE Engineering Consultants, Inc. provided technical lead for equipment evaluation, cable raceway review, and Seismic Capability Engineers. Seismic Capability Engineers from both organizations are listed below:

- Stephen J. Eder, PE (Walkdown Manager)
- Caroline S. Schlaseman, PE (Walkdown Coordinator)
- Rodrigo Araya, PE
- Farzin R. Beigi
- David J. Doyle
- David A. Freed, PE
- Hassan Hadidi-Tamjed, PE
- Thomas R. Kipp
- Kristin E. Smith

Résumés for all Seismic Capability Engineers are contained in Appendix A.

THIRD-PARTY AUDITORS

Dr. James J. Johnson (EQE) and Mr. William R. Schmidt (MPR) served as Third-Party Auditors for this project. These individuals have over 50 combined years of experience in nuclear power and seismic engineering, were key participants in the development of the SQUG and IPEEE methodologies, and have experience in seismic walkdown

assessments. Both meet or exceed the qualifications of the GIP for Seismic Capability Engineers (SCEs). The Third-Party Auditors, as a group, have experience in nuclear plant and systems engineering, seismic engineering, and USI A-46. Other than performing the Third-Party Audit, these individuals did not participate in the A-46 program at DAEC.

Mr. Schmidt serves as Technical Coordinator of the SQUG utility group, responsible to a utility steering group and the EPRI Program Manager for development of the technical approach and criteria embodied in the approved SQUG methodology. As Technical Coordinator and as a Principal Officer of MPR Associates, Mr. Schmidt also oversees ongoing MPR assignments which include serving as principal editor of the Generic Implementation Procedure (GIP) and as coordinator of SQUG-sponsored training programs. Mr. Schmidt was a contributing author of EPRI Report NP-7498, "Industry Approach to Seismic Severe Accident Policy Implementation" and an acknowledged reviewer of EPRI NP-6041, "A Methodology for Assessment of Nuclear Power Plant Seismic Margin."

Dr. Johnson, the President of EQE Engineering Consultants, has played a significant role in the development of general and plant-specific seismic evaluation procedures. His project participation has ranged from the SQUG GIP to plant-specific procedures for the Savannah River Site. Procedures include criteria for assessing equipment and component functionality and structural integrity, seismic system interaction, anchorage, and other issues. Dr. Johnson was a contributing author of EPRI Report NP-7217-SL, "Seismic Margin Assessment of the Edwin I. Hatch Nuclear Plant, Unit I," and also an acknowledged reviewer of EPRI Report NP-6041.

Section 4

SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

The DAEC Safe Shutdown Equipment List (SSEL) was prepared in accordance with Section II.3 and Appendix A of the GIP [Reference 1].

SAFE SHUTDOWN PATH SELECTION

Safe Shutdown Systems

The following sections describe the safe shutdown systems and main operating procedure steps necessary to meet USI A-46 requirements. The four basic functions of reactivity control, pressure control, inventory control, and decay heat removal are covered. Each section describes the plant systems and main operator actions that are used to accomplish these safe shutdown functions.

Reactivity Control. Reactivity control is required to bring the reactor core to a subcritical state and maintain it subcritical over the 72-hour period following an earthquake. The reactor core is maintained subcritical by quickly inserting all 89 control rods into the core with a Control Rod Drive (CRD) System scram. Upon receiving an automatic or manual scram signal, high pressure water is used to force the control rods up into the core. The high pressure water is provided from a nitrogen-water accumulator contained in each of 89 hydraulic control units (HCUs). Water from the drive piston of each CRD is exhausted to a scram discharge volume.

Each HCU has an inlet and outlet scram valve (CV-1849 and CV-1850, respectively). Upon loss of instrument air, these valves open allowing high pressure water from the accumulator to enter the CRD housing and water from the drive piston to exhaust to the scram discharge volume. The instrument air supply to the scram valves is controlled by scram pilot valves SV-1855 and SV-1856 (two for each HCU). Upon loss of electrical power to both solenoid-operated scram pilot valves, instrument air pressure supply to the scram valves is interrupted. In the event that a scram pilot valve fails to function, two backup scram valves SV-1840A and SV-1840B ensure that all control rods are inserted by interrupting air supply to the scram pilot valves in all 89 HCUs.

The reactor core is designed to remain subcritical with the rod of highest worth fully withdrawn as long as all other control rods are fully inserted. To provide position indication of each control rod in the control room, the control rods have position indicator probes. These probes have magnetic switches which indicate whether the control rod is fully withdrawn, fully inserted, or in an intermediate position.

The Reactor Protection System (RPS) provides a signal to the scram pilot valves SV-1855 and SV-1856 and backup scram valves SV-1840A and SV-1840B to interrupt instrument and service air supply to the inlet and outlet scram valves. The loss of offsite power postulated in Reference 1 would result in an automatic scram of the reactor. A reactor scram can also be manually initiated from the control room.

Reactor Coolant Pressure Control. Reactor Coolant System (RCS) pressure control is required in the short term to prevent over-pressurization during the initial scram transient and in the long term to reduce RCS pressure to allow the low-pressure makeup systems to operate. The six (6) safety/relief valves (SRVs) will be used to control RCS pressure.

The decision to use the low-pressure systems to achieve safe shutdown is based on discussions with plant operations personnel. The postulated loss of offsite power specified for the resolution of USI A-46 could result in the loss of the well water pumps which supply cooling water to the drywell air coolers. The drywell temperature could potentially rise to the point that the Emergency Operating Procedures (EOPs) require emergency depressurization and low-pressure injection. For these reasons it was decided that the high-pressure recovery systems - the High Pressure Coolant Injection (HPCI) and the Reactor Core Isolation Cooling (RCIC) systems - would not be included as safe shutdown systems.

The SRVs control RCS pressure by discharging inventory from the RCS into the torus (suppression pool). The SRVs will actuate automatically to control RCS pressure during the scram transient. After the scram transient, the SRVs will be manually actuated to depressurize the RCS. Three of the six SRVs are required for depressurization. Regulatory Guide 1.97 pressure instrumentation is used to monitor RCS pressure following the earthquake.

Reactor Coolant Inventory Control. The RCS inventory control function is required to maintain the RCS liquid volume such that the reactor core remains covered with water. The Main Steam Isolation Valves (MSIVs) will close following the presumed Loss-of-Offsite-Power to prevent loss of RCS inventory. There are two MSIVs in series on each main steam line.

Use of the SRVs to control reactor pressure will result in RCS inventory being discharged to the torus. The Low Pressure Coolant Injection (LPCI) mode of the Residual Heat Removal (RHR) system will be used for makeup of inventory discharged from the RCS by the SRVs. The LPCI mode of the RHR system is also discussed under decay heat removal because the primary function of the RHR system is to remove decay heat.

The LPCI mode of the RHR System could be disabled for 10 minutes by a single failure of the inject valve selected by the loop select logic. The LPCI inject valve could be opened manually using the hand wheel, however this was judged to be too much of a burden on the operators. Therefore the Core Spray system will be used as the backup to failure of a LPCI inject valve.

The instrumentation required to monitor inventory control includes RCS water level, torus water level, RHR and Core Spray flow rate, and RHR and Core Spray Pressure. Wherever possible, Regulatory Guide 1.97 instrumentation is used to monitor inventory control conditions.

Decay Heat Removal. Decay heat must be removed from the reactor core to control RCS temperature. Decay heat will be carried from the core to the torus by steam vented through the SRVs. Makeup of water to the RCS will be handled by the LPCI or Core Spray systems, as discussed in the inventory control function.

When the LPCI mode of the RHR system is in operation, water is drawn from the torus and pumped through the RHR heat exchangers before being injected into the RCS. The RHR heat exchangers transfer the decay heat from the torus to the RHR service water system.

In the event that the Core Spray system is being used to supply makeup to the RCS, the RHR system is used to cool the water in the torus. The Suppression Pool Cooling (SPC) mode of the RHR system circulates water from the torus through the RHR heat exchangers and back to the torus. The RHR heat exchangers transfer the decay heat from the torus to the RHR service water system.

Instrumentation required to monitor the decay heat removal function includes RCS temperature, RHR flow rate, and torus water temperature.

Supporting Systems

The following sections describe the supporting systems necessary to ensure that the basic safe shutdown functions described above will be achieved. These systems do not directly perform a safe shutdown function, but must operate in order to support the safe shutdown systems.

Electrical Distribution. Many safe shutdown equipment items require electrical power in order to perform their function. Because the assumption is made that loss of offsite power occurs during safe shutdown, only equipment that is powered by the standby diesel generators or batteries is included in the SSEL. The equipment listed in the SSEL is also capable of safely shutting down the plant and maintaining safe shutdown if offsite power is not lost. The SSEL includes the 4160 VAC, 480 VAC, and 120 VAC (instrument air control) power distribution systems. Also included are the 250 VDC and 125 VDC batteries and the associated distribution system.

Emergency Service Water. The Emergency Service Water (ESW) system provides cooling water to many other systems in the plant. The ESW system has two emergency service water pumps which draw river water from the pump house stilling basin. The river water is then strained and sent to various cooling loads in the plant. Safe shutdown equipment that receives cooling water from the ESW system includes the standby diesel generators, Core Spray and RHRSW pump motor coolers, the control room HVAC chillers, RHR pump seal cooling, and various other HVAC heat exchangers.

Residual Heat Removal Service Water. The Residual Heat Removal Service Water (RHRSW) system provides cooling water to the RHR system heat exchangers. River water is drawn from the pump house stilling basin by four RHR Service Water pumps and passes through the RHR heat exchangers. This supports the decay heat removal function of the RHR system.

River Water Supply. The River Water Supply (RWS) system supports the ESW and RHRSW systems by providing river water to the pump house stilling basin. Four RWS pumps draw river water from the plant intake structure and pump it to the pump house stilling basin.

Diesel Generator Support. There are several systems that provide support to the standby diesel generators. These include the air start system, fuel storage and handling system, lubricating system, circulating water system, and scavenging and exhaust system. Equipment items related to these support functions that are mounted directly on the diesel generator skid are not included in the SSEL because they can be evaluated along with the diesel itself using the "Rule-of-the-Box" as described in the GIP. Supporting equipment that is not mounted directly on the diesel skid is listed separately in the SSEL.

Control Room HVAC. The control room HVAC system is a supporting system for the other safe shutdown systems because it prevents the control room area from becoming excessively warm, which could have an adverse effect on the performance of both operators and electronics. The two control room air-conditioning units are supplied with water from the control building chillers. Because the control room air-conditioning units are pneumatically controlled, the heating and ventilation instrument air compressors are also included in the SSEL. Also included in the SSEL are the three battery room exhaust fans, which exhaust heat and prevent possible buildup of hydrogen from the battery rooms on the first floor of the control building.

Other HVAC. Some SSEL items require cooling to ensure that they can perform their safe shutdown function. For this reason several HVAC units have been included in the SSEL where necessary to support safe shutdown. HVAC systems included in the SSEL are intake structure ventilation, pump house ventilation, RHR and Core Spray room HVAC, and standby diesel room ventilation.

Emergency Lighting. Lighting panels are included in the SSEL to provide lighting to the control room if there is a loss of offsite power during safe shutdown.

OPERATING PROCEDURES

The procedures listed in Table 4-1 were considered in evaluating the completeness of the SSEL.

OPERATIONS DEPARTMENT REVIEW OF SSEL

Operations Department review of the SSEL was accomplished at two different levels. An initial, high-level review occurred shortly after project initiation. The systems

engineers preparing the SSEL proposed safe shutdown success paths by marking Piping and Instrumentation Diagrams to illustrate flow paths leading to a 72-hour safe shutdown period, as described in Reference 1. Operations Department personnel commented on these proposed flow paths with particular emphasis on operational considerations, such as selection of instrumentation to satisfy control and indication requirements. The systems engineers used the result of this high-level Operations Department review to draft the SSEL.

The formal Operations Department review of the SSEL was conducted by an Operations Shift Supervisor at DAEC. The method of this review was a "desk top" review, per Section 3.7 of the GIP [Reference 1], using normal and emergency procedures shown in Table 4-1. The review was in two phases, one assuming a loss of offsite power and one assuming no loss of offsite power. In both cases, the objective was to shut down the plant and maintain it in a safe shutdown condition for 72 hours.

This review indicated that the shutdown path selected for USI A-46 and included in the SSEL is a legitimate safe shutdown path consistent with DAEC procedures and operator training. The present level of operator training is sufficient to assure that the operators are proficient on the procedures to assure the selected success path will be used.

In reviewing the procedures against the Safe Shutdown Equipment List, no major equipment (pumps, valves, fans) that was required by plant procedures to meet the safe shutdown path were missing. Support equipment such as relays, handswitches, instrumentation, and heat exchangers were not verified by this review.

SAFE SHUTDOWN EQUIPMENT LIST AND SUBSETS

Printouts of the SSEL database are included in Appendices B and C. Appendix B is a printout of the Composite SSEL, which includes equipment requiring Seismic Reviews and Relay Reviews. Appendix C contains the Seismic Review SSEL. These lists contain equipment items from two seismic-related programs, IPEEE and Regulatory Guide 1.97, in addition to the A-46 equipment items. In accordance with References 7 and 8, R.G. 1.97 equipment at DAEC was evaluated in accordance with the SQUG GIP methodology, concurrent with the A-46 evaluations. For the Composite SSEL, field 17 "Reg. Issue" contains the following code for the program(s) covering each equipment item: "A" for A-46, "I" for IPEEE, and "R" for R.G. 1.97.

Table 4-1

List of Procedures Used for Safe Shutdown Equipment List Review

Emergency Operating Procedures	
EOP-1	RPV Control, Rev. 1
EOP-2	Primary Containment Control, Rev. 1
Abnormal Operating Procedures	
AOP 901	Earthquake, Rev. 3
AOP 301	Loss of Essential Electrical Power, Rev. 11
AOP 255.1	Control Rod Movement/Indication Abnormal, Rev. 9
Integrated Plant Operating Instructions	
IPOI 5	Reactor Scram, Rev. 12
IPOI 4	Shutdown, Rev. 23
Operating Instructions	
OI 149	Residual Heat Removal System, Rev. 39
OI 151	Core Spray System, Rev. 21
OI 183.1	Automatic Depressurization/Low-Low Set System, Rev. 17
OI 255	Control Rod Drive Hydraulic System, Rev. 32
OI 302	125 VDC Power Distribution System, Rev. 17
OI 304.2	4160/480V Essential Electrical Distribution, Rev. 20
OI 317.1	120 VAC Instrument Control Power System, Rev. 23
OI 324	Standby Diesel Generator System, Rev. 31
OI 388	250 VDC Power Distribution System, Rev. 12
OI 410	River Water Supply System, Rev. 19
OI 416	RHR Service Water System, Rev. 12
OI 454	Emergency Service Water System, Rev. 19
OI 683	Main Steam System, Rev. 29
OI 710	Intake Structure HVAC System, Rev. 24
OI 711	Pump House HVAC System, Rev. 3
OI 730	Control Building HVAC System, Rev. 24
OI 733	Turbine Building HVAC System, Rev. 11
OI 734	Reactor Building HVAC System, Rev. 14

Section 5

MECHANICAL AND ELECTRICAL EQUIPMENT REVIEW

SUMMARY OF REVIEW

The reviews of the seismic adequacy of mechanical and electrical equipment on the DAEC Safe Shutdown Equipment List (SSEL) were performed in accordance with Section II.4 of the Generic Implementation Procedure (GIP) [Reference 1].

Each SSEL equipment item was walked down by a Seismic Review Team consisting of two to three Seismic Capability Engineers (SCEs), and always including at least one licensed professional engineer. IES personnel supported these walkdowns by providing: (1) craft to open equipment for internal inspections, and to perform anchor tightness checks and ultrasonic testing (UT) of anchor bolt lengths; (2) systems engineers to answer SRT questions about equipment function and location (e.g., temperature elements in ducts); and (3) personnel for preparation of initial equipment walkdown packages. Equipment walkdowns were conducted during refueling outages in August 1993 and March 1995, and on-line in May and November, 1994, and May 1995. For tracking and scheduling purposes, walkdown packages and results were grouped by equipment location. These locations comprise 18 areas of the plant, as listed in Table 5-1.

Signed Screening Verification Data Sheets (SVDSs) for each SSEL equipment item are contained in Appendix D. The SVDSs are organized by the plant locations listed in Table 5-1.

Seismic Capacity vs. Demand

All three of the DAEC design basis ground response spectra (GRS) discussed in Section 2 are enveloped by the SQUG Bounding Spectrum for all frequencies. A comparison of the DAEC in-structure response spectra (IRS) with 1.5 times the SQUG Bounding Spectrum, as required by GIP Section II.4.2, is summarized in Table 5-2. The Reactor Building IRS are fully enveloped by the amplified Bounding Spectrum (ABS) for elevations containing SSEL equipment. The other four structures have IRS exceedances over specific frequency ranges for the elevations containing SSEL equipment.

The "effective grade" elevations, as defined in Section II.4.2.3 of the GIP, of the five DAEC buildings that contain SSEL equipment are summarized in Table 5-3. All SSEL equipment located in the Pump House, Intake Structure, and Turbine Building are within 40′ above grade. In the Reactor Building, all SSEL equipment, except those located on the third floor (elevation 812′) are within 40′ above grade. For the Control Building,

only the SSEL equipment mounted above the floor on elevation 800′, are not within about 40′ above grade.

The 40′ and 8Hz rules from GIP Section II.4.2.3 were used as appropriate for seismic capacity vs. demand and screening evaluations. IRS were used mainly for SSEL equipment with natural frequencies less than 8Hz. IRS were also used for SSEL equipment on the third floors of the Reactor and Control Buildings.

Equipment natural frequency estimates for the seven areas listed in Table 5-2 are discussed below.

The main control room, Control Building 786′, is within 40′ of grade, and the IRS are bounded by the SQUG ABS at all frequencies except those below 4Hz. All SSEL items in the main control room are panels and benchboards. According to in-situ tests, analyses and evaluations performed by Blume Corp. in 1988 and 1990, and confirmed by the judgement of the SRTs, all of these cabinets have fundamental frequencies over 8Hz, and were screened using either Bounding Spectrum or ABS.

The IRS for Control Building 800′ are bounded by the ABS for all frequencies except those below 4Hz. Most of the equipment on Control Building 800′ are mechanical items, e.g., dampers, fans and temperature elements, whose natural frequencies were judged above 8Hz. Electrical equipment in this area are small, wall-mounted I&C panels, whose frequencies were also judged over 8Hz. The only SSEL equipment whose natural frequencies were estimated to be near 4Hz were two large air handlers mounted on spring-type vibration isolators. Instead of using ABS, the capacity for these air handlers was based on existing documentation, which showed the units' capacities exceed the IRS demand.

Both elevations of the Intake Structure that contain SSEL equipment are within 40′ above grade, and have IRS that are bounded by the ABS, except for frequencies between 8Hz and 25Hz. Equipment with natural frequencies greater than 8Hz, e.g., dampers and fans, were screened using Bounding Spectrum vs. GRS. The deep-well vertical pumps and transformers were calculated to have frequencies less than 8Hz, and were, therefore, screened using ABS vs. IRS. The low voltage switchgear and MCCs were screened using Generic Equipment Ruggedness Spectra (GERS) vs. IRS.

IRS for the Pump House are bounded by the ABS except for frequencies below 4Hz and 5Hz for the lower and upper elevations, respectively. Two small MCCs with top-entry cable trays were estimated to have frequencies greater than the 4 or 5Hz needed to use ABS. The four RHR service water vertical pumps have frequencies of at least 8Hz, based on existing analyses, and were screened using Bounding Spectrum vs. GRS. The natural frequencies of the two emergency service water pumps were not above the 5Hz needed to use ABS. These pumps were instead screened using capacities based on existing seismic qualification documentation.

The Turbine Building 757′ IRS are bounded by the ABS, except for frequencies between 3Hz and 9Hz. Equipment frequencies, therefore, had to be above 9Hz to use ABS for

capacity screening. Since all Turbine Building SSEL equipment was within 40′ above grade, most screening was done using the 8Hz frequency limit for Bounding Spectrum. The Turbine Building contains several dampers, fans, and a few small wall-mounted I&C panels that were judged to have frequencies of at least 8Hz, and were screened using the Bounding Spectrum. The remaining equipment are associated with the Standby Diesel Generators (SBDGs), including the SBDG control panels. Existing seismic qualification documentation for the SBDG equipment included equipment natural frequencies, which are all greater than 9Hz. The SBDG equipment, therefore, met capacity screening criteria using either Bounding Spectrum or ABS.

The ABS bound the IRS for all Reactor Building elevations that contain SSEL equipment. Most equipment, therefore, was screened using ABS vs. IRS. Screening was also done using Bounding Spectrum for equipment that obviously met the 8Hz criterion and was located below elevation 812′. All SSEL equipment in the Reactor Building met the capacity vs. demand screening criteria.

Equipment Class Descriptions

The vast majority of DAEC SSEL equipment items are typical of those found in the SQUG earthquake experience database and meet all applicable GIP Appendix B caveats and inclusion rules. Exceptions were identified as outliers, and are discussed in Section 8 of this report. The following paragraphs discuss DAEC SSEL equipment by class type.

The DAEC SSEL contains motor control centers in several plant locations, low voltage switchgear cabinets in the Essential Switchgear Rooms (Control Building 757′) and in the Intake Structure, two medium voltage switchgear cabinets in the Essential Switchgear Rooms, and two large transformers also in the Essential Switchgear Rooms. All of these equipment items are manufactured by standard vendors, e.g., Allis-Chalmers MCCs and ITE-Imperial low voltage switchgear and transformers, and meet all of the equipment class caveats, including the dimensional and weight limitation guidelines for equipment class inclusion.

There are four horizontal pumps on the DAEC SSEL, and 16 vertical pumps. All pumps meet all of the applicable equipment class caveats, except for the river water supply pumps (1P117A, B, C, & D) in the Intake Structure. These deep-well vertical pumps have impeller shaft unsupported lengths that exceed the GIP screening maximum unsupported limit of 20′. These pumps were identified as outliers, then resolved as discussed in Section 8.

Numerous motor-operated, fluid-operated (primarily pneumatic) and solenoid valves were evaluated throughout the plant. Typical DAEC motor-operated valves (MOVs) have Limitorque operators, and meet the equipment class requirements, except for the main steam isolation valves (MSIVs). The MSIVs exceed the GIP dimensional requirements for MOVs, and were identified as outliers, then resolved (see Section 8). Fluid-operated valves are by standard valve vendors, e.g., Fisher Controls, and meet all applicable equipment class caveats. Solenoid valves are typically manufactured by ASCO, and also meet all applicable equipment class caveats. One additional valve type

that does not belong to any of the GIP valve classes is included on the DAEC SSEL: the traversing in-core probe (TIP) shear (explosive) valves, which are located in the TIP Room on the 757′ of the Reactor Building. These valves were identified as outliers, then resolved as discussed in Section 8 of this report.

The 11 DAEC SSEL fans meet all applicable equipment class caveats, except for the battery room exhaust fans, located on Control Building 800′. These were identified as outliers because the fans were unanchored and could move, and possibly bind, relative to the anchored motors (see Section 8).

Dampers on the DAEC SSEL were evaluated using the GIP criteria for air handlers. The dampers are either mounted in-line with rectangular HVAC ducts, or mounted in floor slabs or walls of plant structures. All dampers, including their operators, meet all of the applicable screening criteria caveats.

Air handlers on the DAEC SSEL include two large units in the mechanical equipment room over the main control room (Control Building 800′), and six smaller room units mounted on platform steel mezzanines in the lower elevations of the Reactor Building, e.g., the HPCI and Corner Rooms. The air handlers meet all applicable bounding spectrum caveats, except for the two large control room HVAC units. These units are mounted on spring-type vibration isolators and were documented as outliers, then resolved as discussed in Section 8.

The two control room HVAC chillers and the two air compressors on the DAEC SSEL meet all of the equipment class screening criteria except for anchorage adequacy. These were documented as outliers as discussed in Section 8 of this report.

There are no motor-generator sets on the DAEC SSEL.

Distribution panels on the DAEC SSEL are all located in the Essential Switchgear Room (Control Building 757′). Most are manufactured by Delta Switchboard Company and are mounted to walls via Unistrut channel sections. One panel is mounted on Unistrut members that are welded to building structural steel. All distribution panels are standard components that meet all applicable equipment class caveats.

Battery racks at DAEC are of rugged design with lateral restraints and adequate spacer material between the batteries. The batteries are lead calcium-type, manufactured by C&D Power Systems, and were installed in the late-1980's. The batteries and racks meet all of the applicable equipment class caveats.

The battery chargers and inverters on the DAEC SSEL include original equipment manufactured by Power Conversion Products, Inc., and newer equipment manufactured by Elgar, and installed in the late-1980's. These meet all applicable equipment class caveats.

The two standby diesel generators at DAEC, manufactured by Fairbanks Morse, are typical of those found in power plant applications and meet all of the applicable equipment class screening criteria.

Instrument racks at DAEC are typically framed of structural steel angles with diagonal bracing behind each main vertical member. Most racks are comprised of two or three sections bolted together. Each section is about 30" wide and about 6′ tall. All racks meet all of the applicable equipment class screening criteria, and were judged adequate.

The four temperature sensors on the DAEC SSEL (two in the Drywell and two in the Torus Room) meet all of the applicable GIP class caveats.

Instrumentation and control (I&C) panels and cabinets at DAEC include small wall-mounted Johnson Control panels in several plant locations, small (about 2′x 3′x 6′) floor-mounted vendor-supplied cabinets, large (90" tall) main control room benchboards and vertical boards, and a few large vertical control panels in other plant locations, e.g., the diesel generator control boards. There are also a few small floor-mounted field-fabricated panels, e.g., the ones adjacent to the 4160V essential switchgear. These cabinets meet all applicable equipment class caveats, except for a few that house essential relays that may be subject to impact. These were documented as outliers and are discussed in Section 8 of this report.

Equipment Anchorage

Most equipment items on the DAEC SSEL are well anchored, in accordance with Bechtel standard drawings for the plant. In general, all of the inspection requirements, as well as strength screening criteria for anchorages, are met for these standard details. Anchorage types used at DAEC are predominantly Phillips Redhead expansion anchors and cast-in-place headed studs, embedded plates, and J-bolts. Outlier identification was generally limited to cases where nonstandard details were used, as discussed in Section 8 of this report.

To verify the adequacy of equipment anchorage, both field inspections and analytical calculations were performed. Field inspections included anchor tightness checks, in accordance with GIP Section II.4.4.1 and Appendix C, of concrete expansion anchors. Bounding calculations were performed to verify equipment anchorage adequacy for worst-case loadings or similar equipment. Ultrasonic test (UT) measurements were performed to verify embedment length of some anchors. In one case, UT measurements were performed for all anchors on one electrical panel because its atypical non-shell type expansion anchors were observed to have long stud projections. Also, a sampling of UT measurements were performed to verify embedment of shell anchors into the floor slab below grout pads, to confirm details as shown on design drawings. In all cases, the UT measurements gave confirmatory results.

Floor-mounted transformers, low and medium voltage switchgear, and some motor control centers are welded to channels embedded in the floor concrete. Both the

adequacy of the attachment welds and the embedded channels were confirmed by calculations.

Pumps on the DAEC SSEL are anchored with cast-in-place bolts or J-bolts. The J-bolts do not meet the GIP screening requirements for minimum embedment and were identified as outliers, then resolved, as discussed in Section 8.

The remaining classes of floor-mounted equipment and most MCCs are anchored with Phillips Redhead concrete expansion anchors. Except for the few instances of nonstandard installation details, which were identified as outliers and are discussed in Section 8, anchorages using expansion anchors were adequate for seismic loadings.

Wall-mounted distribution panels, small transformers, and small I&C cabinets are typically anchored to concrete walls with expansion anchors (sometimes via Unistrut channels), and to block walls with through-bolts. The anchors for all of the wall-mounted panels meet all applicable screening criteria and were judged to be adequate.

Seismic Interaction

During the equipment screening evaluations, considerable attention was given to evaluation for potential seismic interaction concerns, per GIP Section II.4.5 and Appendix D. In general, it was found that even nonsafety items at DAEC are well constructed and that adjacent items are adequately spaced to preclude impacts. Also, it was found that care is taken at joints between different buildings to allow sufficient slack for differential building motion.

Some seismic interaction concerns for specific equipment items were identified. These are discussed in Section 8 of this report.

INSTANCES OF INTENT BUT NOT LETTER OF CAVEAT MET

In accordance with References 1 and 2, equipment that do not meet the specific wording of Bounding Spectrum or GERS caveats are either (1) documented as outliers, or (2) documented as meeting the intent (although not the specific wording) of the caveat(s). In the later case, the basis for the SRT's conclusion that the caveat intent is met is documented in the comment section of the SEWS form. These cases are identified in Table 5-4.

Table 5-1

DAEC Seismic Adequacy Review Program
Equipment Walkdown Summary

Appendix E Tab No.	Location	Number of Items Walked Down (Note 1)	Number of Outliers
1	Reactor Building 757' and TIP Room	107	15
2	Reactor Building 786'	35	5
3	Reactor Building 812'	33	4
4	RCIC Room	13	0
5	HPCI Room	16	2
6	NE Corner Room	14	0
7	NW Corner Room	[illegible]	0
8	SE Corner Room	18	1
9	CRD Pump Room	2	0
10	Steam Tunnel	15	5
11	Torus Room	65	0
12	Drywell	35	5
13	Pump House	40	7
14	Intake Structure	26	9
15	Control Building 757' (Switchgear & Battery Rooms)	42	11
16	Control Building 786' (Main Control Room)	28	16
17	Control Building 800'	55	8
18	Turbine Building (and Protected Yard)	57	16
TOTALS		620	104

Notes:

1. Includes some equipment from the DAEC Seismic IPEEE and Reg. Guide 1.97 Programs. Of the 620 total items walked down, 450 are A-46 items.

Table 5-2

Response Spectrum Exceedances for Building Elevations
Containing SSEL Equipment

Structure	Elevation	Frequency Range Where IRS Exceeds ABS
Control Building	786′	below 4Hz
	800′	below 4Hz
Intake Structure	754′	10Hz - 20Hz
	767′	8Hz - 25Hz
Pump House	727′ & 747′	below 4Hz
	761′ & 772′	below 5Hz
Turbine Building	757′	3Hz - 9Hz

Table 5-3

Effective Grade for DAEC Structures

Structure	"Effective Grade" (Elev., Ft.)
Reactor Building	751.6′
Control Building	757.5′
Pump House	757.5′
Intake Structure	739.8′
Turbine Building	753.4′

Table 5-4

Intent but Not Letter of Caveat Summary

SSEL #	Equipment ID	Location (Note 1)	Letter of Caveat Not Met	Reason Intent of Caveat is Met
1005	CV1850	RB1	Nominal line size <1"ϕ required by GIP.	Valve has additional support to keep seismic stress in line small.
5169	1S218AEXPL	RB1	Actuator and yoke are braced independently of pipe.	Valve is well supported on rigid stand and TIP guide tube is flexible and would not cause excessive differential motion loads on valves.
5170	1S218BEXPL	RB1	Actuator and yoke are braced independently of pipe.	Valve is well supported on rigid stand and TIP guide tube is flexible and would not cause excessive differential motion loads on valves.
5171	1S218CEXPL	RB1	Actuator and yoke are braced independently of pipe.	Valve is well supported on rigid stand and TIP guide tube is flexible and would not cause excessive differential motion loads on valves.
5179	CV4371A	RB1	Actuator and yoke are braced independently of pipe.	Actuator is anchored to shield wall, which is integral with floor that supports pipe, so differential motion is not expected.
8690	1C219A	RB1	Cabinet door is open during unit operation.	Cabinet judged structurally adequate because top entry conduit help transfer lateral load to adjacent panel, and seismic loads are small. Door banging is not a concern because there are no essential relays in cabinet.
8691	1C219B	RB1	Cabinet door is open during unit operation.	Cabinet judged structurally adequate because top entry conduit help transfer lateral load to adjacent panel, and seismic loads are small. Door banging is not a concern because there are no essential relays in cabinet.
9464	1S218ABALL	RB1	Actuator and yoke are braced independently of pipe.	Valve is well supported on rigid stand and TIP guide tube is flexible and would not cause excessive differential motion loads on valves.
9465	1S218BBALL	RB1	Actuator and yoke are braced independently of pipe.	Valve is well supported on rigid stand and TIP guide tube is flexible and would not cause excessive differential motion loads on valves.

Table 5-4

Intent but Not Letter of Caveat Summary

SSEL #	Equipment ID	Location (Note 1)	Letter of Caveat Not Met	Reason Intent of Caveat is Met
9466	1S218CBALL	RB1	Actuator and yoke are braced independently of pipe.	Valve is well supported on rigid stand and TIP guide tube is flexible and would not cause excessive differential motion loads on valves.
3145	CV4640	RB2	Nominal line size <1"ϕ required by GIP.	Valve has additional support to keep seismic stresses in line small.
6010	1B34A	RB2	Adjacent cabinet 1B37, which contains essential relays, is not bolted to this cabinet.	Junction box bolted to tops of adjacent cabinets provides adequate load path and restraint to preclude impacting.
6013	1B37	RB2	Adjacent cabinet 1B34A is not bolted to this cabinet.	Junction box bolted to tops of adjacent cabinets provides adequate load path and restraint to preclude impacting.
6013	1B37	RB2	Two 4" x 4½" cutouts in side panels exceed 6" GIP width limit.	Shown by calculation to be acceptable as-is.
9357	ZS4310	RB3	Position switch is mounted on valve whose actuator and yoke are braced independently of pipe.	Pipe near valve and actuator are both braced to same location on 18"ϕ pipe located a few feet away, so differential motion is not expected.
9220	MO2510	RCIC	Actuator and yoke are braced independently of pipe.	Actuator and pipe are both anchored to the same wall and relative motion is judged to be negligible.
9223	MO2517	RCIC	Distance from pipe ℄ to top of operator exceeds GIP limits.	Valve has adequate capacity under 3g horizontal and vertical loads.
4009	MO2030	SECR	Distance from pipe ℄ to top of operator exceeds GIP limits.	Valve has adequate capacity under 3g horizontal and vertical loads.
9231	MO8401A	ST	Valve operator weight exceeds GIP limits.	Moment due to operator height and weight is within GIP limit.
9232	MO8401B	ST	Valve operator weight exceeds GIP limits.	Moment due to operator height and weight is within GIP limit.
9233	MO8401C	ST	Valve operator weight exceeds GIP limits.	Moment due to operator height and weight is within GIP limit.

Table 5-4

Intent but Not Letter of Caveat Summary

SSEL #	Equipment ID	Location (Note 1)	Letter of Caveat Not Met	Reason Intent of Caveat is Met
9234	MO8401D	ST	Valve operator weight exceeds GIP limits.	Moment due to operator height and weight is within GIP limit.
1016	CV1867A	TOR	Distance from pipe ℄ to top of operator exceeds GIP limits.	Distance exceeds GIP limits by <10% and operator c.g. is much lower than top of operator.
3110	MO2104	TOR	Valve actuator and yoke are braced independently of pipe.	Actuator and pipe are both anchored to the same wall and relative motion is judged to be negligible.
3120	MO2124	TOR	Valve actuator and yoke are braced independently of pipe.	Calculated stress due to independent bracing is acceptable.
9196	MO2038	TOR	Distance from pipe ℄ to top of operator exceeds GIP limits.	A similar valve has adequate capacity under 3g horizontal and vertical loads.
9212	MO2290A	TOR	Distance from pipe ℄ to top of operator exceeds GIP limits.	A similar valve has adequate capacity under 3g horizontal and vertical loads.
9213	MO2290B	TOR	Distance from pipe ℄ to top of operator exceeds GIP limits.	A similar valve has adequate capacity under 3g horizontal and vertical loads.
3101	MO2700	DW	Distance from pipe ℄ to top of operator exceeds GIP limits.	Valve moment due to operator height times valve weight is about the same as the GIP moment (and valve was qualified 3g for load by vendor)..
3144	CV4639	DW	Nominal line size <1"ϕ required by GIP.	Valve height and weight are much less than allowed for 1" line, and line ϕ at valve outlet is 1.065 in.
3158	MO2400	DW	Distance from pipe ℄ to top of operator exceeds GIP limits.	Valve moment due to operator height times valve weight is about the same as the GIP moment.
3161	MO2238	DW	Actuator and yoke are braced independently of pipe.	"Brace" on actuator is dead weight spring hanger which allows motion during seismic loading.
9175	MO1908	DW	Distance from pipe ℄ to top of operator exceeds GIP limits.	Valve moment due to operator height times weight is about the same as the GIP moment.

Table 5-4

Intent but Not Letter of Caveat Summary

SSEL #	Equipment ID	Location (Note 1)	Letter of Caveat Not Met	Reason Intent of Caveat is Met
6012	1B36	PH	Two 4" x 4½" cutouts in side panels exceed 6" GIP width limit.	Shown by calculation to be acceptable as-is.
6061	1B46	PH	Two 4" x 4½" cutouts in side panels exceed 6" GIP width limit.	Shown by calculation to be acceptable as-is.
6003	1B09	IS	Single section width is less than GIP minimum.	Dimension is within 10% of GIP requirement, and both sections are bolted together.
6004	1B91	IS	MCC anchorage does not use base channels (GERS Caveat).	Base load path is of heavy gage steel angle, doubled at corners, with a through-bolt. Anchorage is welded directly to embedded channels and is calculated to be adequate.
6052	1B20	IS	Single section width is less than GIP minimum.	Dimension is within 10% of GIP requirement, and both sections are bolted together.
6053	1B21	IS	Two 4" x 4½" cutouts in side panels exceed 6" GIP width limit.	Shown by calculation to be acceptable as-is.
6053	1B21	IS	MCC anchorage does not use base channels (GERS Caveat).	Base load path is of heavy gage steel angle, doubled at corners, with a through-bolt. Anchorage is welded directly to embedded channels and is calculated to be adequate.
6001	1A3	CB1	Overall enclosure height exceeds GIP maximum, and vertically-racked breaker lateral restraint is provided solely by the jack lifts.	Height exceedance is less than 10% and other dimensions and weight are within class limits. Original qualification report evaluates jack screw stress under lateral seismic load and field inspection found that stop mechanisms limit side-to-side motion to 1/16" to 3/16", providing additional margin.
6050	1A4	CB1	Overall enclosure height exceeds GIP maximum, and vertically-racked breaker lateral restraint is provided solely by the jack lifts.	Height exceedance is less than 10% and other dimensions and weight are within class limits. Original qualification report evaluates jack screw stress under lateral seismic load and field inspection found that stop mechanisms limit side-to-side motion to 1/16" to 3/16", providing additional margin.

Table 5-4

Intent but Not Letter of Caveat Summary

SSEL #	Equipment ID	Location (Note 1)	Letter of Caveat Not Met	Reason Intent of Caveat is Met
6006	1B03	CB1	Section widths are less than GIP dimensions, and enclosure depth is deeper than GIP dimensions.	Dimensional deviations are less than 10%.
6055	1B04	CB1	Section widths are less than GIP dimensions, and enclosure depth is deeper than GIP dimensions.	Dimensional deviations are less than 10%.
6305	1Y021	CB1	Panel door not latched.	Potential rattling of top-hinged inner panel door would not affect nonessential relays in panel.
6310	1Y11	CB1	Panel door not latched.	Potential rattling of top-hinged inner panel door would not affect nonessential relays in panel.
6357	1Y032	CB1	Wall-mounted transformer coil not anchored to enclosure near enclosure support surface.	Transformer coil anchor point to bottom of enclosure is close enough to wall to be acceptable.
6400	1Y023	CB1	Panel door not latched.	Potential rattling of top-hinged inner panel door would not affect nonessential relays in panel.
8696	1C142	CB1	Cabinet contains strip chart recorder.	Recorders are mounted near cabinet frame members and pose no threat to SSEL equipment in cabinet.
8605	1C003	CB2	Cabinet contains strip chart recorder.	Mounting is stiff and essential relays are outside the zone of influence.
8611	1C005	CB2	Cabinet contains strip chart recorder.	Mounting is stiff so recorders pose no threat to equipment in cabinet.
8693	1C027	CB2	Cabinet contains a computer.	Computer is secured in lowest elevation of cabinet, and poses no threat to SSEL equipment in cabinet. The digital component in this cabinet is part of rod worth minimizer system, which is not a safety-related function, and is not covered by A-46.
8664	1C031	CB2	Some anchor bolts have edge distance <GIP minimum.	Calculated shear and pullout loads are very small.
8003	CV2080	TB	Actuator and yoke braced independently of pipe.	Tubing tray mounted on valve and on adjacent wall. Valve acts as support for tray and is not supported by tray.

Table 5-4

Intent but Not Letter of Caveat Summary

SSEL #	Equipment ID	Location (Note 1)	Letter of Caveat Not Met	Reason Intent of Caveat is Met
8004	CV2081	TB	Actuator and yoke braced independently of pipe.	Tubing tray mounted on valve and on adjacent wall. Valve acts as support for tray and is not supported by tray.

Notes:

1. Codes for equipment location are as follows:

RB1 = Reactor Building 757' and TIP Room
RB2 = Reactor Building 786'
RCIC = RCIC Room (RB below 757')
NWCR = NW Corner Room (RB below 757')
SECR = SE Corner Room (RB below 757')
ST = Steam Tunnel (RB 757')
TOR = Torus Room (RB below 757')
DW = Drywell
PH = Pump House
IS = Intake Structure
CB1 = Control Building 757' (Switchgear & Battery Rooms)
CB2 = Control Building 786' (Main Control Room)
TB = Turbine Building (and Protected Yard)

Section 6

TANK AND HEAT EXCHANGER REVIEW

SUMMARY OF REVIEW

The tanks and heat exchangers on the DAEC SSEL were evaluated in accordance with Section II.7 of the GIP [Reference 1]. The DAEC SSEL includes 30 tanks and 6 heat exchangers. The majority of the tanks are air receivers or accumulators, and nitrogen accumulators. The DAEC SSEL does not contain any flat-bottom vertical tanks. Twelve tanks are small (about 6′ long, 2′ diameter) tanks that serve as accumulators for the Safety Relief Valves (SRVs) and Main Steam Isolation Valves (MSIVs) located in the Drywell and Reactor Building 757′. The MSIV accumulators located in the Reactor Building are oriented vertically, and are each mounted on 3 angle-section legs which are anchored to the floor by expansion anchors. The SRV and MSIV accumulators in the Drywell are oriented either horizontally or vertically, and are supported by short legs that are welded or bolted to platform steel. The remaining air tanks include six vertical tanks on legs in the diesel generator rooms (in the Turbine Building), two in the NE Corner Room, and two on Reactor Building 786′. All of these tanks meet all of the applicable strength, load path, and anchorage screening criteria. The only outlier associated with these gas-filled tanks is a seismic interaction concern for the MSIV accumulators on Reactor Building 757′ that is discussed in Section 8 of this report.

The seven liquid-filled tanks on the DAEC SSEL are all associated with the standby diesel generators (SBDGs). These include two horizontal water tanks mounted on the SBDG skids, two vertical lube oil tanks supported on cylindrical skirts, two 1000 gallon diesel oil day tanks mounted horizontally on saddles, and a 40,000 gallon diesel oil storage tank buried in the protected yard outside the Turbine Building. All of these tanks were shown to be seismically adequate except for the lube oil storage tanks, which had outliers associated with their anchorages, and the 40,000 gallon buried tank, which was an outlier because the GIP does not address buried tanks. Both of these outliers are discussed in Section 8 of this report.

The 89 hydraulic control unit (HCU) accumulators for the control rod drive (CRD) system (counted as a single equipment item on the DAEC SSEL) are small tanks located on Reactor Building 757′. These accumulators meet all applicable screening criteria and were judged to be adequate.

The 6 heat exchangers on the DAEC SSEL include two SBDG jacket water horizontal heat exchangers mounted on the SBDG skid, two large vertical residual heat removal (RHR) heat exchangers supported near their tops and midpoints by platform steel in the NW and SE Corner Rooms, and two horizontal heat exchangers for the control room

HVAC system located on Reactor Building 812'. The two SBDG jacket water heat exchangers and two RHR heat exchangers meet all of the applicable screening criteria. The control room HVAC heat exchangers meet all of the screening criteria except for the supporting steel frame platform that was missing a diagonal brace member. This frame was determined to be an outlier, as discussed in Section 8 of this report.

INSTANCES OF INTENT BUT NOT LETTER OF CAVEAT MET

There are no instances in which a DAEC tank was judged to met the intent, but not the letter, of a caveat.

Section 7

CABLE AND CONDUIT RACEWAY REVIEW

SUMMARY OF RACEWAY REVIEW

The reviews of cable tray and conduit systems at DAEC were performed per the guidelines of Section II.8 of the Generic Implementation Procedure (GIP) [Reference 1].

All raceways which support electrical wires for SSEL equipment were reviewed. These reviews were conducted on an area-by-area basis, and include areas that could contain divisional (Class 1E) cables. The plant areas were chosen to coincide with logical breaks in the building geometry, such as enclosed rooms, corridors, etc. Walkdown evaluations covered a total of 34 designated areas within the Reactor Building, Control Building, Turbine Building, Intake Structure, and the Pump House.

The raceway walkdowns were performed in February 1994, November 1994, and March 1995 by a team of at least two SCEs, with one PE. In general, almost all raceways and raceway support systems evaluated are of rugged construction and meet all applicable caveats and inclusion rules.

Cable trays at DAEC are either ladder-type or solid bottom-type trays from B-line Systems, Inc., with 4" siderails. The most common tray width is 24"; however, 18", 30", and 36" trays are also used. Tray spans are mostly about 10 feet and are typically tied down to their supports by either small machine bolts or a combination of machine bolts and 1/4" thick hold-down plates. Multiple tiers of trays are common at DAEC, and tray fills typically range from 30% to 50% full.

Electrical conduit at DAEC are either of the rigid steel or Electrical Metallic Tubing (EMT) types, with diameters varying from 1/2" to 6" for rigid conduit and 1/2" to 2" for EMT. Conduit are commonly tied to their supports by use of Unistrut pipe/conduit clamps.

The conduit and cable tray systems at DAEC are supported by trapeze-type and cantilever-type hangers. The structural steel grade used in construction of these hangers is A-36 except for cold-formed components. The cold-formed components are from the Unistrut Division of GTE Products Corporation and consist of various strut members and fittings.

Almost all cable tray supports are laterally braced except for wall cantilever brackets and ceiling-mounted cantilever supports made of Schedule 40 pipe. Some cable tray supports in the Cable Spreading Room and the Control Room are also braced in the longitudinal

direction. Rod hanger supports are not typical at DAEC for raceways and when used are to provide support for conduit runs.

Raceway supports are anchored to concrete walls or ceilings by use of Redhead expansion anchors. In areas where the ceiling is of Q-Deck type, two types of anchoring systems are used. One type is also by Redhead expansion anchors to shallow Q-Decks and the other type is by threaded rods either welded to an embedded plate in the Q-Deck or connected to a Unistrut P3200 concrete insert (placed in the Q-Deck concrete).

Other types of anchoring systems use Unistrut fittings that connect the support member(s) to the underside of the structural wide-flange beams or, in rare instances, by welding.

EVALUATION OF BOUNDING SAMPLES

As part of the in-plant review, worst-case bounding samples of raceway supports were selected for further analytical reviews. Bounding samples were selected to encompass the diversity of the plant's existing raceway support systems.

In addition to evaluation of a typical cable tray support inside the Reactor Building, a total of 15 worst-case bounding samples were selected during the in-plant reviews of the raceway support systems at DAEC. The results of the limited analytical reviews of the raceway supports demonstrate the seismic adequacy of raceway support systems at DAEC.

A realistic allowable load for a Unistrut fitting, used in two of the conduit support bounding cases, was calculated based on test results. This allowable is based on the average of the ultimate pullout loads from three separate test specimens divided by a factor of safety of 2.5. In one of the bounding cases, the demand pullout load calculated for 3.0 x Dead Load exceeds the calculated pullout allowable. However, since the effective factor of safety was shown to be 2.28, it was judged that the fittings are acceptable and meet the intent of the GIP factor of safety and capacity guidelines.

SUMMARY OF OUTLIERS

A total of 11 outliers were identified during the detailed in-plant review of cable trays/conduit and supports of DAEC. These outliers are listed in Table 7-1. One outlier is for two 2" ϕ vertical conduits with spans well over the 16′ maximum recommended by the GIP [Reference 1]. These 23′ conduit spans were conservatively assumed to have a threaded coupling at their midspan, and the resulting stresses at these locations due to seismic loads were shown to be well under the allowable bending stress for rigid conduit. Another outlier documents a broken beam clamp conduit support which resulted in an unsupported cantilevered conduit span. This conduit (#2H255A) serves a solenoid valve (#SV4401) which is on the SSEL and, therefore, modification of this support was recommended.

A generic outlier (#R6-1) was written for the raceway supports that are anchored to the block walls. Since the GIP does not provide expansion anchor allowables for anchors installed in block walls, this outlier was resolved by making a conservative estimate for capacity of these anchors and showing that it exceeds the demand. The capacity estimate was based on a reduction factor on the allowables from the GIP to account for the reduced concrete strength for the grout filled blocks (f'_c = 2000 psi). One block wall between the Essential Switchgear Rooms was observed to have isolated hollow cores. The cable trays attached to this wall were all thru-bolted and judged adequate. The allowable anchor bolt loads attaching conduit supports to this wall were taken as only 10% of the recommended anchor allowables in the GIP, and the conduit supports' anchorage were shown to be adequate.

The remaining eight outliers documented cases of cable tray unsupported spans exceeding the evaluation criteria of 10′ or less. In one case a 24" tray with a 16.5′ span and about one-third full was clearly sagging. The missing support in this span was reinstalled as recommended by the SRT. Another outlier identified a 30" tray with a 19′ span which was less than 10% full. This span was shown to be adequate by calculation (factor of safety of 7.7). However, a support was installed within this span as recommended by the SRT. Six other outliers documented various tray overspans of up to 13′. All these outliers were similarly resolved by demonstrating that a minimum factor of safety of 4.23 exists.

Table 7-1

Raceway Outlier Description and Resolution Summary

Outlier No.	Location	Description	Resolution
R4-1	Drywell	Broken beam clamp on a conduit support results in unsupported cantilevered conduit which may damage cable terminals due to excessive movements.	Resolved by installing conduit clamp.
R5-1	CB/Cable Spread Rm	24" tray spans exceed the GIP maximum recommended span of 10'. (Max. span = 12')	Observed condition shown to be adequate by calculation.
R6-1	RB 812'	Raceway expansion anchors are installed in block walls (solid and hollow).	Observed condition shown to be adequate by calculation.
R7-1	RB 812'	24" tray span is sagging and exceeds the GIP maximum recommended span of 10'. (Tray span = 16.5')	Resolved by reinstalling missing support within the tray span.
R9-1	RB 812'	24" tray spans exceed the GIP maximum recommended span of 10'. (Max. span = 13')	Observed condition shown to be adequate by calculation.
R11-1	RB 786'	24" tray spans exceed the GIP maximum recommended span of 10'. (Max. span = 13')	Observed condition shown to be adequate by calculation.
R11-2	RB 786'	30" tray span exceeds the GIP maximum recommended span of 10'. (Tray span = 19')	Resolved by reinstalling missing support within the tray span.
R13-1	RB 757'	24" tray spans exceed the GIP maximum recommended span of 10'. (Max. span = 13')	Observed condition shown to be adequate by calculation.
R14-1	RB 757'	Vertical span of 2" ϕ conduit exceeds the GIP maximum recommended span of 16'. (Conduit span = 23')	Observed condition shown to be adequate by calculation.
R18-1	RCIC Rm	24" tray spans exceed the GIP maximum recommended span of 10'. (Max. span = 12')	Observed condition shown to be adequate by calculation.
R28-1	CB 757'	24" tray spans exceed the GIP maximum recommended span of 10'. (Max. span = 12')	Observed condition shown to be adequate by calculation.

Section 8

EQUIPMENT OUTLIERS

SUMMARY OF OUTLIERS

A total of 104 outliers were written for DAEC SSEL equipment items. Outliers for the Raceway Evaluations are discussed in Section 7.

Short descriptions of each equipment outlier and its resolution are provided in Table 8-1. The outliers are sorted by the following outlier types: "C" for equipment class caveats, "A" for anchorage, and "I" for seismic interactions. Roughly 30% of the outliers are for equipment class caveats, 30% are anchorage outliers, and about 40% are seismic interaction outliers.

Equipment Class Caveat Outliers

There are three types of SSEL equipment, comprising 12 outliers, that are not included in the earthquake experience database, or are not addressed by the GIP [Reference 1]. The first case is the 4 inboard and 4 outboard main steam isolation valves (MSIVs) (CV4412, 13, 15, 16, 18, 19, 20, 21), which are much larger than the size requirements of the GIP screening rules. These valves had been seismically qualified by their vendor, and were found acceptable as-is by the SRT. The second case is that of the 3 "explosive" valves for the traversing in-core probe (TIP) system (1S218A, B, C). These valves are small, rigidly-mounted to stiff pedestals/tables, and were judged inherently rugged and acceptable as-is by the SRT. The last case is that of the 40,000 gallon diesel oil storage tank (1T035) buried in the protected yard outside the turbine building. Although not addressed by the GIP, the SRT judged that the tank is acceptable as-is because it is well constructed (to ASME B&PV Code Section VIII) and attached piping has adequate flexibility for differential motion.

There were 6 outliers written for equipment mounted on vibration isolators. Two control panels (1C091, 92) mounted on the SBDG skids via vibration isolators were identified as relay chatter concerns. (The isolators were determined to have adequate strength, but impact may be transmitted to the panel.) The relay evaluation, however, concluded that these panels did not contain essential relays, and therefore these outliers were resolved as-is. The remaining 4 isolator outliers were written for the two control room HVAC air handlers (1VAC030A, B) in the Control Building 800′ mechanical room. Two outliers, one for each unit, questioned the adequacy of the isolators to adequately support the units for seismic loadings. The isolators, which are large, spring-type with lateral stops, were shown by calculation to be acceptable for seismic loads. The other two outliers addressed a concern that some small-bore attached piping that is rigidly supported within about 2′ of the unit could be damaged by spring movement through the isolator clearances. These outliers were resolved by modifying the isolators to limit the amount of spring travel to 1/8" or less.

Three additional cases of caveat violations, which comprise 6 outliers, involve equipment design features. The 4 river water pumps in the Intake Structure (1P117A, B, C, and D) have shaft/casing cantilevered lengths that exceed the GIP maximum allowable of 20'. These pumps were accepted as-is by using existing design documentation. Motor control center (MCC) 1B91 in the Intake Structure has cutouts in two side panels that exceeded the GIP allowable dimensions. The MCC shear walls were shown by analysis to have adequate capacity with these cutouts, and the outlier was resolved as-is. Main Control Room panel 1C024 had an internal device (box) mounted on slides that could impact other instruments in the cabinet. This outlier was resolved by restraining the devices with screws.

The remaining 8 caveat outliers were cases of missing or loose mounting screws, missing or broken panel door latches, and detached small conduit from junction boxes. These outliers were resolved by maintenance actions.

Anchorage Outliers

Eight outliers were written for pumps whose anchorages do not meet GIP minimum embedment lengths or edge distances. The two emergency service water pumps (1P099A, B) have anchor edge distance violations, but were shown to be adequate as-is by analysis. The Control Building HVAC chilled water pumps 1VCP030A and B, and RHR service water pumps 1P022A through D have J-bolt anchors that do not meet GIP minimum embedment. These pumps were all shown to have adequate anchorage by analysis. The outliers for pumps 1P117A through D, discussed above for their caveat outliers, also include J-bolt embedment violations. These outliers were also resolved by analysis.

Two outliers were written for cabinets that were not anchored in accordance with standard DAEC installation practices, and were judged to be inadequate for seismic loadings as follows. Main control room panel 1C014 was anchored with bolts through 2" square tabs that were not welded to base channel lower flanges, i.e., attachments were friction clamps. Additionally, the base channels were shimmed with uncaptured washers. This outlier was resolved by providing new anchor bolts. The anchorage for SBDG control panel 1C094 was inadequate because uncaptured shims were used to level the cabinet, and bolt holes were oversized (flamecut and without washers). Also, the GIP requirement that cabinets containing essential relays not have a gap under the base was not met. This outlier was resolved by placing concrete grout under the cabinet base, which was shown by analysis to resolve all anchorage issues.

Three MCCs also had anchorages that were not in accordance with standard DAEC installation practices, and were judged to be inadequate for seismic loadings. MCCs 1B46 in the Pump House and 1B37 on Reactor Building 786' both had connections between the bottom of the breaker compartments and the sill channels that were judged to be inadequate by the SRTs: 1B46 had 2 out of 4 attachment welds burned through, and 1B37 was missing connecting bolts in one section. 1B37 also had uncaptured shims under the sill channels and used bolts through unwelded tabs (friction clamps) instead of bolts through welded tabs. The outlier for 1B46 was resolved by adding external plates that connect the cabinet and channel sills. The anchorage for 1B37 was shown to be adequate as-is by analysis. The third MCC identified as an anchorage outler was 1B44, located on Reactor Building 757'. Bolts through

unwelded tab plates (friction clamps) were used to attach base channels to the floor. Further evaluation and analysis of 1B44 determined that its anchorage is adequate as-is.

The remaining MCC anchorage outlier was written for 1D41 which contained essential relays, but had a gap under one end of its front base channel. This outlier was resolved by shimming the MCC's base.

Another equipment-to-floor anchorage outlier was written for the SBDG lube oil storage tanks 1T114A and B. These skirt-supported vertical tanks each have four hold-down feet with anchors bolted through the Turbine Building 757' floor, according to the design drawings. These anchor bolts, however, had been grouted over (per the drawings), and only one of four on one tank and none on the other tank could be visually confirmed. The SRT also found that due to an interference with the TB outside wall below the tanks, the through-bolts had not been installed per the drawing. To confirm that the tank was adequate for seismic loadings, original quality control documentation was researched, the visible anchor bolt and one of the grouted-over bolts on the other tank were ultrasonically tested, and an analysis was performed to show that the field modification of grouted-in-place headed bolts provides adequate capacity for seismic loadings.

The three battery room fans (1VEF030A, B, C) located on Control Building 800', were anchorage outliers because although the fan motors are anchored, the fans were not anchored to the floor. The concern about possible misalignment and binding of the fan shaft during a seismic event was resolved by adding lateral support to the fan.

Instrument air compressors 1K003 and 4 each have control panels mounted on vertical plates attached to the skids. Outliers were written for the control panel attachments because there were no nuts on the bolts through the vertical plates. Further investigation and calculation showed that there is sufficient thread engagement into the tapped plates to carry seismic loadings.

The attachments of the three TIP ball valves (1S218A, B, C) to their pedestal/tables were written as outliers because the nuts on the mounting screws (4 per valve) were loose. These outliers were resolved by tightening the mounting screw nuts.

The HPCI room air handlers 1VAC014A and B are bolted to platform grating. The SRT questioned the adequacy of the load path from the grating to the platform steel, but showed by analysis that the load path is adequate as-is.

Control room HVAC heat exchanger 1VHX031B is supported about 8' above the floor on a structural steel frame. An angle section used as a diagonal brace was missing from one side of the frame. This lowered the natural frequency of the frame and resulted in higher response spectrum accelerations than the as-designed frame would have had. These higher accelerations resulted in seismic loadings on the frame's anchor bolts that exceeded the GIP allowables. This outlier was resolved by replacing the missing frame brace.

Transformers 1X31 and 1X41 in the essential switchgear rooms (Control Building 757') are designated as outliers because of marginal strength load paths from the coils to transformer base plates. The load paths will be strengthened by adding thick shim plates to the load path.

Seismic Interaction Outliers

Fourteen outliers were written for equipment located under improperly supported light fixtures, e.g., pendant chains connected with open S-hooks, or fixtures containing fluorescent light tubes that could fall onto equipment soft targets. These outliers were resolved by maintenance actions, and by adding devices to fixtures to secure fluorescent tubes.

Ten cabinets and other electrical enclosures had adjacent cabinets that were not bolted together, only partially bolted together, or were missing bolts between sections. These cases were written as outliers due to the concern that impact between unbolted cabinets or sections could potentially cause chatter of essential relays. Outliers written for 1A4, 1C013, 1C027, 1C003, 1C008, 1C043, and 1C044 were resolved by bolting adjacent cabinets together. The outlier for MCC 1B42 was resolved by restoring the missing bolt between sections.

Two low voltage switchgears, 1B04 on Control Building 757' and 1B20 in the Intake Structure, each had a breaker lifting assembly on top of the cabinet that was free to roll back and forth on its track. Outliers were written due to the concern that movement of these assemblies, particularly when they hit the stops at the ends of their tracks, could cause chatter of essential relays. These outliers were resolved by securing the rolling part of each assembly.

Other relay chatter concern outliers included a wall-mounted junction box in contact with MCC 1D14, and a copper air line located in the gap between cabinet 1C422B and the wall. The 1D14 outlier was resolved by moving the junction box, and the 1C422B outlier was shown to be adequate as-is by analysis.

Two interaction outliers were related to equipment in contact with structural or support members. The actuator for valve CV1804A is in contact with an actuator support member. Calculations showed the valve/actuator assembly is rigid and interaction will not be significant. The actuator for damper DO6127B was in contact with a rod hanger support for the duct. Because the support and duct were not attached, the support could impact the actuator and interfere with its operation. This outlier was resolved by attaching the duct to its support.

Three outliers were identified for wall-mounted light boxes or controllers whose anchorages consisted of screws through slotted equipment backs, and whose locations are in proximity to SSEL equipment (1B91, 1C151, 1C094). The anchorages for the wall-mounted boxes near 1B91 and 1C094 were shown to be adequate as-is by analysis. The outlier for 1C151 was resolved due to the fact that loss of air (resulting from the light box hitting the air line into the panel) would be acceptable.

Other, larger, overhead potential interactions included a loose (unattached) steel beam (probably used at one time for lifting) in the ceiling of the RHR Valve Room (RB 757') that

threatened valve MO2004, steel members (also probably for lifting) hung above MSIV CV4419 in the Steam Tunnel, and a conduit supported by incorrectly oriented friction clamps, located above heat exchanger 1VHX031B. These outliers were resolved by removing or securing the potential interaction source.

All block walls that could potentially impact SSEL equipment were checked to confirm that they had been seismically qualified under DAEC's 80-11 Program. One block wall in the Southeast Corner Room had not been seismically qualified during the 80-11 Program. To resolve this outlier, the block wall was analyzed and shown to be adequate for seismic loadings as-is.

The last overhead interaction outlier was written for control room panel 1C008, but really applied to all panels in the front part of the control room: the questionable seismic adequacy of the control room ceiling. To address this concern, an inspection and evaluation were performed for the control room ceiling, separate from the walkdown of the panels. This evaluation concluded that the ceiling may not have adequate restraint of the membranes nor adequate strength in the connections to carry the SSE lateral loadings. This outlier was resolved by modifying selected elements of the control room ceiling.

Seven outliers were written for unanchored bookcases, storage cabinets, an electrical panel, equipment carts, etc., that could fall, slide or roll into SSEL equipment. These outliers were resolved by securing or removing the potential interaction item.

PLAN AND SCHEDULE FOR ADDRESSING REMAINING UNRESOLVED OUTLIERS

The outliers for transformers 1X031 and 1X041 can not be resolved while DAEC is on line. Only one transformer is available during each refueling outage. Resolution of both outliers, therefore, is scheduled to be completed by the end of RFO15.

Table 8-1

Equipment Outlier Description and Resolution Summary

Type (Note 1)	Outlier	Equipment ID	Location (Note 2)	Outlier Description	Outlier Resolution
C	6102	1D10	CB1	Missing lower door latch in upper compartment of distribution panel.	Resolved by re-installing latch.
C	8682	1C024	CB2	Internal devices on slides not restrained.	Resolved by restraining devices
C	8621	1C026	CB2	Missing bolt on alarm switch for annunciator.	Resolved by installing bracket.
C	8651	1C033	CB2	Top lockbar on cabinet door is missing. Door rattle might trip essential relays.	Resolved by re-installing lockbar
C	8401-1	1VAC030A	CB3	HVAC unit is on vibration isolators.	Adequate as-is by calculation.
C	8401-2	1VAC030A	CB3	Unit free to move 1/4 - 3/8" in all directions and could damage attached piping.	Resolved by shimming isolator to limit spring deflections.
C	8402-1	1VAC030B	CB3	HVAC unit is on vibration isolators.	Adequate as-is by calculation.
C	8402-2	1VAC030B	CB3	Unit free to move 1/4 - 3/8" in all directions and could damage attached piping.	Resolved by shimming isolator to limit spring deflections.
C	2008	SV4401	DW	1" dia. steel conduit to valve is stretched by temporary lead shielding and beam clamp has slipped off.	Resolved by re-installing conduit clamp.
C	3001	CV4412	DW	Valve not included in SQUG equipment class.	Adequate as-is per vendor calculation.
C	3002	CV4415	DW	Valve not included in SQUG equipment class.	Adequate as-is per vendor calculation.
C	3003	CV4418	DW	Valve not included in SQUG equipment class.	Adequate as-is per vendor calculation.
C	3004	CV4420	DW	Valve not included in SQUG equipment class.	Adequate as-is per vendor calculation.
C	8201	1P117A	IS	Shaft/casing length >20' and J-Bolt embedment <GIP minimum.	Adequate as-is by calculation.
C	8202	1P117C	IS	Shaft/casing length >20' and J-Bolt embedment <GIP minimum.	Adequate as-is by calculation.

Table 8-1

Equipment Outlier Description and Resolution Summary

Type (Note 1)	Outlier	Equipment ID	Location (Note 2)	Outlier Description	Outlier Resolution
C	8203	1P117B	IS	Shaft/casing length >20' and J-Bolt embedment <GIP minimum.	Adequate as-is by calculation.
C	8204	1P117D	IS	Shaft/casing length >20' and J-Bolt embedment <GIP minimum.	Adequate as-is by calculation.
C	6004-3	1B91	IS	Cut-out in two side panels exceeds GIP allowable dimensions.	Adequate as-is by calculation.
C	5169	1S218AEXPL	RB1	Explosive valve not included in SQUG equipment class.	Adequate as-is by SRT judgement.
C	5170	1S218BEXPL	RB1	Explosive valve not included in SQUG equipment class.	Adequate as-is by SRT judgement.
C	5171	1S218CEXPL	RB1	Explosive valve not included in SQUG equipment class.	Adequate as-is by SRT judgement.
C	3025	CV4413	ST	Valve not included in SQUG equipment class.	Adequate as-is per vendor calculation.
C	3026	CV4416	ST	Valve not included in SQUG equipment class.	Adequate as-is per vendor calculation.
C	3028	CV4421	ST	Valve not included in SQUG equipment class.	Adequate as-is per vendor calculation.
C	3027-1	CV4419	ST	Valve not included in SQUG equipment class.	Adequate as-is per vendor calculation.
C	8301	1T035	TB	Underground tank not addressed by GIP.	Adequate as-is by SRT judgement.
C	8553	DO7002A1	TB	Air tubing conduit detached from junction box threatens integrity of actuator air supply.	Resolved by repairing conduit connection to junction box.
C	8555	DO7002A2	TB	Air tubing conduit detached from junction box threatens integrity of actuator air supply.	Resolved by repairing conduit connection to junction box.
C	8557	DO7002A3	TB	Air tubing conduit detached from junction box threatens integrity of actuator air supply.	Resolved by repairing conduit connection to junction box.

Table 8-1

Equipment Outlier Description and Resolution Summary

Type (Note 1)	Outlier	Equipment ID	Location (Note 2)	Outlier Description	Outlier Resolution
C	8659	1C091	TB	Panel mounted on diesel skid with vibration isolators--could cause relay chatter.	Adequate as-is because panel does not contain essential relays.
C	8670	1C152	TB	Loose mounting screws for three SVs & one PCV inside cabinets.	Resolved by tightening screws.
C	8661-1	1C092	TB	Panel mounted on diesel skid with vibration isolators--could cause relay chatter.	Adequate as-is because panel does not contain essential relays.
A	6005	1X31	CB1	Transformer load path relies on weak-way bending of flat plate bars.	Shims will be installed to strengthen load path.
A	6054	1X41	CB1	Transformer load path relies on weak-way bending of flat plate bars.	Shims will be installed to strengthen load path.
A	8680	1C014	CB2	Cabinet anchorage is not adequate.	Resolved by providing adequate anchorage
A	8435	1VEF030A	CB3	Motor is anchored, but fan is not.	Resolved by adding lateral support.
A	8436	1VEF030B	CB3	Motor is anchored, but fan is not.	Resolved by adding lateral support.
A	8437	IVEF030C	CB3	Motor is anchored, but fan is not.	Resolved by adding lateral support.
A	8009-1	1VAC014A	HPCI	Load path adequacy questionable.	Adequate as-is by calculation.
A	8010-1	1VAC014B	HPCI	Load path adequacy questionable and junction box may be impacted by pipe and become damaged.	Adequate as-is by calculation.
A	6061	1B46	PH	MCC anchorage is not adequate--2 of 4 welds between cabinet base and channel frame are burned through.	Resolved by adding external plates which connect cabinet base and channel frame.
A	8001	1P099A	PH	Anchor edge distance <GIP minimum.	Adequate as-is by calculation.
A	8002	1P099B	PH	Anchor edge distance <GIP minimum.	Adequate as-is by calculation.
A	8101	1P022A	PH	J-Bolt embedment <GIP minimum.	Adequate as-is by calculation.

Table 8-1

Equipment Outlier Description and Resolution Summary

Type (Note 1)	Outlier	Equipment ID	Location (Note 2)	Outlier Description	Outlier Resolution
A	8102	1P022C	PH	J-Bolt embedment <GIP minimum.	Adequate as-is by calculation.
A	8103	1P022B	PH	J-Bolt embedment <GIP minimum.	Adequate as-is by calculation.
A	8104	1P022D	PH	J-Bolt embedment <GIP minimum.	Adequate as-is by calculation.
A	9464	1S218ABALL	RB1	Loose nuts on 4 mounting bolts.	Resolved by tightening bolts.
A	9465	1S218BBALL	RB1	Loose nuts on 4 mounting bolts.	Resolved by tightening bolts.
A	9466	1S218CBALL	RB1	Loose nuts on 4 mounting bolts.	Resolved by tightening bolts.
A	6058-2	1B44	RB1	MCC anchorage is not adequate.	Adequate as-is by calculation.
A	6202-2	1D41	RB1	Gap under base channel not OK for essential relays.	Resolved by shimming gap.
A	8438	1K003	RB2	Adequacy of control panel attachment to skid frame is unknown.	Adequate as-is by calculation.
A	8439	1K004	RB2	Adequacy of control panel attachment to skid frame is unknown.	Adequate as-is by calculation.
A	6013-2	1B37	RB2	Bolting between MCC and base channel is missing in one section.	Adequate as-is by calculation
A	8446A	1VCP030A	RB3	J-bolt embedment <GIP minimum.	Adequate as-is by calculation.
A	8446B	IVCP030B	RB3	J-bolt embedment <GIP minimum.	Adequate as-is by calculation.
A	8453-1	1VHX031B	RB3	Missing brace from supporting frame results in inadequate support for HX.	Resolved by replacing brace angle section.
A	8320	1T114B	TB	Anchor bolts cannot be field verified.	Adequate as-is by calculation, and by UT of bolt.
A	8321	1T114A	TB	Only one of four anchor bolts can be verified.	Adequate as-is by calculation, and by UT of bolt.
A	8668-2	1C094	TB	Inadequate anchorage for the cabinet.	Resolved by adding grout under base and shown adequate as modified by calculation.

Table 8-1

Equipment Outlier Description and Resolution Summary

Type (Note 1)	Outlier	Equipment ID	Location (Note 2)	Outlier Description	Outlier Resolution
I	6056	1B42	CB1	Two adjacent sections of MCC are missing connecting bolt which could cause chatter of essential relays.	Resolved by installing missing bolt.
I	6101	1D1	CB1	Open S-hook for light fixture may cause fixture and fluorescent tubes to fall onto batteries.	Resolved by closing hook and securing tubes.
I	6107	1D2	CB1	Fluorescent tubes in overhead lights could fall onto batteries.	Resolved by securing tubes.
I	6112	1D120	CB1	Fluorescent tubes in overhead lights could fall onto battery charger.	Resolved by securing tubes.
I	6200	1D4	CB1	Fluorescent tubes in overhead lights could fall onto batteries.	Resolved by securing tubes.
I	6050-2	1A4	CB1	Unanchored storage cabinet and large tool box near 1A4 could fall or slide into switchgear.	Resolved by removing cabinet and box from area.
I	6050-3	1A4	CB1	1A4 is not bolted to adjacent 1C142 and interaction could cause essential relays to chatter.	Resolved by bolting cabinets together.
I	6055-2	1B04	CB1	Breaker lifting assembly on top of cabinet is free to move and could cause chatter of essential relays.	Resolved by securing assembly.
I	8605	1C003	CB2	1C003 not bolted to 1C035 and 1C035 not bolted to 1C014. Impact of these cabinets could cause essential relays in 1C003 to chatter.	Resolved by bolting cabinets together
I	8609	1C009	CB2	Unanchored adjacent book shelf and shop cart near panel could impact panel.	Resolved by providing anchored book shelf, and removing cart.
I	8611	1C005	CB2	Portable scaffolding on wheels and portable fire extinguishers are unrestrained and could impact panel.	Resolved by relocating scaffolding. Fire extinguisher adequate as-is by calculation.

Table 8-1

Equipment Outlier Description and Resolution Summary

Type (Note 1)	Outlier	Equipment ID	Location (Note 2)	Outlier Description	Outlier Resolution
I	8652	1C043	CB2	1C043 not bolted to 1C402 and fluorescent tube within cabinet 1C043 could fall onto essential relays and cause them to chatter.	Resolved by bolting cabinets together. Subsequent inspection found light tube secure.
I	8655-1	1C044	CB2	Cabinet, locker, and cart near panel are unanchored and could impact panel.	Resolved by removing unanchored items.
I	8655-2	1C044	CB2	1C044 not bolted to 1C038 and impact could cause essential relays in 1C044 to chatter.	Resolved by bolting cabinets together.
I	8679	1C013	CB2	Cabinet not bolted to adjacent cabinet at southwest corner and impact could cause essential relays in other connected cabinets to chatter.	Resolved by installing missing bolts.
I	8693	1C027	CB2	Cabinet not bolted to adjacent cabinet at southwest corner and impact could cause essential relays in other connected cabinets to chatter.	Resolved by installing missing bolts.
I	8614-1	1C008	CB2	Control room ceiling elements may fall onto bench-board panels.	Resolved by modifications.
I	8614-2	1C008	CB2	1C008 not bolted to 1C009 and impact could cause essential relays in 1C008 to chatter.	Resolved by bolting cabinets together.
I	8664-1	1C031	CB2	5' high book shelf next to 1C031 is unanchored and could fall into panel.	Resolved by replacing unanchored book shelf with anchored shelf.
I	8664-2	1C031	CB2	Nearby panel (1C049) is unanchored and could fall onto 1C031.	Resolved by anchoring cabinet 1C049.
I	8410	DO6127B	CB3	Duct rod hanger abuts actuator rod and could damage actuator.	Resolved by attaching duct to hanger support.
I	6004-1	1B91	IS	Fluorescent tubes in overhead lights could fall onto MCC.	Resolved by securing tubes.

Table 8-1

Equipment Outlier Description and Resolution Summary

Type (Note 1)	Outlier	Equipment ID	Location (Note 2)	Outlier Description	Outlier Resolution
I	6004-2	1B91	IS	Overhead emergency light not securely attached to wall and could fall onto MCC.	Adequate as-is by calculation.
I	6052-1	1B20	IS	Open S-hooks for light fixture over switchgear may cause fixture to fall onto cabinet.	Resolved by closing hooks.
I	6052-2	1B20	IS	Breaker lifting assembly on top of cabinet is free to move and could cause chatter of essential relays.	Resolved by securing assembly.
I	3045	1R002A	RB1	Unrestrained ladders, rolling carts, etc., could impact MSIV accumulators.	Resolved by removing the loose objects.
I	3148	CV1804A	RB1	Actuator abuts adjacent support--interaction concern.	Adequate as-is by calculation.
I	4018	MO2004	RB1	Loose beam overhead could fall into valve.	Resolved by removing beam.
I	8656	1C422B	RB1	Copper air line routed behind the panel has very small clearance and impact could cause chatter of essential relays.	Adequate as-is by calculation.
I	8699B	1C126B	RB1	Fluorescent tubes in overhead lights could fall onto rack and impact essential relays.	Resolved by securing tubes.
I	8699A	1C126A	RB1	Fluorescent tubes in overhead lights could fall onto rack and impact essential relays.	Resolved by securing tubes.
I	6058-1	1B44	RB1	Open S-hooks for lighting fixture over MCC may cause fixture to fall onto cabinet.	Resolved by closing hooks.
I	2019	PT4599A	RB2	Fluorescent tubes in overhead lights could fall onto transmitter and other soft targets on rack.	Resolved by securing tubes.
I	6106	1D14	RB2	Junction box in contact with side panel--unacceptable for essential relays.	Resolved by moving junction box.

Table 8-1

Equipment Outlier Description and Resolution Summary

Type (Note 1)	Outlier	Equipment ID	Location (Note 2)	Outlier Description	Outlier Resolution
I	8453-2	1VHX031B	RB3	Three conduit friction clamps oriented incorrectly--could result in conduit falling onto HX.	Resolved by adding straps to secure conduit.
I	3109	1P211A	SECR	Block wall above this pump was not seismically qualified by 80-11 program--wall could fall onto pump.	Adequate as-is by calculation.
I	3027-2	CV4419	ST	Steel members hung above valve could hit and damage valve.	Resolved by removing steel members.
I	6015	1G031	TB	Fluorescent tubes in overhead lights could fall onto SBDG soft targets.	Resolved by securing tubes.
I	6063	1G021	TB	Fluorescent tubes in overhead lights could fall onto SBDG soft targets.	Resolved by securing tubes.
I	8667	1C093	TB	Overhead light fixture is inadequately supported and could fall onto panel.	Resolved by fixing broken support chain.
I	8669	1C151	TB	Lighting box above panel is inadequately secured and may fall onto panel.	Resolved due to the fact that loss of air line to panel would be acceptable.
I	8661-2	1C092	TB	Light fixture inadequately attached to unistrut support and could fall onto panel.	Resolved by fixing broken support chains.
I	8668-1	1C094	TB	Light controller above the cabinet is inadequately restrained and could fall onto panel.	Adequate as-is by calculation.

Table 8-1

Equipment Outlier Description and Resolution Summary

Notes:

1. Type of outlier includes: "C" for outliers not meeting Caveat requirements, "A" for outliers not meeting Anchorage requirements, and "I" for outliers not meeting Interaction requirements.

2. Codes for equipment location are as follows:

RB1	= Reactor Building 757' and TIP Room	PH	= Pump House
RB2	= Reactor Building 786	IS	= Intake Structure
RB3	= Reactor Building 812'	CB1	= Control Building 757' (Switchgear & Battery Rooms)
HPCI	= HPCI Room (RB below 757')	CB2	= Control Building 786' (Main Control Room)
SECR	= SE Corner Room (RB below 757')	CB3	= Control Building 800'
ST	= Steam Tunnel (RB 757')	TB	= Turbine Building (and Protected Yard)
DW	= Drywell		

Section 9

SIGNIFICANT OR PROGRAMMATIC DEVIATIONS FROM THE GIP

No significant or programmatic deviations from the GIP have been made in the DAEC A-46 Program.

Section 10

THIRD-PARTY AUDIT

As required by Section I.2.2.7 of the GIP [Reference 1], Third-Party Audits were performed by two individuals who were not part of the Seismic Review Teams. The Third-Party Audit reports are included in Appendix E of this report, and are summarized in the following sections.

SUMMARY OF INITIAL THIRD-PARTY AUDIT

Part I of the Third-Party Audit for the DAEC A-46 Program was conducted on August 10 and 11, 1993. The Auditors, Dr. James J. Johnson (EQE) and Mr. William R. Schmidt (MPR), reported on their review in a letter report to IES, dated August 16, 1993.

The main conclusions of the Audit were as follows:

1. Project procedures were judged to be good. One recommendation is included in the following section.

2. The technical approach and coverage by the Seismic Review Teams (SRTs) was judged to be good; specific recommendations follow.

3. The SRTs were performing effectively. Completed documentation was in good order and indicated conscientious and careful evaluations by the SRT members.

4. The Auditors found the judgements and finding dispositions made by the SRTs to date to be conservative and appropriate.

In addition to the above conclusions regarding the seismic assessment work, the Auditors noted that the DAEC plant appears to be generally well designed and constructed for seismic loadings.

The Third-Party Auditors made four recommendations for the project. These recommendations, and the followup actions made to implement them, are discussed below.

1. To be consistent with IELP (now IES Utilities, Inc.) letter dated September 21, 1992 to NRC, it was recommended that the SRTs use conservative in-structure response spectra (licensing basis floor spectra accepted by NRC) for

calculations of seismic demand for quantitative analyses. Exceptions should be reviewed on a case-by-case basis.

This recommendation was implemented throughout the project; i.e., in-structure response spectra were always used for quantitative analyses such as anchorage evaluations.

2. The project-specific walkdown procedure should be revised, or a relay walkdown procedure developed, to include the SCE interfaces with and responsibilities in the relay evaluation. These include assisting in estimating and approving in-cabinet amplification and natural frequencies, where needed, for evaluation of relay capacity.

   The project-specific walkdown procedure was revised as recommended.

3. The walkdown procedure currently includes component-specific data sheets (Attachment 9.1) which address flood/spray and fire concerns for IPEEE components. Dr. Johnson recommended that the SRTs consult with the IES engineers responsible for the overall IPE fire and flood evaluations and either: (1) assure that SCEs were aware of all fire and flood sources identified by IES, or (2) conduct a separate fire/flood hazard walkdown with the IES fire/flood IPE experts on an area-by-area basis.

   Seismic-induced fire and flood sources were identified by fire/flood IPE experts, and were seismically evaluated by an SRT. The results of these evaluations, which are outside the scope of the A-46 Program, are documented in the IES submittal for IPEEE.

4. The basis for assigning a strength of 3500 psi to pump house concrete above elevation 761' should be documented.

   Documentation of building concrete strength was revised to use 3000 psi for Pump House concrete strength above elevation 761', as documented in Bechtel drawing 7884-C680, Rev. 5.

SUMMARY OF FINAL THIRD-PARTY AUDIT

Part II of the Third-Party Audit for the DAEC A-46 Program was conducted on May 23 and 24, 1995. The auditors, Dr. James J. Johnson (EQE) and Mr. William R. Schmidt (MPR), reported on their review in a letter report to IES, dated June 6, 1995.

The Auditors concluded that the seismic walkdown inspections and equipment/raceway evaluations were well organized and documented, and were conservatively done. Backup documentation, including SEWS, calculations, data packages and photographs are extensive and in good order. There were no areas where the Auditors were in disagreement with the conclusions of the DAEC Seismic Review Teams (SRTs). The

Auditors made recommendations in a few areas to strengthen or confirm SRT conclusions. These recommendations are reflected in this report, and in the supporting documentation.

The Auditors also noted that they were favorably impressed with the numerous practical modifications which have been designed and implemented in the plant since the equipment outliers were identifed.

Section 11

REFERENCES

1. Generic Implementation Procedure (GIP) for Seismic Verification of Nuclear Plant Equipment, dated February 1992, copyright Seismic Qualification Utility Group (SQUG), Revision 2, corrected February 14, 1992.

2. USNRC, "Supplement No. 1 to Generic Letter (GL) 87-02 that Transmits Supplemental Safety Evaluation Report No. 2 (SSER No. 2) on SQUG Generic Implementation Procedure, Revision 2, as Corrected on February 14, 1992 (GIP-2)," dated May 22, 1992.

3. MPR Associates, Inc., MPR-1545, "Duane Arnold Energy Center - USI A-46 Relay Evaluation Report," Revision 0, dated September 1995.

4. Duane Arnold Energy Center (DAEC) Updated Final Safety Analysis Report.

5. IELP Letter NG-92-3961, J. F. Franz, Jr. to USNRC (T. E. Murley), dated September 21, 1992. "Response to Supplement 1 to Generic Letter 87-02 on SQUG Resolution of USI A-46 at DAEC."

6. USNRC (R. M. Pulsifer) Letter to IELP (L. Liu), dated November 25, 1992. "Evaluation of DAEC, 120-day response to Supplement 1 to Generic Letter 87-02."

7. IELP Letter NG-92-2629, J. Franz, Jr. to USNRC (T. E. Murley), dated June 26, 1992. "Status of R.G. 1.97 Activities at DAEC."

8. USNRC (R. M. Pulsifer) Letter to IELP (L. Liu), dated August 4, 1993. "DAEC—Conformance to R.G. 1.97, Rev. 2."

Appendix A

RÉSUMÉS FOR SEISMIC CAPABILITY ENGINEERS

Stephen J. Eder, PE (Walkdown Manager)
Caroline S. Schlaseman, PE (Walkdown Coordinator)
Rodrigo Araya, PE
Farzin R. Beigi
David J. Doyle
David A. Freed, PE
Hassan Hadidi-Tamjed, PE
Thomas R. Kipp
Kristin E. Smith

KRISTIN E. SMITH

PROFESSIONAL HISTORY

EQE International, San Francisco, California, Lead Engineer, 1992-present
EQE International Limited, Warrington, England, Project Engineer, 1989-1992
EQE International, San Francisco, Costa Mesa, New York, Engineer, 1987-1989

PROFESSIONAL EXPERIENCE

Ms. Smith has nearly six years experience in the seismic design and analysis of equipment. Ms. Smith has completed the SQUG Walkdown Screening and Seismic Evaluation Training Course.

For Arizona Public Power, Ms. Smith participated in the review of the seismic qualification program at Palo Verde Nuclear Generating Station. Ms. Smith reviewed existing qualification documentation and compiled a database to summarize equipment qualification methods and practice.

Ms. Smith aided in the development of procedures for both the Structural Failure and Falling and the Shakespace programs at Tennessee Valley Authority's Watts Bar Nuclear Plant. Ms. Smith helped implement the programs through her participation in the in-plant walkdowns.

Ms. Smith participated in a series of plant walkthroughs at Comanche Peak Steam Electric Station (CPSES) to seismically qualify equipment and piping. Ms. Smith worked with colleagues to develop procedures for the application of earthquake experience data for equipment qualification at CPSES. These procedures were implemented in the plant walkthroughs. Items not meeting the acceptance criteria were analyzed further.

For Three Mile Island Nuclear Power Plant and Oyster Creek Nuclear Generating Station, Ms. Smith performed baseline equipment qualification for control and instrumentation panel sub-components. This work involved the assessment of equipment anchorage and sub-component attachment. The sub-components were assessed to determine their ability to withstand a Safe Shutdown Earthquake (SSE) and function based on the performance of similar equipment in past strong motion earthquakes.

Ms. Smith participated in a replacement items project for Sequoyah Nuclear Power Plant. This work involved a review of all commercial grade replacement items of Class 1 equipment for seismic vulnerabilities. Over 100,000 replacement items were reviewed. In addition, Ms. Smith reviewed plant maintenance procedures to assess the potential for impact on the seismic qualification status of the equipment.

Ms. Smith aided in the development of seismic evaluation criteria and procedures for commercial grade replacement items for the Florida Power and Light, St. Lucie and Turkey Point Nuclear Power Plants. The criteria included a list to be used as a first

PROFESSIONAL EXPERIENCE

level screen. Replacement parts contained in the list could be procured as commercial grade without the need for specifying seismic qualification requirements provided certain spectra requirements had been satisfied.

Ms. Smith also participated in several projects at EQE International Limited (an EQE British subsidiary) which involved plant walkthroughs, analyzing equipment failure rates and human error probabilities to determine the risks to workers and the public from normal plant operations and accident conditions.

EDUCATION

UNIVERSITY OF MAINE: B.S. Engineering, 1986

CERTIFICATION

Engineer-in-Training
SQUG Walkdown Screening and Seismic Evaluation

AFFILIATIONS

American Society of Safety Engineers

SQUG

Certificate of Achievement

This is to Certify that

Kris Smith

has Completed the SQUG Walkdown Screening
and Seismic Evaluation Training Course
Held January 13–19, 1993

Neil P. Smith, Commonwealth Edison
SQUG Chairman

David A. Freed, MPR Associates
SQUG Training Coordinator

R.P. Kassawara, EPRI
SQUG Program Manager

THOMAS R. KIPP

PROFESSIONAL HISTORY

EQE International, Inc., Costa Mesa, California, Technical Manager, 1990-present
Impell Corporation, Mission Viejo, California, Technical Manager, 1988-1990
NTS Engineering, Long Beach, California, Senior Project Manager, 1984-1988
Structural Mechanics Associates, Newport Beach, California, Project Manager and Chief Financial Officer, 1980-1984
Engineering Decision Analysis Company, Irvine, California, Project Engineer, 1976-1980
Holmes & Narver, Incorporated, Orange, California, Project Engineer, 1972-1976
Garrett AiResearch Corporation, Torrance, California, Senior Test Engineer, 1967-1972

PROFESSIONAL EXPERIENCE

Mr. Kipp has over 23 years of experience in management, direction and participation in numerous projects related to process analysis, thermal analyses and design of heat exchangers, detailed thermal analysis of complex axisymmetric and three-dimensional components and stress analysis of nuclear components for service at elevated temperatures where creep-ratcheting phenomena are significant.

Mr. Kipp is also experienced in the following:

1) Application of probabilistic procedures for the rational definition of combined dynamic loadings and calculation of safety-related equipment fragilities

2) Evaluation of structures and equipment to resist extreme dynamic loadings such as seismic and impulsive loads

3) Evaluation of ground response and structural behavior related to underground nuclear testing and other blast loadings

4) Definition of blast resistance criteria for the design and evaluation of structures and facilities

5) ASME Code analysis of components for nuclear and non-nuclear service including those operating at elevated temperatures.

6) Use of general purpose and specialized thermal and structural finite element codes

PROFESSIONAL EXPERIENCE (CONTINUED)

Probabilistic Structural Analysis

1) Responsible for the evaluation of the fragilities of safety-related nuclear equipment in support of the external hazard probabilistic risk assessment of numerous nuclear facilities, with emphasis on those located in high seismic zones.

2) Responsible for the Conservative Deterministic Failure Margin (CDFM) of equipment for a high seismic zone nuclear facility.

3) Responsible for the seismic margin evaluation of the nuclear steam supply system and the balance-of-plant piping for a nuclear power facility.

4) Primary instructor for several seismic fragility training programs for regulatory and utility personnel from outside the U.S.

5) Responsible for the development of the methodology for evaluating the probabilistic pressure capacities of piping flanges and mechanical equipment for the interfacing system LOCA initiating event.

6) Directed and was responsible for the statistical and probabilistic definition of combined seismic and hydrodynamic loads for safety-related nuclear systems.

7) Responsible for the development of statistical design rules for the definition of dynamic response of nuclear reactor fuel system subjected to multiple dynamic loadings.

Structural Design and Analysis

- Responsible for the evaluation of all interaction issues including thermal and seismic proximity, shakespace flexibility, failure and falling, and spray for a U.S. nuclear power facility.

- Responsible for the elastic, finite element analysis of components of the FFTF closed loop system cold trap economizers and of the FFTF and SPTF dump heat exchangers including evaluation of ratcheting, straining accumulation, and fatigue.

- Responsible for the elastic finite element shell analysis of the FFTF closed loop system operating vessels including ratcheting and fatigue evaluations.

PROFESSIONAL EXPERIENCE (Continued)

- Responsible for the elastic and simplified inelastic analysis of complex geometries subjected to high thermal transient conditions.
- Responsible for the evaluation of high temperature components for service at temperatures where creep-ratcheting and creep-fatigue phenomena are significant.
- Directed the structural analysis of a large sodium storage vessel for nuclear service.
- Directed the structural analysis of the man-rated water conditioning system used in the hyperbaric deep ocean simulation facility.
- Participated in the evaluation of the FFTF fuel storage vessel closure head subjected to seismic impact loadings.
- Participated in the structural adequacy evaluation of the loading and reaction systems for the Space Shuttle SRM test facility.

Process and Thermal Analysis

- Directed and was responsible for the design and thermal analysis of high pressure/high temperature (1,000 psi at 600°F and 300 psi at 2250°F) facilities for the simulations of high altitude aircraft engine operation. Directed the design and thermal analysis of water-to-solvent and air-to-air heat exchangers for use in extreme test facility environments.
- Responsible for the steady-state and transient thermo-fluid analysis of a sodium-to-sodium regenerative heat exchanger for use in a high temperature facility.
- Responsible for the steady-state, thermo-fluid analysis of seawater-to-seawater heat exchanger for use in a hyperbaric facility to simulate deep ocean environment.

EDUCATION

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, San Luis Obispo, CA: Aeronautical Engineering, 1964

AFFILIATIONS

EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

PUBLICATIONS

With D. A. Wesley and D. K. Nakaki. March 1990. "Interfacing System LOCA (ISLOCA) Expected Pressure Capacities and Leak Areas - Davis Besse." Impell Report 11-4237-0040. Prepared for EG&G.

With D. A. Wesley, D. K. Nakaki, and R. P. Kennedy. January 1989. "Seismic Fragilities of Civil Structures and Equipment Components at the Diablo Canyon Power Plant." NTS Report 88-1643.02. Prepared for PG&E.

With D. A. Wesley and D. K. Nakaki. December 1989. "Seismic Fragilities of Selected Structures and Components at the Muehleberg Nuclear Power Plant." Impell Report 11-3900-0028. Prepared for Pickard, Lowe & Garrick.

With D. A. Wesley, etal. April 1987. "Seismic Fragilities of Structures and Equipment at the Maanshan Nuclear Station." NTS Report 87-1568.01. Prepared for the Republic of China Atomic Energy Council.

With D. A. Wesley, etal. January 1987. "Phase IIIA Seismic Fragilities of Structures and Components at the Diablo Canyon Nuclear Power Plant." NTS Report 87-1611.01. Prepared for PG&E.

With R. D. Campbell, etal. November 1986. "Survey Study of Seismic Risk Methodology for Application to the Monju LMFBR." NTS Report 86-1578.01. Prepared for Nippon Energy, Incorporated.

With S. A. Short and R. P. Kennedy. August 1986. "Evaluation of Misty Rain Experimental Drift Ground Shock Response by High-Speed Photography." NTS Report 86-1540.07. Prepared for DNA.

With R. P. Kennedy, etal. June 1986. "Assessment of Parameters Affecting Damage in Hardened Alcoves and Drifts Subjected to Ground Shock from Confined Underground Nuclear Explosions." NTS Report 86-1540.01. Prepared for DNA.

With W. H. Tong. June 1986. "Post-shot Evaluation of the Diamond Beech Shock Isolation Experiment." NTS Report 86-1540.06. Prepared for DNA.

With D. A. Wesley, etal. March 1986. "Seismic Fragilities of Structures and Components at the Catawba Nuclear Station." NTS/SMA Report 19202.01. Prepared for Duke Power.

With S. A. Short, R. P. Kennedy, and W. H. Tong. November 1985. "Design and Evaluation Criteria for Potential Motor Detonations at the Arnold Engineering Development Center." AEDC-TR-83-51.

With M. K. Ravindra, R. D. Campbell, and R. H. Sues. July 1985. "Probability of Pipe Failure in the Reactor Coolant Loops of Babcock and Wilcox PWR Plants, Volume 2: Guillotine Break Indirectly-Induced by Earthquake." NUREG CR-4290.

PUBLICATIONS (CONTINUED)

With R. P. Kennedy, S. A. Short, etal. May 1984. "Engineering Characterization of Ground Motion - Task 1: Effects of Characteristics of Free-Field Motion on Structural Response." NUREG CR-3805.

With D. A. Wesley, R. D. Campbell, P. S. Hashimoto, and W. H. Tong. March 1984. "Seismic Fragilities of Structures and Components at the Millstone 3 Nuclear Power Station." SMA Report 20601.01-R-001. Prepared for Northeast Utilities.

With R. D. Campbell, etal. January 1984. "Seismic Margin Review, Midland Energy Center Project, Volume IX, Balance-of-Plant Class 1, 2, and 3 Piping, Pipe.

Supports, and Valves." SMA Report 13701.05-R003. Prepared for Northeast Utilities.

With R. D. Campbell, etal. July 1983. "Seismic Margin Review, Midland Energy Project, Volume VIII, NSSS Equipment and Piping." SMA Report 13701.05-R003. Prepared for Consumers Power Company.

With R. B. Narver. May 1983. "Design and ASME Code Analysis of the Small Component Autoclave Sodium Removal System (SCASA) Autoclave Vessel." SMA Report 15201.01-R002. Prepared for Murdock.

With G. S. Hardy. July 1982. "ASME Code Thermal and Stress Analysis of a NaK-Transmission High-Temperature Pressure Transmitter for Liquid Metal Service." SMA Report 18301.01-R001. Prepared for Gould.

With R. P. Kennedy and R. D. Thrasher. November 1981. "Study to Demonstrate the Generic Applicability of SRSS Combination of Dynamic Responses for Mark III Nuclear Steam Supply System and Balance-of-Plant Piping and Equipment." SMA Report 12109.01-R001. Prepared for General Electric.

"With R. P. Kennedy and R. D. Thrasher. September 1981. "Evaluation of the Effect of Undesigned-For High Frequency Vibrations on the Response of Substructures." SMA Report 12110.01-R001. Prepared for General Electric.

With D. A. Wesley, R. D. Campbell, and P. S. Hashimoto. July 1981. "Conditional Probabilities of Seismic-Induced Failures for Structures and Components for Browns Ferry Plant - Unit 1." SMA Report 12905.01. Prepared for Pickard, Lowe & Garrick.

With R. D. Campbell. 1981. "Accelerated Testing of Flexible Piping Joints Operating at Creep Temperature." EDAC Report 158-060.1. Prepared for Atomics International.

With R. D. Campbell. 1981. "Accelerated Testing of Flexible Piping Joints Operating at Creep Temperature." Paper presented at the *Metallic Bellows and Expansion Joints Conference*, Denver, CO.

PUBLICATIONS (CONTINUED)

With R. P. Kennedy, W. H. Tong, and H. Banon. October 1980. "Development and Validation of Statistical Rules for Determining Critical Response Parameter Design Values when the Fuel System of a Boiling Water Reactor is Subjected to Multiple Dynamic Loadings." SMA Report 12104.01-R001. Prepared for General Electric.

With E. J. Cording, A. H. Merritt, and R. P. Kennedy. October 1978. "Feasibility Evaluation for the Construction of Large Hemispherical Cavities at the Nevada Test Site." DNA 4723T. Paper presented at the *Rapid Excavation and Tunneling Conference*, Atlanta, GA.

With W. H. Tong and R. P. Kennedy. January 1979. "Hussand Sword Series, Hybla Gold Event Tunnel Environment Monitor System (TEMS) Description, Performance, and Measured Data." EDAC Report 177-045.01. Prepared for DNA.

"Structural Condition Documentation and Structural Capacity Evaluation of the Westinghouse Laboratory Facility at Cheswick, Pennsylvania for Earthquake and Flood, Task II Seismic Capacity Evaluation." July 1978. EDAC Report 175-040.2R. Prepared for Lawrence Livermore National Laboratory.

With S. A. Short and R. P. Kennedy. May 1978. "Summary of Structural Evaluation and Design Support for the Underground Nuclear Test Program." DNA 4664F.

With R. P. Kennedy. April 1978. "Mighty Epic/Diablo Hawk Block Motion Program, Documentation of the Diablo Hawk Block Motion Instrumentation." Interim Report 2. EDAC Report 177-030.2. Prepared for DNA.

With S. A. Short and R. P. Kennedy. October 1977. "Analytical Evaluation of the Diablo Hawk Boeing Experimental Drift Plug." EDAC Report 177-013.1. Prepared for DNA.

SQUG

Certificate of Achievement

This is to Certify that

Thomas R. Kipp

has Completed the SQUG Walkdown Screening and Seismic Evaluation Training Course
Held November 9-13, 1992

Neil P. Smith
Neil P. Smith, Commonwealth Edison
SQUG Chairman

David A. Freed
David A. Freed, MPR Associates
SQUG Training Coordinator

R. P. Kassawara
Robert P. Kassawara, EPRI
SQUG Program Manager

HASSAN HADIDI-TAMJED

PROFESSIONAL HISTORY

EQE International, Inc., Irvine, California, Project Engineer, 1991-present
ABB Impell Corporation, Mission Viejo, California, Senior Engineer, 1989-1991
Impell Corporation, Fort Worth, Texas, Senior Engineer, 1988-1989
Jack Benjamin & Associates, Mountain View, California, Senior Engineer, 1986-1988
Terra Technology, Berkeley, California, Consultant, 1982-1983
Stanford University, Palo Alto, California, Teaching Assistant, 1983-1985

PROFESSIONAL EXPERIENCED

Dr. Hadidi-Tamjed has several years of professional engineering experience. Emphasis in his work includes containment overpressurization analysis of nuclear power plants as part of the IPE program; seismic qualification of nuclear power plant equipment at the Comanche Peak plant; and seismic probabilistic risk assessment of nuclear power plants, for which he developed a computer code, and characterization of seismic hazards for nuclear power plants. In addition, he has carried out piping analyses as part of the seismic quality assurance program at the Diablo Canyon Nuclear Power Station.

Currently, Dr. Hadidi-Tamjed is participating in seismic fragility evaluation of several nuclear power plants as part of the IPEEE program.

EDUCATION

STANFORD UNIVERSITY, Palo Alto, CA: Ph.D. Civil and Structural Engineering, 1986
STANFORD UNIVERSITY, Palo Alto, CA: M.S. Civil and Structural Engineering, 1981
UNIVERSITY OF ARKANSAS, Fayetteville, AR : B.S. Civil Engineering, 1980

REGISTRATION

California: Professional Engineer, 1992

PUBLICATIONS

With H. Krawinkler. 1988. "Statistical Study on Seismic Response Parameters for Damage Evaluation." Presented at the 9th World conference on Earthquake Engineering, Tokyo, Japan.

"Earthquake Response of Inelastic SDOF System." 1986. Ph.D. Thesis. Department of Civil Engineering, Stanford University.

"Seismic Response of SDOF Systems." 1983. Engineer Thesis. Department of Civil Engineering, Stanford University.

With M. Zohrei, B. Lashkary, and N. Cofie. 1983. "Recommendations for Experimental Studies on the Seismic Behavior of Steel Components and Materials." Report No. 61. The John A. Blume Earthquake Engineering Center, Department of Civil Engineering, Stanford University.

PUBLICATIONS (CONTINUED)

With A. Karamchandani. 1986. "Equivalent Linearization Approaches to Estimate Response of Nonlinear SDOF Oscillators." Presented at the 8th European Conference on Earthquake Engineering, Lisbon, Portugal.

With J. Reed, M. McCann, and J. Lihara. 1985. "Analytical Techniques for Performing Probabilistic Seismic Risk Assessment of Nuclear Power Plants." Presented at the 4th International Conference on Structural Safety and Reliability, Kobe, Japan.

SQUG

Certificate of Achievement

This is to Certify that

Hassan Hadidi-Tamjed

has Completed the SQUG Walkdown Screening
and Seismic Evaluation Training Course
Held January 15-20, 1993

Neil P. Smith, Commonwealth Edison
SQUG Chairman

David A. Freed, MPR Associates
SQUG Training Coordinator

R.P. Kassawara
Robert P. Kassawara, EPRI
SQUG Program Manager

STATE OF CALIFORNIA
DEPARTMENT OF
Consumer Affairs

Board of Registration for Professional Engineers & Land Surveyors

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CIVIL ENGINEER

CERTIFICATE NO. C 49136

EXPIRATION 09/30/96

HASSAN HADIDI-TAMJED
22466 ALCUDIA
MISSION VIEJO CA 92692

Signature Hassan Hadidi-T.

RECEIPT NO.
26801175

PPRC 3/3702/86

DAVID A. FREED, P.E.

EDUCATION

Duke University, M.S. Mechanical Engineering, 1984
Duke University, B.S.E. Mechanical Engineering and Materials Science, 1982

EXPERIENCE

Mr. Freed joined MPR in 1984. Since joining MPR, he has been involved in the analysis, evaluation and problem solving in connection with nuclear and fossil-fueled power plants. This work has included:

Seismic Qualification
Developed management guidelines for coordinating USI A-46 program and seismic portion of Individual Plant Examination for External Events (IPEEE). Training Coordinator and Instructor for the Seismic Qualification Utility Group (SQUG), whose purpose is to identify seismic adequacy of nuclear plant safe-shutdown components following a safe shutdown earthquake (part of USI A-46 and GL 88-02). The training courses for USI A-46 include Equipment Selection, Relay Evaluation, and Walkdown Screening and Seismic Evaluation. In addition, add-on courses were developed for the seismic portion of IPEEE. Mr. Freed's responsibilities also include review and coordination of the development of a video version of the A-46 Walkdown Training Course.

Mr. Freed performed USI A-46 site walkdowns at nuclear and fossil sites as part of walkdown training. Walkdowns included both mechanical and electrical equipment evaluation and preliminary outlier resolution. He was also the lead engineer in development of SSEM, a database program for developing and manipulating safe shutdown equipment lists (SSELs) for USI A-46 evaluation.

Mr. Freed has also performed seismic analysis of BWR nuclear plant components.

Material Condition Studies
Material condition studies of large and small fossil power plants for life extension studies. Evaluation included interviews with utility personnel, field inspections, and some in-house destructive examination and testing. Results were recommendations for capital and maintenance budget over 20-year period including detailed justification.

In-Service Inspection Program
Developed high energy piping and component In-Service Inspection Program for large fossil power plants. Included nondestructive examination of piping welds and components, piping hangers and detailed procedures and isometrics.

Fossil-Fired Plants
Development and field testing of inspection procedures for fossil-fuel boilers and boiler related components. Investigation of super critical boiler problems related to availability improvement. Specific activities include evaluation of tube and structural failures, feed pump vibration analysis, pneumatic drive failures, review of boiler operating procedures, and high temperature creep analysis of structural support.

Computer Expert System
Lead engineer in development of IADA (Instrument Air Diagnostic Advisor), a personal computer expert system designed to assist in diagnosing problems with instrument air systems. Project included development of the diagnostic logic, implementation using commercial expert system software, incorporation of extensive human factors enhancements, and demonstration at a nuclear power plant.

Availability Improvement Program
Administration of availability improvement program for large generating stations including technical review of performance of all station components.

Naval Ships
Testing and evaluation of electrical equipment, cabling and related systems aboard naval surface ships.

Technical and Managerial Assistance
Development of testimony for a nuclear utility in a prudence hearing with a state public services commission. The case involved the reasonableness of the client's ASME Section XI In-Service Inspection Program.

Alarm Systems
Human factors evaluation of nuclear power plant control room alarm systems.

Duke University
From 1982 to 1984, Mr. Freed was involved in the application of artificial intelligence (AI) techniques to mechanical engineering failure analysis. Developed FAXS, a rule-based computer expert system for failure analysis. Assistant instructor for course in engineering computer methods, numerical analysis, and dynamics of machinery.

MEMBERSHIP

American Society of Mechanical Engineers
American Association for Artificial Intelligence

PUBLICATIONS

EPRI NP 7498, "Industry Approach to Seismic Severe Accident Policy Implementation," Co-authored with W. Schmidt, MPR, and personnel from Jack R. Benjamin Associates, Inc., Yankee Atomic Electric Company, Risk Engineering, Inc., and Pickard, Lowe, and Garrick.

"FAXS: An Expert System for the Analysis of Mechanical Failures," Proceedings of ASME Computers in Engineering 1984, Volume 1, pp.338-342.

Master's Thesis: "An Expert System for the Analysis of Mechanical Failures," 1984.

"Boiler Inspections for the Long Haul at the 'Short Stacks,'" Proceedings of the Power-Gen 1989 Conference, Co-author with W. Cotter, Metropolitan Edison.

SQUG

Certificate of Achievement

This is to Certify that

David A. Freed

has Completed the SQUG Walkdown Screening and Seismic Evaluation Training Course Held April 6-10, 1992

David A. Freed, MPR Associates
SQUG Training Coordinator

Neil P. Smith, Commonwealth Edison
SQUG Chairman

Robert P. Kassawara, EPRI
SQUG Program Manager

The State of Maryland

Department of Licensing and Regulation

Board of Registration for Professional Engineers

This is to certify that, subject to biennial renewal,

David Alan Freed

is authorized to practice

Professional Engineering

and is hereby registered in the State of Maryland.

In testimony whereof, witness the signatures of the Chairman and Secretary, under seal of the Board, this 23rd day of February 1992.

No. 16972 [illegible] SECRETARY [illegible] CHAIRMAN

No. 16972

The State of Maryland

Department of Licensing and Regulation

Board of Registration for
Professional Engineers

This is to certify that, subject to biennial renewal,

David Alan Freed

is authorized to practice

Professional Engineering

and is hereby registered in the State of Maryland.

In testimony whereof, *witness the signatures of the Chairman and Secretary, under seal of the Board, this 23rd day of February 1982.*

No. 16972 [illegible] SECRETARY [illegible] CHAIRMAN

No. 16972

DAVID J. DOYLE

PROFESSIONAL HISTORY

EQE International, San Francisco, California, Lead Engineer, 1987-present
Skidmore, Owings, and Merrill, Chicago, Illinois, Summer Intern, 1984-1986

PROFESSIONAL EXPERIENCE

Mr. Doyle is a lead engineer in EQE's Engineering Consultants Division. Mr. Doyle has been involved in a variety of seismic engineering projects involving in-plant screening evaluations, detailed finite element analyses, and soil-structure interaction analyses. Mr. Doyle has performed equipment anchorage calculations and in-plant screening evaluation of plant systems and components at the Comanche Peak Steam Electric Station. He performed a structural computer modeling and analysis of SSC magnet and supports of the Super Conducting Super Collider and assisted computer modeling and analysis of four reactor structures for the Hatch Nuclear Power Plant. In addition he has been involved in a time history and response spectra generation for soil-structure interaction analysis for United Nuclear Corporation. Mr. Doyle has completed the SQUG certified seismic evaluation training course.

Notable examples of Mr. Doyle's work has included the following projects.

- Soil-structural interaction analysis of the Oskarshamn Power Plant for the Swedish utility company Sydkraft.
- Deterministic and probabilistic soil-structure interaction analysis of the Peach Bottom and Zion Power Plants to determine the effects of shear wall degradation as a function of shear stress for Sandia National Laboratory.
- In-plant screening evaluations of seismic qualification operability issues at the Brunswick Nuclear Power Plant for safety-related equipment components and systems.
- Computer modeling and soil-structure interaction analysis of buildings at the Savannah River Site.
- Modeling and response spectrum analysis of large steel-frame structures at the Savannah River Site.
- Soil-structure interaction analysis of a Pacific Bell facility in Northern California.
- Inspection of a structure for Carter Hawley Hale for structural damage after the October 17, 1989 Loma Prieta Earthquake.
- Generation of in-structure response spectra for the Belene Nuclear Power Plant in Romania.

PROFESSIONAL EXPERIENCE (Continued)

- Various in-house computer code quality assurance verification work.

Mr. Doyle worked three consecutive summer internships with Skidmore, Owings, and Merrill. His miscellaneous jobs included finite element structural analysis and beam and column design. In addition, he worked with computer-aided structures programs.

EDUCATION

University of California, Berkeley: M.S. Structural Engineering, 1986
University of Illinois, Champaign-Urbana: B.S. Civil Engineering, 1985

CERTIFICATION

Engineer-in-Training: Illinois
SQUG Walkdown Screening and Seismic Evaluation

AFFILIATIONS AND HONORS

Tau Beta Pi Engineering Honor Society
Chi Epsilon Civil Engineering Honor Society (Treasurer - one year)
Phi Kappa Phi Senior Honor Society

SQUG

Certificate of Achievement

This is to Certify that

Dave Doyle

has Completed the SQUG Walkdown Screening
and Seismic Evaluation Training Course
Held January 13-19, 1993

Neil P. Smith, Commonwealth Edison
SQUG Chairman

David A. Freed, MPR Associates
SQUG Training Coordinator

Robert P. Kassawara, EPRI
SQUG Program Manager

FARZIN R. BEIGI

PROFESSIONAL HISTORY

EQE International, San Francisco, California, Principal Engineer, 1990-present
TENERA L.P., Berkeley, California, Structural Engineer, 1982-1990
San Francisco State University, San Francisco, California, Teaching Assistant, 1982

PROFESSIONAL EXPERIENCE

Mr. Beigi has over ten years of professional structural and civil engineering experience. As a principal engineer for EQE's Engineering Consultants Division, Mr. Beigi provides consulting engineering services for civil, structural, and structural mechanics engineering solutions primarily for seismic evaluation projects.

Currently, Mr. Beigi is developing standards for design of distributive systems to be utilized in the new generation of Light Water Reactor (LWR) power plants. These standards are based on the seismic experience data base, testing results, and analytical methods.

Mr. Beigi managed EQE's on-site office at the Tennessee Valley Authority Watts Bar Nuclear Power Plant. His responsibilities included staff supervision and technical oversite for closure of seismic systems interaction issues in support of the Watts Bar start-up schedule. Interaction issues that related to qualification for Category I systems and components included seismic and thermal proximity issues, structural failure and falling of non-seismic Category I plant features, flexibility of systems crossing between adjacent building structures, and seismic-induced spray and flooding concerns. Mr. Beigi utilizes seismic experience data coupled with analytical methods to address these seismic issues.

As a project engineer, Mr. Beigi conducted the seismic qualification of electrical raceway supports at the Watts Bar Plant. The qualification method involved in-plant walkdown screening evaluations and bounding analysis of critical case samples. The acceptance criteria for the bounding analyses utilized ductility-based criteria to ensure consistent design margins. Mr. Beigi also provided conceptual fixes for design modifications and assisted the modification constructibility in-plant assessments. Mr. Beigi utilized similar methods for qualification of all non-seismic Category I HVAC ducts and supports at Watts Bar, and assisted criteria and procedures development for HVAC ducting, cable trays, and conduit and supports at the TVA Bellefonte nuclear power plant.

Mr. Beigi also has extensive experience utilizing advanced finite element computer codes, such as SAPV, ANSYS, and STRUDL, in performing design and analysis of heavy industrial structures, systems, and components in accordance with AISC and ACI structural design codes. At the Texas Utility Comanche Peak Nuclear Power Plant, Mr. Beigi administered and scheduled individuals to execute design review of cable tray supports; evaluated generic design criteria for the design and construction of nuclear power plant systems and components and authored engineering evaluations documenting these reviews; and performed various construction inspections, walkdowns, and as-builting at nuclear power plants.

PROFESSIONAL EXPERIENCE (Continued)

Also, Mr. Beigi's engineering experience includes: analysis of reinforced concrete slabs and walls due to impactive loads; design and analysts of conduit and cable tray supports for earthquake loading; determination of the adequacy of reinforced concrete slabs and walls due to omission of reinforcing bars prior to concrete placement or due to improper cutting of bars after concrete placement; dynamic analysis of heavy steel structures; and design of seismic supports for tanks.

EDUCATION

SAN FRANCISCO STATE UNIVERSITY, San Francisco, CA: B.S. Civil Engineering, 1981

REGISTRATION

Engineer-in-Training: California
Certified as Seismic Capability Engineer for SQUG Seismic Evaluation Walkdowns

SQUG

Certificate of Achievement

This is to Certify that

Farzin R. Beigi

has Completed the SQUG Walkdown Screening
and Seismic Evaluation Training Course
Held May 3–7, 1993

Neil P. Smith, Commonwealth Edison
SQUG Chairman

David A. Freed, MPR Associates
SQUG Training Coordinator

Robert P. Kassawara, EPRI
SQUG Program Manager

RODRIGO ARAYA

PROFESSIONAL HISTORY

EQE International, San Francisco, California, Project Engineer, 1990-present
Consultant, Santiago, Chile, 1988-1990
University of Chile, Department of Civil Engineering, Assistant Professor, 1982-1990
University F. Santa Maria, Valparaiso, Chile, Lecturer, 1988
University Las Americas, Santiago, Chile, Lecturer, 1988-1990
University of California, Berkeley, California, Research Assistant, 1986-1987
University of California, Berkeley, California, Teaching Assistant, 1986
SyS Consulting Engineers, Inc., Santiago, Chile, Engineer, 1979-1983
University of Chile, Department of Civil Engineering, Teaching Assistant, 1974-1982

PROFESSIONAL EXPERIENCE

Dr. Araya is an experienced civil and earthquake engineer and researcher whose work emphasizes dynamic analysis of various types of structures, finite element analysis, and earthquake-resistant design. In addition, his experience includes seismic hazard analysis and reliability assessment of critical structures, definition of seismic design criteria, and definition and simulation of design earthquakes.

As Project Engineer for EQE's Engineering Consultants, Dr. Araya has been involved in the seismic analysis of several nuclear facilities, including probabilistic evaluation of containment overpressure for the San Onofre Nuclear Generating Site, seismic analysis and response spectra generation from Three Mile Island Nuclear Plant, and equipment qualifications at Watts Bar Nuclear Plant. He has also evaluated the seismic adequacy of power and control systems for PG&E's Energy Control Center in San Francisco.

Dr. Araya's research experience includes analysis of source directivity effects on the probabilistic assessment of seismic hazard; incorporation of refined source and attenuation models in seismic hazard procedures; computer code development for seismic hazard computation and seismic hazard maps; seismic analysis of earth dams; and comparison of stochastic generation methods for earthquake accelerograms.

Some of Dr. Araya's industrial experience include the seismic analysis and earthquake-resistant design of reinforced concrete buildings; finite element analysis of complex structures; seismic hazard analysis and generation of site-specific design earthquakes for the design of critical structures, including earth and tailing dams; and the dynamic analysis of earth dams. In addition, Dr. Araya was a participant in the team that evaluated the siting and seismic hazard for the first nuclear power plant in Chile.

Dr. Araya has practical experience on the structural analysis and design of offshore steel platforms. This experience was gained through extensive involvement with offshore engineering projects since 1980. He was project engineer for the analysis and design of the offshore platform in 60 m. water depth (L.A.T.) for Empresa Nacional del Petroleo, Chile (ENAP), at the time the largest steel jacket designed for the Magellan Strait.

RODRIGO ARAYA

EDUCATION

UNIVERSITY OF CALIFORNIA, Berkeley, CA: Ph.D. Civil Engineering, 1988
UNIVERSITY OF CALIFORNIA, Berkeley, CA: M.S. Civil Engineering, 1984
UNIVERSITY OF CHILE, Chile: B.S. Civil Engineering, 1980

REGISTRATION

Structural Engineer: Chile

AFFILIATIONS

American Society of Civil Engineers
Earthquake Engineering Research Institute

PUBLICATIONS

"Seismic Hazard Analysis and Generation of Design Earthquake Ground Motions for Tailing Dams, Parts I to IV: Northern and Central Provinces in Chile." November 1988 to October 1990. Prepared for the National Bureau of Mines, Chile.

"Seismic Hazard Analysis and Development of Seismic Design Criteria for the New European Southern Observatory in Northern Chile: Cerro Paranal and Cerro Vizcachas Sites." July 1990. Technical Report for ESO.

"Generation of Design Earthquake Ground Motions and Dynamic Finite Element Analysis of the 145 Mt. El Toro Dam in Northern Chile." July 1989. Prepared for the Ministry of Public Works, Chile.

With A. Der Kiureghian. 1988. "Seismic Hazard Analysis: Improved Models, Uncertainties, and Sensitivities." Prepared for the 9th World Conference on Earthquake Engineering, Tokyo and Kyoto, Japan.

With R. Saragoni. 1984. "Earthquake Destructiveness Potential Factor." 1984. Prepared for the 8th World Conference on Earthquake Engineering, San Francisco, California.

With R. Saragoni. March 1981. "Hysteretic Random Response of Nonlinear Structures Subjected to Nonstationary Earthquake Ground Motion." Prepared for the 20th South American Conference on Structural Engineering, Rio de Janeiro, Brazil.

With R. Saragoni. 1980. "Capacity of Earthquake Ground Motion to Produce Structural Damage." Prepared for the 7th World Conference on Earthquake Engineering, Istanbul, Turkey.

SQUG

Certificate of Achievement

This is to Certify that

Rodrigo Araya

has Completed the SQUG Walkdown Screening
and Seismic Evaluation Training Course
Held January 13-19, 1993

Neil P. Smith, Commonwealth Edison
SQUG Chairman

David A. Freed, MPR Associates
SQUG Training Coordinator

R. P. Kassawara, EPRI
SQUG Program Manager

COLEGIO
DE INGENIEROS
DE CHILE A.G.

CERTIFICADO DE INSCRIPCION

VENCE EL 30 DE OCTUBRE DE 1993

Certificamos que el señor RODRIG[illegible]RAYA MONTOYA

INGENIERO CIVIL
TITULO COMPLETO

UNIVERSIDAD DE CHILE
UNIVERSIDAD O ESTABLECIMIENTO QUE OTORGO EL TITULO

está inscrito en el Registro del Colegio de Ingenieros con el Nº 13714-6

y está al día en el pago de sus cuotas.

28 de Julio de 1993
FECHA

FIRMA AUTORIZADA

Avda. Santa María 0508 - Fono: 7779530 - Fax: 7778681

CAROLINE S. SCHLASEMAN, P.E.

EDUCATION

Duke University, B.S.E. Civil Engineering, 1981

EXPERIENCE

Since joining MPR in 1981, Ms. Schlaseman has been involved in analysis and problem solving of a variety of tasks related to nuclear and fossil-fueled electric generating stations. This work has included:

Nuclear Plant Design Basis
Managed a task to develop topical design criteria documents for an older BWR plant's design basis reconstitution program, and prepared the topical design criteria document for seismic classification of structures, systems, and components for this program. Prepared detailed scope/plan document for nonseismic external events design criteria document, and independently reviewed this document prepared by others. Evaluated current design requirements for seismic, flooding, tornado and other extreme external events, and the effect of these requirements on older, operating nuclear units. Participated in seismic walkdown assessments of piping and equipment in a BWR nuclear plant. Coordinated effort to review FSAR sections against Standard Review Plan requirements for all balance of plant systems in a PWR seeking to resume construction. Participated in an NRC safety system functional inspection audit of a BWR, including preparation of calculations to document the design basis of audited systems. Researched and documented an older plant's sources, indexes, and methodologies for retrieval of design basis information by engineers. Participated in function and task analysis, and detailed design review of a PWR control room.

Piping Systems, Components, and Supports
Performed stress analysis of piping systems, components, and supports in nuclear power plants. Analyses included dynamic (frequency response spectrum) analysis, and leak-before-break failure analysis for selected piping systems under normal, seismic, and accident loading conditions. Designed hardware modifications as required by ASME and AISC Code criteria. Researched and evaluated original seismic analyses for piping systems in an older nuclear power plant, and prepared upgraded, alternative seismic reanalysis criteria for piping systems. Assessed the adequacy of the original seismic design analysis for the concrete stack at an older BWR. Participated in evaluation of a BWR's recirculation piping susceptibility to IGSCC, including recommendations for stress improvement in the weld heat-affected zones.

Root Cause Failure Evaluations
Evaluated the root cause and defined corrective actions for power plant equipment. Includes valve failures in nuclear power plant fluid system, large steam turbine bearing failure, and a leaking control rod drive flange seal.

Fossil-Fueled Plants
Evaluated proposed structural modifications to a large fossil-fueled boiler, to allow conversion from forced draft firing to balanced draft operation. Reviewed boiler vendor drawings and calculations, performed check calculations, discussed proposed modifications with vendor, and walked-down boiler. Developed structural inspection procedure for counterflow natural draft cooling towers. Inspections and evaluations of material condition of auxiliary equipment in fossil-fueled generating stations as part of material condition/life extension study.

Turbine-Generators
Prepared procurement specifications for large steam turbine rotor and blade path retrofits. Performed technical evaluations of vendor proposals to supply steam turbines and turbine components. Followed procurement, installation, and pre- and post-outage performance improvement testing of retrofit turbine-generator. Performed turbine water induction prevention studies for fossil-fueled generating stations. Researched reliability and maintainability of water induction related equipment through personnel interviews, inspections, and discussions with equipment vendors.

OTHER

Successfully completed the Seismic Qualification Utility Group (SQUG) course for Seismic Capability Engineers, as defined by the Unresolved Safety Issue (USI) A-46 Program.

SQUG

Certificate of Achievement

This is to Certify that

Caroline S. Schlaseman

has Completed the SQUG Walkdown Screening
and Seismic Evaluation Training Course
Held February 1-5, 1993

Neil P. Smith, Commonwealth Edison
SQUG Chairman

David A. Freed, MPR Associates
SQUG Training Coordinator

Robert P. Kassawara, EPRI
SQUG Program Manager

COMMONWEALTH OF VIRGINIA

BOARD FOR ARCHITECTS, PROF ENGINEERS,
LAND SURVEYORS & LANDSCAPE ARCHITECTS

NUMBER		EXPIRES
0402	018549	07-31-98

LICENSED AS A PROFESSIONAL ENGINEER

CAROLINE SMITH SCHLASEMAN
6534 KERNS ROAD

FALLS CHURCH VA 22046

ACCEPTANCE OF THIS CERTIFICATE, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
3600 West Broad Street Richmond, Virginia 23230

STEPHEN J. EDER

PROFESSIONAL HISTORY

EQE International, San Francisco, California, Vice President, 1985-present
URS/John A. Blume & Associates, Engineers, San Francisco, California, 1982-1985
J. G. Bouwkamp, Inc., Structural Engineers, Berkeley, California, 1981-1982

PROFESSIONAL EXPERIENCE

Mr. Eder provides engineering and management consulting for safety evaluation of power plants, national laboratories, and industrial facilities. He is Vice President and Regional Manager for EQE Engineering Consultants' San Francisco regional office. His experience includes structural dynamic analyses, seismic evaluation and margin assessments, post-earthquake reconnaissance studies, and shake table and other dynamic tests and qualification. Mr. Eder provides technical direction to many projects, targeted at efficient balance of computational analysis and experience-based screening evaluations.

In support of the Seismic Qualification Utility Group (SQUG), Mr. Eder prepared and reviewed several sections of the SQUG Generic Implementation Procedure, and provides the Steering Group with ongoing technical and licensing support. As a SQUG subject matter expert, Mr. Eder is responsible for several sections of the Unresolved Safety Issue A-46 (USI A-46) walkdown screening and seismic evaluation training course.

For the U.S. Department of Energy (DOE), in conjunction with Lawrence Livermore National Laboratory (LLNL), Mr. Eder developed and provides training for the field guide for walkthrough screening evaluation of DOE facilities. This included trial walkthroughs at Paducah Gaseous Diffusion Plant, LLNL, and Stanford Linear Accelerator Center. He assisted in developing the Program Plan for evaluating existing DOE facilities and serves as Technical Liaison for the DOE Steering Group. Mr. Eder was lead reviewer in support of the Tiger Team Technical Safety Appraisal of Los Alamos National Laboratory and Idaho Chemical Processing Plant for the Natural Phenomena Hazard (NPH) team.

Mr. Eder has provided a leading role in program plan development, criteria definition, program implementation, and configuration control design for DOE facilities. These projects include the Savannah River Site (SRS); K, L, and P reactors; Oak Ridge National Laboratory High Flux Isotope Reactor; and the LLNL Plutonium Facility. While at SRS, Mr. Eder was a member of the Senior Review Team for seismic issues in support of reactor restart.

Mr. Eder pioneered the development of the innovative raceway system seismic evaluation guidelines for SQUG, using earthquake experience data, test results, and fatigue analysis as a basis. To ensure applicability of the SQUG procedure for conduit and cable trays, he performed trial reviews for several nuclear power plants including Zion, Three Mile Island, Oyster Creek, Vermont Yankee, Prairie

PROFESSIONAL EXPERIENCE (Continued)

Island, Kewnaunee, Point Beach, Palisades, Yankee Rowe, Millstone, Calvert Cliffs, Beaver Valley, and Nine Mile Point.

In the capacity of a project manager and project engineer, Mr. Eder has been involved with cable tray and conduit system seismic evaluation programs at many nuclear power plants. His involvement includes plant-specific criteria development and review. He has supported raceway qualification at near-term operating license plants, including Seabrook Station, Watts Bar, Bellefonte, and Darlington. He performed raceway evaluations at several older operating plants including Tihange, Browns Ferry, Cooper Station, Sequoyah, Davis Besse, Robinson, Peach Bottom, and Hatch. He conducted raceway qualification training courses for engineers from General Public Utilities, Toledo Edison, Carolina Power and Light, and Southern Company Services, as well as generic courses for SQUG.

Mr. Eder participates in expansion of experienced-based evaluation techniques to technical areas outside of the scope of the USI A-46 program. Mr. Eder supported development of the evaluation program for piping systems at SRS and Oak Ridge National Laboratory. He assisted in developing design criteria for fire protection piping at SRS, Watts Bar, and Darlington. He has performed non-safety piping reviews in support of systems interaction reviews at Browns Ferry, Sequoyah, Watts Bar, Darlington, and Savannah River. He has supported development of duct system seismic evaluation guidelines for Brunswick, Browns Ferry, Bellefonte, and Comanche Peak. He also has contributed to anchorage design and evaluation criteria and procedure development programs for Savannah River and Beznau, and systems interaction programs at Watts Bar and Comanche Peak. At SRS, he provided consulting for the in-situ test program for lead cinch anchors.

Mr. Eder has supported miscellaneous component and equipment qualification efforts for several nuclear power and DOE facilities, including Rancho Seco, Browns Ferry, Duane Arnold, Robinson, Davis Besse, Fort Calhoun, Cooper Station, Beznau, Rocky Flats, Savannah River, and Oak Ridge National Laboratory.

Mr. Eder also supports general engineering use of experienced based methods for equipment evaluation. He serves as Principal Investigator for the National Center for Earthquake Engineering Research (NCEER) development of design and performance guidelines for non-structural building elements. He also serves on the Technical Subcommittee for systems and components seismic evaluation for the Building Seismic Safety Council (BSSC).

At URS/Blume, Mr. Eder served as Project Engineer to assess the fragility of structures in St. Louis for a reoccurring New Madrid Earthquake. He also conducted seismic vulnerability assessment of processing facilities for Southern California Gas Company which included structures, pipelines, tanks, and equipment. Mr. Eder performed seismic analysis and design review of the Diablo Canyon Unit 1 and 2 turbine buildings. He also conducted seismic analyses of the Diablo Canyon Unit 1 containment building annulus structure and piping, and buildings at Millstone 3 Nuclear Plant.

PROFESSIONAL EXPERIENCE (Continued)

Mr. Eder's research projects include development of decoupling criteria for piping and equipment systems dynamic models, and statistical evaluations to compare the validity of modal combination techniques used in dynamic analysis. He developed guidelines on nonlinear tubular strut behavior for seismic evaluation of offshore platforms, by correlative analysis of shake-table tests. He also performed correlative dynamic analyses of high-rise towers to evaluate the effects of modeling assumptions on predicting response for seismic design, and to assess earthquake building code practices.

EDUCATION

UNIVERSITY OF CALIFORNIA, Berkeley: M.Eng., Structural Engineering and Structural Mechanics, 1982
CLARKSON COLLEGE OF TECHNOLOGY, Potsdam, New York: B.S. Civil and Environmental Engineering, 1980
CANISIUS COLLEGE, Buffalo, New York: Engineering Science and Computer Science, 1978

REGISTRATION

California: Civil Engineer

AFFILIATIONS

American Society of Civil Engineers
ASCE Seismic Raceway Working Group
Earthquake Engineering Research Institute
Applied Technology Council
Structural Engineers Association of Northern California
SEAONC Seismology Subcommittee on Non-Building Structures and Building Components
Electric Power Research Institute's Post Earthquake Investigation Team
Tau Beta Pi National Engineering Honor Society
Phi Kappa Phi National Honor Society

PUBLICATIONS AND REPORTS

With M. W. Eli. 1991. "Use of Earthquake Experience Data." Prepared for the Third DOE Natural Phenomena Hazards Mitigation Conference, St. Louis, Missouri.

With M. W. Eli and L. J. Bragagnolo. 1991. "Walkthrough Screening Evaluation Field Guide, Natural Phenomena Hazards at Department of Energy Facilities." Special Release for 3rd DOE Natural Phenomena Hazard Mitigation Conference, October 1991, St. Louis, Missouri.

PUBLICATIONS AND REPORTS (Continued)

With J. O. Dizon. 1991. "Advancement in Design Standards for Raceway Supports and Its Applicability to Piping systems." PVP-Volume 210-1, Codes and Standards and Applications for Design and Analysis of Pressure Vessel and Piping Components. ASME 1991.

"Cable Tray and Conduit System Seismic Evaluation Guidelines." March 1991. EPRI Report NP-7151. Prepared for the Electric Power Research Institute. San Francisco, CA: EQE International.

With G. S. Johnson. March 1991. "The Performance of Raceway Systems in Strong-motion Earthquakes." EPRI Report NP-7150. Prepared for the Electric Power Research Institute. San Francisco, CA: EQE International.

With G. S. Johnson. March 1991. "Longitudinal Load Resistance in Seismic Experience Data Base Raceway Systems." EPRI Report NP-7153. Prepared for the Electric Power Research Institute. San Francisco, CA: EQE International.

With J. P. Conoscente and B. N. Sumodobila. March 1991. "Seismic Evaluation of Rod Hanger Supports for Electrical Raceway Systems." EPRI Report NP-7152. Prepared for the Electric Power Research Institute. San Francisco, CA: EQE International.

With Winston & Strawn, MPR Associates, Inc., etal. June 1991. "Generic Implementation Procedure (GIP) for Seismic Verification of Nuclear Plant Equipment." Revision 2. Prepared for the Seismic Qualification Utility Group.

With G. S. Johnson and T. R. Kipp. 1991. "Integrated Interaction Program Screening and Acceptance Criteria." Design Criteria WB-DC-20-32. Prepared for Tennessee Valley Authority.

With R. J. Hookway and T. R. Kipp. 1991. "Commodity Clearance Requirements." Engineering Specification N3C-941. Prepared for Tennessee Valley Authority.

With R. D. Hookway and T. R. Kipp. 1991. "Seismic Qualification of Category I(L) Fluid System Components and Electrical or Mechanical Equipment." Design Criteria WB-DC-40-31.13. Prepared for Tennessee Valley Authority.

With R. D. Hookway and T. R. Kipp. 1991. "Seismic Design Specification for Category I(L) Piping, Pipe Supports, and In-line Components." Engineering Specification N3C-943. Prepared for Tennessee Valley Authority.

With L. J. Bragagnolo and J. P. Conoscente. 1990. "A Proposed Methodology for the Seismic Design of Rectangular Duct Systems." Applied Technology Center (ATC) Seminar on Seismic Design and Performance of Equipment and Nonstructural Elements in Building and Industrial Structures, Irvine, California. ATC-29.

PUBLICATIONS AND REPORTS (Continued)

With J. J. Johnson and N. P. Smith. 1990. "Developments of the Seismic Qualification Utility Group. Applied Technology Center (ATC) Seminar on Seismic Design and Performance of Equipment and Nonstructural Elements in Building and Industrial Structures, Irvine, California. ATC-29.

With R. P. Kennedy, J. D. Stevenson, J. J. Johnson, W. R. Schmidt, and K. Collins. June 1990. "Watts Bar Civil Program Review." Prepared for Tennessee Valley Authority.

With W. Djordjevic, J. Eidinger, and F. Hettinger. 1990. "American Society of Civil Engineers Activities on Seismic Design of Electrical Raceways." Current Issues Related of Nuclear Power Plant Structures, Equipment, and Piping. Proceedings of the Third Symposium, Orlando, Florida, December 1990.

With H. L. Williams. 1990. "Qualification of Cable Tray Supports by Earthquake Experience Data: Application at H. B. Robinson Plant" Current Issues Related of Nuclear Power Plant Structures, Equipment, and Piping. Proceedings of the Third Symposium, Orlando, Florida, December 1990.

With J. P. Conoscente, B. N. Sumodobila, and S. P. Harris. 1989. "Seismic Fatigue Evaluation of Rod Hung Systems." Prepared for the *Tenth Conference on Structural Mechanics in Reactor Technology*, (SMiRT).

With J. O. Dizon and G. M. Zaharoff. 1989. "Evaluation of Seismic-induced Spray Hazards at Browns Ferry Nuclear Plant." Report No. 51001.02-R-001. Prepared for the Tennessee Valley Authority. San Francisco, CA: EQE Engineering.

"Seismic Evaluation of Cable Tray Systems at H. B. Robinson Plant, Unit 2." 1989. Report No. 50018.01-R-01. Prepared for Carolina Power & Light Company. San Francisco, CA: EQE Engineering.

With L. J. Bragagnolo, K. M. David, J. E. Hoekendijk, and G. M. Zaharoff. 1989. "Program Plan for the Seismic Evaluation of HVAC Duct at Brunswick Steam Electric Plant." Prepared for Carolina Power & Light Company. Project No. 52029.03. San Francisco, CA: EQE Engineering.

With P. D. Smith. 1989. "Trial Implementation of the SQUG Raceway Seismic Evaluation Guidelines at A-46 Plants." Report prepared for the Seismic Qualification Utilities Group. San Francisco: EQE Engineering.

With P. D. Smith and J. P. Conoscente. December 1988. "SQUG Cable Tray and Conduit Evaluation Procedure." Paper presented at the Second Symposium on Current Issues Related to Nuclear Power Plant Structures, Equipment and Piping, Orlando, FL.

With S. P. Harris, P. D. Smith, and J. E. Hoekendijk. October 1988. "Performance of Condensers and Main Steam Piping in Past Earthquakes." Report prepared for General Electric Nuclear Energy Boiling Water Reactor Owners Group. San Francisco: EQE Engineering.

PUBLICATIONS AND REPORTS (Continued)

With J. J. Johnson, G. S. Hardy, N. G. Horstman, G. Rigamonti, M. R. Reyne, and D. R. Ketcham. August 1988. "Technical Basis, Procedures and Guidelines for Seismic Characterization of Savannah River Plant Reactors." E. I. Dupont De Nemours & Co, Aiken, South Carolina.

With S. P. Harris, P. S. Hashimoto, J. O. Dizon, B. Sumodobila, G. M. Zaharoff, and L. J. Bragagnolo. March 1988. "Seismic Evaluation of the High Flux Isotope Reactor Primary Containment System." Report prepared for Martin Marietta Energy Systems, Inc. San Francisco: EQE Engineering.

With P. I. Yanev. 1988. "Evaluation of Cable Tray and Conduit Systems Using the Seismic Experience Data Base." *Nuclear Engineering and Design* (North-Holland, Amsterdam) 107: 149-153.

With S. W. Swan, "Summary of the Effects of the 1985 Mexico Earthquake to Power and Industrial Facilities." Proceedings of the American Society of Civil Engineers International Conference on the 1985 Mexico Earthquake, Factors Involved and Lessons Learned, Mexico City, Mexico, September 1986.

With A. F. Kabir and S. Bolourchi, "Seismic Response of Pipes Supported on Complex Framing Systems." Proceedings of the American Society of Civil Engineers Structures Congress, New Orleans, Louisiana, September 1986.

With S. W. Swan, "The Mexico Earthquake of September 19, 1985; Performance of Power and Industrial Facilities," Proceedings of the Third U. S. National Conference on Earthquake Engineering, Charleston, South Carolina, August 1986.

"Performance of Industrial Facilities in the Mexican Earthquake of September 19, 1985," Electric Power Research Institute Report No. NP-4605, Project 1707-30 Final Report, Palo Alto, California, June 1986, also presented at the IEEE Power Engineering Society Summer Meeting, Mexico City, Mexico, July 1986.

"Earthquake Response Analysis of a Braced Offshore Platform," Master of Engineering Thesis, University of California, Berkeley (June 1982), also presented at American Petroleum Institute Committee Hearing, October 1982, San Francisco, California.

SQUG

Certificate of Achievement

This is to Certify that

Stephen J. Eder

has Completed the SQUG Walkdown Screening
and Seismic Evaluation Training Course
Held April 6–10, 1992

Neil P. Smith, Commonwealth Edison
SQUG Chairman

David A. Freed, MPR Associates
SQUG Training Coordinator

Robert P. Kassawara, EPRI
SQUG Program Manager

Remove your new pocket certificate from the receipt portion and carry it with you at all times.

Board of Registration for Professional Engineers & Land Surveyors
2535 CAPITOL OAKS DRIVE, SUITE 300
SACRAMENTO, CA 95833-2926
916 263-2222

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Consumer Affairs

Board of Registration for Professional Engineers & Land Surveyors
2535 CAPITOL OAKS DRIVE, SUITE 300
SACRAMENTO, CA 95833-2928
916 263-2222

CIVIL ENGINEER

CERTIFICATE NO. C 38085 EXPIRATION 03/31/97

STEPHEN J. EDER
670 NORTHERN AVENUE
MILL VALLEY CA 94941

Signature

PPRC 02/05/93

RECEIPT NO.
06101141

CUT ON DOTTED LINE

I M P O R T A N T

1. Please include your certificate no. on any correspondence to this office.
2. Notify the Board of any name or address change in writing.
3. Report any loss of this certificate immediately in writing to the Board.
4. Please sign and carry the Pocket certificate with you.

STEPHEN J. EDER

CERTIFICATE NO.	EXPIRATION DATE	RECEIPT NO.
C 38085	03/31/97	06101141

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Appendix B

COMPOSITE SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<---------- EQUIPMENT LOCATION -----> Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1001	1,2	23	1R213	CRD/CONTROL ROD DRIVE MECHANISM (89 TOTAL)	BECH-M118/17/F7	DW	757	UNDER VESSEL	--	16	OUT	IN	GIP	--	--	I
1002	1,2	21	1S220	CRD/HYDRAULIC CONTROL UNIT ACCUMULATOR (89 TOTAL)	BECH-M118/17/C8	RB	757	CRD AREA	S	--	N/A	N/A	NO	--	--	AI
1003	1,2	18	ZS1857	CRD/CONTROL ROD POSITION INDICATOR PROBE (89 TOTAL)	BECH-M118/17/G7	DW	757	UNDER VESSEL	R	16	N/A	N/A	YES	APED-C11-024<1>	RPIS(1C027), RC(1C005), 1Y023	AI
1004	1,2	07	CV1849	CRD/INLET SCRAM VALVE (89 TOTAL)	BECH-M118/17/D7	RB	757	CRD AREA	S	--	CLOSED	OPEN	GIP	--	SV1855, SV1856	AI
1005	1,2	07	CV1850	CRD/OUTLET SCRAM VALVE (89 TOTAL)	BECH-M118/17/D6	RB	757	CRD AREA	S	--	CLOSED	OPEN	GIP	--	SV1855, SV1856	AI
1006	1,2	088	SV1855	CRD/SCRAM PILOT VALVE (89 TOTAL)	BECH-M118/17/E6	RB	757	CRD AREA	SR	--	ENER	DENER	GIP	APED-C71-004<10>	--	AI
1007	1,2	088	SV1856	CRD/SCRAM PILOT VALVE (89 TOTAL)	BECH-M118/17/E6	RB	757	CRD AREA	SR	--	ENER	DENER	GIP	APED-C71-004<10>	--	AI
1008	OPT	088	SV1840A	CRD/BACKUP SCRAM PILOT VALVE	BECH-M117/39/F6	RB	757	G6 1	SR	--	DENER	ENER	YES	APED-C71-001<3>	1D1308(1D13)	AI
1009	OPT	088	SV1840B	CRD/BACKUP SCRAM PILOT VALVE	BECH-M117/39/F6	RB	757	G6.1	SR	--	DENER	ENER	YES	APED-C71-001<3>	1D2308(1D23)	AI
1014	2	07	CV1859A	CRD/SCRAM DISCHARGE VOLUME VENT ISOLATION VALVE	BECH-M118/17/H4	RB	776	F9	S	05	OPEN	CLOSED	GIP	--	SV1868A, SV1869A	AI
1015	1	07	CV1859B	CRD/SCRAM DISCHARGE VOLUME VENT ISOLATION VALVE	BECH-M118/17/G4	RB	776	F9	S	05	OPEN	CLOSED	GIP	--	SV1868B, SV1869B	AI
1016	2	07	CV1867A	CRD/SCRAM DISCHARGE VOLUME DRAIN ISOLATION VALVE	BECH-M118/17/D5	BAY 10	716	F5.2	S	05	OPEN	CLOSED	GIP	--	SV1868A, SV1869A	AI
1017	1	07	CV1867B	CRD/SCRAM DISCHARGE VOLUME DRAIN ISOLATION VALVE	BECH-M118/17/D5	BAY 10	716	F5.2	S	05	OPEN	CLOSED	GIP	--	SV1868B, SV1869B	AI
1018	2	088	SV1868A	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	BECH-M118/17/D4	RB	757	G6.1	SR	05	AIR	VENT	GIP	APED-C71-001<1>	--	AI
1019	1	088	SV1868B	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	BECH-M118/17/D3	RB	757	G6.1	SR	05	AIR	VENT	GIP	APED-C71-001<1>	--	AI
1020	2	088	SV1869A	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	BECH-M118/17/D4	RB	757	G6.1	SR	05	AIR	VENT	GIP	APED-C71-001<1>	--	AI

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<---------- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1021	1	088	SV1869B	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	BECH-M118/17/D3	RB	757	G6.1	SR	05	AIR	VENT	GIP	APED-C71-001<1>	--	AI
2001	2	07	PSV4400	SRV/SAFETY RELIEF VALVE (SRV)	BECH-M114/45/E5	DW	775	G7.1	S	--	CLOSED	OP/CL	GIP	--	SV4400, 1R003B	AI
2002	2	07	PSV4401	SRV/SAFETY RELIEF VALVE (SRV)	BECH-M114/45/E4	DW	775	G7.1	S	--	CLOSED	OP/CL	GIP	--	SV4401, 1R003B	AI
2003	1	07	PSV4402	SRV/SAFETY RELIEF VALVE (SRV)	BECH-M114/45/D6	DW	775	F6.1	S	--	CLOSED	OP/CL	GIP	--	SV4402, 1R003C	AI
2004	2	07	PSV4405	SRV/SAFETY RELIEF VALVE (SRV)	BECH-M114/45/D4	DW	775	F8.1	S	--	CLOSED	OP/CL	GIP	--	SV4405, 1R003D	AI
2005	1	07	PSV4406	SRV/SAFETY RELIEF VALVE (SRV)	BECH-M114/45/E6	DW	775	G8.1	S	--	CLOSED	OP/CL	GIP	--	SV4406, 1R003A	AI
2006	1	07	PSV4407	SRV/SAFETY RELIEF VALVE (SRV)	BECH-M114/45/E6	DW	775	G8	S	--	CLOSED	OP/CL	GIP	--	SV4407, 1R003A	AI
2007	2	088	SV4400	SRV/SRV PILOT VALVE	BECH-M114/45/E5	DW	775	--	SR	--	VENT	AIR	YES	BECH-E121<2F> APED-B21-18	1D23, 1D13	AI
2008	2	088	SV4401	SRV/SRV PILOT VALVE	BECH-M114/45/E4	DW	775	--	SR	--	VENT	AIR	YES	BECH-E121<2F> APED-B21-18	1D23, 1D13	AI
2009	1	088	SV4402	SRV/SRV PILOT VALVE	BECH-M114/45/D6	DW	775	--	SR	--	VENT	AIR	YES	BECH-E121<2F> APED-B21-18	1D23, 1D13	AI
2010	2	088	SV4405	SRV/SRV PILOT VALVE	BECH-M114/45/D4	DW	775	--	SR	--	VENT	AIR	YES	BECH-E121<2F> APED-B21-18	1D23, 1D13	AI
2011	1	088	SV4406	SRV/SRV PILOT VALVE	BECH-M114/45/E6	DW	775	--	SR	--	VENT	AIR	YES	BECH-E121<2F> APED-B21-18	1D23, 1D13	AI
2012	1	088	SV4407	SRV/SRV PILOT VALVE	BECH-M114/45/E6	DW	775	--	SR	--	VENT	AIR	YES	BECH-E121<2F> APED-B21-18	1G23, 1D13	AI
2013	1	21	1R003A	SRV/NITROGEN ACCUMULATOR	BECH-M114/45/E6	DW	775	F8	S	--	N/A	N/A	NO	--	--	AI
2014	2	21	1R003B	SRV/NITROGEN ACCUMULATOR	BECH-M114/45/F5	DW	775	F7.1	S	--	N/A	N/A	NO	--	--	AI
2015	1	21	1R003C	SRV/NITROGEN ACCUMULATOR	BECH-M114/45/D6	DW	775	F7.1	S	--	N/A	N/A	NO	--	--	AI
2016	2	21	1R003D	SRV/NITROGEN ACCUMULATOR	BECH-M114/45/D4	DW	775	G8	S	--	N/A	N/A	NO	--	--	AI
2019	1	18	PT4599A	SRV/RCS PRESSURE TRANSMITTER	BECH-M115/37/G8	RB	786	(1C056)	SR	05	N/A	N/A	YES	BECH-E122<20>	I/E4599A(1C009), PI4599A(1C003), E/S4599A(1C009), 1Y11	AIR

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
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Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
2020	2	18	PI4599B	SRV/RCS PRESSURE TRANSMITTER	BECH-M115/37/F2	RB	757	(1C055)	SR	05	N/A	N/A	YES	BECH-E122<20>	I/E4599B(1C009), PI4599B(1C003), E/S4599B(1C009), 1Y11	AIR
2021	1	R	PSV4439A	SRV/VACUUM RELIEF VALVE	BECH-M114/45/A5	DW	757	G7.1	--	03	CLOSED	OP/CL	NO	--	--	AI
2022	1	R	PSV4439B	SRV/VACUUM RELIEF VALVE	BECH-M114/45/A4	DW	757	G7.1	--	03	CLOSED	OP/CL	NO	--	--	AI
2023	1	R	PSV4439C	SRV/VACUUM RELIEF VALVE	BECH-M114/45/A5	DW	757	F7	--	03	CLOSED	OP/CL	NO	--	--	AI
2024	1	R	PSV4439D	SRV/VACUUM RELIEF VALVE	BECH-M114/45/A4	DW	757	F9	--	03	CLOSED	OP/CL	NO	--	--	AI
2025	1	R	PSV4439E	SRV/VACUUM RELIEF VALVE	BECH-M114/45/A5	DW	757	G9	--	03	CLOSED	OP/CL	NO	--	--	AI
2026	1	R	PSV4439F	SRV/VACUUM RELIEF VALVE	BECH-M114/45/A4	DW	757	F9	--	03	CLOSED	OP/CL	NO	--	--	AI
3001	1	07	CV4412	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/E3	DW	757	G8.1	S	05	OPEN	CLOSED	GIP	--	1R001A	AIR
3002	1	07	CV4415	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/C7	DW	757	G7.1	S	05	OPEN	CLOSED	GIP	--	1R001B	AIR
3003	1	07	CV4418	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/C3	DW	757	G8.1	S	05	OPEN	CLOSED	GIP	--	1R001C	AIR
3004	1	07	CV4420	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/E7	DW	757	G7.1	S	05	OPEN	CLOSED	GIP	--	1R001D	AIR
3009	1	088	SV4412A	MS/MSIV AC SOLENOID	BECH-M114/45/G3	DW	757	G7.1 (CV4412)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AI
3010	1	088	SV4415A	MS/MSIV AC SOLENOID	BECH-M114/45/G3	DW	757	G7.1 (CV4415)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AI
3011	1	088	SV4418A	MS/MSIV AC SOLENOID	BECH-M114/45/G3	DW	757	G8.1 (CV4418)		13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AI
3012	1	088	SV4420A	MS/MSIV AC SOLENOID	BECH-M114/45/G3	DW	757	G8.1 (CV4420)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AI
3013	1	088	SV4412B	MS/MSIV DC SOLENOID	BECH-M114/45/G3	DW	757	G7.1 (CV4412)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AIR
3014	1	088	SV4415B	MS/MSIV DC SOLENOID	BECH-M114/45/G3	DW	757	G7.1 (CV4415)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AIR

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PAUL W. HAYES / ENGINEER — Signature — APRIL 24, 1995 — Date
Print or Type Name/Title

KEVIN G. CARDANY / ENGINEER — Signature — APRIL 24, 1995 — Date
Print or Type Name/Title

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_RI.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<---------- EQUIPMENT LOCATION -----> Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3015	1	088	SV4418B	MS/MSIV DC SOLENOID	BECH-M114/45/G3	DW	757	G8.1 (CV4418)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AIR
3016	1	088	SV4420B	MS/MSIV DC SOLENOID	BECH-M114/45/G3	DW	757	G8.1 (CV4420)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AIR
3021	1	21	1R001A	MS/MSIV ACCUMULATOR	BECH-M114/45/G3	DW	757	G7.1	S	05	N/A	N/A	NO	--	--	AI
3022	1	21	1R001B	MS/MSIV ACCUMULATOR	BECH-M114/45/G3	DW	757	G7.1	S	05	N/A	N/A	NO	--	--	AI
3023	1	21	1R001C	MS/MSIV ACCUMULATOR	BECH-M114/45/G3	DW	757	G7.1	S	05	N/A	N/A	NO	--	--	AI
3024	1	21	1R001D	MS/MSIV ACCUMULATOR	BECH-M114/45/G3	DW	757	G7.1	S	05	N/A	N/A	NO	--	--	AI
3025	2	07	CV4413	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/E2	RB	757	H7.1	S	05	OPEN	CLOSED	GIP	--	1R002A	AIR
3026	2	07	CV4416	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/C8	RB	757	H7.1	S	05	OPEN	CLOSED	GIP	--	1R002B	AIR
3027	2	07	CV4419	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/C2	RB	757	H8.1	S	05	OPEN	CLOSED	GIP	--	1R002C	AIR
3028	2	07	CV4421	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/E8	RB	757	H8.1	S	05	OPEN	CLOSED	GIP	--	1R002D	AIR
3033	2	088	SV4413A	MS/MSIV AC SOLENOID	BECH-M114/45/F2	RB	757	H7.1 (CV4413)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AI
3034	2	088	SV4416A	MS/MSIV AC SOLENOID	BECH-M114/45/F2	RB	757	H7.1 (CV4416)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AI
3035	2	088	SV4419A	MS/MSIV AC SOLENOID	BECH-M114/45/F2	RB	757	H8 (CV4419)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AI
3036	2	088	SV4421A	MS/MSIV AC SOLENOID	BECH-M114/45/F2	RB	757	H8.1 (CV4421)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AI
3037	2	088	SV4413B	MS/MSIV DC SOLENOID	BECH-M114/45/F2	RB	757	H7.1 (CV4413)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AIR
3038	2	088	SV4416B	MS/MSIV DC SOLENOID	BECH-M114/45/F2	RB	757	H7.1 (CV4416)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AIR

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Print or Type Name/Title

Paul W Hayes
Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Kevin G. Cardany
Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
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Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3039	2	088	SV44198	MS/MSIV DC SOLENOID	BECH-M114/45/F2	RB	757	H8 (CV4419)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AIR
3040	2	088	SV44218	MS/MSIV DC SOLENOID	BECH-M114/45/F2	RB	757	H8.1 (CV4421)	R	13	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	AIR
3045	2	21	1R002A	MS/MSIV ACCUMULATOR	BECH-M114/45/F2	RB	757	H8.1	S	05	N/A	N/A	NO	--	--	AI
3046	2	21	1R002B	MS/MSIV ACCUMULATOR	BECH-M114/45/F2	RB	757	H8.1	S	05	N/A	N/A	NO	--	--	AI
3047	2	21	1R002C	MS/MSIV ACCUMULATOR	BECH-M114/45/F2	RB	757	H8.1	S	05	N/A	N/A	NO	--	--	AI
3048	2	21	1R002D	MS/MSIV ACCUMULATOR	BECH-M114/45/F2	RB	757	H8.1	S	05	N/A	N/A	NO	--	--	AI
3101	1	08A	MO2700	RWCU/RWCU INLET INBOARD ISOLATION VALVE	BECH-M127/43/E8	DW	775	F7.1	SR	05	OPEN	CLOSED	YES	BECH-E122<3>	1B3219(1B32)	AIR
3102	2	08A	MO2701	RWCU/RWCU INLET OUTBOARD ISOLATION VALVE	BECH-M127/43/E7	RB	786	G6.1	SR	05	OPEN	CLOSED	YES	BECH-E122<5>	1D4204(1D42)	AIR
3105	1	08A	MO2147	CS/LOOP A INBOARD TORUS ISOLATION VALVE	BECH-M121/27/B5	BAY 10	716	F5.2	R	--	OPEN	OPEN	NO	BECH-E121<4>	--	AI
3106	1	08A	MO2100	CS/LOOP A OUTBOARD TORUS ISOLATION VALVE	BECH-M121/27/B5	RB	716	H5.2	R	--	OPEN	OPEN	NO	BECH-E121<4>	--	AI
3109	1	06	1P211A	CS/CORE SPRAY PUMP A	BECH-M121/27/C3	RB	716	H6.5	SR	--	OFF	RUNNING	YES	BECH-E121<3>	1A304(1A3), 1D13	AI
3110	1	08A	MO2104	CS/LOOP A MINIMUM FLOW LINE ISOLATION VALVE	BECH-M121/27/D4	BAY 10	716	F5.2	SR	05	OPEN	CLOSED	YES	BECH-E121<6>	1B3415(1B34)	AIR
3112	1	08A	MO2112	CS/LOOP A TEST LINE ISOLATION VALVE	BECH-M121/27/F5	BAY 10	716	F5.2	R	--	CLOSED	CLOSED	NO	BECH-E121<7>	--	AI
3113	1	08A	MO2115	CS/LOOP A OUTBOARD VESSEL ISOLATION VALVE	BECH-M121/27/G5	RB	786	E8	R	--	OPEN	OPEN	NO	BECH-E121<8>	--	AI
3114	1	08A	MO2117	CS/LOOP A INBOARD VESSEL ISOLATION VALVE	BECH-M121/27/G6	RB	786	F7	SR	05	CLOSED	OPEN	YES	BECH-E121<5>	1B3413(1B34)	AIR
3115	2	08A	MO2146	CS/LOOP B INBOARD TORUS ISOLATION VALVE	BECH-M121/27/C5	BAY 14	716	D8.1	R	--	OPEN	OPEN	NO	BECH-E121<4C>	--	AI
3116	2	08A	MO2120	CS/LOOP B OUTBOARD TORUS ISOLATION VALVE	BECH-M121/27/C5	RB	716	D10	R	--	OPEN	OPEN	NO	BECH-E121<4A>	--	AI

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- Sorted By Line Number -

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Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<---------- EQUIPMENT LOCATION -----> Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3119	2	06	1P211B	CS/CORE SPRAY PUMP B	BECH-M121/27/C4	RB	716	D10, NW CR	SR	--	OFF	RUNNING	YES	BECH-E121<3A>	1A404(1A4), 1D23	AI
3120	2	08A	MO2124	CS/LOOP B MINIMUM FLOW LINE ISOLATION VALVE	BECH-M121/27/D4	BAY 01	716	E10	SR	05	OPEN	CLOSED	YES	BECH-E121<6A>	1B4415(1B44)	AIR
3122	2	08A	MO2132	CS/LOOP B TEST LINE ISOLATION VALVE	BECH-M121/27/E5	BAY 02	716	F10	R	--	CLOSED	CLOSED	NO	BECH-E121<7A>	--	AI
3123	2	08A	MO2135	CS/LOOP B OUTBOARD VESSEL ISOLATION VALVE	BECH-M121/27/E5	RB	786	F9	R	--	OPEN	OPEN	NO	BECH-E121<8A>	--	AI
3124	2	08A	MO2137	CS/LOOP B INBOARD VESSEL ISOLATION VALVE	BECH-M121/27/E6	RB	786	F9	SR	05	CLOSED	OPEN	YES	BECH-E121<5A>	1B4413(1B44)	AIR
3125	1	18	FT2110	CS/LOOP A FLOW RATE TRANSMITTER	BECH-M121/27/G5	RB	716	(1C123)	SR	--	N/A	N/A	YES	APED-E21-009<3> APED-E21-006<3>	E/S2110(1C019), FT2110(1C003), 1Y11	AI
3126	2	18	FT2130	CS/LOOP B FLOW RATE TRANSMITTER	BECH-M121/27/E5	RB	716	(1C124), NW CR	SR	--	N/A	N/A	YES	BECH-E121<10> APED-E21-006<1>	E/S2130(1C018), FT2130(1C003), 1Y021	AI
3127	1	18	LITS4539	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	BECH-M115/37/F7	RB	786	(1C056)	SR	05	N/A	N/A	YES	APED-ES1-009<4> BECH-E074	LY4539(1C056), LI4539(1C005), ES1-K603-1C004(1C004), 1D13	AIR
3128	2	18	LITS4540	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	BECH-M115/37/F2	RB	757	(1C055)	SR	05	N/A	N/A	YES	APED-E41-006<2> BECH-E074	LY4540(1C055), LI4540(1C005), E41-K603-1C003(1C003), 1D23	AIR
3129	1	18	LT4565A	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	BECH-M115/37/E7	RB	757	(1C122)	SR	05	N/A	N/A	YES	APED-E11-007<10 A>	LY4565A(1C003), LR4565A(1C003), E/S4565A(1C003), 1Y11	AIR
3130	1	18	LT4565B	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	BECH-M115/37/E7	RB	757	(1C122)	SR	05	N/A	N/A	YES	APED-E11-007<10 A>	LY4565B(1C003), LI4565B(1C003), E/S4565B(1C003), 1Y21	AIR
3131	2	18	LT4565C	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	BECH-M115/37/E2	RB	757	(1C121)	SR	05	N/A	N/A	YES	APED-E11-007<10 A>	LY4565C(1C003), LI4565C(1C003), E/S4565A(1C003), 1Y11	AIR
3132	2	18	LT4565D	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	BECH-M115/37/E2	RB	757	(1C121)	SR	05	N/A	N/A	YES	--	LI4565D(1C003), LY4565D(1C003), E/S4565D(1C003), 1Y21	AIR

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
- SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<---------- EQUIPMENT LOCATION ----------> Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3132A	OPT	18	LIS4592A	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	BECH-M115/37/E6	RB	786	(1C056)	SR	14, 15	N/A	N/A	YES	APED-C71-004<6> BECH-E121<37>	--	AI
3132B	OPT	18	LIS4592B	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	BECH-M115/37/E6	RB	786	(1C056)	SR	14, 15	N/A	N/A	YES	APED-C71-004<4> BECH-E121<24>	--	AI
3132C	OPT	18	LIS4592C	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	BECH-M115/37/E3	RB	757	(1C055)	SR	14, 15	N/A	N/A	YES	APED-C71-004<6> BECH-E121<37>	--	AI
3132D	OPT	18	LIS4592D	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	BECH-M115/37/E3	RB	757	(1C055)	SR	14, 15	N/A	N/A	YES	APED-C71-004<4> APED-E41-006<3>	--	AI
3132E	1	18	LIS4535	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	BECH-M115/37/F7	RB	786	(1C056)	SR	14	N/A	N/A	YES	--	--	AI
3132F	1	18	LIS4536	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	BECH-M115/37/F3	RB	757	(1C055)	SR	14	N/A	N/A	YES	--	--	AI
3132G	2	18	LIS4537	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	BECH-M115/37/F7	RB	786	(1C056)	SR	14	N/A	N/A	YES	--	--	AI
3132H	2	18	LIS4538	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	BECH-M115/37/F3	RB	757	(1C055)	SR	14	N/A	N/A	YES	--	--	AI
3133	1	18	LT4397A	RCS/TORUS WATER LEVEL TRANSMITTER	BECH-M143<2>/8/A7	BAY 02	716	(1C009)	SR	05	N/A	N/A	YES	BECH-E122<19A> APED-B21-119<1>	I/E4397A(1C009), L14397A(1C003), LR4396A(1C009), 1Y11	AIR
3134	2	18	LT4397B	RCS/TORUS WATER LEVEL TRANSMITTER	BECH-M143<2>/8/B5	BAY 02	716	(1C009)	SR	05	N/A	N/A	YES	BECH-E122<19A> APED-B21-119<1>	I/E4397B(1C009), L14397B(1C003), LR4396B(1C009), 1Y11	AIR
3135	1	18	PT2106	CS/LOOP A PRESSURE TRANSMITTER	BECH-M121/27/E3	RB	716	(1C123)	SR	--	N/A	N/A	YES	APED-E21-006<3>	E/S2106(1C019), P12106(1C003), 1Y11	AI
3136	2	18	PT2126	CS/LOOP B PRESSURE TRANSMITTER	BECH-M121/27/E4	RB	716	(1C124), NW CR	SR	--	N/A	N/A	YES	APED-E21-006<3>	E/S2126(1C018), P12126(1C003), 1Y21	AI
3136A	1	18	PS4593A	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	BECH-M115/37/E8	RB	786	(1C056)	SR	14	N/A	N/A	YES	--	--	AI
3136B	2	18	PS4593B	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	BECH-M115/37/E8	RB	786	(1C056)	SR	14	N/A	N/A	YES	--	--	AI

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Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<---------- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3136C	1	18	PS4593C	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	BECH-M115/37/E2	RB	757	(1C055)	SR	14	N/A	N/A	YES	--	--	AI
3136D	2	18	PS4593D	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	BECH-M115/37/E2	RB	757	(1C055)	SR	14	N/A	N/A	YES	--	--	AI
3137	1,2	07	CV4428	RCS/REACTOR VESSEL HEAD VENT ISOLATION	BECH-M114/45/H6	DW	805	SW QUADRANT	--	--	CLOSED	CLOSED	NO	--	SV4428	AI
3138	1,2	08B	SV4428	RCS/CV-4428 NITROGEN SUPPLY ISOLATION	BECH-M114/45/H6	DW	805	SW QUADRANT	R	--	VENT	VENT	NO	APED-A71-003<8>	--	AI
3139	1,2	08A	MO4423	MS/MS LINE DRAIN INBOARD ISOLATION	BECH-M114/45/B3	DW	757	G8.1	R	--	CLOSED	CLOSED	NO	APED-E44-006<8> BECH-E122<2>	--	AI
3140	1	R	V14-0001	FW/FW LOOP B REACTOR INLET CHECK ISOLATION	BECH-M114/45/B6	DW	757	F9	--	--	OPEN	CLOSED	NO	--	--	AI
3141	1	R	V14-0003	FW/FW LOOP A REACTOR INLET CHECK ISOLATION	BECH-M114/45/B4	DW	768	F9	--	--	OPEN	CLOSED	NO	--	--	AI
3142	2	08A	MO4441	FW/RX FEEDWATER LOOP A INLET STOP CHECK	BECH-M114/45/B3	RB	757	H7.1	S	05	OPEN	CLOSED	YES	BECH-E109<11>	1B3231(1B32)	AI
3143	2	08A	MO4442	FW/RX FEEDWATER LOOP B INLET STOP CHECK	BECH-M114/45/B7	RB	757	H8.1	S	05	OPEN	CLOSED	YES	BECH-E109<11>	1B4229(1B42)	AI
3144	1	07	CV4639	RR/RECIRC SAMPLE LINE INBOARD ISOLATION	BECH-M116/36/F6	DW	798	F7.1	S	05	OPEN	CLOSED	GIP	--	SV4639	AI
3145	2	07	CV4640	RR/RX RECIRC SAMPLE LINE OUTBOARD ISOLATION	BECH-M116/36/F6	RB	786	F7.1	S	05	OPEN	CLOSED	GIP	--	SV4640	AI
3146	1	08B	SV4639	RR/CV-4639 NITROGEN SUPPLY ISOL	BECH-M116/36/F6	DW	775	F7.1	S	05	AIR	VENT	GIP	--	--	AIR
3147	2	08B	SV4640	RR/CV-4640 CONTROL AIR SUPPLY ISOL	BECH-M116/36/F6	RB	786	F7.1	S	05	AIR	VENT	GIP	--	--	AIR
3148	2	07	CV1804A	CRD/"A" RECIRC PUMP MINI-PURGE SUPPLY ISOL	BECH-M117/39/A5	RB	757	F6.1	S	05	OPEN	CLOSED	GIP	--	SV1804A, ZS1804A	AI
3149	2	07	CV1804B	CRD/"B" RECIRC PUMP MINI-PURGE SUPPLY ISOL	BECH-M117/39/A5	RB	757	F6.1	S	05	OPEN	CLOSED	GIP	--	SV1804B, ZS1804B	AI
3150	2	08B	SV1804A	CRD/CV-1804A CONTROL AIR SUPPLY ISOL	BECH-M117/39/A5	RB	757	F6.1	SR	05	AIR	VENT	GIP	APED-A71-003<14>	--	AIR

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Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3151	2	08B	SV18048	CRD/CV-18048 CONTROL AIR SUPPLY ISOL	BECH-M117/39/A5	RB	757	F6.1	SR	05	AIR	VENT	GIP	APED-A71-003<15>	--	AIR
3152	1	R	V17-0083	CRD/VALVE, CHK CRD HYD	BECH-M117/39/A6	DW	757	--	--	--	OPEN	CLOSED	NO	--	--	AI
3153	1	R	V17-0096	CRD/VALVE, CHK CRD HYD	BECH-M117/39/A4	--	--	--	--	--	OPEN	CLOSED	NO	--	--	AI
3154	2	R	V17-0052	CRD/VALVE, CHK CRD HYD	BECH-M117/39/D2	RB	782	--	--	--	CLOSED	CLOSED	NO	--	--	AI
3155	1	R	V17-0053	CRD/VALVE, CHK CRD HYD	BECH-M117/39/D2	DW	809	--	--	--	CLOSED	CLOSED	NO	--	--	AI
3156	2	R	V27-0011	RW/VALVE, CHK, FDWTR, 1E214A TO RCIC	BECH-M127/43/F6	RB	757	STEAM TUNNEL	--	--	OPEN	CLOSED	NO	--	--	AI
3157	2	R	V25-0036	RCIC/VALVE, CHK, FDWTR, 1P226, EXH LINE	BECH-M125/26/D6	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	--	--	AI
3158	1	08A	MO2400	RCIC/RCIC STEAM SUPPLY INBOARD ISOL	BECH-M124/30/E6	DW	775	G8	SR	05	OPEN	CLOSED	YES	BECH-E121<29>	1B4209(1B42)	AIR
3159	2	08A	MO2401	RCIC/RCIC STEAM SUPPLY OUTBOARD ISOL	BECH-M124/30/E6	RB	757	H8.1	SR	05	OPEN	CLOSED	YES	BECH-E121<30>	1D1401(1D14)	AIR
3159A	OPT	08A	MO2404	RCIC/RCIC TURBINE STEAM SUPPLY ISOLATION	BECH-M124/30/E3	RB	716	RCIC ROOM	SR	15	OP/CL	CLOSED	YES	BECH-E121<32A>	LIS4592A, LIS4292C, 1D1402(1D14)	AI
3160	1,2	R	V23-0049	HPCI/VALVE, CHECK, HPCI, WATER, 1P216 EXH LINE	BECH-M123/27/C6	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	--	--	AI
3161	1	08A	MO2238	HPCI/STEAM SUPPLY INBOARD ISOL	BECH-M122/32/E6	DW	775	F7.1	SR	05	OPEN	CLOSED	YES	BECH-E121<14>	1B3453(1B34)	AIR
3162	2	08A	MO2239	HPCI/STEAM SUPPLY OUTBOARD ISOL	BECH-M122/32/F5	RB	775	F7.1	SR	05	OPEN	CLOSED	YES	BECH-E121<15>	1D4109(1D41)	AIR
3162B	OPT	07	HV2201	HPCI/HPCI TURBINE STOP VALVE	BECH-M122/32/D3	RB	724	HPCI ROOM	S	15	OP/CL	CLOSED	GIP	--	SV2259	AI
3162C	OPT	08B	SV2259	HPCI/HPCI TURBINE REMOTE TRIP VALVE	BECH-M122/32/A5	RB	724	HPCI ROOM	SR	15	AIR	VENT	YES	--	LIS4592B, LIS4592D	AI
3163	1,2	08B	1S218ABALL	TIP/BALL VALVE (1S260A/BALL ?)	--	--	--	--	R	--	CLOSED	CLOSED	NO	APED-C51-006<1> APED-C51-003<2>	--	AI
3164	1,2	08B	1S218BBALL	TIP/BALL VALVE (1S260B/BALL ?)	--	--	--	--	R	--	CLOSED	CLOSED	NO	APED-C51-006<1> APED-C51-003<2>	--	AI

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Signature
APRIL 24, 1995 — Date

KEVIN G. CARDANY / ENGINEER — Print or Type Name/Title
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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3165	1,2	088	1S218CBALL	TIP/BALL VALVE (1S260C/BALL 7)	--	--	--	--	R	--	CLOSED	CLOSED	NO	APED-C51-006<1> APED-C51-003<2>	--	AI
3166	1	088	SV4594A	RVI/LOOP A JET PUMP SAMPLE LINE INBOARD ISOLATION	BECH-M115/37/D3	RB	774	G9	R	--	CLOSED	CLOSED	NO	BECH-E112<25> BECH-E112<19> BECH-E112<20>	--	AI
3167	1	088	SV4594B	RVI/LOOP B JET PUMP SAMPLE LINE INBOARD ISOLATION	BECH-M115/37/C6	RB	780	F6.1	R	--	CLOSED	CLOSED	NO	BECH-E112<25> BECH-E112<19> BECH-E112<20>	--	AI
3168	2	088	SV4595A	RVI/LOOP A JET PUMP SAMPLE LINE OUTBOARD ISOLATION	BECH-M115/37/D3	RB	774	G9	R	--	CLOSED	CLOSED	NO	BECH-E112<25> BECH-E112<19> BECH-E112<20>	--	AI
3169	2	088	SV4595B	RVI/LOOP B JET PUMP SAMPLE LINE OUTBOARD ISOLATION	BECH-M115/37/C6	RB	757	F6.1	R	--	CLOSED	CLOSED	NO	BECH-E112<25> BECH-E112<19> BECH-E112<20>	--	AI
3170	1,2	08A	MO2908	RHR/RHR SHUTDOWN COOLING SUCTION ISOLATION	BECH-M119/47/D8	DW	775	SW QUADRANT	R	--	CLOSED	CLOSED	NO	BECH-E122<2A> APED-E11-007<4>	--	AI
3171	1,2	08A	MO8401A	MSIV/MSIV-LCS LOOP A INBOARD BLEEDOFF ISOLATION	BECH-M104/11/F3	RB	757	STEAM TUNNEL	R	--	CLOSED	CLOSED	NO	BECH-E122<038>	--	AI
3172	1,2	08A	MO8401B	MSIV/MSIV-LCS LOOP B INBOARD BLEEDOFF ISOLATION	BECH-M104/11/F3	RB	757	STEAM TUNNEL	R	--	CLOSED	CLOSED	NO	BECH-E122<038>	--	AI
3173	1,2	08A	MO8401C	MSIV/MSIV-LCS LOOP C INBOARD BLEEDOFF ISOLATION	BECH-M104/11/F3	RB	757	STEAM TUNNEL	R	--	CLOSED	CLOSED	NO	BECH-E122<038>	--	AI
3174	1,2	08A	MO8401D	MSIV/MSIV-LCS LOOP D INBOARD BLEEDOFF ISOLATION	BECH-M104/11/F3	RB	757	STEAM TUNNEL	R	--	CLOSED	CLOSED	NO	BECH-E122<038>	--	AI
4002	1	08A	MO2069	RHR/LOOP A TORUS INTAKE ISOLATION VALVE	BECH-M120/38/C3	BAY 08	716	H6.1	R	--	OPEN	OPEN	NO	BECH-E121<45>	--	AI
4003	1	08A	MO2012	RHR/RHR PUMP A ISOLATION VALVE	BECH-M120/38/C3	RB	716	H6.5	R	--	OPEN	OPEN	NO	BECH-E121<48> BECH-E121<43A>	--	AI
4004	1	08A	MO2011	RHR/RHR PUMP A ISOLATION VALVE	BECH-M120/38/C3	RB	716	H6.5	R	--	CLOSED	CLOSED	NO	BECH-E121<59> BECH-E121<44F>	--	AI
4005	1	06	1P229A	RHR/RHR PUMP A	BECH-M120/38/B3	RB	716	H6.5	SR	--	OFF	RUNNING	YES	BECH-E104<3D> BECH-E121<41>/B	1A305(1A3), 1D13	AI

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Print or Type Name/Title

Signature

APRIL 24, 1995
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KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	SORT	NOTES	OP. ST. Normal	OP. ST. Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
4006	1	08A	MO2015	RHR/RHR PUMP C ISOLATION VALVE	BECH-M120/38/C2	RB	716	H6.5	R	--	OPEN	OPEN	NO	BECH-E121<43A>	--	AI
4007	1	08A	MO2016	RHR/RHR PUMP C ISOLATION VALVE	BECH-M120/38/C2	RB	716	H6.5	R	--	CLOSED	CLOSED	NO	BECH-E121<44G>	--	AI
4008	1	06	1P229C	RHR/RHR PUMP C	BECH-M120/38/B2	RB	716	H6.5	SR	--	OFF	RUNNING	YES	BECH-E121<41>	1A306(1A3), 1D13	AI
4008A	2	08A	MO2009	RHR/RHR PUMPS 1P-229A/C MIN FLOW BYPASS	BECH-M120/38/C4	BAY 10	716	F5.2	SR	05	CLOSED	OP/CL	YES	BECH-E121<54> BECH-E121<59>	1B3426(1B34)	AIR
4009	1	08A	MO2030	RHR/LOOP A HX BYPASS VALVE	BECH-M120/38/D5	RB	731	H5.2	SR	--	OPEN	CLOSED	YES	BECH-E121<51>	1B3432(1B34)	AI
4010	1	08A	MO2029	RHR/LOOP A HX ISOLATION VALVE	BECH-M120/38/C5	RB	731	H5.2	R	--	OPEN	OPEN	NO	BECH-E121<43B>	--	AI
4011	1	21	1E201A	RHR/LOOP A HEAT EXCHANGER	BECH-M120/38/B6	RB	731	H5.2	S	--	N/A	N/A	NO	--	--	AI
4011A	1,2	08A	MO2044B	RHR/RHR HX 1E-201A SHELL SIDE INBOARD VENT	BECH-M120/38/C6	RB	747	SE CORNER ROOM	R	--	CLOSED	CLOSED	NO	BECH-E121<047>	--	AI
4013A	1,2	08B	SV2051	RHR/RHR HX 1E-201A PASS SAMP LINE INBOARD ISOL	BECH-M120/38/D7	RB	716	H6.5	R	--	CLOSED	CLOSED	NO	BECH-E122<13>	--	AI
4013B	1,2	08A	MO2036	RHR/RHR HX 1E-201A COND DRN TO RCIC PUMP SUCTION	BECH-M120/38/D8	RB	737	H5.2	--	09	CLOSED	CLOSED	NO	--	--	AI
4014	1	08A	MO2031	RHR/LOOP A HX ISOLATION VALVE	BECH-M120/38/D7	RB	731	H5.2	R	--	OPEN	OPEN	NO	BECH-E121<43>	--	AI
4016	1	08A	MO2001	RHR/LOOP A DRYWELL SPRAY OUTBOARD ISOLATION VALVE	BECH-M120/38/E4	BAY 16	716	E9.1	SR	05	CLOSED	OPEN	YES	BECH-E121<60>	1B3420(1B34)	AIR
4016A	1	08A	MO2000	RHR/LOOP A DRYWELL SPRAY INBOARD ISOLATION VALVE	BECH-M120/38/E2	RB	786	D8	SR	05	CLOSED	OPEN	YES	BECH-E121<48>	1B3419(1B34)	AIR
4017	1	08A	MO2005	RHR/LOOP A TORUS SPRAY OUTBOARD ISOLATION VALVE	BECH-M120/38/E4	BAY 15	716	E9.1	SR	05	CLOSED	OPEN	YES	BECH-E121<49>	1B3423(1B34)	AIR
4018	1	08A	MO2004	RHR/LOOP A LPCI OUTBOARD INJECT VALVE	BECH-M120/38/D4	RB	757	RHR ROOM	SR	05	OPEN	OP/CL	YES	BECH-E121<53>	1B3494(1B34A)	AI
4019	1	08A	MO2003	RHR/LOOP A LPCI INBOARD INJECT VALVE	BECH-M120/38/D3	RB	757	RHR ROOM	SR	05	CLOSED	OP/CL	YES	BECH-E121<52>	1B3493(1B34A)	AIR
4020	1	08A	MO2006	RHR/LOOP A TORUS SPRAY INBOARD ISOLATION VALVE	BECH-M120/38/E4	BAY 15	716	E9.1	SR	05	CLOSED	OPEN	YES	BECH-E121<59A>	1B3425(1B34)	AIR

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--------- EQUIPMENT Building	Flr.Elv.	LOCATION -----> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REv.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
4021	1	08A	MO2007	RHR/LOOP A TORUS RETURN ISOLATION VALVE	BECH-M120/38/E5	BAY 15	715	E9.1	SR	05	CLOSED	OP/CL	YES	BECH-E121<59>	1B3425(1B34)	AIR
4022	2	08A	MO1989	RHR/LOOP B TORUS INTAKE ISOLATION VALVE	BECH-M119/47/C7	BAY 16	716	E10	R	--	OPEN	OPEN	NO	BECH-E121<45B>	--	AI
4023	2	08A	MO1913	RHR/RHR PUMP B ISOLATION VALVE	BECH-M119/47/B7	RB	716	D10	R	--	OPEN	OPEN	NO	BECH-E121<43D>	--	AI
4024	2	08A	MO1912	RHR/RHR PUMP B ISOLATION VALVE	BECH-M119/47/B7	RB	716	D10	R	--	CLOSED	CLOSED	NO	BECH-E121<44B>	--	AI
4025	2	06	1P229B	RHR/RHR PUMP B	BECH-M119/47/A6	RB	716	D10, NW CR	SR	--	OFF	RUNNING	YES	BECH-E121<41A>	1A405(1A4)	AI
4026	2	08A	MO1921	RHR/RHR PUMP D ISOLATION VALVE	BECH-M119/47/B7	RB	716	D10	R	--	OPEN	OPEN	NO	BECH-E121<43E>	--	AI
4027	2	08A	MO1920	RHR/RHR PUMP D ISOLATION VALVE	BECH-M119/47/B8	RB	716	D10	R	--	CLOSED	CLOSED	NO	BECH-E121<44D>	--	AI
4028	2	06	1P229D	RHR/RHR PUMP D	BECH-M119/47/A8	RB	716	D10, NW CR	SR	--	OFF	RUNNING	YES	BECH-E121<41D>	1A406(1A4), 1D23	AI
4028A	1	08A	MO1935	RHR/RHR PUMPS 1P-229B/D MIN FLOW BYPASS	BECH-M119/47/B5	BAY 16	716	E9.1	SR	05	CLOSED	OP/CL	YES	BECH-E121<54A>	1B4430(1B44)	AIR
4029	2	08A	MO1940	RHR/LOOP B HX BYPASS VALVE	BECH-M119/47/D4	RB	732	D10, NW CR	SR	--	OPEN	CLOSED	YES	BECH-E121<51A>	1B4432(1B44)	AI
4030	2	08A	MO1939	RHR/LOOP B HX ISOLATION VALVE	BECH-M119/47/C4	RB	732	D10	R	--	OPEN	OPEN	NO	BECH-E121<43F>	--	AI
4031	2	21	1E201B	RHR/LOOP B HEAT EXCHANGER	BECH-M119/47/B3	RB	716	D10, NW CR	S	--	N/A	N/A	NO	--	--	AI
4031A	1,2	08A	MO1949B	RHR/RHR HX 1E-201B SHELL SIDE INBOARD VENT	BECH-M119/47/C3	RB	732	NW CORNER ROOM	R	--	CLOSED	CLOSED	NO	BECH-E121<047>	--	AI
4033A	1,2	08B	SV1972	RHR/RHR HX 1E-201B PASS SAMP LINE INBOARD ISOL	BECH-M119/47/C2	RB	716	D10	R	--	CLOSED	CLOSED	NO	BECH-E122<13>	--	AI
4033B	1,2	08A	MO1967	RHR/RHR HX 1E-201B COND DRN TO RCIC PUMP SUCTION	BECH-M119/47/E2	RB	738	D10	--	09	CLOSED	CLOSED	NO	--	--	AI
4034	2	08A	MO1941	RHR/LOOP B HX ISOLATION VALVE	BECH-M119/47/D3	RB	732	D10	R	--	OPEN	OPEN	NO	BECH-E121<43C>	--	AI
4036	2	08A	MO1903	RHR/LOOP B DRYWELL SPRAY OUTBOARD ISOLATION VALVE	BECH-M119/47/F6	BAY 14	716	D7.1	SR	05	CLOSED	OPEN	YES	BECH-E121<60>	1B4420(1B44)	AIR
4036A	2	08A	MO1902	RHR/LOOP B DRYWELL SPRAY INBOARD ISOLATION VALVE	BECH-M119/47/F7	RB	766	E7.1	SR	05	CLOSED	OPEN	YES	BECH-E121<48>	1B4419(1B44)	AIR

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DUANE ARNOLD ENERGY CENTER
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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	SORT	NOTES	OP. Normal	ST. Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
4037	2	08A	MO1932	RHR/LOOP B TORUS SPRAY OUTBOARD ISOLATION VALVE	BECH-M119/47/E5	BAY 14	716	D7.1	SR	05	CLOSED	OPEN	YES	BECH-E121<49A>	1B4427(1B44)	AIR
4038	2	08A	MO1904	RHR/LOOP B LPCI OUTBOARD INJECT VALVE	BECH-M119/47/E6	RB	757	RHR ROOM	SR	05	OPEN	OP/CL	YES	BECH-E121<53A>	1B4494(1B44A)	AI
4039	2	08A	MO1905	RHR/LOOP B LPCI INBOARD INJECT VALVE	BECH-M119/47/E6	RB	757	RHR ROOM	SR	05	CLOSED	OP/CL	YES	BECH-E121<52A>	1B4493(1B44A)	AIR
4040	2	08A	MO1933	RHR/LOOP B TORUS SPRAY INBOARD ISOLATION VALVE	BECH-M119/47/E5	BAY 13	716	D7.1	SR	05	CLOSED	OPEN	YES	BECH-E121<59A>	1B4428(1B44)	AIR
4041	2	08A	MO1934	RHR/LOOP B TORUS RETURN ISOLATION VALVE	BECH-M119/47/E5	BAY 13	716	D7.1	SR	05	CLOSED	OP/CL	YES	BECH-E121<59B>	1B4429(1B44)	AIR
4042	1	18	FT1971A	RHR/LOOP A FLOW TRANSMITTER	BECH-M120/38/E7	RB	716	(1C129A)	SR	--	N/A	N/A	YES	APED-E11-007<10 A> APED-E11-007<12 > BECH-E121<57>	FY1971A(1C019), F11971A(1C003), E/S1971A(1C019), 1Y11	AI
4043	1	18	PT2032	RHR/LOOP A PRESSURE TRANSMITTER	BECH-M120/38/D7	RB	716	(1C129A)	SR	--	N/A	N/A	YES	APED-E11-007<10 > APED-E11-007<27 >	E/S2032(1C019), P12032(1C003), 1Y11	AI
4044	2	18	FT1971B	RHR/LOOP B FLOW TRANSMITTER	BECH-M119/47/E2	RB	716	(1C129B), NW CR	SR	--	N/A	N/A	YES	APED-E11-007<10 A>	FY1971B(1C018), F11971B(1C003), E/S1971B(1C018), 1Y021	AI
4045	2	18	PT1962	RHR/LOOP B PRESSURE TRANSMITTER	BECH-M119/47/D3	RB	716	(1C129B), NW CR	SR	--	N/A	N/A	YES	APED-E11-007<10 A> BECH-E121<57A>	E/S1962(1C018), P119628(1C003), 1Y021	AI
4046	1,2	08A	MO2010	RHR/CROSS TIE ISOLATION VALVE	BECH-M120/38/C5	BAY 15	716	D8.1	SR	--	OPEN	CLOSED	YES	BECH-E121<45A>	1B3437(1B34)	AI
4046A	1,2	08A	MO1937	RHR/RHR DRAIN TO WASTE SURGE TANK INBOARD ISOL	BECH-M119/47/D6	BAY 14	716	D8.1	R	--	CLOSED	CLOSED	NO	BECH-E122<15>	--	AI
4047	OPT	19	TE4386L	CAC/DRYWELL TEMPERATURE (ELEVATION 830')	BECH-M143<2>/B/E6	DW	824	SE QUADRANT	SR	--	N/A	N/A	YES	BECH-E122<020A>	TT4386L(1C142), I/E4386G(1C003), TY4386(1C003), TSY4386(1C003), TIA4386(1C003)	AI

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
4048	OPT	19	TE4386J	CAC/DRYWELL TEMPERATURE (ELEVATION 780')	BECH-M143<2>/8/D6	DW	775	NE QUADRANT	SR	--	N/A	N/A	YES	BECH-E122<020>	TT4386J(1C142), I/E4386G(1C003), TY4386(1C003), TSY4386(1C003), TIA4386(1C003)	AI
4049	OPT	19	TE4324	CNT/TORUS WATER TEMPERATURE (20-220 DEGREES F)	BECH-M143<2>/8/B7	BAY 15	716	TORUS CATWALK	SR	--	N/A	N/A	YES	BECH-E122<019>	TT4324(1C142), I/E4324(1C003), TY4325(1C003), TIA4325(1C003), 1Y21	AI
4050	OPT	19	TE4325	CNT/TORUS WATER TEMPERATURE (20-220 DEGREES F)	BECH-M143<2>/8/B7	BAY 04	716	TORUS CATWALK	SR	--	N/A	N/A	YES	BECH-E122<019>	TT4325(1C142), I/E4325(1C003), TY4325(1C003), TIA4325(1C003), 1Y11	AI
5001	1	07	CV4412	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/E3	DW	757	G8.1	--	06	OPEN	CLOSED	GIP	--	1R001A, SV4412A, SV4412B	I
5002	1	07	CV4415	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/C7	DW	757	G7.1	--	06	OPEN	CLOSED	GIP	--	1R001B, SV4415A, SV4415B	I
5003	1	07	CV4418	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/C3	DW	757	G8.1	--	06	OPEN	CLOSED	GIP	--	1R001C, SV4418A, SV4418B	I
5004	1	07	CV4420	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/E7	DW	757	G7.1	--	06	OPEN	CLOSED	GIP	--	1R001D, SV4420A, SV4420B	I
5005	1	088	SV4412A	MS/MSIV AC SOLENOID	BECH-M114/45/G3	DW	757	G7.1 (CV4412)	--	--	AIR	VENT	GIP	BECH-E122<11> APED-A71-003	--	I
5006	1	088	SV4415A	MS/MSIV AC SOLENOID	BECH-M114/45/G3	DW	757	G7.1 (CV4415)	--	--	AIR	VENT	GIP	--	--	I
5007	1	088	SV4418A	MS/MSIV AC SOLENOID	BECH-M114/45/G3	DW	757	G8.1 (CV4418)	--	--	AIR	VENT	GIP	--	--	I
5008	1	088	SV4420A	MS/MSIV AC SOLENOID	BECH-M114/45/G3	DW	757	G8.1 (CV4420)	--	--	AIR	VENT	GIP	--	--	I
5009	1	088	SV4412B	MS/MSIV DC SOLENOID	BECH-M114/45/G3	DW	757	G7.1 (CV4412)	--	--	AIR	VENT	GIP	--	--	I
5010	1	088	SV4415B	MS/MSIV DC SOLENOID	BECH-M114/45/G3	DW	757	G7.1 (CV4415)	--	--	AIR	VENT	GIP	--	--	I
5011	1	088	SV4418B	MS/MSIV DC SOLENOID	BECH-M114/45/G3	DW	757	G8.1 (CV4418)	--	--	AIR	VENT	GIP	--	--	I
5012	1	088	SV4420B	MS/MSIV DC SOLENOID	BECH-M114/45/G3	DW	757	G8.1 (CV4420)	--	--	AIR	VENT	GIP	--	--	I

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5013	1	21	1R001A	MS/MSIV ACCUMULATOR	BECH-M114/45/G3	DW	757	G7.1	--	06	N/A	N/A	NO	--	--	I
5014	1	21	1R001B	MS/MSIV ACCUMULATOR	BECH-M114/45/G3	DW	757	G7.1	--	06	N/A	N/A	NO	--	--	I
5015	1	21	1R001C	MS/MSIV ACCUMULATOR	BECH-M114/45/G3	DW	757	G7.1	--	06	N/A	N/A	NO	--	--	I
5016	1	21	1R001D	MS/MSIV ACCUMULATOR	BECH-M114/45/G3	DW	757	G7.1	--	06	N/A	N/A	NO	--	--	I
5017	2	07	CV4413	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/E2	RB	757	H7.1	--	06	OPEN	CLOSED	GIP	--	1R002A, SV4413A, SV4413B	I
5018	2	07	CV4416	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/C8	RB	757	H7.1	--	06	OPEN	CLOSED	GIP	--	1R002B, SV4416A, SV4416B	I
5019	2	07	CV4419	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/C2	RB	757	H8.1	--	06	OPEN	CLOSED	GIP	--	1R002C, SV4419A, SV4419B	I
5020	2	07	CV4421	MS/MAIN STEAM ISOLATION VALVE (MSIV)	BECH-M114/45/E8	RB	757	H8.1	--	06	OPEN	CLOSED	GIP	--	1R002D, SV4421A, SV4421B	I
5021	2	088	SV4413A	MS/MSIV AC SOLENOID	BECH-M114/45/F2	RB	757	H7.1 (CV4413)	--	--	AIR	VENT	GIP	--	--	I
5022	2	088	SV4416A	MS/MSIV AC SOLENOID	BECH-M114/45/F2	RB	757	H7.1 (CV4416)	--	--	AIR	VENT	GIP	--	--	I
5023	2	088	SV4419A	MS/MSIV AC SOLENOID	BECH-M114/45/F2	RB	757	H8 (CV4419)	--	--	AIR	VENT	GIP	--	--	I
5024	2	088	SV4421A	MS/MSIV AC SOLENOID	BECH-M114/45/F2	RB	757	H8.1 (CV4421)	--	--	AIR	VENT	GIP	--	--	I
5025	2	088	SV4413B	MS/MSIV DC SOLENOID	BECH-M114/45/F2	RB	757	H7.1 (CV4413)	--	--	AIR	VENT	GIP	--	--	I
5026	2	088	SV4416B	MS/MSIV DC SOLENOID	BECH-M114/45/F2	RB	757	H7.1 (CV4416)	--	--	AIR	VENT	GIP	--	--	I
5027	2	088	SV4419B	MS/MSIV DC SOLENOID	BECH-M114/45/F2	RB	757	H8 (CV4419)	--	--	AIR	VENT	GIP	--	--	I
5028	2	088	SV4421B	MS/MSIV DC SOLENOID	BECH-M114/45/F2	RB	757	H8.1 (CV4421)	--	--	AIR	VENT	GIP	--	--	I
5029	2	21	1R002A	MS/MSIV ACCUMULATOR	BECH-M114/45/F2	RB	757	H8.1	--	06	N/A	N/A	NO	--	--	I
5030	2	21	1R002B	MS/MSIV ACCUMULATOR	BECH-M114/45/F2	RB	757	H8.1	--	06	N/A	N/A	NO	--	--	I
5031	2	21	1R002C	MS/MSIV ACCUMULATOR	BECH-M114/45/F2	RB	757	H8.1	--	06	N/A	N/A	NO	--	--	I
5032	2	21	1R002D	MS/MSIV ACCUMULATOR	BECH-M114/45/F2	RB	757	H8.1	--	06	N/A	N/A	NO	--	--	I

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Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- EQUIPMENT LOCATION ---> Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5033	1	08A	MO4423	MS/MS LINE DRAIN INBOARD ISOLATION	BECH-M114/45/B3	DW	757	G8.1	--	--	CLOSED	CLOSED	NO	APED-E44-006<8> BECH-E122<2>	1B3220(1B32)	I
5034	2	08A	MO4424	MS/MS LINE DRAIN OUTBOARD ISOLATION	BECH-M114/45/B3	RB	757	H7.1	--	--	CLOSED	CLOSED	NO	APED-E41-006<8> BECH-E122<5>	1D4203(1D42)	I
5035	1	R	V14-0001	FW/FW LOOP B REACTOR INLET CHECK ISOLATION	BECH-M114/45/B6	DW	757	F9	--	--	OPEN	CLOSED	NO	--	--	I
5036	1	R	V14-0003	FW/FW LOOP A REACTOR INLET CHECK ISOLATION	BECH-M114/45/B4	DW	768	F9	--	--	OPEN	CLOSED	NO	--	--	I
5037	2	08A	MO4441	FW/RX FEEDWATER LOOP A INLET STOP CHECK	BECH-M114/45/B3	RB	757	H7.1	--	06	OPEN	CLOSED	YES	BECH-E109<11>	1B3231(1B32)	I
5038	2	08A	MO4442	FW/RX FEEDWATER LOOP B INLET STOP CHECK	BECH-M114/45/B7	RB	757	H8.1	--	06	OPEN	CLOSED	YES	BECH-E109<11>	1B4229(1B42)	I
5039	1	07	CV4639	RR/RECIRC SAMPLE LINE INBOARD ISOLATION	BECH-M116/36/F6	DW	798	F7.1	--	06	OPEN	CLOSED	GIP	--	SV4639	I
5040	2	07	CV4640	RR/RX RECIRC SAMPLE LINE OUTBOARD ISOLATION	BECH-M116/36/F6	RB	786	F7.1	--	06	OPEN	CLOSED	GIP	--	SV4640	I
5041	1	08B	SV4639	RR/CV-4639 NITROGEN SUPPLY ISOL	BECH-M116/36/F6	DW	775	F7.1	--	06	AIR	VENT	GIP	--	--	I
5042	2	08B	SV4640	RR/CV-4640 CONTROL AIR SUPPLY ISOL	BECH-M116/36/F6	RB	786	F7.1	--	06	AIR	VENT	GIP	--	--	I
5043	2	07	CV1804A	CRD/"A" RECIRC PUMP MINI-PURGE SUPPLY ISOL	BECH-M117/39/A5	RB	757	F6.1	--	06	OPEN	CLOSED	GIP	SV1804A	ZS1804A	I
5044	2	07	CV1804B	CRD/"B" RECIRC PUMP MINI-PURGE SUPPLY ISOL	BECH-M117/39/A5	RB	757	F6.1	--	06	OPEN	CLOSED	GIP	SV1804B	ZS1804B	I
5045	2	08B	SV1804A	CRD/CV-1804A CONTROL AIR SUPPLY ISOL	BECH-M117/39/A5	RB	757	F6.1	--	06	AIR	VENT	GIP	--	--	I
5046	2	08B	SV1804B	CRD/CV-1804B CONTROL AIR SUPPLY ISOL	BECH-M117/39/A5	RB	757	F6.1	--	06	AIR	VENT	GIP	--	--	I
5046A	1	R	V17-0083	CRD/VALVE, CHK CRD HYD	BECH-M117/39/A6	DW	757	--	--	--	OPEN	CLOSED	NO	--	--	I
5046B	1	R	V17-0096	CRD/VALVE, CHK CRD HYD	BECH-M117/39/A4	--	--	--	--	--	OPEN	CLOSED	NO	--	--	I
5047	2	R	V17-0052	CRD/VALVE, CHK CRD HYD	BECH-M117/39/D2	RB	782	--	--	--	CLOSED	CLOSED	NO	--	--	I

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Print or Type Name/Title

Paul W Hayes
Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Kevin G Cardany
Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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Filter Criteria: <none>
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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5048	1	R	V17-0053	CRD/VALVE, CHK CRD HYD	BECH-M117/39/D2	DW	809	--	--	--	CLOSED	CLOSED	NO	--	--	I
5049	1,2	088	SV1852	CRD/DIRECTIONAL CONTROL VALVE (89 TOTAL)	BECH-M118/17/D7	RB	757	CRD AREA	--	--	CLOSED	CLOSED	NO	APED-C11-024<14>	--	I
5050	1,2	088	SV1854	CRD/DIRECTIONAL CONTROL VALVE (89 TOTAL)	BECH-M118/17/C7	RB	757	CRD AREA	--	--	CLOSED	CLOSED	NO	APED-C11-024<14>	--	I
5051	1,2	088	SV1851	CRD/DIRECTIONAL CONTROL VALVE (89 TOTAL)	BECH-M118/17/D7	RB	757	CRD AREA	--	--	CLOSED	CLOSED	NO	APED-C11-024<14>	--	I
5052	1,2	088	SV1853	CRD/DIRECTIONAL CONTROL VALVE (89 TOTAL)	BECH-M118/17/C7	RB	757	CRD AREA	--	--	CLOSED	CLOSED	NO	APED-C11-024<14>	--	I
5053	OPT	07	CV1849	CRD/INLET SCRAM VALVE (89 TOTAL)	BECH-M118/17/D7	RB	757	CRD AREA	--	01	CLOSED	CLOSED	GIP	INST. AIR	--	I
5054	OPT	07	CV1850	CRD/OUTLET SCRAM VALVE (89 TOTAL)	BECH-M118/17/D6	RB	757	CRD AREA	--	01	CLOSED	CLOSED	GIP	INST. AIR	--	I
5055	1,2	R	V18-0118	CRD/CHECK VALVE, CHARGING WATER RISER	BECH-M118/17/B8	RB	757	--	--	--	CLOSED	CLOSED	NO	--	--	I
5056	2	07	CV1859A	CRD/SCRAM DISCHARGE VOLUME VENT ISOLATION VALVE	BECH-M118/17/H4	RB	776	F9	--	06	OPEN	CLOSED	GIP	--	SV1868A, SV1869A	I
5057	1	07	CV1859B	CRD/SCRAM DISCHARGE VOLUME VENT ISOLATION VALVE	BECH-M118/17/G4	RB	776	F9	--	06	OPEN	CLOSED	GIP	--	SV1868B, SV1869B	I
5058	2	07	CV1867A	CRD/SCRAM DISCHARGE VOLUME DRAIN ISOLATION VALVE	BECH-M118/17/D5	BAY 10	716	F5.2	--	06	OPEN	CLOSED	GIP	--	SV1868A, SV1869A	I
5059	1	07	CV1867B	CRD/SCRAM DISCHARGE VOLUME DRAIN ISOLATION VALVE	BECH-M118/17/D5	BAY 10	716	F5.2	--	06	OPEN	CLOSED	GIP	--	SV1868B, SV1869B	I
5060	2	088	SV1868A	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	BECH-M118/17/D4	RB	757	G6.1	--	06	AIR	VENT	GIP	APED-C71-001<3>	SV1870A	I
5061	1	088	SV1868B	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	BECH-M118/17/D3	RB	757	G6.1	--	06	AIR	VENT	GIP	APED-C71-001<3>	SV1870B	I
5062	2	088	SV1869A	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	BECH-M118/17/D4	RB	757	G6.1	--	06	AIR	VENT	GIP	APED-C71-001<3>	SV1870A	I
5063	1	088	SV1869B	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	BECH-M118/17/D3	RB	757	G6.1	--	06	AIR	VENT	GIP	APED-C71-001<3>	SV1870B	I

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Print or Type Name/Title

Paul W Hayes
Signature

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Print or Type Name/Title

Kevin G. Cardany
Signature

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Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5064	1	08A	MO1909	RHR/RHR SHUTDOWN COOLING OUTBOARD SUCTION ISOL	BECH-M119/47/D8	RB	757	E8.1	--	--	CLOSED	CLOSED	NO	APED-E11-007<7> BECH-E122<4>	--	I
5065	1	08A	MO1989	RHR/LOOP B TORUS INTAKE ISOLATION VALVE	BECH-M119/47/C7	BAY 16	716	E10	--	06	OPEN	CLOSED	YES	BECH-E121<45B>	1B4440(1B44)	I
5066	1	08A	MO2069	RHR/LOOP A TORUS INTAKE ISOLATION VALVE	BECH-M120/38/C3	BAY 08	716	H6.1	--	06	OPEN	CLOSED	YES	BECH-E121<45>	1B3448(1B34)	I
5067	2	08A	MO1921	RHR/RHR PUMP D ISOLATION VALVE	BECH-M119/47/B7	RB	716	D10, NW CR	--	06	OPEN	CLOSED	YES	BECH-E121<43E>	1B4426(1B44)	I
5068	2	08A	MO1913	RHR/RHR PUMP B ISOLATION VALVE	BECH-M119/47/B7	RB	716	D10, NW CR	--	06	OPEN	CLOSED	YES	BECH-E121<43D>	1B4424(1B44)	I
5069	2	08A	MO2012	RHR/RHR PUMP A ISOLATION VALVE	BECH-M120/38/C3	RB	716	H6.5	--	06	OPEN	CLOSED	YES	BECH-E121<48>	1B3428(1B34)	I
5070	2	08A	MO2015	RHR/RHR PUMP C ISOLATION VALVE	BECH-M120/38/C2	RB	716	H6.5	--	06	OPEN	CLOSED	YES	BECH-E121<43>	1B3429(1B34)	I
5071	2	08A	MO1932	RHR/LOOP B TORUS SPRAY OUTBOARD ISOLATION VALVE	BECH-M119/47/E5	BAY 14	716	D7.1	--	--	CLOSED	CLOSED	NO	BECH-E121<49A>	--	I
5072	2	08A	MO2005	RHR/LOOP A TORUS SPRAY OUTBOARD ISOLATION VALVE	BECH-M120/38/E4	BAY 15	716	E9.1	--	--	CLOSED	CLOSED	NO	BECH-E121<49>	--	I
5073	1	08A	MO1933	RHR/LOOP B TORUS SPRAY INBOARD ISOLATION VALVE	BECH-M119/47/E5	BAY 13	716	D7.1	--	--	CLOSED	CLOSED	NO	BECH-E121<59>	--	I
5074	1	08A	MO2006	RHR/LOOP A TORUS SPRAY INBOARD ISOLATION VALVE	BECH-M120/38/E4	BAY 15	716	E9.1	--	--	CLOSED	CLOSED	NO	BECH-E121<59A>	--	I
5075	1	08A	MO1934	RHR/LOOP B TORUS RETURN ISOLATION VALVE	BECH-M119/47/E5	BAY 13	716	D7.1	--	--	CLOSED	CLOSED	NO	BECH-E121<59B>	--	I
5076	1	08A	MO2007	RHR/LOOP A TORUS RETURN ISOLATION VALVE	BECH-M120/38/E5	BAY 15	716	E9.1	--	--	CLOSED	CLOSED	NO	BECH-E121<59>	--	I
5077	1	08A	MO1902	RHR/LOOP B DRYWELL SPRAY INBOARD ISOLATION VALVE	BECH-M119/47/E7	RB	766	E7.1	--	--	CLOSED	CLOSED	NO	BECH-E121<48>	--	I
5078	1	08A	MO2000	RHR/RHR LOOP A INBOARD DRYWELL SPRAY VALVE	BECH-M120/38/E2	RB	786	D8	--	--	CLOSED	CLOSED	NO	BECH-E121<48>	--	I
5079	2	08A	MO1903	RHR/LOOP B DRYWELL SPRAY OUTBOARD ISOLATION VALVE	BECH-M119/47/F6	BAY 14	716	D7.1	--	--	CLOSED	CLOSED	NO	BECH-E121<60>	--	I

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5080	2	08A	MO2001	RHR/LOOP A DRYWELL SPRAY OUTBOARD ISOLATION VALVE	BECH-M120/38/E4	BAY 16	716	E9.1	--	--	CLOSED	CLOSED	NO	BECH-E121<60>	--	I
5081	1	08A	MO1900	RHR/RHR OUTBOARD &EACTOR HEAD SPRAY ISOL	BECH-M119/47/F8	DW	805	F8.1	--	--	CLOSED	CLOSED	NO	BECH-E105<14A>	--	I
5082	2	08A	MO1901	RHR/OUTBOARD REACTOR HEAD SPRAY VALVE	BECH-M119/47/F7	RB	786	E8	--	--	CLOSED	CLOSED	NO	BECH-E1057<10>	--	I
5083	2	08A	MO1905	RHR/LOOP B LPCI INBOARD INJECT VALVE	BECH-M119/47/E6	RB	757	E7.1	--	--	CLOSED	CLOSED	NO	BECH-E121<52A>	--	I
5084	2	08A	MO2003	RHR/LOOP A LPCI INBOARD INJECT VALVE	BECH-M120/38/D3	RB	757	E8.1	--	--	CLOSED	CLOSED	NO	BECH-E121<52>	--	I
5085	OPT	08A	MO1904	RHR/LOOP B LPCI OUTBOARD INJECT VALVE	BECH-M119/47/E6	RB	757	D7.1	--	06	OPEN	CLOSED	YES	BECH-E121<53A>	1B4494(1B44A)	I
5086	OPT	08A	MO2004	RHR/LOOP A LPCI OUTBOARD INJECT VALVE	BECH-M120/38/D4	RB	757	E8.1	--	06	OPEN	CLOSED	YES	BECH-E121<53>	1B3494(1B34A)	I
5087	1	R	V19-0149	RHR/VALVE, CHECK, RHR, LPCI, INJECT LOOP B	BECH-M119/47/D7	DW	757	SW QUADRANT	--	--	CLOSED	CLOSED	NO	--	--	I
5088	1	R	V20-0082	RHR/VALVE, CHECK, RHR, LPCI, INJECT LOOP A	BECH-M120/38/D3	DW	757	--	--	--	CLOSED	CLOSED	NO	--	--	I
5089	2	R	V19-0016	RHR/VALVE, CHECK, RHR, 1P229B DISCH, BYP LINE	BECH-M119/47/B5	RB	716	NW CORNER ROOM	--	--	CLOSED	CLOSED	NO	--	--	I
5090	2	R	V19-0014	RHR/VALVE, CHECK, RHR, 1P229D DISCH, BYP LINE	BECH-M119/47/B8	RB	716	NW CORNER ROOM	--	--	CLOSED	CLOSED	NO	--	--	I
5091	2	R	V20-0006	RHR/VALVE, CHECK, RHR, 1P229A DISCH, BYP LINE	BECH-M120/38/B4	RB	716	SE CORNER ROOM	--	--	CLOSED	CLOSED	NO	--	--	I
5092	2	R	V20-0008	RHR/VALVE, CHECK, RHR, 1P229C DISCH, BYP LINE	BECH-M120/38/B2	RB	716	SE CORNER ROOM	--	--	CLOSED	CLOSED	NO	--	--	I
5093	1	08A	MO1935	RHR/RHR PUMPS 1P-229B/D MIN FLOW BYPASS	BECH-M119/47/B5	BAY 16	716	E9.1	--	--	CLOSED	CLOSED	NO	BECH-E121<54A>	--	I
5094	1	08A	MO2009	RHR/RHR PUMPS 1P-229A/C MIN FLOW BYPASS	BECH-M120/38/C4	BAY 10	716	F5.2	--	--	CLOSED	CLOSED	NO	BECH-E121<54> BECH-E121<59>	--	I

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5095	1	08A	MO1936	RHR/RHR DRAIN TO WASTE SURGE TANK OUTBOARD ISOL	BECH-M119/47/D6	BAY 14	716	D8.1	--	--	CLOSED	CLOSED	NO	BECH-E122<7>	--	I
5096	2	08A	MO1937	RHR/RHR DRAIN TO WASTE SURGE TANK INBOARD ISOL	BECH-M119/47/D6	BAY 14	716	D8.1	--	--	CLOSED	CLOSED	NO	BECH-E122<15>	--	I
5097	1	08B	SV1972	RHR/RHR HX 1E-201B PASS SAMP LINE INBOARD ISOL	BECH-M119/47/C2	RB	716	D10	--	--	CLOSED	CLOSED	NO	--	--	I
5098	1	08B	SV2051	RHR/RHR HX 1E-201A PASS SAMP LINE INBOARD ISOL	BECH-M120/38/D7	RB	716	H6.5	--	--	CLOSED	CLOSED	NO	--	--	I
5099	2	08B	SV1973	RHR/RHR HX 1E-201B PASS SAMP LINE OUTBOARD ISOL	BECH-M119/47/C1	RB	716	D10	--	--	CLOSED	CLOSED	NO	--	--	I
5100	2	08B	SV2052	RHR/RHR HX 1E-201A PASS SAMP LINE OUTBOARD ISOL	BECH-M120/38/D7	RB	716	H6.5	--	--	CLOSED	CLOSED	NO	--	--	I
5101	2	R	V26-0008	SLC/VALVE, CHK, SBLC OUTBOARD	BECH-M126/20/F7	RB	766	RHR VALVE RM	--	--	CLOSED	CLOSED	NO	--	--	I
5102	1	R	V26-0009	SLC/VALVE, CHK, SBLC INBOARD	BECH-M126/20/D8	DW	775	SW QUADRANT	--	--	CLOSED	CLOSED	NO	--	--	I
5103	1	08A	MO2700	RWCU/RWCU INLET INBOARD ISOLATION VALVE	BECH-M127/43/E8	DW	775	F7.1	--	06	OPEN	CLOSED	YES	BECH-E122<3>	1B3219(1B32)	I
5104	2	08A	MO2701	RWCU/RWCU INLET OUTBOARD ISOLATION VALVE	BECH-M127/43/E7	RB	786	G6.1	--	06	OPEN	CLOSED	YES	BECH-E122<5>	1D4204(1D42)	I
5105	2	08A	MO2740	RW/RWCV RETURN HEADER OUTBOARD ISOL	BECH-M127/43/E4	RB	757	H7.1	--	06	OPEN	CLOSED	YES	BECH-E122<14>	1B3417(1B34)	I
5106	1	R	V27-0011	RW/VALVE, CHK, FDWTR, 1E214A TO RCIC	BECH-M127/43/F6	RB	757	STEAM TUNNEL	--	--	OPEN	CLOSED	NO	--	--	I
5107	2	08A	MO2512	RCIC/RCIC FEEDWATER INJECTION ISOL	BECH-M125/26/D5	RB	757	H8.1	--	--	CLOSED	CLOSED	NO	BECH-E121<40>	--	I
5108	1	R	V25-0036	RCIC/VALVE, CHK, FDWTR, 1P226, EXH LINE	BECH-M125/26/D6	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	--	--	I
5109	1	08A	MO2400	RCIC/RCIC STEAM SUPPLY INBOARD ISOL	BECH-M124/30/E6	DW	775	G8	--	06	OPEN	CLOSED	YES	BECH-E121<29>	1D1401(1D14)	I
5110	2	08A	MO2401	RCIC/RCIC STEAM SUPPLY OUTBOARD ISOL	BECH-M124/30/E6	RB	757	H8.1	--	06	OPEN	CLOSED	YES	BECH-E121<30>	1D1401(1D14)	I

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Signature

APRIL 24, 1995
Date

KEVIN G. CARDAMY / ENGINEER
Print or Type Name/Title

Signature

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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
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Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--------- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5111	1,2	R	V24-0023	RCIC/VALVE, CHK, RCIC, 1S203 EXH LINE	BECH-M124/30/C7	BAY 11	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	--	I
5112	OPT	R	V24-0008	RCIC/RCIC TURBINE STM EXH TO TORUS STOP CHK	BECH-M124/30/C7	BAY 11	716	ES	--	--	OPEN	OPEN	NO	--	--	I
5113	1	07	CV2435	RCIC/CONDENSTAE PUMP 1P-228 DISCH DRAIN TO CRW	BECH-M124/30/A5	RB	716	FS	--	--	CLOSED	CLOSED	NO	--	SV2435	I
5114	2	07	CV2436	RCIC/CONDENSTAE PUMP 1P-228 DISCH DRAIN TO CRW	BECH-M124/30/A5	RB	716	FS, RCIC RM	S	--	OPEN	CLOSED	GIP	--	SV2436	I
5115	1	08B	SV2435	RCIC/CV-2435 CONTROL AIR SUPPLY ISOL	BECH-M124/30/A5	RB	716	FS, RCIC RM	--	--	VENT	VENT	NO	--	--	I
5116	2	08B	SV2436	RCIC/CV-2436 CONTROL AIR SUPPLY ISOL	BECH-M124/30/A5	RB	716	FS, RCIC RM	S	--	AIR	VENT	GIP	--	--	I
5117	1	07	CV2410	RCIC/RCIC STM SUP DRAIN LINE UPSTREAM AUTO ISOL	BECH-M124/30/C2	RB	716	RCIC ROOM	S	--	OPEN	CLOSED	GIP	--	SV2410	I
5118	2	07	CV2411	RCIC/RCIC STM SUP DRAIN LINE DOWNSTREAM AUTO ISOL	BECH-M124/30/C2	RB	716	FS, RCIC RM	S	--	OPEN	CLOSED	GIP	--	SV2411	I
5119	1	08B	SV2410	RCIC/CV-2410 CONTROL AIR SUPPLY ISOL	BECH-M124/30/C2	RB	716	FS, RCIC RM	S	--	AIR	VENT	GIP	--	--	I
5120	2	08B	SV2411	RCIC/CV-2411 CONTROL AIR SUPPLY ISOL	BECH-M124/30/C2	RB	716	RCIC ROOM	S	--	AIR	VENT	GIP	--	--	I
5121	2	08A	MO2517	RCIC/RCIC PUMP TORUS SUCTION OUTBOARD ISOL	BECH-M125/26/F4	RB	716	FS	--	--	CLOSED	CLOSED	NO	BECH-E121<33>	--	I
5122	1	08A	MO2516	RCIC/RCIC PUMP TORUS SUCTION INBOARD ISOL	BECH-M125/26/A5	BAY 10	716	ES.2	--	--	CLOSED	CLOSED	NO	BECH-E121<33>	--	I
5123	2	R	V25-0006	RCIC/VALVE, CHK, RCIC, MIN FLOW LINE	BECH-M125/26/C4	RB	716	RCIC ROOM	--	--	CLOSED	CLOSED	NO	--	--	I
5124	1	08A	MO2510	RCIC/RCIC PUMP MINIMUM FLOW BYPASS VLV	BECH-M125/26/C4	RB	716	FS	--	--	CLOSED	CLOSED	NO	BECH-E121<34>	--	I
5125	OPT	08A	MO2115	CS/LOOP A OUTBOARD VESSEL ISOLATION VALVE	BECH-M121/27/G5	RB	786	EB	S	--	OPEN	CLOSED	YES	BECH-E121<8>	1B3412(1B34)	I

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DUANE ARNOLD ENERGY CENTER
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- Sorted By Line Number -

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5126	OPT	08A	MO2135	CS/LOOP B OUTBOARD VESSEL ISOLATION VALVE	BECH-M121/27/E5	RB	786	F9	S	--	OPEN	CLOSED	YES	BECH-E121<8A>	1B4412(1B44)	I
5127	2	08A	MO2117	CS/LOOP A INBOARD VESSEL ISOLATION VALVE	BECH-M121/27/G6	RB	786	F7	--	--	CLOSED	CLOSED	NO	BECH-E121<5>	--	I
5128	2	08A	MO2137	CS/LOOP B INBOARD VESSEL ISOLATION VALVE	BECH-M121/27/E6	RB	786	F9	--	--	CLOSED	CLOSED	NO	BECH-E121<5A>	--	I
5129	1	R	V21-0072	CS/VALVE, CHK, LPCS A	BECH-M121/27/F7	DW	805	--	--	--	CLOSED	CLOSED	NO	--	--	I
5130	1	R	V21-0073	CS/VALVE, CHK, LPCS B	BECH-M121/27/F7	DW	805	--	--	--	CLOSED	CLOSED	NO	--	--	I
5131	1,2	08A	MO2112	CS/LOOP A TEST LINE ISOLATION VALVE	BECH-M121/27/F5	BAY 10	716	F5.2	--	--	CLOSED	CLOSED	NO	BECH-E121<7>	--	I
5132	1,2	08A	MO2132	CS/LOOP B TEST LINE ISOLATION VALVE	BECH-M121/27/E5	BAY 02	716	F10	--	--	CLOSED	CLOSED	NO	BECH-E121<7A>	--	I
5133	1	08A	MO2146	CS/LOOP B INBOARD TORUS ISOLATION VALVE	BECH-M121/27/C5	BAY 14	716	D8.1	--	06	OPEN	CLOSED	YES	BECH-E121<4C>	1B4441(1B44)	I
5134	1	08A	MO2147	CS/LOOP A INBOARD TORUS ISOLATION VALVE	BECH-M121/27/B5	BAY 10	716	F5.2	--	06	OPEN	CLOSED	YES	BECH-E121<4>	1B3449(1B34)	I
5135	2	08A	MO2100	CS/LOOP A OUTBOARD TORUS ISOLATION VALVE	BECH-M121/27/B5	RB	716	H5.2	--	06	OPEN	CLOSED	YES	BECH-E121<4>	1B3411(1B34)	I
5136	2	08A	MO2120	CS/LOOP B OUTBOARD TORUS ISOLATION VALVE	BECH-M121/27/C5	RB	716	D10, NW CR	--	06	OPEN	CLOSED	YES	BECH-E121<4A>	1B4411(1B44)	I
5137	2	R	V21-0009	CS/VALVE, CHK, LPCS	BECH-M121/27/D3	RB	716	SE CORNER ROOM	--	--	CLOSED	CLOSED	NO	--	--	I
5138	2	R	V21-0012	CS/VALVE, CHK, LPCS	BECH-M121/27/D4	RB	716	NW CORNER ROOM	--	--	CLOSED	CLOSED	NO	--	--	I
5139	1	08A	MO2104	CS/LOOP A MINIMUM FLOW LINE ISOLATION VALVE	BECH-M121/27/D4	BAY 10	716	F5.2	--	06	OPEN	CLOSED	YES	BECH-E121<6>	1B3415(1B34)	I
5140	1	08A	MO2124	CS/LOOP B MINIMUM FLOW LINE ISOLATION VALVE	BECH-M121/27/D4	BAY 01	716	E10	--	06	OPEN	CLOSED	YES	BECH-E121<6A>	1B4415(1B44)	I
5141	1	07	CV3728	RS/DRYWELL EQUIP DRAIN SUMP INBOARD ISOL	BECH-M137<1>/12/D6	BAY 16	716	E9.1	S	--	OPEN	CLOSED	GIP	--	SV3728	I

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5142	2	07	CV3729	RS/DRYWELL EQUIP DRAIN SUMP OUTBOARD ISOL	BECH-M137<1>/12/D6	BAY 16	716	E9.1	S	--	OPEN	CLOSED	GIP	--	SV3729	I
5143	1	088	SV3728	RS/CV-3728 CONTROL AIR SUPPLY ISOLATION	BECH-M137<1>/12/C6	BAY 16	716	E9.1	--	06	AIR	VENT	GIP	--	--	I
5144	2	088	SV3729	RS/CV-3729 CONTROL AIR SUPPLY ISOLATION	BECH-M137<1>/12/C6	BAY 16	716	E9.1	--	06	AIR	VENT	GIP	--	--	I
5145	1	07	CV3704	RS/DRYWELL FLOOR DRAIN SUMP INBOARD ISOL	BECH-M137<1>/12/F7	BAY 08	716	G7.1	S	--	OPEN	CLOSED	GIP	--	SV3704	I
5146	1	088	SV3704	RS/CV-3704 CONTROL AIR SUPPLY ISOLATION	BECH-M137<1>/12/E7	BAY 08	716	G7.1	--	06	AIR	VENT	GIP	--	--	I
5147	2	07	CV3705	RS/DRYWELL FLOOR DRAIN SUMP OUTBOARD ISOL	BECH-M137<1>/12/F7	BAY 08	716	G7.1	S	--	OPEN	CLOSED	GIP	--	SV3705	I
5148	2	088	SV3705	RS/CV-3705 CONTROL AIR SUPPLY ISOLATION	BECH-M137<1>/12/E7	BAY 08	716	G7.1	--	06	AIR	VENT	GIP	--	--	I
5149	2	08A	MO2312	HPCI/HPCI FEEDWATER INJECTION ISOL	BECH-M123/27/C6	RB	757	H7.1	--	--	CLOSED	CLOSED	NO	BECH-E121<18>	--	I
5150	1	R	V23-0049	HPCI/VALVE, CHECK, HPCI, WATER, 1P216 EXH LINE	BECH-M123/27/C6	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	--	--	I
5151	1	08A	MO2238	HPCI/STEAM SUPPLY INBOARD ISOL	BECH-M122/32/E6	DW	775	F7.1	--	06	OPEN	CLOSED	YES	BECH-E121<14>	1B3453(1B34)	I
5152	2	08A	MO2239	HPCI/STEAM SUPPLY OUTBOARD ISOL	BECH-M122/32/F5	RB	775	F7.1	--	06	OPEN	CLOSED	YES	BECH-E121<15>	1D4109(1D41)	I
5153	1	07	CV2211	HPCI/HPCI STM SUP DRAIN LINE UPSTREAM AUTO ISOL	BECH-M122/32/C2	RB	724	G5, HPCI ROOM	S	--	OPEN	CLOSED	GIP	--	SV2211	I
5154	2	07	CV2212	HPCI/HPCI STM SUP DRAIN LINE DOWNSTREAM AUTO ISOL	BECH-M122/32/C2	RB	724	G5, HPCI ROOM	S	--	OPEN	CLOSED	GIP	--	SV2212	I
5155	1	088	SV2211	HPCI/CV-2211 CONTROL AIR SUPPLY ISOLATION	BECH-M122/32/C2	RB	724	G5, HPCI ROOM	S	--	AIR	VENT	GIP	--	--	I
5156	2	088	SV2212	HPCI/CV-2212 CONTROL AIR SUPPLY ISOLATION	BECH-M122/32/C2	RB	724	G5, HPCI ROOM	S	--	AIR	VENT	GIP	--	--	I
5157	1,2	R	V22-0016	HPCI/VALVE, CHK, HPCI, 1S201 EXH LINE	BECH-M122/32/B7	RB	731	HPCI RM PLATFRM	--	--	CLOSED	CLOSED	NO	--	--	I

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5158	OPT	R	V22-0017	HPCI/HPCI TURBINE STEAM EXHAUST LINE ISOL	BECH-M122/32/B7	RB	731	G5	--	--	OPEN	OPEN	NO	--	--	I
5159	1	08A	MO2321	HPCI/HPCI PUMP TORUS SUCTION INBOARD ISOLATION	BECH-M123/27/A6	BAY 10	716	F5.2	--	--	CLOSED	CLOSED	NO	BECH-E121<23>	--	I
5160	2	08A	MO2322	HPCI/HPCI PUMP TORUS SUCTION ISOLSTION	BECH-M123/27/E3	RB	724	G5	--	--	CLOSED	CLOSED	NO	BECH-E121<22>	--	I
5161	1	07	CV2234	HPCI/HPCI CONDENSATE PP DISCH TO CRW INBOARD ISOLATION	BECH-M122/32/B5	RB	724	G5, HPCI ROOM	S	--	OPEN	CLOSED	GIP	--	SV2234	I
5162	1	08B	SV2234	HPCI/CV-2234 CONTROL AIR SUPPLY ISOLATION	BECH-M122/32/B5	RB	724	G5, HPCI ROOM	S	--	AIR	VENT	GIP	--	--	I
5163	2	08A	MO2290A	HPCI/HPCI/RCIC TURB STM EXHST VACUUM BREAKER LINE ISOL	BECH-M122/32/B8	BAY 10	716	F5.2	--	06	OPEN	CLOSED	YES	BECH-E121<23A>	1B3233(1B32)	I
5164	1	08A	MO2290B	HPCI/HPCI/RCIC TURB STM EXHST VACUUM BREAKER LINE ISOL	BECH-M122/32/B8	BAY 10	716	F5.2	--	06	OPEN	CLOSED	YES	BECH-E121<23A>	1B4233(1B42)	I
5165	2	07	CV2235	HPCI/HPCI CONDENSATE PP DISCH TO CRW OUTBOARD ISOL	BECH-M122/32/B6	RB	724	G5	--	--	CLOSED	CLOSED	NO	--	SV2235	I
5166	2	08B	SV2235	HPCI/CV-2235 CONTROL AIR SUPPLY ISOLATION	BECH-M122/32/B6	RB	724	G5	--	--	VENT	VENT	NO	--	--	I
5167	2	R	V23-0014	HPCI/VALVE, CHK, HPCI, MIN FLOW LINE	BECH-M123/27/C4	RB	724	HPCI ROOM	--	--	CLOSED	CLOSED	NO	--	--	I
5168	1	08A	MO2318	HPCI/HPCI PUMP MINIMUM FLOW BYPASS VALVE	BECH-M123/27/C4	RB	724	G5	--	--	CLOSED	CLOSED	NO	BECH-E121<21>	--	I
5169	OPT	0	1S218AEXPL	TIP/SHEAR VALVE (1S260A/SHR ?)	--	--	--	TIP ROOM	S	--	OPEN	CLOSED	YES	APED-C51-003<2>	--	I
5170	OPT	0	1S218BEXPL	TIP/SHEAR VALVE (1S260B/SHR ?)	--	--	--	TIP ROOM	S	--	OPEN	CLOSED	YES	APED-C51-003<2>	--	I
5171	OPT	0	1S218CEXPL	TIP/SHEAR VALVE (1S260C/SHR ?)	--	--	--	TIP ROOM	S	--	OPEN	CLOSED	YES	APED-C51-003<2>	--	I
5172	1,2	08B	1S218ABALL	TIP/BALL VALVE (1S260A/BALL ?)	--	--	--	--	--	--	CLOSED	CLOSED	NO	--	--	I
5173	1,2	08B	1S218BBALL	TIP/BALL VALVE (1S260B/BALL ?)	--	--	--	--	--	--	CLOSED	CLOSED	NO	--	--	I
5174	1,2	08B	1S218CBALL	TIP/BALL VALVE (1S260C/BALL ?)	--	--	--	--	--	--	CLOSED	CLOSED	NO	--	--	I

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5175	1	088	SV4355	TIP/PURGE ISOL VALVE	--	--	--	--	--	--	CLOSED	CLOSED	NO	--	--	I
5176	2	R	CHECK-A*	TIP/PURGE CHECK VALVE	--	--	--	--	--	--	CLOSED	CLOSED	NO	--	--	I
5177	1	R	V30-0287	IA/VALVE, STOP, SERV AIR, AIR BREATHING TO DW	BECH-M130<9>/2/C6	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	--	--	I
5178	2	R	V30-0286	IA/VALVE, STOP, SERV AIR, SERV AIR HDR	BECH-M130<9>/2/C6	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	--	--	I
5179	1	07	CV4371A	CAC/CONTAINMENT N2 SUPPLY ISOLATION	BECH-M143<1>/11/E4	RB	757	G6.1	S	--	OPEN	CLOSED	GIP	--	SV4371A	I
5180	1	088	SV4371A	CAC/CV-4371A CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/E4	RB	757	G6.1	--	06	AIR	VENT	GIP	--	--	I
5181	2	07	CV4371C	CAC/TORUS/DW VACUUM BKR N2 SUPPLY ISOL	BECH-M143<1>/11/E6	RB	757	G6.1	S	--	OPEN	CLOSED	GIP	--	SV4371C	I
5182	2	088	SV4371C	CAC/CV-4371C CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/E6	RB	757	G6.1	--	06	AIR	VENT	GIP	--	--	I
5183	1	07	CV4378A	CAC/N2 COMPRESSOR 1K-14 DW SUCTION ISOLATION	BECH-M143<1>/11/D5	RB	757	F6.1	S	--	OPEN	CLOSED	GIP	--	SV4378A	I
5184	1	088	SV4378A	CAC/CV-4378A CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D5	RB	757	F6.1	--	06	AIR	VENT	GIP	--	--	I
5185	2	07	CV4378B	CAC/N2 COMPRESSOR 1K-14 DW SUCTION ISOLATION	BECH-M143<1>/11/D5	RB	757	F6.1	S	--	OPEN	CLOSED	GIP	--	SV4378B	I
5186	2	088	SV4378B	CAC/CV-4378B CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D5	RB	757	F6.1	--	06	AIR	VENT	GIP	--	--	I
5187	1,2	08A	MO4841A	RBCLC/DRYWELL RBCCW RETURN HEADER ISOL	BECH-M112/26/E3	BAY 02	716	F9.1	--	06	OPEN	CLOSED	YES	BECH-E111<17>	1B4224(1842)	I
5188	1,2	08A	MO4841B	RBCLC/DRYWELL RBCCW SUPPLY HEADER ISOL	BECH-M112/26/F3	BAY 02	716	F9.1	--	06	OPEN	CLOSED	YES	BECH-E111<5> BECH-E111<18>	1B4208(1842)	I
5189	2	R	V09-0065	C&DW/VALVE, ISOL, PRENMT, DRYWELL	BECH-M109/40/F3	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	--	--	I
5190	1	R	V09-0111	C&DW/DRYWELL DEMIN WATER SUPPLY HDR ISOLATION	BECH-M109/40/F2	DW	742	G8.1	--	--	CLOSED	CLOSED	NO	--	--	I

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Signature

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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- EQUIPMENT LOCATION ---> Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5191	2	07	CV5718A	DCW/DRYWELL COOLING LOOP A WELL WATER SUPPLY ISOL	BECH-M157<1>/6/B8	BAY 10	716	F6.1	S	--	OPEN	CLOSED	GIP	BECH-M173	INST. AIR, SV5718A	I
5192	2	07	CV5718B	DCW/DRYWELL COOLING LOOP B WELL WATER SUPPLY ISOL	BECH-M157<1>/6/A8	BAY 14	716	D7.1	S	--	OPEN	CLOSED	GIP	BECH-M173	INST. AIR, SV5718B	I
5193	2	088	SV5718A	DCW/CV-5718A CONTROL AIR SUPPLY ISOLATION	BECH-M157<1>/6/B8	BAY 10	716	F6.1	S	--	VENT	AIR	YES	--	--	I
5194	2	088	SV5718B	DCW/CV-5718B CONTROL AIR SUPPLY ISOLATION	BECH-M157<1>/6/A8	BAY 14	716	D7.1	S	--	VENT	AIR	YES	--	--	I
5195	1	R	V57-0059	DCW/VALVE, CHK, PRCNMT H&V, WELL WATER LOOP A IN	BECH-M157<1>/6/B8	--	748	--	--	--	OPEN	CLOSED	NO	--	--	I
5196	1	R	V57-0058	DCW/VALVE, CHK, PRCNMT H&V, WELL WATER LOOP B IN	BECH-M157<1>/6/A8	BAY 14	716	TORUS CATWALK	--	--	OPEN	CLOSED	NO	--	--	I
5197	1,2	07	CV5704A	DCW/DRYWELL COOLING LOOP A WELL WATER RETURN ISOL	BECH-M157<1>/6/F6	BAY 10	716	F6.1	S	02	OPEN	CLOSED	GIP	BECH-M173	INST. AIR, SV5704A	I
5198	1,2	07	CV5704B	DCW/DRYWELL COOLING LOOP B WELL WATER RETURN ISOL	BECH-M157<1>/6/F6	BAY 14	716	D7.1	S	02	OPEN	CLOSED	GIP	BECH-M173	INST. AIR, SV5704B	I
5199	1,2	088	SV5704A	DCW/CV-5704A CONTROL AIR SUPPLY ISOLATION	BECH-M157<1>/6/F6	BAY 10	742	F6.1	S	--	VENT	AIR	YES	--	--	I
5200	1,2	088	SV5704B	DCW/CV-5704B CONTROL AIR SUPPLY ISOLATION	BECH-M157<1>/6/F6	BAY 14	716	D7.1	S	--	VENT	AIR	YES	--	--	I
5201	2	R	V57-0075	DCW/VALVE MANUAL	BECH-M157<1>/6/F7	BAY 10	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	--	I
5202	2	R	V57-0076	DCW/VALVE MANUAL	BECH-M157<1>/6/E7	BAY 14	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	--	I
5203	1	R	V57-0061	DCW/VALVE, CHK, PRCNMT H&V, BKWSH PUMP 1P059 TO LOOP A	BECH-M157<1>/6/F6	BAY 10	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	--	I
5204	1	R	V57-0060	DCW/VALVE, CHK, PRCNMT H&V, BKWSH PUMP 1P059 TO LOOP B	BECH-M157<1>/6/E6	BAY 14	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	--	I
5205	1,2	R	V57-0077	DCW/VALVE MANUAL	BECH-M157<1>/6/B7	BAY 10	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	--	I
5206	1,2	R	V57-0078	DCW/VALVE MANUAL	BECH-M157<1>/6/A7	BAY 14	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	--	I

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5207	1,2	07	CV4327A	CAC/VALVE, CHK, VAC BRK, TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	BAY 07	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	SV4327A	I
5208	1,2	07	CV4327B	CAC/VALVE, CHK, VAC BRK, TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	BAY 05	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	SV4327B	I
5209	1,2	07	CV4327C	CAC/VALVE, CHK, VAC BRK, TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	BAY 09	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	SV4327C	I
5210	1,2	07	CV4327D	CAC/VALVE, CHK, VAC BRK, TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	BAY 03	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	SV4327D	I
5211	1,2	07	CV4327F	CAC/VALVE, CHK, VAC BRK, TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	BAY 01	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	SV4327F	I
5212	1,2	07	CV4327G	CAC/VALVE, CHK, VAC BRK, TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	BAY 13	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	SV4327G	I
5213	1,2	07	CV4327H	CAC/VALVE, CHK, VAC BRK, TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	BAY 15	716	TORUS CATWALK	--	--	CLOSED	CLOSED	NO	--	SV4327H	I
5214	1,2	088	SV4327A	CAC/SOL VALVE, CV4327A TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	TORUS	716	--	--	--	VENT	VENT	NO	--	--	I
5215	1,2	088	SV4327B	CAC/SOL VALVE, CV4327B TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	TORUS	716	--	--	--	VENT	VENT	NO	--	--	I
5216	1,2	088	SV4327C	CAC/SOL VALVE, CV4327C TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	TORUS	716	--	--	--	VENT	VENT	NO	--	--	I
5217	1,2	088	SV4327D	CAC/SOL VALVE, CV4327D TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	TORUS	716	--	--	--	VENT	VENT	NO	--	--	I
5218	1,2	088	SV4327F	CAC/SOL VALVE, CV4327F TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	TORUS	716	--	--	--	VENT	VENT	NO	--	--	I
5219	1,2	088	SV4327G	CAC/SOL VALVE, CV4327G TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	TORUS	716	--	--	--	VENT	VENT	NO	--	--	I
5220	1,2	088	SV4327H	CAC/SOL VALVE, CV4327H TORUS/DRYWELL VAC BREAKER	BECH-M143<1>/11/B6	TORUS	716	--	--	--	VENT	VENT	NO	--	--	I
5221	1	07	CV4304	CAC/TORUS VACUUM BREAKER V-43-169 ISOLATION	BECH-M143<1>/11/A7	RB	735	H10	--	--	CLOSED	CLOSED	GIP	--	INST. AIR, SV4304	I

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5222	1	07	CV4305	CAC/TORUS VACUUM BREAKER V-43-168 ISOLATION	BECH-M143<1>/11/A7	RB	735	H10	--	--	CLOSED	CLOSED	GIP	--	INST. AIR, SV4305	I
5223	1	088	SV4304	CAC/CV-4309 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/A7	RB	735	H10	--	--	AIR	AIR	YES	BECH-E122<23> BECH-E515<160>	--	I
5224	1	088	SV4305	CAC/CV-4305 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/A7	RB	735	H10	--	--	AIR	AIR	YES	BECH-E122<23> BECH-E515<161>	--	I
5224A	1	21A	1T105A	CAC/CV-4304 CONTROL AIR SUPPLY ACCUMULATOR	BECH-M143<1>/11/A6	RB	716	H10, NE CR	S	--	N/A	N/A	NO	--	--	I
5224B	1	21A	1T105B	CAC/CV-4305 CONTROL AIR SUPPLY ACCUMULATOR	BECH-M143<1>/11/A8	RB	716	H10, NE CR	S	--	N/A	N/A	NO	--	--	I
5225	2	R	V43-0168	CAC/VALVE, CHK, VAC BRK, TORUS/RB VACUUM BREAKER	BECH-M143<1>/11/A7	RB	735	NE CORNER ROOM	--	--	CLOSED	CLOSED	NO	--	--	I
5226	2	R	V43-0169	CAC/VALVE, CHK, VAC BRK, TORUS/RB VACUUM BREAKER	BECH-M143<1>/11/A7	RB	735	NE CORNER ROOM	--	--	CLOSED	CLOSED	NO	--	--	I
5227	2	07	CV4306	CAC/CONTAINMENT PURGE SUPPLY ISOLATION	BECH-M143<1>/11/C2	RB	766	E8.1	--	--	CLOSED	CLOSED	NO	--	SEAL AIR, SV4306	I
5228	2	088	SV4306	CAC/CV-4306 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C2	RB	757	E9	--	--	VENT	VENT	NO	--	--	I
5229	1	07	CV4307	CAC/DRYWELL PURGE INLET ISOLATION VALVE	BECH-M143<1>/11/C2	RB	757	E8.1	--	--	CLOSED	CLOSED	NO	--	SEAL AIR, SV4307	I
5230	1	088	SV4307	CAC/CV-4307 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C2	RB	757	E9	--	--	VENT	VENT	NO	--	--	I
5231	1	07	CV4308	CAC/TORUS PURGE INLET ISOLATION VALVE	BECH-M143<1>/11/B2	RB	757	E8.1	--	--	CLOSED	CLOSED	NO	--	SEAL AIR, SV4308	I
5232	1	088	SV4308	CAC/CV-4308 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/B2	RB	757	E9	--	--	VENT	VENT	NO	--	--	I
5233	1	07	CV4302	CAC/DRYWELL EXHAUST INBOARD ISOLATION	BECH-M143<1>/11/D6	RB	812	G8	--	--	CLOSED	CLOSED	NO	--	SEAL AIR, SV4302	I
5234	1	088	SV4302	CAC/CV-4302 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D6	RB	812	G8	--	--	VENT	VENT	NO	--	SV4302X	I

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5235	1	07	CV4310	CAC/DW EXHAUST VALVE CV-4302 BYPASS ISOLATION	BECH-M143<1>/11/C6	RB	812	G8	--	--	CLOSED	CLOSED	NO	--	SV4310	I
5236	1	088	SV4310	CAC/CV-4310 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C6	RB	812	G8	--	--	VENT	VENT	NO	--	--	I
5237	2	07	CV4303	CAC/DRYWELL EXHAUST OUTBOARD ISOLATION	BECH-M143<1>/11/D7	RB	812	G8	--	--	CLOSED	CLOSED	NO	--	SEAL AIR, SV4303	I
5238	2	088	SV4303	CAC/CV-4303 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D7	RB	812	G8	--	--	VENT	VENT	NO	--	--	I
5239	1	07	CV4300	CAC/TORUS VENT LINE INBOARD ISOLATION	BECH-M143<1>/11/C7	RB	735	H10	--	--	CLOSED	CLOSED	NO	--	SEAL AIR, SV4300	I
5240	1	088	SV4300	CAC/CV-4300 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C7	RB	735	H10	--	--	VENT	VENT	NO	--	SV4300X	I
5241	1	07	CV4309	CAC/INBOL TORUS VENT BYPASS LINE ISOLATION	BECH-M143<1>/11/C7	RB	735	H10	--	--	CLOSED	CLOSED	NO	--	SV4309	I
5242	1	088	SV4309	CAC/CV-4309 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/B7	RB	735	H10	--	--	VENT	VENT	NO	--	--	I
5243	2	07	CV4301	CAC/TORUS VENT LINE OUTBOARD ISOLATION	BECH-M143<1>/11/C8	RB	735	H10	--	--	CLOSED	CLOSED	NO	--	SEAL AIR, SV4301	I
5244	2	088	SV4301	CAC/CV-4301 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C8	RB	735	H10	--	--	VENT	VENT	NO	--	--	I
5245	1	088	SV8101A	CAH/DRYWELL #1 SAMPLE LINE ISOLATION	BECH-M181/20/F5	RB	757	E6.1	--	06	OPEN	CLOSED	YES	--	--	I
5246	1	088	SV8101B	CAH/DRYWELL #1 SAMPLE LINE ISOLATION	BECH-M181/20/F4	RB	757	F9	--	06	OPEN	CLOSED	YES	--	--	I
5247	2	088	SV8102A	CAH/DRYWELL #1 SAMPLE LINE ISOLATION	BECH-M181/20/F5	RB	757	E6.1	--	06	OPEN	CLOSED	YES	--	--	I
5248	2	088	SV8102B	CAH/DRYWELL #1 SAMPLE LINE ISOLATION	BECH-M181/20/F4	RB	757	F9	--	06	OPEN	CLOSED	YES	--	--	I
5249	1	088	SV8103A	CAH/DRYWELL #2 SAMPLE LINE ISOLATION	BECH-M181/20/F5	RB	757	E6.1	--	06	OPEN	CLOSED	YES	--	--	I

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5250	1	088	SV8103B	CAM/DRYWELL B2 SAMPLE LINE ISOLATION	BECH-M181/20/F4	RB	757	F9	--	06	OPEN	CLOSED	YES	--	--	I
5251	2	088	SV8104A	CAM/DRYWELL B2 SAMPLE LINE ISOLATION	BECH-M181/20/F5	RB	757	E6.1	--	06	OPEN	CLOSED	YES	--	--	I
5252	2	088	SV8104B	CAM/DRYWELL B2 SAMPLE LINE ISOLATION	BECH-M181/20/F4	RB	757	F9	--	06	OPEN	CLOSED	YES	--	--	I
5253	2	07	CV4311	CAC/CONTAINMENT N2 MAKEUP SUPPLY ISOLATION	BECH-M143<1>/11/D3	RB	757	E7.1	--	--	CLOSED	CLOSED	NO	--	--	I
5254	2	088	SV4311	CAC/CV-4311 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D3	RB	757	E9	--	--	VENT	VENT	NO	--	--	I
5255	1	07	CV4312	CAC/DRYWELL NITROGEN MAKEUP INLET ISOLATION	BECH-M143<1>/11/C3	RB	757	E8.1	--	--	CLOSED	CLOSED	NO	--	--	I
5256	1	088	SV4312	CAC/CV-4312 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C3	RB	757	E9	--	--	VENT	VENT	NO	--	--	I
5257	1	07	CV4313	CAC/TORUS NITROGEN MAKEUP INLET ISOLATION	BECH-M143<1>/11/C3	RB	757	E7.1	--	--	CLOSED	CLOSED	NO	--	--	I
5258	1	088	SV4313	CAC/CV-4313 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C3	RB	757	E9	--	--	VENT	VENT	NO	--	--	I
5259	1	088	SV8105A	CAM/DRYWELL SAMPLE RETURN LINE ISOLATION	BECH-M181/20/E5	RB	757	E6.1	--	06	OPEN	CLOSED	YES	--	--	I
5260	1	088	SV8105B	CAM/DRYWELL SAMPLE RETURN LINE ISOLATION	BECH-M181/20/E4	RB	776	F9	--	06	OPEN	CLOSED	YES	--	--	I
5261	2	088	SV8106A	CAM/DRYWELL SAMPLE RETURN LINE ISOLATION	BECH-M181/20/E5	RB	757	E6.1	--	06	OPEN	CLOSED	YES	--	--	I
5262	2	088	SV8106B	CAM/DRYWELL SAMPLE RETURN LINE ISOLATION	BECH-M181/20/E4	RB	776	F9	--	06	OPEN	CLOSED	YES	--	--	I
5263	1	088	SV8107A	CAM/CAM SYS A TORUS SAMPLE LINE INBOARD ISOLATION	BECH-M181/20/D5	BAY 05	716	D7.1	--	06	OPEN	CLOSED	YES	--	--	I
5264	1	088	SV8107B	CAM/CAM SYS B TORUS SAMPLE LINE INBOARD ISOLATION	BECH-M181/20/D4	BAY 13	716	D7.1	--	06	OPEN	CLOSED	YES	--	--	I

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	EQUIPMENT LOCATION Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	OP. ST. Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5265	2	088	SV8108A	CAM/CAM SYS A TORUS SAMPLE LINE OUTBOARD ISOLATION	BECH-M181/20/D5	BAY 05	716	H8.1	--	06	OPEN	CLOSED	YES	--	--	I
5266	2	088	SV8108B	CAM/CAM SYS B TORUS SAMPLE LINE OUTBOARD ISOLATION	BECH-M181/20/D4	BAY 13	716	D7.1	--	06	OPEN	CLOSED	YES	--	--	I
5267	1	088	SV8109A	CAM/CAM SYS A TORUS SAMPLE RETURN INBOARD ISOLATION	BECH-M181/20/D5	BAY 09	716	H8.1	--	06	OPEN	CLOSED	YES	--	--	I
5268	2	088	SV8109B	CAM/CAM SYS B TORUS SAMPLE RETURN INBOARD ISOLATION	BECH-M181/20/D4	BAY 01	716	D7.1	--	06	OPEN	CLOSED	YES	--	--	I
5269	2	088	SV8110A	CAM/CAM SYS A TORUS SAMPLE RETURN OUTBOARD ISOLATION	BECH-M181/20/D5	BAY 09	716	H8.1	--	06	OPEN	CLOSED	YES	--	--	I
5270	1	088	SV8110B	CAM/CAM SYS B TORUS SAMPLE RETURN OUTBOARD ISOLATION	BECH-M181/20/D4	BAY 01	716	D7.1	--	06	OPEN	CLOSED	YES	--	--	I
5271	1	088	SV8772A	PAS/PASS LIQ SAMPLE RETURN TO TORUS INBOARD ISOLATION	BECH-M187/8/B8	BAY 15	716	D9.1	--	--	CLOSED	CLOSED	NO	--	--	I
5272	2	088	SV8772B	PAS/PASS LIQ SAMPLE RETURN TO TORUS OUTBOARD ISOLATION	BECH-M187/8/B8	BAY 15	716	D9.1	--	--	CLOSED	CLOSED	NO	--	--	I
5273	1	088	SV4333A	CAC/WEST TORUS SPRAY HDR N2 SUPPLY INBOARD ISOLATION	BECH-M143<3>/3/C4	BAY 13	716	D7.1	--	--	CLOSED	CLOSED	NO	--	--	I
5274	2	088	SV4333B	CAC/WEST TORUS SPRAY HDR N2 SUPPLY OUTBOARD ISOLATION	BECH-M143<3>/3/C4	BAY 13	716	D7.1	--	--	CLOSED	CLOSED	NO	--	--	I
5275	1	088	SV4334A	CAC/NORTH TORUS SPRAY HDR COOL N2 SUPPLY INBOARD ISOL	BECH-M143<3>/3/C4	BAY 16	716	E9.1	--	--	CLOSED	CLOSED	NO	--	--	I
5276	2	088	SV4334B	CAC/NORTH TORUS SPRAY HDR COOL N2 SUPPLY OUTBOARD ISOL	BECH-M143<3>/3/C4	BAY 16	716	E9.1	--	--	CLOSED	CLOSED	NO	--	--	I
5277	1	088	SV4331A	CAC/LOWER DRYWELL SPRAY CAD N2 INBOARD ISOLATION	BECH-M143<3>/3/B4	RB	766	E7.1	--	--	CLOSED	CLOSED	NO	--	--	I
5278	2	088	SV4331B	CAC/LOWER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	BECH-M143<3>/3/B4	RB	766	E7.1	--	--	CLOSED	CLOSED	NO	--	--	I
5279	1	088	SV4332A	CAC/UPPER DRYWELL SPRAY CAD N2 INBOARD ISOLATION	BECH-M143<3>/3/B4	RB	786	D8	--	--	CLOSED	CLOSED	NO	--	--	I

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDAMY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
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Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5280	2	088	SV4332B	CAC/UPPER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	BECH-M143<3>/3/B4	RB	786	D8	--	--	CLOSED	CLOSED	NO	--	--	I
5281	1	088	SV4594A	RVI/LOOP A JET PUMP SAMPLE LINE INBOARD ISOLATION	BECH-M115/37/D3	RB	774	G9	--	--	CLOSED	CLOSED	NO	--	--	I
5282	1	088	SV4594B	RVI/LOOP B JET PUMP SAMPLE LINE INBOARD ISOLATION	BECH-M115/37/C6	RB	780	F6.1	--	--	CLOSED	CLOSED	NO	--	--	I
5283	2	088	SV4595A	RVI/LOOP A JET PUMP SAMPLE LINE INBOARD ISOLATION	BECH-M115/37/D3	RB	774	G9	--	--	CLOSED	CLOSED	NO	--	--	I
5284	2	088	SV4595B	RVI/LOOP B JET PUMP SAMPLE LINE OUTBOARD ISOLATION	BECH-M115/37/C6	RB	757	F6.1	--	--	CLOSED	CLOSED	NO	--	--	I
5285	OPT	R	V22-0022	HPCI/HPCI TURB STM EXHST COND DRN POT RETURN TO TORUS	BECH-M122/32/A7	BAY 09	716	G5.2	--	--	OPEN	OPEN	NO	--	--	I
5286	1,2	R	V22-0021	HPCI/VALVE, CHK, HPCI, EXH DRN POT DRAIN LINE	BECH-M122/32/A6	--	--	--	--	--	CLOSED	CLOSED	NO	--	--	I
5287	1	08A	MO1908	RHR/RHR SHUTDOWN COOLING SUCTION ISOLATION	BECH-M119/47/D8	DW	775	SW QUADRANT	--	--	CLOSED	CLOSED	NO	--	--	I
5288	2	08A	MO1949A	RHR/RHR HX 1E-201B SHELL SIDE OUTBOARD VENT	BECH-M119/47/C3	RB	747	NW CORNER ROOM	--	--	CLOSED	CLOSED	NO	BECH-E121<047>	--	I
5289	1	08A	MO1949B	RHR/RHR HX 1E-201B SHELL SIDE INBOARD VENT	BECH-M119/47/C3	RB	732	NW CORNER ROOM	--	--	CLOSED	CLOSED	NO	BECH-E121<047>	--	I
5290	1	08A	MO1970	RHR/RHR HX 1E-201B DRAIN TO TORUS	BECH-M119/47/E2	BAY 15	716	--	--	--	CLOSED	CLOSED	NO	BECH-E121<050>	--	I
5291	2	08A	MO2038	RHR/RHR HX 1E-201A DRAIN TO TORUS	BECH-M120/38/D7	BAY 10	716	--	--	--	CLOSED	CLOSED	NO	BECH-E121<050>	--	I
5292	2	08A	MO2044A	RHR/RHR HX 1E-201A SHELL SIDE OUTBOARD VENT	BECH-M120/38/C6	RB	747	SE CORNER ROOM	--	--	CLOSED	CLOSED	NO	BECH-E121<047>	--	I
5293	1	08A	MO2044B	RHR/RHR HX 1E-201A SHELL SIDE INBOARD VENT	BECH-M120/38/C6	RB	747	SE CORNER ROOM	--	--	CLOSED	CLOSED	NO	BECH-E121<047>	--	I
5294	1	08A	MO8401A	MSIV/MSIV-LCS LOOP A INBOARD BLEEDOFF ISOLATION	BECH-M184/11/F3	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	BECH-E122<038>	--	I
5295	1	08A	MO8401B	MSIV/MSIV-LCS LOOP B INBOARD BLEEDOFF ISOLATION	BECH-M184/11/F3	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	BECH-E122<038>	--	I

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
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Program File Name & Version: SSEM 2.2

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(5)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5296	1	08A	MO8401C	MSIV/MSIV-LCS LOOP C INBOARD BLEEDOFF ISOLATION	BECH-M184/11/F3	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	BECH-E122<038>	--	I
5297	1	08A	MO8401D	MSIV/MSIV-LCS LOOP D INBOARD BLEEDOFF ISOLATION	BECH-M184/11/F3	RB	757	STEAM TUNNEL	--	--	CLOSED	CLOSED	NO	BECH-E122<038>	--	I
5298	2	08B	SV1870A	CRD/SCRAM DISCH VOLUME VENT AND DRAIN VALVE CONTROL	BECH-M118/17/D4	RB	757	SOUTH SIDE	--	06	AIR	VENT	GIP	--	--	I
5299	1	08B	SV1870B	CRD/SCRAM DISCH VOLUME VENT AND DRAIN VALVE CONTROL	BECH-M118/17/C3	RB	757	SOUTH SIDE	--	06	AIR	VENT	GIP	--	--	I
5300	1	08B	SV4300X	CAC/CV-4300 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C7	RB	735	NE CORNER ROOM	--	--	VENT	VENT	NO	BECH-E122<013>	--	I
5301	1	08B	SV4302X	CAC/CV-4302 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D7	RB	812	DW HVAC ROOM	--	--	VENT	VENT	NO	BECH-E122<013>	--	I
6001	1	03	1A3	4160VAC/4160VAC ESSENTIAL SWITCHGEAR	BECH-E001<1>/19/E5	CB	757	H13	SR	04	ENER	ENER	YES	BECH-E104<10> BECH-E104<12>	1G031, 1D23	AI
6002	1	04	1X091	480VAC/TRANSFORMER, 480V SWGR, 1A3 TO 1B09	BECH-E001<1>/19/E5	IS	767	--	S	--	ENER	ENER	YES	--	1A3	AI
6003	1	02	1B09	480VAC/INTAKE STRUCTURE 480VAC LOAD CENTER	BECH-E001<1>/19/D5	IS	767	A2, DOOR 609	SR	04	ENER	ENER	YES	--	1X091, 1D13	AI
6004	1	01	1B91	480VAC/INTAKE STRUCTURE 480VAC MOTOR CONTROL CENTER	BECH-E001<1>/19/D5	IS	767	A2, DOOR 609	SR	--	ENER	ENER	YES	--	1B09	AI
6005	1	04	1X031	480VAC/TRANSFORMER, 480VAC SWGR, 1A3 TO 1B03	BECH-E001<1>/19/B4	CB	757	H12	S	--	ENER	ENER	YES	--	1A3	AI
6006	1	02	1B03	480VAC/CONTROL BUILDING, 480VAC LOAD CENTER	BECH-E001<1>/19/B4	CB	757	H12	SR	04	ENER	ENER	YES	--	1X031, 1D13	AI
6007	1	01	1B32	480VAC/CB 480VAC ESSENTIAL MOTOR CONTROL CENTER	BECH-E001<1>/19/A5	CB	757	H12	SR	04	ENER	ENER	YES	--	1B03	AI
6009	1	01	1B34	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	BECH-E001<1>/19/A5	RB	786	F6	SR	04	ENER	ENER	YES	--	1B03	AI
6010	1	01	1B34A	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	BECH-E001<1>/19/A4	RB	786	F6	SR	04	ENER	ENER	YES	--	1B03	AI

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Signature
APRIL 24, 1995 — Date

KEVIN G. CARDANY / ENGINEER — Print or Type Name/Title
Signature
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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6012	1	01	1B36	480VAC/PUMP HOUSE 480VAC MOTOR CONTROL CENTER	BECH-E001<1>/19/A5	PH	761	B3, "A" SIDE RM	SR	--	ENER	ENER	YES	--	1B32	AI
6013	1	01	1B37	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	BECH-E001<1>/19/A5	RB	786	F6	S	04, 08	ENER	N/A	NO	--	1B34	AI
6014	1	20	1C093	480VAC/SBDG 1G-31 CONTROL PANEL	BECH-E005/9/G8	TB	757	P5	--	04, 07	OFF	ON	YES	--	1D11, 1C008	AI
6015	1	17	1G031	SBDG/DIESEL GENERATOR, EMER AC PWR TO 1A3	BECH-E005/9/G7	TB	757	P5	SR	--	OFF	ON	YES	--	--	AI
6050	2	03	1A4	4160VAC/4160 VAC ESSENTIAL SWITCHGEAR	BECH-E001<1>/19/E4	CB	757	F11	SR	04	ENER	ENER	YES	--	1G021, 1D23	AI
6051	2	04	1X020	480VAC/TRANSFORMER, 480V SWGR, 1A4 TO 1B20	BECH-E001<1>/19/E3	IS	767	--	S	--	ENER	ENER	YES	--	1A4	AI
6052	2	02	1B20	480VAC/INTAKE STRUCTURE 480VAC LOAD CENTER	BECH-E001<1>/19/D3	IS	767	B2, DOOR 603	SR	04	ENER	ENER	YES	--	1X020, 1D23	AI
6053	2	01	1B21	480VAC/INTAKE STRUCTURE 480VAC MOTOR CONTROL CENTER	BECH-E001<1>/19/D3	IS	767	B2, DOOR 603	SR	--	ENER	ENER	YES	--	1B20	AI
6054	2	04	1X041	480VAC/TRANSFORMER, 480V SWGR, 1A4 TO 1B04	BECH-E001<1>/19/B4	CB	757	SWGR ROOM	S	--	ENER	ENER	YES	--	1A4	AI
6055	2	02	1B04	480VAC/CONTROL BUILDING 480VAC LOAD CENTER	BECH-E001<1>/19/B4	CB	757	G12	SR	04	ENER	ENER	YES	--	1X041, 1D23	AI
6056	2	01	1B42	480VAC/CONTROL BUILDING 480VAC MOTOR CONTROL CENTER	BECH-E001<1>/19/A4	CB	757	F11	SR	04	ENER	ENER	YES	--	1B04	AI
6058	2	01	1B44	480VAC/RB 757' LEVEL 480VAC MOTOR CONTROL CENTER	BECH-E001<1>/19/A4	RB	757	D9.1	SR	04	ENER	ENER	YES	--	1B04	AI
6059	2	01	1B44A	480VAC/RB 757' LEVEL 480VAC MOTOR CONTROL CENTER	BECH-E001<1>/19/A4	RB	757	D8.1	SR	04	ENER	ENER	YES	--	1B04	AI
6061	2	01	1B46	480VAC/PUMP HOUSE 480VAC MOTOR CONTROL CENTER	BECH-E001<1>/19/A4	PH	761	C1, "B" SIDE RM	SR	--	ENER	ENER	YES	--	1B04	AI
6062	2	20	1C094	SBDG/SBDG 1G-21 CONTROL PANEL	BECH-E005/9/G3	TB	757	N5	--	04, 07	OFF	ON	YES	--	1D21, 1C008	AI
6063	2	17	1G021	SBDG/DIESEL GENERATOR, EMER AC PWR TO 1A4	BECH-E005/9/G3	TB	757	P5	SR	--	OFF	ON	YES	--	--	AI

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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6101	1	15	1D1	125VDC/125VDC DIVISION 1 BATTERY	BECH-E027/18/H5	CB	757	H13	SR	--	ENER	ENER	YES	--	1D12	AI
6102	1	14	1D10	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL # 1	BECH-E027/18/H6	CB	757	G12	SR	--	ENER	ENER	YES	--	1D1	AI
6103	1	14	1D11	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL A	BECH-E027/18/D8	CB	757	G12	SR	--	ENER	ENER	YES	--	1D10	AI
6104	1	16	1D12	125VDC/1D1 125VDC DIVISION 1 MAIN BATTERY CHARGER	BECH-E027/18/F5	CB	757	G12	SR	--	ENER	ENER	YES	--	1B32	AI
6105	1	14	1D13	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL C	BECH-E027/18/D6	CB	757	G12	SR	--	ENER	ENER	YES	--	1D10	AI
6106	1	01	1D14	125VDC/RCIC SYSTEM 125VDC MOTOR CONTROL CENTER	BECH-E027/18/C6	RB	786	F6	SR	04	ENER	ENER	YES	--	1D10	AI
6107	2	15	1D2	125VDC/125VDC DIVISION 2 BATTERY	BECH-E027/18/H4	CB	757	F13	SR	--	ENER	ENER	YES	--	1D22	AI
6108	2	14	1D2C	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL # 2	BECH-E027/18/H4	CB	757	F12	SR	--	ENER	ENER	YES	--	1D2	AI
6109	2	14	1D21	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL B	BECH-E027/18/D?	CB	757	F12	SR	--	ENER	ENER	YES	--	1D20	AI
6110	2	16	1D22	125VDC/1D2 125VDC (DIVISION 2) MAIN BATTERY CHARGER	BECH-E027/18/F4	CB	757	F12	SR	--	ENER	ENER	YES	--	1B42	AI
6111	2	14	1D23	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL D	BECH-E027/18/D4	CB	757	F12	SR	--	ENER	ENER	YES	--	1D20	AI
6112	OPT	16	1D120	125VDC/125VDC BACKUP BATTERY CHARGER	BECH-E027/18/E5	CB	757	H12	SR	--	ENER	ENER	YES	--	1B32, 1B42	AI
6200	1,2	15	1D4	250VDC/250VDC BATTERY	BECH-E028/10/H6	CB	757	G13	SR	--	ENER	ENER	YES	--	1D43, 1D44	AI
6201	1,2	14	1D40	250VDC/250VDC DISTRIBUTION PANEL	BECH-E028/10/G7	CB	757	G13	SR	--	ENER	ENER	YES	--	1D4	AI
6202	1,2	01	1D41	250VDC/HPCI 250VDC MOTOR CONTROL CENTER	BECH-E028/10/C7	RB	757	G5.2	SR	04	ENER	ENER	YES	--	1D40	AI
6203	1,2	01	1D42	250VDC/RB 757' LEVEL 250VDC MOTOR CONTROL CENTER	BECH-E028/10/E6	RB	757	G10	SR	04	ENER	ENER	YES	--	1D40	AI
6204	1	16	1D43	250VDC/1D4 250VDC BATTERY CHARGER	BECH-E028/10/F6	TB	757	H12	SR	--	ENER	ENER	YES	--	1B32	AI

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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<-- Building	EQUIPMENT Flr.Elv.	LOCATION --> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6205	2	16	1D44	250VDC/1D4 250VDC BATTERY CHARGER	BECH-E028/10/F6	CB	757	F12	SR	--	ENER	ENER	YES	--	1B42	AI
6301	2	16	1D25	120VAC/120 VOLT INSTRUMENT AC POWER SUPPLY	BECH-E029<2>/0/E5	CB	757	F11	SR	04	ENER	ENER	YES	--	1D20	AI
6302	2	14	1Y25	IAC/MANUAL BYPASS SWITCH PANEL	BECH-E029<2>/0/D5	CB	757	F11	SR	--	ENER	ENER	YES	--	1D25, 1Y2A	AI
6303	2	04	1Y2A	IAC/REGULATING TRANSFORMER	BECH-E029<2>/0/E4	CB	757	F11	SR	04	ENER	ENER	YES	--	1B42	AI
6304	2	14	1Y20	IAC/INSTRUMENT AC 1Y21 MAIN AND TIE BREAKER PANEL	BECH-E029<2>/0/D5	CB	757	G13	SR	--	ENER	ENER	YES	--	1Y25	AI
6305	2	14	1Y021	120VAC/120V INSTRUMENT AC DISTRIBUTION PANEL	BECH-E029<2>/0/C5	CB	757	G13	SR	--	ENER	ENER	YES	--	1Y20	AI
6306	1	16	1D15	120VAC/120 VOLT INSTRUMENT AC POWER SUPPLY	BECH-E029<2>/0/E7	CB	757	H11	SR	04	ENER	ENER	YES	--	1D10	AI
6307	1	14	1Y15	IAC/MANUAL BYPASS SWITCH PANEL	BECH-E029<2>/0/D7	CB	757	H11	SR	--	ENER	ENER	YES	--	1D15, 1Y1A	AI
6308	1	04	1Y1A	IAC/REGULATING TRANSFORMER	BECH-E029<2>/0/E6	CB	757	H11	SR	04	ENER	ENER	YES	--	1B32	AI
6309	1	14	1Y010	IAC/INSTRUMENT AC 1Y11 MAIN AND TIE BREAKER PANEL	BECH-E029<2>/0/D7	CB	757	G12	SR	--	ENER	ENER	YES	--	1Y15	AI
6310	1	14	1Y11	120VAC/120V INSTRUMENT AC DISTRIBUTION PANEL	BECH-E029<2>/0/C7	CB	757	G12	SR	--	ENER	ENER	YES	--	1Y010	AI
6400	1,2	14	1Y023	120VAC/120V UNINTERRUPTIBLE AC DISTRIBUTION PANEL	BECH-E29<2>/0/C2	CB	757	H11	SR	--	ENER	ENER	YES	--	1Y022, 1Y004, 1D45, 1Y002	AI
6401	1,2	14	1Y022	120VAC/1Y002 TO 1Y023 AUTOMATIC TRANSFER SWITCH	BECH-E29<2>/0/D3	CB	757	H11	SR	04	ENER	ENER	YES	--	1D45, 1Y004, 1Y002	AI
6402	1,2	04	1Y004	120VAC/REGULATING TRANSFORMER	BECH-E29<2>/0/E2	CB	757	H12	SR	04	ENER	ENER	YES	--	1B32	AI
6403	2	04	1Y002	IAC/INSTRUMENT AC PANEL 1Y021 SUPPLY TRANSFORMER	BECH-E29<2>/0/E4	CB	763	G13	SR	--	ENER	ENER	YES	--	1B42	AI
6404	1,2	16	1D45	120VAC/120 VOLT UNINTERRUPTIBLE AC POWER SUPPLY	BECH-E29<2>/0/E3	CB	757	H11	SR	--	ENER	ENER	YES	--	1D40	AI
8001	1	06	1P099A	ESW/EMERGENCY SERVICE WATER PUMP A	BECH-M146/44/A7	PH	761	C3, "A" SIDE RM	SR	--	OFF	RUNNING	YES	BECH-E111<08>	1B3214(1B32)	AI
8002	2	06	1P099B	ESW/EMERGENCY SERVICE WATER PUMP B	BECH-M146/44/A6	PH	761	C2, "B" SIDE RM	SR	--	OFF	RUNNING	YES	BECH-E111<08A>	1B4207(1B42)	AI

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8003	1	07	CV2080	ESW/LOOP A DIESEL COOLER ISOLATION VALVE	BECH-M113/39/F5	TB	757	P4	S	--	CLOSED	OPEN	GIP	--	SV2080	AI
8004	2	07	CV2081	ESW/LOOP B DIESEL COOLER ISOLATION VALVE	BECH-M113/39/F5	TB	757	N4	S	--	CLOSED	OPEN	GIP	--	SV2081	AI
8005	1	08B	SV2080	ESW/LOOP A DIESEL COOLER ISOLATION VALVE SOLENOID	BECH-M113/39/F5	TB	757	(1C091)	SR	--	AIR	VENT	GIP	BECH-E111<08>	1B3214(1B32)	AI
8006	2	08B	SV2081	ESW/LOOP B DIESEL COOLER ISOLATION VALVE SOLENOID	BECH-M113/39/F5	TB	757	(1C092)	SR	--	AIR	VENT	GIP	BECH-E111<08A>	1B4207(1B42)	AI
8007	1	10	1VAC015A	RCIC/LOOP A RCIC ROOM COOLING UNIT	BECH-M113/39/D3	RB	725	RCIC ROOM	S	12	N/A	N/A	NO	--	--	AI
8008	2	10	1VAC015B	RCIC/LOOP B RCIC ROOM COOLING UNIT	BECH-M113/39/D2	RB	725	F5, RCIC ROOM	S	12	N/A	N/A	NO	--	--	AI
8009	1	10	1VAC014A	HPCI/LOOP A HPCI ROOM COOLING UNIT	BECH-M113/39/D3	RB	747	H5, HPCI ROOM	S	12	N/A	N/A	NO	--	--	AI
8010	2	10	1VAC014B	HPCI/LOOP B HPCI ROOM COOLING UNIT	BECH-M113/39/D2	RB	747	H5, HPCI ROOM	S	12	N/A	N/A	NO	--	--	AI
8011	1	07	CV1956A	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE	BECH-M113/39/F3	RB	812	F10	S	--	CLOSED	OPEN	GIP	--	SV1956A	AI
8012	2	07	CV1956B	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE	BECH-M113/39/F1	RB	812	F10	S	--	CLOSED	OPEN	GIP	--	SV1956B	AI
8013	1	08B	SV1956A	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE SOLENOID	BECH-M113/39/F3	RB	812	F10	SR	--	AIR	VENT	GIP	BECH-E111<08>	1B3214(1B32)	AI
8014	2	08B	SV1956B	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE SOLENOID	BECH-M113/39/F1	RB	812	F10	SR	--	AIR	VENT	GIP	BECH-E111<08A>	1B4207(1B42)	AI
8015	1	08A	MO2077	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE	BECH-M113/39/F3	RB	812	F10	SR	--	OPEN	CLOSED	YES	BECH-E111<24>	1B3228(1B32)	AI
8016	2	08A	MO2078	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE	BECH-M113/39/F1	RB	812	F10	SR	--	OPEN	CLOSED	YES	BECH-E111<24>	1B4226(1B42)	AI
8017	1	08A	MO1998A	ESW/LOOP A COOLING TOWER DISCHARGE ISOLATION VALVE	BECH-M113/39/A7	RB	731	G5, HPCI ROOM	R	--	OPEN	OPEN	NO	BECH-E111<06>	--	AI
8018	2	08A	MO1998B	ESW/LOOP B COOLING TOWER DISCHARGE ISOLATION VALVE	BECH-M113/39/B7	RB	731	G5, HPCI ROOM	R	--	OPEN	OPEN	NO	BECH-E111<06>	--	AI

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8019	1	18	FT4938A	ESW/LOOP A FLOW RATE TRANSMITTER	BECH-M146/44/C7	PH	761	A3	SR	--	N/A	N/A	YES	BECH-E112<11>	PDI4938A, E/S4938A(1C006), FI4938A(1C006)	AI
8020	2	18	FT4938B	ESW/LOOP B FLOW RATE TRANSMITTER	BECH-M146/44/C6	PH	761	A3	SR	--	N/A	N/A	YES	BECH-E112<11>	PDI4938B, E/S4938B(1C006), FI4938B(1C006)	AI
8023	1	18	PDI4938A	ESW/LOOP A FLOW ELEMENT DP	BECH-M146/44/C7	PH	761	B3, "A" SIDE RM	SR	--	N/A	N/A	YES	--	--	AI
8024	2	18	PDI4938B	ESW/LOOP B FLOW ELEMENT DP	BECH-M146/44/C6	PH	761	C2, "B" SIDE RM	SR	--	N/A	N/A	YES	--	--	AI
8025	1	08A	MO2039A	ESW/CB CHILLER 1V-CH-1A WELL WATER SUPPLY ISOLATION	BECH-M004	RB	812	CHILLER AREA	SR	--	OPEN	CLOSED	YES	BECH-E111<05>	1B3227(1B32)	AI
8026	2	08A	MO2039B	ESW/CB CHILLER 1V-CH-1B WELL WATER SUPPLY ISOLATION	BECH-M004	RB	812	CHILLER AREA	SR	--	OPEN	CLOSED	YES	BECH-E111<05>	1B4225(1B42)	AI
8101	1	06	1P022A	RHRSW/RHR SERVICE WATER PUMP A	BECH-M146/44/A8	PH	761	D4, "A" SIDE RM	SR	--	OFF	RUNNING	YES	BECH-E121<42> BECH-E104<3D>	1A307(1A3), 1D13	AI
8102	1	06	1P022C	RHRSW/RHR SERVICE WATER PUMP C	BECH-M146/44/A7	PH	761	D3, "A" SIDE RM	SR	--	OFF	RUNNING	YES	BECH-E121<42> BECH-E104<3D>	1A308(1A3), 1D13	AI
8103	2	06	1P022B	RHRSW/RHR SERVICE WATER PUMP B	BECH-M146/44/A6	PH	761	D2, "B" SIDE RM	SR	--	OFF	RUNNING	YES	BECH-E121<42A> BECH-E104<36>	1A407(1A4), 1D23	AI
8104	2	06	1P022D	RHRSW/RHR SERVICE WATER PUMP D	BECH-M146/44/A5	PH	761	D1, "B" SIDE RM	SR	--	OFF	RUNNING	YES	BECH-E121<42D> BECH-E104<36>	1A408(1A4), 1D23	AI
8105	1	08A	MO1943A	RHRSW/LOOP A RHR HEADER ISOLATION VALVE	BECH-M113/39/F7	RB	736	H5.2	R	--	CLOSED	CLOSED	NO	BECH-E121<45>	--	AI
8106	2	08A	MO1943B	RHRSW/LOOP B RHR HEADER ISOLATION VALVE	BECH-M113/39/E7	BAY 12	716	E6.1	R	--	CLOSED	CLOSED	NO	BECH-E121<45>	--	AI
8109	1	08A	MO2046	RHRSW/LOOP A PRESSURE CONTROL VALVE	BECH-M113/39/C5	RB	731	H5, HPCI ROOM	SR	--	CLOSED	OPEN	YES	BECH-E121<55> BECH-E105<14A> APED-E11-007<4>	1B3436(1B34), ZM2046(1C019), 1Y11	AI
8110	2	08A	MO1947	RHRSW/LOOP B PRESSURE CONTROL VALVE	BECH-M113/39/C6	RB	734	D10, NW CR	SR	--	CLOSED	OPEN	YES	BECH-E121<55A> BECH-E105<19> APED-E11-007<7>	1B4434(1B44), ZM1947(1C018), 1Y021	AI

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8111	1	18	FT2050	RHRSW/LOOP A FLOW RATE TRANSMITTER	BECH-M113/39/F6	RB	724	(1C120)	SR	--	N/A	N/A	YES	APED-E11-007<10>	FY2050(1C019), E/S2050(1C003), FI2050(1C003), 1Y11	AI
8112	2	18	FT1944	RHRSW/LOOP B FLOW RATE TRANSMITTER	BECH-M113/39/E7	RB	735	(1C058)	SR	--	N/A	N/A	YES	APED-E11-007<10A>	FY1944(1C018), E/S1944(1C018), FI1944(1C003), 1Y021	AI
8201	1	06	1P117A	RWS/RIVER WATER SUPPLY PUMP A	BECH-M129/20/C7	IS	767	A3, DOOR 609	SR	--	OFF	RUNNING	YES	BECH-E024<1> BECH-E111<11>	1B0901(1B09), 72-1106(1D11)	AI
8202	1	06	1P117C	RWS/RIVER WATER SUPPLY PUMP C	BECH-M129/20/C6	IS	767	A3, DOOR 609	SR	--	OFF	RUNNING	YES	BECH-E024<1> BECH-E111<11>	1B0902(1B09), 72-1106(1D11)	AI
8203	2	06	1P117B	RWS/RIVER WATER SUPPLY PUMP B	BECH-M129/20/C4	IS	767	B3, DOOR 603	SR	--	OFF	RUNNING	YES	BECH-E024<1> BECH-E111<11A>	1B2001(1B20), 72-2106(1D21)	AI
8204	2	06	1P117D	RWS/RIVER WATER SUPPLY PUMP D	BECH-M129/20/C3	IS	767	B3, DOOR 603	SR	--	OFF	RUNNING	YES	BECH-E024<1> BECH-E111<11B>	1B2002(1B20), 72-2106(1D21)	AI
8205	1	07	CV4910A	RWS/LOOP A DILUTION FLOW LINE ISOLATION VALVE	BECH-M146/44/F7	PH	727	B3	S	--	OP/CL	CLOSED	GIP	--	SV4910A	AI
8206	2	07	CV4910B	RWS/LOOP B DILUTION FLOW LINE ISOLATION VALVE	BECH-M146/44/F7	PH	727	A3	S	--	OP/CL	CLOSED	GIP	--	SV4910B	AI
8207	1	08B	SV4910A	RWS/LOOP A DILUTION FLOW LINE ISOLATION VALVE SOLENOID	BECH-M146/44/F7	PH	727	B3	SR	--	AIR	VENT	GIP	BECH-E111<13>	--	AI
8208	2	08B	SV4910B	RWS/LOOP B DILUTION FLOW LINE ISOLATION VALVE SOLENOID	BECH-M146/44/F7	PH	727	B3	SR	--	AIR	VENT	GIP	BECH-E111<13>	--	AI
8208A	2	07	CV4909	RWS/RIVER WATER RADWASTE DILUTION LINE ISOLATION	BECH-M146/44/F6	PH	727	A4	S	--	OP/CL	CLOSED	GIP	--	SV4909	AI
8208B	2	08B	SV4909	RWS/CV4909 INSTRUMENT AIR SUPPLY ISOLATION	BECH-M146/44/F6	PH	727	C2	SR	--	AIR/VENT	VENT	GIP	--	--	AI
8209	1	07	CV4915	RWS/LOOP A STILLING BASIN DISCHARGE ISOLATION VALVE	BECH-M146/44/E6	PH	747	B3	S	--	OP/CL	OPEN	GIP	--	SV4915	AI
8210	2	07	CV4914	RWS/LOOP B STILLING BASIN DISCHARGE ISOLATION VALVE	BECH-M146/44/E6	PH	747	B3	S	--	OP/CL	OPEN	GIP	--	SV4914	AI

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8211	1	088	SV4915	RWS/LOOP A STILLING BASIN DISCHARGE ISOL VALVE PILOT	BECH-M146/44/E6	PH	747	B2	SR	--	AIR	VENT	GIP	BECH-E111<13>	--	AI
8212	2	088	SV4914	RWS/LOOP B STILLING BASIN DISCHARGE ISOL VALVE PILOT	BECH-M146/44/E6	PH	747	B4	SR	--	AIR	VENT	GIP	BECH-E111<13>	--	AI
8213	1	18	FT4917	RWS/LOOP A FLOW RATE TRANSMITTER	BECH-M146/44/E6	PH	747	B2	SR	--	N/A	N/A	YES	FP-M155<1B>	E/S4917(1C006), FI4917(1C006)	AI
8214	2	18	FT4916	RWS/LOOP B FLOW RATE TRANSMITTER	BECH-M146/44/E6	PH	727	A1	SR	--	N/A	N/A	YES	FP-M155<1A>	E/S4916(1C006), FI4916(1C006)	AI
8301	1,2	21	1T035	DGS/40,000 GAL DIESEL OIL STORAGE TANK	BECH-M132/37/A3	N/A	757	--	S	--	N/A	N/A	NO	--	--	AI
8302	1	05	1P044B	DGS/DIESEL OIL TRANSFER PUMP	BECH-M132/37/A3	N/A	757	--	SR	--	OFF	RUNNING	YES	BECH-E106<5A> BECH-E105<16>	1B4219(1B42)	AI
8303	2	05	1P044A	DGS/DIESEL OIL TRANSFER PUMP	BECH-M132/37/A2	N/A	757	--	SR	--	OFF	RUNNING	YES	BECH-E106<5> BECH-E105<12>	1B3226(1B32)	AI
8304	1	21	1T037B	DGS/1,000 GAL DIESEL OIL DAY TANK	BECH-M132/37/C4	TB	757	N4	S	--	N/A	N/A	NO	--	--	AI
8305	2	21	1T037A	DGS/1,000 GAL DIESEL OIL DAY TANK	BECH-M132/37/F4	TB	757	P4	S	--	N/A	N/A	NO	--	--	AI
8306	1	18	LIS3210	DGS/DIESEL OIL DAY TANK LEVEL SWITCH	BECH-M132/37/B4	TB	757	N4	SR	--	N/A	N/A	YES	BECH-E106<5A>	--	AI
8307	2	18	LIS3208	DGS/DIESEL OIL DAY TANK LEVEL SWITCH	BECH-M132/37/E4	TB	757	P4	SR	--	N/A	N/A	YES	BECH-E106<5A>	--	AI
8308	1	18	LIS3209	DGS/DIESEL OIL DAY TANK LOW-LOW LEVEL ALARM	BECH-M132/37/C5	TB	757	(1C008)	SR	--	N/A	N/A	YES	--	--	AI
8309	2	18	LIS3207	DGS/DIESEL OIL DAY TANK LOW-LOW LEVEL ALARM	BECH-M132/37/F5	TB	757	(1C008)	SR	--	N/A	N/A	YES	--	--	AI
8310	1	21	1T115B	DGS/AIR RECEIVER	BECH-M132/37/B8	TB	757	N5	S	--	N/A	N/A	NO	--	--	AI
8311	1	21	1T116B	DGS/AIR RECEIVER	BECH-M132/37/B7	TB	757	N5	S	--	N/A	N/A	NO	--	--	AI
8312	1	21	1T117B	DGS/AIR RECEIVER	BECH-M132/37/B7	TB	757	N5	S	--	N/A	N/A	NO	--	--	AI
8313	2	21	1T115A	DGS/AIR RECEIVER	BECH-M132/37/F8	TB	757	P5	S	--	N/A	N/A	NO	--	--	AI

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEL 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<-- Building	EQUIPMENT Flr.Elv.	LOCATION --> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. Normal	--> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8314	2	21	1T116A	DGS/AIR RECEIVER	BECH-M132/37/F7	TB	757	P5	S	--	N/A	N/A	NO	--	--	AI
8315	2	21	1T117A	DGS/AIR RECEIVER	BECH-M132/37/F7	TB	757	P5	S	--	N/A	N/A	NO	--	--	AI
8316	1	21	1E053B	DGS/JACKET WATER COOLER	BECH-M113/39/F5	TB	757	D5	S	--	N/A	N/A	NO	--	--	AI
8317	2	21	1E053A	DGS/JACKET WATER COOLER	BECH-M113/39/F5	TB	757	P5	S	--	N/A	N/A	NO	--	--	AI
8318	1	21	1T113B	DGS/JACKET WATER EXPANSION TANK	BECH-M132/37/E6	TB	757	N4	S	--	N/A	N/A	NO	--	--	AI
8319	2	21	1T113A	DGS/JACKET WATER EXPANSION TANK	BECH-M132/37/H6	TB	757	P4	S	--	N/A	N/A	NO	--	--	AI
8320	1	21	1T114B	DGS/LUBE OIL MAKE-UP TANK	BECH-M132/37/D6	TB	757	N4	S	--	N/A	N/A	NO	--	--	AI
8321	2	21	1T114A	DGS/LUBE OIL MAKE-UP TANK	BECH-M132/37/G6	TB	757	P4	S	--	N/A	N/A	NO	--	--	AI
8322	1	R	1S003B	DGS/EXHAUST SILENCER	BECH-M132/37/D7	TB	757	N4	--	--	N/A	N/A	NO	--	--	AI
8323	1	R	1S003A	DGS/EXHAUST SILENCER	BECH-M132/37/D7	TB	757	P4	--	--	N/A	N/A	NO	--	--	AI
8324	1	R	1F031B	DGS/COMBUSTION AIR FILTER-SILENCER	BECH-M132/37/C5	TB	757	N5	--	--	N/A	N/A	NO	--	--	AI
8325	2	R	1F031A	DGS/COMBUSTION AIR FILTER-SILENCER	BECH-M132/37/F5	TB	757	P5	--	--	N/A	N/A	NO	--	--	AI
8326	1	18	ZC3236B	DGS/DIESEL OVERSPEED SENSOR	BECH-M132/37/A8	TB	757	P4	SR	--	N/A	N/A	YES	--	--	AI
8327	2	18	ZC3236A	DGS/DIESEL OVERSPEED SENSOR	BECH-M132/37/H1	TB	757	P4	SR	--	N/A	N/A	YES	--	--	AI
8401	1	10	1VAC030A	CRHVAC/CONTROL ROOM AC UNIT A	BECH-M161/29/F6	CB	800	H13	SR	--	OFF	RUNNING	YES	BECH-E113<26> BECH-E105<12>	1B3207(1B32)	AI
8402	2	10	1VAC030B	CRHVAC/CONTROL ROOM AC UNIT B	BECH-M161/29/D6	CB	800	H13	SR	--	OFF	RUNNING	YES	BECH-E113<26> BECH-E105<16>	1B4218(1B42)	AI
8403	1	10	D054113A	CRHVAC/LOOP A AC EXHAUST DAMPER	BECH-M161/29/F6	CB	800	F13	S	--	CLOSED	OPEN	GIP	--	SV6113A	AI
8404	2	10	D061113B	CRHVAC/LOOP B AC EXHAUST DAMPER	BECH-M161/29/D6	CB	800	J13	S	--	CLOSED	OPEN	GIP	--	SV6113B	AI
8405	1	088	SV6113A	CRHVAC/LOOP A AC EXHAUST DAMPER SOLENOID	BECH-M161/29/F6	CB	800	(1C133A)	SR	--	VENT	AIR	YES	BECH-E113<26>	TC6109A(1C133A), 1B32	AI
8406	2	088	SV6113B	CRHVAC/LOOP B AC EXHAUST DAMPER SOLENOID	BECH-M161/29/D6	CB	800	(1C133B)	SR	--	VENT	AIR	YES	BECH-E113<26>	TC6109B(1C133B), 1B42	AI

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Paul W. Hayes
Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Kevin G. Cardany
Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8407	1	09	1VRF030A	CRHVAC/EXHAUST FAN A	BECH-M161/29/F5	CB	800	J13	SR	--	OFF	RUNNING	YES	BECH-E113<27> BECH-E105<12>	1B3208(1B32)	AI
8408	2	09	1VRF030B	CRHVAC/EXHAUST FAN B	BECH-M161/29/D5	CB	800	J13	SR	--	OFF	RUNNING	YES	BECH-E113<27> BECH-E105<16>	1B4219(1B42)	AI
8409	1	10	D06127A	CRHVAC/LOOP A EXHAUST FAN DAMPER	BECH-M161/29/F5	CB	800	G13	S	--	CLOSED	OPEN	GIP	--	SV6127A	AI
8410	2	10	D06127B	CRHVAC/LOOP B EXHAUST FAN DAMPER	BECH-M161/29/D5	CB	800	J13	S	--	CLOSED	OPEN	GIP	--	SV6127B	AI
8411	1	088	SV6127A	CRHVAC/LOOP A EXHAUST FAN DAMPER SOLENOID	BECH-M161/29/F5	CB	800	(1C133A)	SR	--	VENT	AIR	YES	BECH-E113<27>	1B32	AI
8412	2	088	SV6127B	CRHVAC/LOOP B EXHAUST FAN DAMPER SOLENOID	BECH-M161/29/D5	CB	800	(1C133B)	SR	--	VENT	AIR	YES	BECH-E113<27>	1B42	AI
8413	1	10	D06109A	CRHVAC/LOOP A RECIRCULATION DAMPER	BECH-M161/29/F3	CB	807	G13	S	--	CLOSED	OPEN	GIP	--	AV6133A	AI
8414	2	10	D06109B	CRHVAC/LOOP B RECIRCULATION DAMPER	BECH-M161/29/D3	CB	800	J13	S	--	CLOSED	OPEN	GIP	--	AV6133B	AI
8415	1	07	AV6133A	CRHVAC/LOOP A RECIRCULATION DAMPER CONTROL VALVE	BECH-M161/29/E3	CB	800	(1C133A)	S	--	VENT	AIR	YES	--	TC6109A(1C133A)	AI
8416	2	07	AV6133B	CRHVAC/LOOP B RECIRCULATION DAMPER CONTROL VALVE	BECH-M161/29/E3	CB	800	(1C133A)	S	--	VENT	AIR	YES	--	TC6109B(1C133B)	AI
8417	1	18	SL6109A	CRHVAC/LOOP A SIGNAL LIMITER	BECH-M161/29/E2	CB	800	(1C133A)	S	--	N/A	N/A	GIP	--	TT6111A	AI
8418	2	18	SL6109B	CRHVAC/LOOP B SIGNAL LIMITER	BECH-M161/29/C3	CB	800	(1C133B)	S	--	N/A	N/A	GIP	--	TT6111B	AI
8419	1	18	TT6111A	CRHVAC/LOOP A OUTSIDE TEMPERATURE TRANSMITTER	BECH-M161/29/E2	CB	800	F13	S	--	N/A	N/A	GIP	--	--	AI
8420	2	18	TT6111B	CRHVAC/LOOP B OUTSIDE TEMPERATURE TRANSMITTER	BECH-M161/29/E2	CB	800	F13	S	--	N/A	N/A	GIP	--	--	AI
8421	1	18	TT6109A	CRHVAC/LOOP A MIXED AIR TEMPERATURE TRANSMITTER	BECH-M161/29/E4	CB	800	H13	S	--	N/A	N/A	GIP	--	--	AI
8422	2	18	TT6109B	CRHVAC/LOOP B MIXED AIR TEMPERATURE TRANSMITTER	BECH-M161/29/C4	CB	800	H13	S	--	N/A	N/A	GIP	--	--	AI
8423	1	07	CV6116A	CRHVAC/LOOP A COOLING COIL BYPASS VALVE	BECH-M161/29/F5	CB	800	G13	S	--	OP/CL	OPEN	GIP	--	ZC6116A	AI

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Signature
APRIL 24, 1995 — Date

KEVIN G. CARDANY / ENGINEER — Print or Type Name/Title
Signature
APRIL 24, 1995 — Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	SORT	NOTES	OP. ST. Normal	OP. ST. Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8424	2	07	CV6116B	CRHVAC/LOOP B COOLING COIL BYPASS VALVE	BECH-M161/29/D5	CB	800	J13	S	--	OP/CL	OPEN	GIP	--	ZC6116B	AI
8425	1	07	ZC6116A	CRHVAC/LOOP A COOLING COIL BYPASS POSITION CONTROLLER	BECH-M161/29/F5	CB	800	HVAC ROOM	S	--	OP/CL	OP/CL	YES	--	TC6116A(1C133A), PCV6116A	AI
8426	2	07	ZC6116B	CRHVAC/LOOP B COOLING COIL BYPASS POSITION CONTROLLER	BECH-M161/29/D5	CB	800	HVAC ROOM	S	--	OP/CL	OP/CL	YES	--	TC6116B(1C133B), PCV6116B	AI
8427	1	07	PCV6116A	CRHVAC/LOOP A COOLING COIL BYPASS PRESSURE CONTROL VLV	BECH-M161/29/F5	CB	800	HVAC ROOM	S	--	OP/CL	OP/CL	GIP	--	--	AI
8428	2	07	PCV6116B	CRHVAC/LOOP B COOLING COIL BYPASS PRESSURE CONTROL VLV	BECH-M161/29/D5	CB	800	HVAC ROOM	S	--	OP/CL	OP/CL	GIP	--	--	AI
8429	1	18	SL6116A	CRHVAC/LOOP A SIGNAL LIMITER	BECH-M161/29/E4	CB	800	(1C133A)	S	--	N/A	N/A	GIP	--	TT6111A	AI
8430	2	18	SL6116B	CRHVAC/LOOP B SIGNAL LIMITER	BECH-M161/29/C4	CB	800	(1C133B)	S	--	N/A	N/A	GIP	--	TT6111B	AI
8431	1	18	TT6114A	CRHVAC/LOOP A AC UNIT DISCHARGE TEMPERATURE TRANSMITTER	BECH-M161/29/E6	CB	800	H13	S	--	N/A	N/A	GIP	--	--	AI
8432	2	18	TT6114B	CRHVAC/LOOP B AC UNIT DISCHARGE TEMPERATURE TRANSMITTER	BECH-M161/29/C6	CB	800	H13	S	--	N/A	N/A	GIP	--	--	AI
8435	1	09	1VEF030A	CRHVAC/BATTERY ROOM EXHAUST FAN A	BECH-M161/29/D1	CB	800	G13	SR	--	OFF	RUNNING	YES	BECH-E113<40> BECH-E105<12>	1B3212(1B32)	AI
8436	2	09	1VEF030B	CRHVAC/BATTERY ROOM EXHAUST FAN B	BECH-M161/29/E1	CB	800	G13	SR	--	OFF	RUNNING	YES	BECH-E113<40A> BECH-E105<16>	1B4205(1B42)	AI
8437	OPT	09	1VEF030C	CRHVAC/BATTERY ROOM EXHAUST FAN C	BECH-M161/29/E1	CB	800	G13	SR	--	OFF	RUNNING	YES	BECH-E113<40> BECH-E105<12>	1B3217(1B32)	AI
8438	1	12	1K003	HVIA/HVAC INSTRUMENT AIR COMPRESSOR A	BECH-M173/27/A6	RB	787	G10	SR	--	OFF	RUNNING	YES	BECH-E113<144> BECH-E105<12A>	PS7335A, 1B3232(1B32)	AI
8439	2	12	1K004	HVIA/HVAC INSTRUMENT AIR COMPRESSOR B	BECH-M173/27/A8	RB	787	G10	SR	--	OFF	RUNNING	YES	BECH-E113<14> BECH-E105<16A>	PS7335B, 1B4230(1B42)	AI
8440	1	18	PS7335A	HVIA/LOOP A PRESSURE SWITCH	BECH-M173/27/A5	RB	786	G10	SR	--	N/A	N/A	YES	--	--	AI
8441	2	18	PS7335B	HVIA/LOOP B PRESSURE SWITCH	BECH-M173/27/A7	RB	786	G10	SR	--	N/A	N/A	YES	--	--	AI
8442	1	21	1VS012	HVIA/LOOP A RECEIVER	BECH-M173/27/A5	RB	786	G10	S	--	N/A	N/A	NO	--	--	AI

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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8443	2	21	1VS013	HVIA/LOOP B RECEIVER	BECH-M173/27/A7	RB	786	G10	S	--	N/A	N/A	NO	--	--	AI
8444	1	08B	SV7333A	HVIA/LOOP A RECEIVER ISOLATION VALVE	BECH-M173/27/B5	CB	800	J13	SR	--	OPEN	CLOSED	YES	--	--	AI
8445	2	08B	SV7333B	HVIA/LOOP B RECEIVER ISOLATION VALVE	BECH-M173/27/B7	CB	800	J13	SR	--	OPEN	CLOSED	YES	--	--	AI
8446	1	11	1VCH001A	CRHVAC/CONTROL BUILDING CHILLER A	BECH-M169<2>/02/A6	RB	812	F10	SR	--	RUNNING	RUNNING	YES	BECH-E024<1> BECH-E113<31>	1C429A, 1B0305(1B03)	AI
8446A	1	05	1VCP030A	CRHVAC/CB HVAC CHILLED WATER PUMP	BECH-M169<2>/02/C6	RB	812	CHILLERS AREA	SR	--	RUNNING	RUNNING	YES	BECH-E113<32>	1B3225(1B32)	AI
8447	2	11	1VCH001B	CRHVAC/CONTROL BUILDING CHILLER B	BECH-M169<2>/02/A3	RB	812	F10	SR	--	RUNNING	RUNNING	YES	BECH-E024<1> BECH-E113<31>	1C429B, 1B0405(1B04)	AI
8447A	2	05	1VCP030B	CRHVAC/CB HVAC CHILLED WATER PUMP	BECH-M169<2>/02/C3	RB	812	CHILLERS AREA	SR	--	RUNNING	RUNNING	YES	BECH-E113<32>	1B4214(1B42)	AI
8448	1	20	1C429A	CRHVAC/CONTROL BUILDING CHILLER A CONTROL PANEL	BECH-M169<2>/02/B6	RB	812	F10	--	07	N/A	N/A	YES	--	--	AI
8449	2	20	1C429B	CRHVAC/CONTROL BUILDING CHILLER B CONTROL PANEL	BECH-M169<2>/02/B3	RB	812	F10	--	07	N/A	N/A	YES	--	--	AI
8450	1	07	TCV6924A	CRHVAC/CHILLER A TEMPERATURE CONTROL VALVE	BECH-M169<2>/02/A7	RB	812	F10	S	--	OP/CL	OP/CL	YES	--	--	AI
8451	2	07	TCV6924B	CRHVAC/CHILLER B TEMPERATURE CONTROL VALVE	BECH-M169<2>/02/A2	RB	812	F10	S	--	OP/CL	OP/CL	YES	--	--	AI
8452	1	21	1VHX031A	CRHVAC/NON-ESSENTIAL COOLING HX A	BECH-M169<2>/02/C6	RB	812	F10	S	--	N/A	N/A	NO	--	--	AI
8453	2	21	1VHX031B	CRHVAC/NON-ESSENTIAL COOLING HX B	BECH-M169<2>/02/C3	RB	812	F10	S	--	N/A	N/A	NO	--	--	AI
8454	1	07	CV6919A	CRHVAC/NON-ESSENTIAL COOLING HX A INLET ISOL VALVE	BECH-M169<2>/02/D6	RB	812	F10	S	--	OPEN	CLOSED	GIP	--	SV6920A	AI
8455	2	07	CV6919B	CRHVAC/NON-ESSENTIAL COOLING HX B INLET ISOL VALVE	BECH-M169<2>/02/D3	RB	812	F10	S	--	OPEN	CLOSED	GIP	--	SV6920B	AI
8456	1	07	CV6920A	CRHVAC/NON-ESSENTIAL COOLING HX A OUTLET ISOL VALVE	BECH-M169<2>/02/C5	RB	812	F10	S	--	OPEN	CLOSED	GIP	--	SV6920A	AI
8457	2	07	CV6920B	CRHVAC/NON-ESSENTIAL COOLING HX B OUTLET ISOL VALVE	BECH-M169<2>/02/C4	RB	812	F10	S	--	OPEN	CLOSED	GIP	--	SV6920B	AI

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--------- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8458	1	088	SV6920A	CRHVAC/NON-ESSENTIAL COOLING HX A ISOL VALVE SOLENOID	BECH-M169<2>/02/C5	RB	812	F10	SR	--	AIR	VENT	GIP	--	--	AI
8459	2	088	SV6920B	CRHVAC/NON-ESSENTIAL COOLING HX B ISOL VALVE SOLENOID	BECH-M169<2>/02/C4	RB	812	F10	SR	--	AIR	VENT	GIP	--	--	AI
8460	1	01	1N30S	CRHVAC/CHILLER 1V-CH-1A STAR-DELTA LOCAL STARTER	BECH-E113<30>	RB	812	F10	S	04	ENER	ENER	YES	--	--	AI
8461	2	01	1N40S	CRHVAC/CHILLER 1V-CH-1B STAR-DELTA LOCAL STARTER	BECH-E113<31>	RB	812	F10	S	04	ENER	ENER	YES	--	--	AI
8462	OPT	10	D06106A	CRHVAC/1VAC030A MAXIMUM AIR SUPPLY DAMPER	BECH-M161/29/F3	CB	800	H13	S	18	OP/CL	OPEN	GIP	--	AV6134A	AI
8463	OPT	10	D06106B	CRHVAC/1VAC030B MAXIMUM AIR SUPPLY DAMPER	BECH-M161/29/D3	CB	800	H13	S	18	OP/CL	OPEN	GIP	--	AV6134B	AI
8464	OPT	10	D06112A	CRHVAC/1VAC030A MINIMUM AIR SUPPLY DAMPER	BECH-M161/29/E3	CB	800	H13	S	18	OP/CL	OPEN	GIP	--	TC6109A(1C133A)	AI
8465	OPT	10	D06112B	CRHVAC/1VAC030B MINIMUM AIR SUPPLY DAMPER	BECH-M161/29/C3	CB	800	H13	S	18	OP/CL	OPEN	GIP	--	TC6109B(1C133B)	AI
8466	OPT	07	AV6134A	CRHVAC/VALVE, AIR, CB H&V, D06106A	BECH-M161/29/F3	CB	800	--	S	18	AIR/VENT	AIR	GIP	--	SV6109A, PC6106A(1C133A)	AI
8467	OPT	07	AV6134B	CRHVAC/VALVE, AIR, CB H&V, D06106B	BECH-M161/29/D3	CB	800	--	S	18	AIR/VENT	AIR	GIP	--	SV6109B, PC6106B(1C133B)	AI
8468	OPT	088	SV6109A	CRHVAC/VALVE, SOL, CB H&V, AV6134A & AV6133A	BECH-M161/29/E3	CB	800	(1C133A)	S	18	AIR/VENT	AIR	YES	--	TC6109A(1C133A)	AI
8469	OPT	088	SV6109B	CRHVAC/VALVE, SOL, CB H&V, AV6134B & AV6133B	BECH-M161/29/C3	CB	800	(1C133B)	S	18	AIR/VENT	AIR	YES	--	TC6109B(1C133B)	AI
8470	OPT	10	D06123A	CRHVAC/CB HVAC OUTSIDE AIR INTAKE DAMPER	BECH-M161/29/B3	CB	800	G13	S	18	OP/CL	OPEN	GIP	--	SV6110A	AI
8471	OPT	10	D06123B	CRHVAC/CB HVAC OUTSIDE AIR INTAKE DAMPER	BECH-M161/29/B3	CB	800	G13	S	18	OP/CL	OPEN	GIP	--	SV6110B	AI
8472	OPT	088	SV6110A	CRHVAC/D06123A CONTROL AIR SUPPLY	BECH-M161/29/B2	CB	800	G13	S	18	AIR/VENT	AIR	YES	--	--	AI

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--------- EQUIPMENT LOCATION -----> Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8473	OPT	088	SV6110B	CRHVAC/DO6123B CONTROL AIR SUPPLY	BECH-M161/29/A2	CB	800	G13	S	18	AIR/VENT	AIR	YES	--	--	AI
8474	OPT	10	DO6107A	CRHVAC/DAMPER, CB H&V, CNTR BLDG EXH	BECH-M161/29/F2	--	--	--	S	18	OP/CL	OPEN	GIP	--	SV6107A	AI
8475	OPT	10	DO6107B	CRHVAC/DAMPER, CB H&V, CNTR BLDG EXH	BECH-M161/29/F2	--	--	--	S	18	OP/CL	OPEN	GIP	--	SV6107B	AI
8476	OPT	088	SV6107A	CRHVAC/VALVE, SOL, CB H&V, DO6107A	BECH-M161/29/F2	CB	800	--	S	18	AIR/VENT	AIR	YES	BECH-E113<082>	--	AI
8477	OPT	088	SV6107B	CRHVAC/VALVE, SOL, CB H&V, DO6107B	BECH-M161/29/F1	CB	800	--	S	18	AIR/VENT	AIR	YES	--	--	AI
8501	1	10	DO7709A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	BECH-M177/28/E7	IS	770	A1, DOOR 605	S	--	OP/CL	OPEN	GIP	--	TC7715A(1C156)	AI
8502	1	10	DO7710A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	BECH-M177/28/E7	IS	770	A1, DOOR 605	S	--	OP/CL	OPEN	GIP	--	TC7715A(1C156)	AI
8503	1	10	DO7711A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	BECH-M177/28/E7	IS	770	A1, DOOR 605	S	--	OP/CL	OPEN	GIP	--	TC7715A(1C156)	AI
8504	2	10	DO7709B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	BECH-M177/28/E7	IS	770	B2, DOOR 607	S	--	OP/CL	OPEN	GIP	--	TC7715B(1C157)	AI
8505	2	10	DO7710B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	BECH-M177/28/E7	IS	770	B2, DOOR 607	S	--	OP/CL	OPEN	GIP	--	TC7715B(1C157)	AI
8506	2	10	DO7711B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	BECH-M177/28/E7	IS	770	B2, DOOR 607	S	--	OP/CL	OPEN	GIP	--	TC7715B(1C157)	AI
8507	1	09	1VSF50	HVAC/INTAKE STRUCTURE VENT FAN A	BECH-M177/28/E6	IS	767	A2, DOOR 609	SR	--	OFF	RUNNING	YES	BECH-E113<63> BECH-E105<31>	1B9101(1B91)	AI
8508	2	09	1VSF51	HVAC/INTAKE STRUCTURE VENT FAN B	BECH-M177/28/E6	IS	767	B2, DOOR 603	SR	--	OFF	RUNNING	YES	BECH-E113<63> BECH-E105<30>	1B2101(1B21)	AI
8509	1	10	DO7713A	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	BECH-M177/28/F5	IS	778	A3, DOOR 609	S	--	OP/CL	OPEN	GIP	--	TC7715A(1C156)	AI
8510	1	10	DO7716A	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	BECH-M177/28/F5	IS	778	A3, DOOR 609	S	--	OP/CL	OPEN	GIP	--	TC7715A(1C156)	AI

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Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8511	2	10	D077138	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	BECH-M177/28/F5	IS	778	B3, DOOR 603	S	--	OP/CL	OPEN	GIP	--	TC7715B(1C157)	AI
8512	2	10	D077168	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	BECH-M177/28/F5	IS	778	B3, DOOR 603	S	--	OP/CL	OPEN	GIP	--	TC7715B(1C157)	AI
8512A	1	10	D07712A	HVAC/SUPPLY FAN 1VSFS0 RETURN AIR INLET DAMPER	BECH-M177/28/E7	IS	766	A1	S	--	OP/CL	CLOSED	GIP	--	TC7715A(1C156)	AI
8512B	2	10	D077128	HVAC/SUPPLY FAN 1VSFS1 RETURN AIR INLET DAMPER	BECH-M161/28/E7	IS	766	B1	S	--	OP/CL	CLOSED	GIP	--	TC7715B(1C157)	AI
8513	1	09	1VSF056A	HVAC/SW PUMP ROOM VENTILATION FAN A	BECH-M175/20/E7	PH	761	A3	SR	--	OFF	RUNNING	YES	BECH-E113<79> BECH-E105<34>	1B3601(1B36)	AI
8514	2	09	1VSF056B	HVAC/SW PUMP ROOM VENTILATION FAN B	BECH-M175/20/E8	PH	775	A1	SR	--	OFF	RUNNING	YES	BECH-E113<79> BECH-E105<35>	1B4601(1B46)	AI
8515	1	10	D07539A	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER A	BECH-M175/20/E7	PH	761	A3	S	--	OP/CL	OPEN	GIP	--	SV7539A	AI
8516	2	10	D07539B	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER B	BECH-M175/20/E8	PH	775	A1	S	--	OP/CL	OPEN	GIP	--	SV7539B	AI
8517	1	08B	SV7539A	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER A SOLENOID	BECH-M175/20/E7	PH	761	A3	SR	--	AIR	VENT	GIP	--	--	AI
8518	2	08B	SV7539B	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER B SOLENOID	BECH-M175/20/E8	PH	775	A1	SR	--	AIR	VENT	GIP	--	--	AI
8519	1	10	D07538A	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER A	BECH-M175/20/E7	PH	761	A3, "A" SIDE RM	S	--	OP/CL	OPEN	GIP	--	SV7538A	AI
8520	2	10	D07538B	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER B	BECH-M175/20/E8	PH	775	A1	S	--	OP/CL	OPEN	GIP	--	SV7538B	AI
8521	1	08B	SV7538A	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER A SOLENOID	BECH-M175/20/D7	PH	761	A3	SR	--	AIR	VENT	GIP	--	--	AI
8522	2	08B	SV7538B	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER B SOLENOID	BECH-M175/20/D8	PH	775	A1	SR	--	AIR	VENT	GIP	--	--	AI
8527	1	10	D07536U	HVAC/SW PUMP ROOM EXHAUST DAMPER	BECH-M175/20/F7	PH	780	A1	S	--	OP/CL	OPEN	GIP	--	SV7536	AI
8528	1	10	D07536V	HVAC/SW PUMP ROOM EXHAUST DAMPER	BECH-M175/20/F7	PH	780	A1	S	--	OP/CL	OPEN	GIP	--	SV7536	AI

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Signature — APRIL 24, 1995 — Date

KEVIN G. CARDANY / ENGINEER — Print or Type Name/Title
Signature — APRIL 24, 1995 — Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8529	1	088	SV7536	HVAC/SW PUMP ROOM EXHAUST DAMPER SOLENOID	BECH-M175/20/F7	PH	780	A1	SR	--	AIR	VENT	GIP	--	--	AI
8530	2	10	D07537U	HVAC/SW PUMP ROOM EXHAUST DAMPER	BECH-M175/20/F8	PH	780	A1	S	--	OP/CL	OPEN	GIP	--	SV7537	AI
8531	2	10	D07537V	HVAC/SW PUMP ROOM EXHAUST DAMPER	BECH-M175/20/F8	PH	780	A1	S	--	OP/CL	OPEN	GIP	--	SV7537	AI
8532	2	088	SV7537	HVAC/SW PUMP ROOM EXHAUST DAMPER SOLENOID	BECH-M175/20/F8	PH	780	A1	SR	--	AIR	VENT	GIP	--	--	AI
8533	1	10	1VAC011	HVAC/RHR & CS ROOM AC UNIT A	BECH-M171/18/C5	RB	747	D10, NW CR	SR	--	OFF	RUNNING	YES	BECH-E113<147A>	1B4403(1844)	AI
8534	2	10	1VAC012	HVAC/RHR & CS ROOM AC UNIT B	BECH-M171/18/C4	RB	747	H5.2	SR	--	OFF	RUNNING	YES	BECH-E113<147>	1B3404(1834)	AI
8537	1	18	TT7117	HVAC/RHR & CS ROOM AC UNIT A TEMPERATURE TRANSMITTER	BECH-M171/18/B5	RB	747	D10, NW CR	S	--	N/A	N/A	GIP	--	--	AI
8538	2	18	TT7120	HVAC/RHR & CS ROOM AC UNIT B TEMPERATURE TRANSMITTER	BECH-M171/18/B5	RB	747	H5.2	S	--	N/A	N/A	GIP	--	--	AI
8539	1	18	TT7115	HVAC/RHR & CS ROOM AC UNIT A TEMPERATURE TRANSMITTER	BECH-M171/18/B6	RB	747	D10	S	--	N/A	N/A	GIP	--	--	AI
8540	2	18	TT7118	HVAC/RHR & CS ROOM AC UNIT B TEMPERATURE TRANSMITTER	BECH-M171/18/B6	RB	747	H5.2	S	--	N/A	N/A	GIP	--	--	AI
8541	1	10	D07000A1	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	BECH-M170/25/F8	TB	780	N4	S	--	OP/CL	OPEN	GIP	--	SV7000A	AI
8542	2	10	D0700081	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	BECH-M170/25/F8	TB	780	N4	S	--	OP/CL	OPEN	GIP	--	SV7000B	AI
8543	1	088	SV7000A	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	BECH-M170/25/F7	TB	757	(1C151)	SR	--	AIR	VENT	GIP	--	--	AI
8544	2	088	SV7000B	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	BECH-M170/25/F7	TB	757	(1C152)	SR	--	AIR	VENT	GIP	--	--	AI
8545	1	10	D07000A2	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	BECH-M170/25/F8	TB	780	N4	S	--	OP/CL	OPEN	GIP	--	SV7001A	AI
8546	2	10	D0700082	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	BECH-M170/25/F8	TB	780	N4	S	--	OP/CL	OPEN	GIP	--	SV7001B	AI

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Paul W Hayes — Signature
APRIL 24, 1995 — Date

KEVIN G. CARDANY / ENGINEER — Print or Type Name/Title
Kevin G. Cardany — Signature
APRIL 24, 1995 — Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8547	1	088	SV7001A	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	BECH-M170/25/F7	TB	757	(1C151)	SR	--	AIR	VENT	GIP	--	--	AI
8548	2	088	SV7001B	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	BECH-M170/25/F7	TB	757	(1C152)	SR	--	AIR	VENT	GIP	--	--	AI
8548A	1	10	D07001A1	HVAC/VENTILATION FAN 1V-SF-20 RETURN AIR DAMPER	BECH-M170/25/F7	TB	757	A DIESEL ROOM	S	--	OP/CL	CLOSED	GIP	--	SV7001A	AI
8548B	2	10	D07001B1	HVAC/VENTILATION FAN 1V-SF-21 RETURN AIR DAMPER	BECH-M170/25/F7	TB	757	B DIESEL ROOM	S	--	OP/CL	CLOSED	GIP	--	SV7001B	AI
8548C	1	10	D07001A2	HVAC/VENTILATION FAN 1V-SF-20 RETURN AIR DAMPER	BECH-M170/25/F7	TB	757	A DIESEL ROOM	S	--	OP/CL	CLOSED	GIP	--	SV7001A	AI
8548D	2	10	D07001B2	HVAC/VENTILATION FAN 1V-SF-21 RETURN AIR DAMPER	BECH-M170/25/F7	TB	757	B DIESEL ROOM	S	--	OP/CL	CLOSED	GIP	--	SV7001B	AI
8551	1	09	1VSF020	HVAC/EMER DIESEL ROOM VENT FAN	BECH-M170/25/F7	TB	757	P5	SR	--	OFF	RUNNING	YES	BECH-E113<52> BECH-E105<12>	1B3213(1B32), 1D11	AI
8552	2	09	1VSF021	HVAC/EMER DIESEL ROOM VENT FAN	BECH-M170/25/F7	TB	757	N5	SR	--	OFF	RUNNING	YES	BECH-E113<52A> BECH-E105<16>	1B4206(1B42), 1D21	AI
8553	1	10	D07002A1	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	BECH-M170/25/E8	TB	757	P4	S	--	OP/CL	OPEN	GIP	--	SV7002A, PC7000A(1C151)	AI
8554	2	10	D07002B1	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	BECH-M170/25/E8	TB	757	N4	S	--	OP/CL	OPEN	GIP	--	SV7002B, PC7000B(1C152)	AI
8555	1	10	D07002A2	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	BECH-M170/25/E8	TB	757	P4	S	--	OP/CL	OPEN	GIP	--	SV7002A, PC7000A(1C151)	AI
8556	2	10	D07002B2	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	BECH-M170/25/E8	TB	757	N4	S	--	OP/CL	OPEN	GIP	--	SV7002B, PC7000B(1C152)	AI
8557	1	10	D07002A3	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	BECH-M170/25/E8	TB	757	N4	S	--	OP/CL	OPEN	GIP	--	SV7002A, PC7000A(1C151)	AI
8558	2	10	D07002B3	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	BECH-M170/25/E8	TB	757	N4	S	--	OP/CL	OPEN	GIP	--	SV7002B, PC7000B(1C152)	AI
8559	1	088	SV7002A	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER SOLENOID	BECH-M170/25/E7	TB	757	(1C151)	SR	--	AIR	VENT	GIP	--	--	AI

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8560	2	088	SV7002B	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER SOLENOID	BECH-M170/25/E7	TB	757	(1C152)	SR	--	AIR	VENT	GIP	--	--	AI
8563	1	20	1C151	HVAC/EMER DIESEL ROOM VENT CONTROL CABINET	BECH-M405<03>	TB	757	P5	--	07	N/A	N/A	NO	--	--	AI
8564	2	20	1C152	HVAC/EMER DIESEL ROOM VENT CONTROL CABINET	BECH-M405<03>	TB	757	N5	--	07	N/A	N/A	NO	--	--	AI
8604	--	20	1C019	SMP/PROCESS INSTRUMENTATION EQUIPMENT BOARD	APED-H11-069	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	--	--	AI
8605	--	20	1C003	HPCI/RB & DW COOLING & ISOLATION CONTROL PANEL	APED-H11-067<1>	CB	786	MCR	S	04	N/A	N/A	NO	--	--	AIR
8607	--	20	1C018	FW/FW & RECIRC CONTROL PANEL	APED-H11-075<1>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	--	--	AI
8608	--	20	1C004	RWCU/RWCU & RECIRC CONTROL PANEL	APED-H11-054<1>	CB	786	MCR	S	--	N/A	N/A	NO	--	--	AIR
8609	--	20	1C009	DRM/ACCIDENT MONITORING PANEL	BECH-E889<1>	CB	786	MCR	S	--	N/A	N/A	NO	--	--	AIR
8610	--	20	1C056	RPS/RPS INSTRUMENTATION PANEL	APED-H21-021<1>	RB	786	G9	S	04	N/A	N/A	NO	--	--	AIR
8610A	--	18	1C056A	RPS/RX VESSEL LEVEL AND PRESS INSTR PNL	--	RB	786	G9	S	--	N/A	N/A	NO	--	--	AI
8611	--	20	1C005	CRD/REACTOR CONTROL PANEL	BECH-E815<1>	CB	786	MCR	S	--	N/A	N/A	NO	--	--	AIR
8612	--	20	1C055	RPS/RPS INSTRUMENTATION PANEL	APED-H21-022<3>	RB	757	E9	S	04	N/A	N/A	NO	--	--	AIR
8612A	--	18	1C055A	RPS/RX VESSEL LEVEL AND PRESS INSTR PNL	--	RB	757	E9	S	--	N/A	N/A	NO	--	--	AI
8613	--	20	1C388	RSD/ALTERNATE SHUTDOWN PANEL	BECH-M002	RB	757	E9	S	--	N/A	N/A	NO	--	--	AIR
8614	1,2	20	1C008	BLD/GENERATOR AND AUXILIARY POWER PANEL	BECH-M405<03>	CB	786	MCR	S	04	N/A	N/A	NO	--	--	AI
8615	--	18	1C129A	RHR/RHR LOOP A INSTRUMENTATION RACK	BECH-M405<01>	RB	716	H5.2	S	04	N/A	N/A	NO	--	--	AI
8616	--	18	1C129B	RHR/RHR LOOP B INSTRUMENTATION RACK	BECH-M405<01>	RB	716	D10, NW CR	S	04	N/A	N/A	NO	--	--	AI
8617	--	18	1C120	HPCI/HPCI INSTRUMENTATION RACK	BECH-M405<01>	RB	724	HPCI ROOM	S	--	N/A	N/A	NO	--	--	AIR

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PAUL W. HAYES / ENGINEER — Print or Type Name/Title
Signature
APRIL 24, 1995 — Date

KEVIN G. CARDAMY / ENGINEER — Print or Type Name/Title
Signature
APRIL 24, 1995 — Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	SORT	NOTES	OP. Normal	ST. Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8618	--	18	1C128	RCIC INSTRUMENTATION RACK	BECH-M405<01>	RB	716	RCIC ROOM	S	--	N/A	N/A	NO	--	--	AIR
8619	--	20	1C133A	CRHVAC/1VAC030A UNIT CONTROL PANEL	BECH-M405<03>	CB	800	J13	S	--	N/A	N/A	NO	BECH-E113<26>	INST. AIR	AI
8620	--	20	1C133B	CRHVAC/1VAC030B UNIT CONTROL PANEL	BECH-M405<03>	CB	800	J13	S	--	N/A	N/A	NO	BECH-E113<26>	INST. AIR	AI
8621	--	20	1C026	HVAC/TB & CB HVAC CONTROL PANEL	BECH-M405<03>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	--	--	AI
8650	1	20	1C032	RHR/DIVISION I RHR, CORE SPRAY & AUTO BLOWDOWN RELAY	BECH-M405<03>	CB	786	BACK PANEL AREA	S	04	N/A	N/A	NO	--	--	AI
8651	2	20	1C033	RHR/DIVISION II RHR, CORE SPRAY & AUTO BLOWDOWN RELAY	BECH-M405<03>	CB	786	BACK PANEL AREA	S	04	N/A	N/A	NO	--	--	AI
8652	1	20	1C043	CS/DIVISION I CORE SPRAY RELAY VERTICAL BOARD	BECH-M405<03>	CB	786	BACK PANEL AREA	S	04	N/A	N/A	NO	--	--	AI
8655	2	20	1C044	CS/DIVISION II CORE SPRAY RELAY VERTICAL BOARD	BECH-M405<03>	CB	786	BACK PANEL AREA	S	04	N/A	N/A	NO	--	--	AI
8656	1,2	20	1C422B	RSD/REMOTE SHUTDOWN FUSE PANEL	BECH-M405<02>	RB	757	D7	S	04	N/A	N/A	NO	--	--	AI
8657	1	20	1C351	4160VAC/ESSENTIAL BUS 1A3 DEGRADED VOLT DETECTOR	BECH-E886	CB	757	H12	S	04	N/A	N/A	NO	--	--	AI
8658	1,2	20	1C006	CDS/FEEDWATER AND CONDENSATE CONTROL PANEL	BECH-M405<03>	CB	786	MCR	S	04	N/A	N/A	NO	--	--	AI
8659	1	20	1C091	SBDG/SBDG 1G-31 GAUGE BOARD	BECH-M405<02>	TB	757	P4	S	--	N/A	N/A	NO	--	--	AI
8661	2	20	1C092	SBDG/SBDG 1G-21 GAUGE BOARD	BECH-M405<02>	TB	757	N4	S	--	N/A	N/A	NO	--	--	AI
8664	1	20	1C031	PNL/TURBINE GENERATOR RELAY PANEL	BECH-M405<03>	CB	786	BACK PANEL AREA	S	04	N/A	N/A	NO	--	--	AI
8665	2	20	1C352	4160VAC/ESSENTIAL BUS 1A4 DEGRADED VOLT DETECTOR	BECH-E886	CB	757	G12	S	04	N/A	N/A	NO	--	--	AI
8666	2	18	1C058	RVR/RECIRCULATION PUMP 1P201B INSTRUMENTATION RACK	BECH-M405<01>	RB	735	CRD PUMP ROOM	S	04	N/A	N/A	NO	--	--	AI
8667	1	20	1C093	480VAC/SBDG 1G-31 CONTROL PANEL	BECH-E005/9/G8	TB	757	P5	SR	04	OFF	ON	YES	BECH-E005	1D11, 1C008	AI
8668	2	20	1C094	SBDG/SBDG 1G-21 CONTROL PANEL	BECH-E005/9/G3	TB	757	N5	SR	04	OFF	ON	YES	BECH-E005	1D21, 1C008	AI

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Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8669	1	20	1C151	HVAC/EMER DIESEL ROOM VENT CONTROL CABINET	BECH-M405<03>	TB	757	P5	S	--	N/A	N/A	NO	--	--	AI
8670	2	20	1C152	HVAC/EMER DIESEL ROOM VENT CONTROL CABINET	BECH-M405<03>	TB	757	N5	S	--	N/A	N/A	NO	--	--	AI
8675	1	20	1C429A	CRHVAC/CONTROL BUILDING CHILLER A CONTROL PANEL	BECH-M169<2>/02/B6	RB	812	F10	S	--	N/A	N/A	YES	--	--	AI
8676	2	20	1C429B	CRHVAC/CONTROL BUILDING CHILLER B CONTROL PANEL	BECH-M169<2>/02/B3	RB	812	F10	S	--	N/A	N/A	YES	--	--	AI
8677	--	20	1C010	PROCESS RADIATION MONITOR VERTICAL BOARD	BECH-M405<03>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	--	--	R
8678	--	20	1C011	AREA RADIATION MONITOR VERTICAL BOARD CONTROL	BECH-M405<03>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	--	--	R
8679	--	20	1C013	T.I.P. (REACTOR NEUTRON MAPPING) CONTROL VERTICAL	BECH-M405<03>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	APED-H1-05[illegible]<1>	--	R
8680	--	20	1C014	MSIV-LEAKAGE CONTROL PANEL	BECH-M405<03>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	--	--	R
8681	--	20	1C016	REACTOR PROTECT SYSTEM TEST & MONITOR VERT BRD	BECH-M405<03>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	BECH-E029, BECH-E827	--	R
8682	--	20	1C024	VERT BOARD	BECH-M405<03>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	--	--	R
8683	--	20	1C029	EXCESS FLOW CHECK VALVES CONTROL PANEL	BECH-M405<03>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	BECH-E869<1>	--	R
8684	--	20	1C035	PANEL, CAD	BECH-M405<03>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	BECH-E112<017>, BECH-E883	--	R
8685	--	20	1C041	INBOARD PRIM CONTAINMENT ISOL VALVE RELAY	BECH-M405<03>	CB	786	BACK PANEL AREA	S	04	N/A	N/A	NO	--	--	R
8686	--	20	1C042	OUTBOARD PRIM CONTAINMENT ISOL VALVE RELAY	BECH-M405<03>	CB	786	BACK PANEL AREA	S	04	N/A	N/A	NO	--	--	R
8687	--	18	1C121A	JET PUMP INSTRUMENT RACK	BECH-M405<02>	RB	757	F9	S	04	N/A	N/A	NO	APED-H21-023<3>	--	R
8687A	--	18	1C121B	JET PUMP INSTRUMENT RACK	BECH-M405<02>	RB	757	F9	S	04	N/A	N/A	NO	APED-H21-023<3>	--	R
8688	--	18	1C122	INSTRUMENT RACK	BECH-M405<02>	RB	757	SOUTH SIDE	S	04	N/A	N/A	NO	--	--	R

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Paul W Hayes — Signature
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Kevin G. Cardany — Signature
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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8689	--	20	1C218A	PRIMARY CONTAINMENT H2-02 ANALYZER PANEL	BECH-M405<02>	RB	757	E6.1	S	--	N/A	N/A	NO	BECH-E883	--	R
8689A	--	20	1C2188	PRIMARY CONTAINMENT H2-02 ANALYZER PANEL	BECH-M405<02>	RB	757	E10	S	--	N/A	N/A	NO	BECH-E883	--	R
8690	--	20	1C219A	PRIMARY CONTAINMENT RAD MONITORING PANEL	BECH-M405<02>	RB	757	E6.1	S	--	N/A	N/A	NO	BECH-E883	--	R
8691	--	20	1C2198	PRIMARY CONTAINMENT RAD MONITORING PANEL	BECH-M405<02>	RB	757	E10	S	--	N/A	N/A	NO	BECH-E882	--	R
8692	--	20	1C390	ALTERNATE SHUTDOWN CAPABILITY SYSTEM	BECH-M003	RB	786	G6	S	--	N/A	N/A	NO	--	--	R
8693	--	20	1C027	CONTROL ROD POSITION INFORMATION CABINET	BECH-M405<03>	CB	786	BACK PANEL AREA	S	--	N/A	N/A	NO	--	--	AI
8694	--	20	1C156	SUPPLY FAN 1V-SF-50 CONTROL PANEL	BECH-M667	IS	767	A2	S	--	N/A	N/A	NO	--	--	AI
8695	--	20	1C157	SUPPLY FAN 1V-SF-51 CONTROL PANEL	BECH-M667	IS	767	B2	S	--	N/A	N/A	NO	--	--	AI
8696	--	20	1C142	CONTAINMENT ATMOSPHERE CONTROL INSTRUMENT PANEL	BECH-M405<02>	CB	757	ESS SWGR ROOM	S	--	N/A	N/A	NO	--	--	AI
8697	--	20	1C045	AUTO BLOWDOWN RELAY VERTICAL BOARD	BECH-M405<03>	CB	786	BACK PANEL AREA	S	04	N/A	N/A	NO	--	--	AI
8698	--	20	1C015	CHAN A PRIMARY ISOL & RX PROTECTION VERTICAL BRD	BECH-M405<03>	CB	786	BACK PANEL AREA	S	04	N/A	N/A	NO	--	--	AI
8699	--	20	1C017	CHAN B PRIMARY ISOL & RX PROTECTION VERTICAL BRD	BECH-M405<03>	CB	786	BACK PANEL AREA	S	04	N/A	N/A	NO	--	--	AI
8699A	--	18	1C126A	MAIN STEAM INSTRUMENT RACK	--	RB	757	RB	S	04	N/A	N/A	NO	--	--	AI
8699B	--	18	1C126B	MAIN STEAM INSTRUMENT RACK	--	RB	757	RB	S	04	N/A	N/A	NO	--	--	AI
8699C	--	18	1C057	RX RECIRC PUMP 1P-201A INSTRUMENT RACK	--	RB	735	NE CORNER ROOM	S	04	N/A	N/A	NO	--	--	AI
8702	OPT	14	1L08	CRL/480V/277V LIGHTING PANEL	BECH-E426/16/F6	CB	757	G11	SR	19	N/A	N/A	YES	BECH-E505<56>	1B42	AI
9001	--	20	AN8181A	INDICATOR,ANALYZER,CACS,CONTAINMENT 02 MONITOR	BECH-M181/20	RB	757	(1C218A)	S	--	N/A	N/A	YES	BECH-E883	--	R

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9002	--	20	AN8181B	INDICATOR,ANALYZER,CACS,CONTAINMENT O2 MONITOR	BECH-M181/20	RB	757	(1C2198)	S	--	N/A	N/A	YES	BECH-E883	--	R
9003	--	20	AN8182A	INDICATOR,ANALYZER,CACS,CONTAINMENT H2 MONITOR	BECH-M181/20	RB	757	(1C219A)	S	--	N/A	N/A	YES	--	--	R
9004	--	20	AN8182B	INDICATOR,ANALYZER,CACS,CONTAINMENT H2 MONITOR	BECH-M181/20	RB	757	(1C2198)	S	--	N/A	N/A	YES	--	--	R
9005	--	20	AR4381A	RECORDER,ANALYZER CACS CONT H2	BECH-M181/20	CB	786	(1C009)	S	--	N/A	N/A	YES	BECH-E122<028>	--	R
9006	--	20	AR4381B	RECORDER CACS ANALYZER CONT O2	BECH-M181/20	CB	786	(1C009)	S	--	N/A	N/A	YES	BECH-E122<028>	--	R
9007	--	20	AR4382A	RECORDER,CACS ANALYZER,CONT H2	BECH-M181/20	CB	786	(1C009)	S	--	N/A	N/A	YES	BECH-E122<028>	--	R
9008	--	20	AR4382B	RECORDER,CACS ANALYZER,CONT O2	BECH-M181/20	CB	786	(1C009)	S	--	N/A	N/A	YES	BECH-E122<028>	--	R
9009	--	20	A71B-K013	N.S.S.S. SYSTEM	--	CB	786	(1C004)	S	--	N/A	N/A	YES	APED-A71-003<01>	--	R
9010	--	20	A71B-K015	N.S.S.S. SYS	--	CB	786	(1C016)	S	--	N/A	N/A	YES	APED-A71-003<01>	--	R
9011	--	20	A71B-K017	N.S.S.S. SYS	--	CB	786	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<01>	--	R
9012	--	20	A71B-K017A	INBOARD MSIV CLOSED INPUT TO "A" MSIV-LCS	--	CB	786	(1C014)	S	--	N/A	N/A	YES	APED-A71-003<10>	--	R
9013	--	20	A71B-K017B	INBOARD MSIV CLOSED INPUT TO "B" MSIV-LCS	--	CB	786	(1C014)	S	--	N/A	N/A	YES	APED-A71-003<10>	--	R
9014	--	20	A71B-K017C	INBOARD MSIV CLOSED INPUT TO "C" MSIV-LCS	--	CB	786	(1C014)	S	--	N/A	N/A	YES	APED-A71-003<10>	--	R
9015	--	20	A71B-K017D	INBOARD MSIV CLOSED INPUT TO "D" MSIV-LCS	--	CB	786	(1C014)	S	--	N/A	N/A	YES	APED-A71-003<10>	--	R
9016	--	20	A71B-K018	N.S.S.S. SYS	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01>	--	R
9017	--	20	A71B-K019	N.S.S.S. SYS	--	CB	786	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<01>	--	R

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9018	--	20	A71B-K020	N.S.S.S. SYS	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9019	--	20	A71B-K023	N.S.S.S. SYS	--	CB	786	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9020	--	20	A71B-K024	N.S.S.S. SYSTEM	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9021	--	20	A71B-K033	RELAY, RAD W EQUIP DRAIN PUMP	--	CB	786	(1C004)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9022	--	20	A71B-K034	N.S.S.S. SYSTEM	--	CB	786	(1C004)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9023	--	20	A71B-K036	MAIN STEAM ISOLATION VALVE (INBOARD)		CB	786	(1C041)	S	--	N/A	N/A	YES	--	--	R
9024	--	20	A71B-K038	MAIN STEAM ISOLATION VALVE (OUTBOARD)	--	CB	786	(1C042)	S	--	N/A	N/A	YES	--	--	R
9025	--	20	A71B-K051	MAIN STEAM ISOLATION VALVE (INBOARD)	--	CB	786	(1C041)	S	--	N/A	N/A	YES	--	--	R
9026	--	20	A71B-K052	MAIN STEAM ISOLATION VALVE (OUTBOARD)	--	CB	786	(1C042)	S	--	N/A	N/A	YES	--	--	R
9027	--	20	A71B-K056	N.S.S.S. SYS	--	CB	786	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9028	--	20	A71B-K057	N.S.S.S. SYS	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9029	--	20	A71B-K059	N.S.S.S. SYS	--	CB	786	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9030	--	20	A71B-K060	N.S.S.S. SYS	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9031	--	20	A71B-K061	N.S.S.S. SYS	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9032	--	20	A71B-K063	N.S.S.S. SYS	--	CB	786	(1C041)		--	N/A	N/A	YES	APED-A71-003<01 >	--	R

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Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9033	--	20	A71B-K070	RELAY, N2 MAKEUP VALVES	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9034	--	20	A71B-K074A	NSSS SYSTEM RELAY	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9035	--	20	A71B-K074B	NSSS SYSTEM	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9036	--	20	A71B-K075	OFFGAS VENT H-H RAD ANN RELAY	--	CB	786	(1C010)	S	--	N/A	N/A	YES	APED-A71-003<14 >	--	R
9037	--	20	A71B-K076	OFFGAS VENT H-H RAD ANN RELAY	--	CB	786	(1C010)	S	--	N/A	N/A	YES	APED-A71-003<15 >	--	R
9038	--	20	A71B-K1804A	N.S.S.S. SYS	--	CB	786	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9039	--	20	A71B-K1804B	N.S.S.S. SYS	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9040	--	20	A71B-K1908	RELAY,MO1908 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-A71-003<02 >, BECH-E122<002A>	--	R
9041	--	20	A71B-K1909	RELAY,MO1909 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-A71-003<02 >, BECH-E122<002A>	--	R
9042	--	20	A71B-K3704	N.S.S.S. SYS	--	CB	786	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9043	--	20	A71B-K3705	N.S.S.S. SYS	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9044	--	20	A71B-K3728	N.S.S.S. SYS	--	CB	786	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9045	--	20	A71B-K3729	N.S.S.S. SYS	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9046	--	20	A71B-K4310X	DRYWELL VENT CONTROL RELAY	--	CB	786	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<14 >	--	R
9047	--	20	A71B-K4413	MSIV CV4413 POSITION TO SPDS RELAY	--	CB	786	(1C004)	S	--	N/A	N/A	YES	--	--	R

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Signature
APRIL 24, 1995 — Date

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Signature
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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9048	--	20	A71B-K4416	MSIV CV4416 POSITION TO SPDS RELAY	--	CB	786	(1C004)	S	--	N/A	N/A	YES	--	--	R
9049	--	20	A71B-K4419	MSIV CV4419 POSITION TO SPDS RELAY	--	CB	786	(1C004)	S	--	N/A	N/A	YES	--	--	R
9050	--	20	A71B-K4421	MSIV CV4421 POSITION TO SPDS RELAY	--	CB	786	(1C004)	S	--	N/A	N/A	YES	--	--	R
9051	--	20	A71B-K4639	N.S.S.S. SYS	--	CB	786	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9052	--	20	A71B-K4639A	CIMS PCIS OVERRIDE RELAY	--	CB	786	(1C004)	S	--	N/A	N/A	YES	APED-A71-003<09 >	--	R
9053	--	20	A71B-K4640	N.S.S.S. SYS	--	CB	786	(1C042)	S	--	N/A	N/A	YES	APED-A71-003<01 >	--	R
9054	--	20	A71B-K4640A	CIMS PCIS OVERRIDE RELAY	--	CB	786	(1C004)	S	--	N/A	N/A	YES	APED-A71-003<09 >	--	R
9055	--	20	A71B-K59X	INBD GROUP 2 ANN INPUT RELAY	--	--	--	(1C041)	S	--	N/A	N/A	YES	APED-A71-003<07 >	--	R
9056	--	20	A71B-K60X	OUTBD GRP 2 ANN INPUT RELAY	--	--	--	(1C042)	S	--	N/A	N/A	YES	--	--	R
9057	--	20	BENDIX-BNC-CONN	BENDIX CONNECTOR	BECH-E063	--	--	CRD REPAIR RM	--	11, 17	N/A	N/A	YES	BECH-E063, APED-D21-037, BECH-E515<525>	--	R
9058	--	20	C51-J600-3	MONITOR,VALVE,CONTROL,NMS,TIP VLV MONTR CHAN A, B	--	CB	786	(1C013)	S	--	N/A	N/A	YES	APED-C51-006<3>	--	R
9059	--	20	C51-J600-4	MONITOR,VALVE,CONTROL,NMS,TIP VALVE MONTR CHAN C	--	CB	786	(1C013)	S	--	N/A	N/A	YES	APED-C51-006<3>	--	R
9060	--	20	C71-K031A	COMPUTER INPUT-CV1859A CLOSED	--	CB	786	(1C005)	S	--	N/A	N/A	YES	--	--	R
9061	--	20	C71-K031B	COMPUTER INPUT,CV1859A OPEN	--	CB	786	(1C005)	S	--	N/A	N/A	YES	--	--	R
9062	--	20	C71-K031C	COMPUTER INPUT-CV1867A CLOSED	--	CB	786	(1C005)	S	--	N/A	N/A	YES	--	--	R
9063	--	20	C71-K031D	COMPUTER INPUT-CV1867A OPEN	--	CB	786	(1C005)	S	--	N/A	N/A	YES	--	--	R
9064	--	20	C71-K031E	COMPUTER INPUT-CV1859B CLOSED	--	CB	786	(1C005)	S	--	N/A	N/A	YES	--	--	R
9065	--	20	C71-K031F	COMPUTER INPUT-CV1859B OPEN	--	CB	786	(1C005)	S	--	N/A	N/A	YES	--	--	R

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9066	--	20	C71-K031G	COMPUTER INPUT-CV18678 CLOSED	--	CB	786	(1C005)	S	--	N/A	N/A	YES	--	--	R
9067	--	20	C71-K031H	COMPUTER INPUT-CV18678 OPEN	--	CB	786	(1C005)	S	--	N/A	N/A	YES	--	--	R
9068	--	20	E/E4396C	VOLTAGE TO VOLTAGE CONVERTER FOR DW PRESSURE PI4	BECH-M143<2>/8	--	--	(1C009A)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9069	--	20	E/E4396D	VOLTAGE TO VOLTAGE CONVERTER FOR DW PRESSURE PI4	BECH-M143<2>/8	--	--	(1C009B)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9070	--	20	E/S2207	POWER SUP,ELEC,HPCI,PT2207	BECH-M122/32	CB	786	(1C018)	S	--	N/A	N/A	YES	BECH-E121<025>, APED-E41-006<2>	--	R
9071	--	20	E/S2309	INVERTER, HPCI PROCESS INSTRUMENTATION	BECH-M123/27	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E41-006<2>	--	R
9072	--	20	E/S2403	POWER SUP,ELEC,RCIC,1S203 STM SUP PT2403	BECH-M124/30	CB	786	(1C019)	S	--	N/A	N/A	YES	BECH-E121<038>	--	R
9073	--	20	E/S2509	INVERTER,DC TO AC,RCIC PUMP,1P216,DISCHA	BECH-M125/26	CB	786	(1C019)	S	--	N/A	N/A	YES	BECH-E121<038>	--	R
9074	--	20	E/S4565A	POWER SUPPLY TO DIVISION I FOX NEST	--	CB	786	(1C003)	S	--	N/A	N/A	YES	--	--	R
9075	--	20	E/S4565B	POWER SUPPLY TO DIVISION II FOX NEST	--	CB	786	(1C003)	S	--	N/A	N/A	YES	--	--	R
9076	--	20	E/S4599A	POWER SUP,ELEC,NONNUCINST,PT4599A	BECH-M115/37	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9077	--	20	E/S4599B	POWER SUP,ELEC,NONNUCINST,PT4599B	BECH-M115/37	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9078	--	20	E11A-K1902	RELAY,MO1902 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<048>	--	R
9079	--	20	E11A-K1903	RELAY,MO1903 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<060>	--	R
9080	--	20	E11A-K1905	RELAY,MO1905 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<052A>	--	R
9081	--	20	E11A-K1932	RELAY,MO1932 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<049>	--	R
9082	--	20	E11A-K1933	RELAY,MO1933 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	--	--	R
9083	--	20	E11A-K1934	RELAY,MO1934 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<059B>	--	R

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9084	--	20	E11A-K1935-B1	TIME DELAY RELAY, MIN FLOW MO1935,RHR	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<054A>	--	R
9085	--	20	E11A-K1935-B2	TIME DELAY RELAY, MIN FLOW MO1935, RHR	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<054A>	--	R
9086	--	20	E11A-K1935-B3	TIME DELAY RELAY, MIN FLOW MO1935,RHR	--	RB	757	(1C388)	S	--	N/A	N/A	YES	BECH-E121<054A>	--	R
9087	--	20	E11A-K1935-B4	TIME DELAY RELAY, MIN FLOW MO1935, RHR	--	RB	757	(1C388)	S	--	N/A	N/A	YES	BECH-E121<054A>	--	R
9088	--	20	E11A-K2000	RELAY,MO2000 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<048>	--	R
9089	--	20	E11A-K2001	RELAY,MO2001 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<060>	--	R
9090	--	20	E11A-K2003	RELAY,MO2003 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<052>	--	R
9091	--	20	E11A-K2005	RELAY,MO2005 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<049>	--	R
9092	--	20	E11A-K2006	RELAY,MO2006 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<059A>	--	R
9093	--	20	E11A-K2007	RELAY,MO2007 OPEN,SPDS	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<059>	--	R
9094	--	20	E11A-K2009-A1	TIME DELAY RELAY,MIN FLOW MO2009,RHR	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<054>	--	R
9095	--	20	E11A-K2009-A2	TIME DELAY REALY,MIN FLOW MO2009,RHR	--	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E121<054>	--	R
9096	--	20	E21A-K2104-A1	MO2104 2 SEC TIME DELAY OPEN,RELAY	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E21-006<3>	--	R
9097	--	20	E21A-K2104-A2	MO2104 2 SEC TIME DELAY CLOSE,RELAY	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E21-006<3>	--	R
9098	--	20	E21A-K2112	MO2112 POSITION INDICATION TO SPDS,RELAY	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E21-006<3> BECH-E121<007>	--	R
9099	--	20	E21A-K2117	MO2117 POSITION INDICATION TO SPDS,RELAY	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E21-006<3> BECH-E121<005>	--	R

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9100	--	20	E21A-K2124-B1	MO2124 2 SEC TIME DELAY OPEN,RELAY	--	RB	757	(1C388)	S	--	N/A	N/A	YES	APED-E21-006<3> BECH-E121<006A> BECH-E121<006B>	--	R
9101	--	20	E21A-K2124-B2	MO2124 2 SEC TIME DELAY CLOSE,RELAY	--	RB	757	(1C388)	S	--	N/A	N/A	YES	APED-E21-006<3> BECH-E121<006A> BECH-E121<006B>	--	R
9102	--	20	E21A-K2132	MO2132 POSITION INDICATION TO SPDS,RELAY	--	RB	812	(1C003)	S	--	N/A	N/A	YES	APED-E21-006<3> BECH-E121<007A>	--	R
9103	--	20	E21A-K2137	MO2137 POSITION INDICATION TO SPDS,RELAY	--	RB	812	(1C003)	S	--	N/A	N/A	YES	APED-E21-006<3> BECH-E121<005A>	--	R
9104	--	20	E41-K2312	NOT VERIFIED - FOR CHAMPS PROJECT USE ONLY - MSMTC	--	CB	786	(1C003)	S	--	N/A	N/A	YES	--	--	R
9105	--	20	E41-K2318-B1	TIME DELAY RELAY,MIN FLOW MO2318, HPCI	--	--	--	(1C003)	S	--	N/A	N/A	YES	BECH-E121<022>	--	R
9106	--	20	E41-K2318-B2	TIME DELAY RELAY,MIN FLOW MO2318, HPCI	--	--	--	(1C003)	S	--	N/A	N/A	YES	BECH-E121<022>	--	R
9107	--	20	E51-K2510-A1	TIME DELAY RELAY, MIN FLOW MO2510,RCIC	--	--	--	(1C004)	S	--	N/A	N/A	YES	BECH-E121<034>	--	R
9108	--	20	E51-K2510-A2	TIME DELAY RELAY, MIN FLOW MO2510,RCIC	--	--	--	(1C004)	S	--	N/A	N/A	YES	BECH-E121<034>	--	R
9109	--	20	E51-K2512	NOT VERIFIED - FOR CHAMPS PROJECT USE ONLY - MSMTC	--	CB	786	(1C004)	S	--	N/A	N/A	YES	--	--	R
9110	--	R	HS1904A	RHR RECIRC INJECTION LOOP B,TS	BECH-M119/47	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E121<053B>	--	R
9111	--	R	HS1908A	RHRS EMERG SUCT ISO TRANS SW	BECH-M119/47	RB	786	(1C390)	--	--	N/A	N/A	YES	BECH-E122<002B>	--	R
9112	--	R	HS1909A	RHR MO1909/MO1932 TRANS SW	BECH-M119/47	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E121<004A>	--	R
9113	--	R	HS1912B	RHR PUMP 1P229B SUCT TRANS SW	BECH-M119/47	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E121<044C>	--	R

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEH 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- EQUIPMENT Building	Flr.Elv.	LOCATION ---> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9114	--	R	HS1920B	RHR PUMP 1P1229D SUCTION TRANS SW	BECH-M119/47	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E121<044E>	--	R
9115	--	R	HS1934A	RHR MO1934/MO1989 TRANS SW	BECH-M119/47	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E121<059C>	--	R
9116	--	R	HS2012A	SWITCH,HAND,RHR,VLV MO2012,PUMP A SUCT	BECH-M120/38	RB	716	SE CORNER ROOM	--	--	N/A	N/A	YES	--	--	R
9117	--	R	HS2015A	SWITCH,HAND,RHR,VLV MO2015,PUMP C SUCT	BECH-M120/38	RB	716	SE CORNER ROOM	--	--	N/A	N/A	YES	--	--	R
9118	--	R	HS2137A	ALT SHUTDOWN CAPABILITY SYSTEM	BECH-M121/27	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E121<005B>	--	R
9119	--	R	HS4371D	NITROGEN COMP ISOL TRANS SW	BECH-M143<1>/11	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E122<024A>	--	R
9120	--	R	HS4413C	MSIV CV4413,MSL "A".ALT SHUTDOWN PNL TRANS SW	BECH-M114/45	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E122<011>	--	R
9121	--	R	HS4416C	MSIV CV4416,MSL "B".ALT SHUTDOWN PNL CNTRL SW	BECH-M114/45	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E122<011>	--	R
9122	--	R	HS4419C	MSIV CV4419,MSL "C".ALT SHUTDOWN PNL TRANS SW	BECH-M114/45	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E122<011>	--	R
9123	--	R	HS4421C	MSIV CV4421,MSL "D".ALT SHUTDOWN PNL TRANS SW	BECH-M114/45	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E122<011>	--	R
9124	--	R	HS4423A	HAND SWITCH	--	--	--	--	--	--	N/A	N/A	YES	--	--	R
9125	--	R	HS4540	ALT SHUTDOWN CAPABILITY SYSTEM	BECH-M115/37	RB	757	(1C388)	--	--	N/A	N/A	YES	BECH-E074	--	R
9126	--	20	I/E4396C	POWER SUPPLY,WR CNTMNT LVL XMTR	BECH-M143<2>/8	--	--	(1C009)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9127	--	20	I/E4396D	POWER SUPPLY,WR CNTMNT LVL XMTR	BECH-M143<2>/8	--	--	(1C009)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9128	--	20	I/E4397A	POWER SUPPLY,WIDE RANGE TORUS LEVEL	BECH-M143<2>/8	--	--	(1C009)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9129	--	20	I/E4397B	POWER SUPPLY,WIDE RANGE TORUS LEVEL	BECH-M143<2>/8	--	--	--	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9130	--	20	I/E4398A	POWER SUPPLY,NR DW PRESSURE	BECH-M143<1>/11	--	--	(1C009)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9131	--	20	I/E4398B	POWER SUPPLY,NR DW PRESSURE	BECH-M143<2>/8	--	--	--	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9132	--	20	I/E4399A	POWER SUPPLY,WR DW PRESS XMTR	BECH-M143<2>/8	--	--	(1C009)	S	--	N/A	N/A	YES	BECH-E124<003>	--	R

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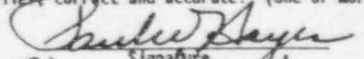
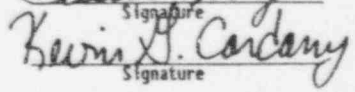
PAUL W. HAYES / ENGINEER
Print or Type Name/Title


Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
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Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--------- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9133	--	20	I/E4399B	POWER SUPPLY,WR DW PRESS XMITR	BECH-M143<2>/8	--	--	(1C009)	S	--	N/A	N/A	YES	BECH-E124<003>	--	R
9134	--	20	I/E4599A	POWER SUPPLY,WR RX PRESS XMTR	--	--	--	(1C009)	S	--	N/A	N/A	YES	BECH-E122<020>	--	R
9135	--	20	I/E4599B	POWER SUPPLY,WR RX PRESS XMTR	BECH-M115/37	--	--	(1C009)	S	--	N/A	N/A	YES	--	--	R
9136	--	20	LITS4539	RX VESSEL WIDE RANGE LEVEL	BECH-M115/37/F7	RB	786	(1C056)	--	06	N/A	N/A	YES	APED-E41-006<2>	--	R
9137	--	20	LITS4540	RX VESSEL WIDE RANGE LEVEL	BECH-M115/37/F2	RB	757	(1C055)	--	06	N/A	N/A	YES	APED-E41-006<2>	--	R
9138	--	20	LI4397A	TORUS WATER LEVEL INDICATOR,1.5 TO 16 FT	BECH-M143<2>/8	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9139	--	20	LI4397B	TORUS WATER LEVEL INDICATOR, 1.5 TO 16 F	BECH-M143<2>/8	CB	786	(1C003)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9140	--	20	LI4539	INDICATOR,LVL,RPS	BECH-M115/37	CB	786	(1C005)	S	--	N/A	N/A	YES	BECH-E074, APED-E41-006<2>	--	R
9141	--	20	LI4540	INDICATOR,LVL,RPS	BECH-M115/37	CB	786	(1C005)	S	--	N/A	N/A	YES	APED-E41-006<2>	--	R
9142	--	20	LI4565B	INDICATOR,POST-ACCIDENT RPV SHROUD LEVEL	BECH-M115/37	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9143	--	20	LI4565C	INDICATOR, POST ACCIDENT RPV SHROUD LEVE	BECH-M115/37	CB	786	MCR	S	--	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9144	--	20	LR4396A	TORUS WATER LEVEL RECORDER	BECH-M143<2>/8	CB	786	(1C009)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9145	--	20	LR4396B	TORUS WATER LEVEL RECORDER	BECH-M143<2>/8	CB	786	(1C009)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9146	--	20	LR4565A	RECORDER,POST ACCIDENT RPV SHROUD LEVEL	BECH-M115/37	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9147	--	20	LR4565B	RECORDER,POST ACCIDENT RPV SHROUD LEVEL	BECH-M115/37	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9148	--	20	LSY4565A	RELAY FOR LEVEL SWITCH LS4565A	--	CB	786	(1C003)	S	--	N/A	N/A	YES	--	--	R
9149	--	20	LSY4565B	RELAY FOR LEVEL SWITCH LS4565B	--	CB	786	(1C003)	S	--	N/A	N/A	YES	--	--	R
9150	--	20	LSY4565C	RELAY FOR LEVEL SWITCH LS4565C	--	CB	786	(1C003)	S	--	N/A	N/A	YES	--	--	R
9151	--	20	LSY4565D	RELAY FOR LEVEL SWITCH LS4565D	--	CB	786	(1C003)	S	--	N/A	N/A	YES	--	--	R

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PAUL W. HAYES / ENGINEER — Print or Type Name/Title
Signature
APRIL 24, 1995 — Date

KEVIN G. CARDANY / ENGINEER — Print or Type Name/Title
Signature
APRIL 24, 1995 — Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9152	--	20	LS4565A	LEVEL SWITCH,RHR INTERLOCK	BECH-M115/37	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>, BECH-E121<056>	--	R
9153	--	20	LS4565B	LEVEL SWITCH,RHR INTERLOCK	BECH-M115/37	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9154	--	20	LS4565C	LEVEL SWITCH,RHR INTERLOCK	BECH-M115/37	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>, BECH-E121<056>	--	R
9155	--	20	LS4565D	LEVEL SWITCH,RHR INTERLOCK	BECH-M115/37	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9156	--	20	LT4396C	DW PRESSURE (TO LY-4396A FOR CONT WTR LEVEL INST)	BECH-M143<2>/8	RB	757	SOUTH SIDE	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9157	--	20	LT4396D	DW PRESSURE (TO LY-4396B FOR CONT WTR LEVEL INST)	BECH-M143<2>/8	RB	786	NORTH SIDE	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9158	--	20	LT4397A	TORUS WATER LEVEL	BECH-M143<2>/8/A7	BAY 03	716	(1C009)	--	06	N/A	N/A	YES	BECH-E122<019A>	--	R
9159	--	20	LT4397B	TORUS WATER LEVEL	BECH-M143<2>/8/B5	BAY 03	716	(1C009)	--	06	N/A	N/A	YES	BECH-E122<019A>	--	R
9160	--	20	LT4565A	RX VESSEL WIDE RANGE LEVEL (FUEL ZONE SE TAP)	BECH-M115/37/E7	RB	757	(1C122)	--	06	N/A	N/A	YES	APED-E11-007<10 A>, APED-H21-024<2>	--	R
9161	--	20	LT4565B	RX VESSEL WIDE RANGE LEVEL (FUEL ZONE SE TAP)	BECH-M115/37/E7	RB	757	(1C122)	--	06	N/A	N/A	YES	APED-E11-007<10 A>, APED-H21-024<2>	--	R
9162	--	20	LT4565C	RX VESSEL WIDE RANGE LEVEL (FUEL ZONE NW TAP)	BECH-M115/37/E2	RB	757	(1C121)	--	06	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9163	--	20	LT4565D	RX VESSEL WIDE RANGE LEVEL (FUEL ZONE NW TAP)	BECH-M115/37/E2	RB	757	(1C121)	--	06	N/A	N/A	YES	--	--	R
9164	--	20	LY4396A	CONTAINMENT WATER LEVEL SUMMER	BECH-M143<2>/8	CB	786	(1C009)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9165	--	20	LY4396B	CONTAINMENT WATER LEVEL SUMMER	BECH-M143<2>/8	CB	786	(1C009)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9166	--	20	LY4539	REACTOR LEVEL SIGNAL CONDITIONER LY4539	--	RB	786	(1C056)	S	--	N/A	N/A	YES	BECH-E074	--	R

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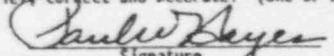
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DUANE ARNOLD ENERGY CENTER
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- Sorted By Line Number -

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9167	--	20	LY4540	RX VESSEL LEVEL INSTR SIGNAL CONDITIONER	BECH-M115/37	RB	757	(1C055)	S	--	N/A	N/A	YES	BECH-E074	--	R
9168	--	20	LY4565A	LEVEL CONVERTER	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9169	--	20	LY4565B	LEVEL CONVERTER	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9170	--	20	LY4565C	LEVEL CONVERTER	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9171	--	20	LY4565D	LEVEL CONVERTER	--	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E11-007<10 A>	--	R
9172	--	08A	MO1902-0	OPERATING MECH,RHR,CTNMT SPRAY,LOOP B	BECH-M119/47/E7	RB	766	RHR VALVE ROOM	--	06	N/A	N/A	YES	BECH-E121<048>	--	R
9173	--	08A	MO1903-0	OPERATING MECH,RHR,CTNMT SPRAY,LOOP B	BECH-M119/47/F6	BAY 14	716	--	--	06	N/A	N/A	YES	BECH-E121<060>	--	R
9174	--	08A	MO1905-0	OPERATING MECH,RHR,OUTBD,LPCI INJ,LOOP B	BECH-M119/47/E6	RB	766	RHR VALVE ROOM	--	06	N/A	N/A	YES	BECH-E121<052>	--	R
9175	--	08A	MO1908-0	OPERATING MECH,RHR,PMP B,D SUCT,SHTDN CLG	BECH-M119/47/D8	DW	775	SW QUADRANT	S	--	N/A	N/A	YES	--	--	R
9176	--	08A	MO1909-0	OPERATING MECH,RHR,PMP B,D SUCT,SHTDN CLG	BECH-M119/47/D8	RB	766	RHR VALVE ROOM	S	--	N/A	N/A	YES	BECH-E122<004>	--	R
9177	--	08A	MO1913-0	OPERATING MECH,RHR,1P229B SUCT,SUPPR POOL	BECH-M119/47/B7	RB	716	NW CORNER ROOM	S	05	N/A	N/A	YES	BECH-E121<043>	--	IR
9178	--	08A	MO1921-0	OPERATING MECH,RHR,PUMP D SUCT,SUPPR POOL	BECH-M119/47/B7	RB	716	NW CORNER ROOM	S	05	N/A	N/A	YES	BECH-E121<043>	--	IR
9179	--	08A	MO1932-0	OPERATING MECH,RHR,SUPPR POOL SPRY,LOOP B	BECH-M119/47/E5	BAY 14	716	--	--	06	N/A	N/A	YES	BECH-E121<049>	--	R
9180	--	08A	MO1933-0	OPERATING MECH,RHR,SUPPR POOL SPRY,LOOP B	BECH-M119/47/E5	BAY 13	716	--	--	06	N/A	N/A	YES	SECH-E121<059>	--	R
9181	--	08A	MO1934-0	OPERATING MECH,RHR,TEST LINE,LOOP B	BECH-M119/47/E5	BAY 13	716	--	--	06	N/A	N/A	YES	BECH-E121<059>	--	R

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APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- EQUIPMENT Building	Flr.Elv.	LOCATION ---> Rm. or Row/C.L.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9182	--	08A	MO1935-0	OPERATING MECH,RHR,PMP 1P229B,D,DISCH,MIN FLOW	BECH-M119/47/B5	BAY 16	716	--	--	06	N/A	N/A	YES	BECH-E121<054>	--	R
9183	--	08A	MO1949A-0	OPERATING MECH,RHR,HTEXCH 1E201B TO TORUS	BECH-M119/47/C3	RB	747	NW CORNER ROOM	S	--	N/A	N/A	YES	BECH-E121<047>	--	R
9184	--	08A	MO1949B-0	OPERATING MECH,RHR,HTEXCH 1E201B TO TORUS	BECH-M119/47/C3	RB	732	NW CORNER ROOM	S	--	N/A	N/A	YES	BECH-E121<047>	--	R
9185	--	08A	MO1970-0	OPERATING MECH,RHR,TEST,1E201B TO TORUS	BECH-M119/47/E2	BAY 15	716	--	S	--	N/A	N/A	YES	BECH-E121<050>	--	R
9186	--	08A	MO1989-0	OPERATING MECH,PRCNMT,SUPPR POOL TO RHR PUMP	BECH-M119/47/C7	BAY 16	716	--	S	05	N/A	N/A	YES	BECH-E121<045>	--	IR
9187	--	08A	MO2000-0	OPERATING MECH,RHR,CNTMT SPRAY,LOOP A	BECH-M120/38/E2	RB	786	SOUTH SIDE	--	06	N/A	N/A	YES	BECH-E121<048>	--	R
9188	--	08A	MO2001-0	OPERATING MECH,RHR,CNTMT SPRAY,LOOP A	BECH-M120/38/E4	BAY 16	716	--	--	06	N/A	N/A	YES	BECH-E113<089>	--	R
9189	--	08A	MO2003-0	OPERATING MECH,RHR,OUTBD,LPCI INJ,LOOP A	BECH-M120/38/D3	RB	766	RHR VALVE ROOM	--	06	N/A	N/A	YES	BECH-E121<052>	--	R
9190	--	08A	MO2005-0	OPERATING MECH,RHR,SUPPR POOL SPRAY,LOOP A	BECH-M120/38/E4	BAY 15	716	--	--	06	N/A	N/A	YES	BECH-E121<049>	--	R
9191	--	08A	MO2006-0	OPERATING MECH,RHR,SUPPR POOL SPRAY,A	BECH-M120/38/E4	BAY 15	716	--	--	06	N/A	N/A	YES	BECH-E121<059>	--	R
9192	--	08A	MO2007-0	OPERATING MECH,RHR,TEST LINE,LOOP A	BECH-M120/38/E5	BAY 15	716	--	--	06	N/A	N/A	YES	BECH-E121<059>	--	R
9193	--	08A	MO2009-0	OPERATING MECH,RHR, 1P229A,C,MIN FLOW	BECH-M120/38/C4	BAY 10	716	--	--	06	N/A	N/A	YES	BECH-E121<059>	--	R
9194	--	08A	MO2012-0	OPERATING MECH,RHR,1P229A SUCT,SUPPR POOL	BECH-M120/38/C3	RB	716	SE CORNER ROOM	S	05	N/A	N/A	YES	BECH-E121<043>	--	IR
9195	--	08A	MO2015-0	OPERATING MECH,RHR,1P229C SUCT,SUPPR POOL	BECH-M120/38/C2	RB	716	SE CORNER ROOM	S	05	N/A	N/A	YES	BECH-E121<043>	--	IR
9196	--	08A	MO2038-0	OPERATING MECH,RHR,TEST LINE,1E201A-TORUS	BECH-M120/38/D7	BAY 10	716	--	S	--	N/A	N/A	YES	BECH-E121<050>	--	R

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PAUL W. HAYES / ENGINEER — Print or Type Name/Title
Signature
APRIL 24, 1995 — Date

KEVIN G. CARDANY / ENGINEER — Print or Type Name/Title
Signature
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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9197	--	08A	M02044A-0	OPERATING MECH,RHR,HTEXCH 1E201A TO TORUS	BECH-M120/38/C6	RB	747	SE CORNER ROOM	S	--	N/A	N/A	YES	BECH-E121<047>	--	R
9198	--	08A	M020448-0	OPERATING MECH,RHR,HTEXCH 1E201A TO TORUS	BECH-M120/38/C6	RB	747	SE CORNER ROOM	S	--	N/A	N/A	YES	BECH-E121<047>	--	R
9199	--	08A	M02069-0	OPERATING MECH,PRCNMT,SUPPR POOL TO RHR PUMP	BECH-M120/38/C3	BAY 10	716	--	S	05	N/A	N/A	YES	BECH-E121<045>	--	IR
9200	--	08A	M02100-0	OPERATING MECH,LPCS	BECH-M121/27/B5	RB	716	SE CORNER ROOM	S	05	N/A	N/A	YES	BECH-E121<004>	--	IR
9201	--	08A	M02104-0	OPERATING MECH,LPCS	BECH-M121/27/D4	BAY 10	716	--	--	06	N/A	N/A	YES	BECH-E121<006>	--	R
9202	--	08A	M02112-0	OPERATING MECH,LPCS	BECH-M121/27/F5	BAY 10	716	--	S	--	N/A	N/A	YES	BECH-E121<007>	--	R
9203	--	08A	M02117-0	OPERATING MECH,LPCS	BECH-M121/27/G6	RB	786	RWCU ROOM	--	06	N/A	N/A	YES	BECH-E121<005>	--	R
9204	--	08A	M02120-0	OPERATING MECH,LPCS	BECH-M121/27/C5	RB	716	NW CORNER ROOM	S	05	N/A	N/A	YES	BECH-E121<004>	--	IR
9205	--	08A	M02124-0	OPERATING MECH,LPCS	BECH-M121/27/D4	BAY 01	716	--	--	06	N/A	N/A	YES	BECH-E121<006>	--	R
9206	--	08A	M02132-0	OPERATING MECH,LPCS	BECH-M121/27/E5	BAY 02	716	--	S	--	N/A	N/A	YES	BECH-E121<007>	--	R
9207	--	08A	M02137-0	OPERATING MECH,LPCS	BECH-M121/27/E6	RB	786	NORTH SIDE	--	06	N/A	N/A	YES	BECH-E121<005A>	--	R
9208	--	08A	M02146-0	OPERATING MECH,PRCNMT	BECH-M121/27/C5	BAY 14	716	--	S	05	N/A	N/A	YES	BECH-E121<004>	--	IR
9209	--	08A	M02147-0	OPERATING MECH,PRCNMT	BECH-M121/27/B5	BAY 10	716	--	S	05	N/A	N/A	YES	BECH-E121<004>	--	IR
9210	--	08A	M02238-0	OPERATOR,HPCI INBOARD STEAM LINE ISOL.	BECH-M122/32/E6	DW	775	SW QUADRANT	--	06	N/A	N/A	YES	BECH-E121<014>	--	R
9211	--	08A	M02239-0	OPERATOR,HPCI OUTBOARD STEAM LINE ISOL.	BECH-K122/32/F5	RB	757	STEAM TUNNEL	--	06	N/A	N/A	YES	BECH-E121<015>	--	R
9212	--	08A	M02290A-0	OPERATOR,HPCI VACUUM BREAKER ISOL.	BECH-M122/32/B8	BAY 10	716	--	S	05	N/A	N/A	YES	BECH-E121<023A>	--	IR
9213	--	08A	M02290B-0	OPERATOR,HPCI VACUUM BREAKER ISOL.	BECH-M122/32/B8	BAY 10	716	--	S	05	N/A	N/A	YES	BECH-E121<023A>	--	IR
9214	--	08A	M02312-0	OPERATOR,HPCI INJECT	BECH-M123/27/C6	RB	757	STEAM TUNNEL	S	--	N/A	N/A	YES	BECH-E121<018>	--	R
9215	--	08A	M02318-0	OPERATOR,HPCI MIN FLOW BYPASS	BECH-M123/27/C4	RB	724	HPCI ROOM	S	--	N/A	N/A	YES	--	--	R
9216	--	08A	M02321-0	OPERATOR,HPCI,INBOARD TORUS SUCTION ISOL	BECH-M123/27/A6	BAY 10	716	--	S	--	N/A	N/A	YES	BECH-E121<023>	--	R

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Print or Type Name/Title

Signature

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9217	--	08A	MO2322-0	OPERATING MECH,HPCI,TORUS SUPPLY LINE	BECH-M123/27/E3	RB	724	HPCI ROOM	S	--	N/A	N/A	YES	--	--	R
9218	--	08A	MO2400-0	OPERATOR,INBOARD STEAM LINE ISOLATION,RCIC	BECH-M124/30/E6	DW	775	NE QUADRANT	--	06	N/A	N/A	YES	BECH-E121<029>	--	R
9219	--	08A	MO2401-0	OPERATOR,OUTBOARD STEAM LINE ISOLATION,RCIC	BECH-M124/30/E6	RB	757	STEAM TUNNEL	--	06	N/A	N/A	YES	BECH-E121<030>	--	R
9220	--	08A	MO2510-0	OPERATOR,MIN FLOW BYPASS,RCIC PUMP	BECH-M125/26/C4	RB	716	RCIC ROOM	S	--	N/A	N/A	YES	--	--	R
9221	--	08A	MO2512-0	OPERATOR,RCIC INJECT INTO FDWTR	BECH-M125/26/D5	RB	757	STEAM TUNNEL	S	--	N/A	N/A	YES	BECH-E121<040>	--	R
9222	--	08A	MO2516-0	OPERATOR,INBOARD TORUS SUCTION,RCIC	BECH-M125/26/A5	BAY 10	716	--	S	--	N/A	N/A	YES	BECH-E121<033>	--	R
9223	--	08A	MO2517-0	OPERATOR,OUTBOARD TORUS SUCTION,RCIC	BECH-M125/26/F4	RB	716	RCIC ROOM	S	--	N/A	N/A	YES	BECH-E121<033>	--	R
9224	--	08A	MO2700-0	OPERATING MECH,RWCU,INBOARD ISOL VALVE	BECH-M127/43/E8	DW	775	SW QUADRANT	--	06	N/A	N/A	YES	BECH-E122<003>	--	R
9225	--	08A	MO2701-0	OPERATING MECH,RWCU,OUTBOARD ISOL VALVE	BECH-M127/43/E7	RB	786	LPCS ROOM	--	06	N/A	N/A	YES	BECH-E122<005>	--	R
9226	--	08A	MO2740-0	OPERATING MECH,RWCU,1E214% TO RCIC DISCH	BECH-M127/43/F4	RB	757	TIP ROOM MEZZ	S	05	N/A	N/A	YES	BECH-E122<014>	--	IR
9227	--	08A	MO4423-0	OPERATING MECH,NUC BOILER,VLV MO4423	BECH-M114/45/B3	DW	757	NE QUADRANT	S	--	N/A	N/A	YES	BECH-E122<002>, APED-E41-006<8>	--	R
9228	--	08A	MO4424-0	OPERATING MECH,VLV MO4424	BECH-M114/45/B3	RB	757	STEAM TUNNEL	S	--	N/A	N/A	YES	BECH-E122<005A>, APED-E41-006<8>	--	R
9229	--	08A	MO4841A-0	OPERATING MECH,RBCCW	BECH-M112/26/E3	BAY 02	716	--	S	05	N/A	N/A	YES	BECH-E111<017>	--	IR
9230	--	08A	MO4841B-0	OPERATING MECH,RBCCW	BECH-M112/26/F3	BAY 10	716	--	S	05	N/A	N/A	YES	BECH-M246	--	IR
9231	--	08A	MO8401A-0	MSIV-LCS "A" LINE INBD BLEED VALVE OPERATING MEC	BECH-M184/11/F3	RB	757	STEAM TUNNEL	S	--	N/A	N/A	YES	BECH-E122<038>	--	R
9232	--	08A	MO8401B-0	MSIV-LCS "B" LINE INBD BLEED VALVE OPERATING MEC	BECH-M184/11/F3	RB	757	STEAM TUNNEL	S	--	N/A	N/A	YES	BECH-E122<038>	--	R

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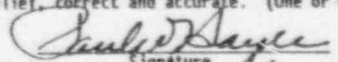
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9233	--	08A	M08401C-0	MSIV-LCS "C" LINE INBD BLEED VALVE OPERATING MEC	BECH-M184/11/F3	RB	757	STEAM TUNNEL	S	--	N/A	N/A	YES	BECH-E122<038>	--	R
9234	--	08A	M08401D-0	MSIV-LCS "D" LINE INBD BLEED VALVE OPERATING MEC	BECH-M184/11/F3	RB	757	STEAM TUNNEL	S	--	N/A	N/A	YES	BECH-E122<038>	--	R
9235	--	20	PI2207	INDICATOR,PRESS,HPCI TURBINE STEAM SUPPLY	BECH-M122/32	CB	786	(1C003)	S	--	N/A	N/A	YES	APED-E41-006<6>	--	R
9236	--	20	PI2403	INDICATOR,PRESS,RCIC,1S203 STN SUP LINE	BECH-M124/30	CB	786	(1C004)	S	--	N/A	N/A	YES	APED-E51-017, APED-E51-009<5>	--	R
9237	--	20	PI4396C	DW PRESSURE IND,1C-03	BECH-M143<2>/8	--	--	(1C003)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9238	--	20	PI4396D	DW PRESSURE IND, 1C-03	BECH-M143<2>/8	--	--	(1C003)	S	--	N/A	N/A	YES	BECH-E122<019A>	--	R
9239	--	20	PI4398A	INDICATOR,PRESS,SPS,DW,PRIMARY CONTAINMENT	BECH-M143<2>/8	CB	786	(1C009)	S	--	N/A	N/A	YES	BECH-E124<003>	--	R
9240	--	20	PI4398B	INDICATOR,PRESS,SPS,DW,PRIMARY CONTAINMENT	BECH-M143<2>/8	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9241	--	20	PI4599A	INDICATOR,PRESS,NONNUCINST,1T201 REACTOR VESSEL	BECH-M115/37	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9242	--	20	PI4599B	INDICATOR,PRESS,NONNUCINST,1T201 REACTOR VESSEL	BECH-M115/37	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9243	--	20	PR4398A	RECORDER,PRESS,SPS,DW,PRIMARY CONTAINMENT	BECH-M143<2>/8	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9244	--	20	PR4398B	RECORDER,PRESS,SPS,DW,PRIMARY CONTAINMENT	BECH-M143<2>/8	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9245	--	20	PR4599A	RECORDER,PRESS,NONNUCINST,1T201 REACTOR VESSEL	BECH-M115/37	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9246	--	20	PR4599B	RECORDER,PRESS,NONNUCINST,1T201 REACTOR VESSEL	BECH-M115/37	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9247	--	18	PT2207	HPCI TURBINE STEAM INLET PRESSURE	BECH-M122/32	RB	724	(1C120)	S	--	N/A	N/A	YES	APED-E41-006<6>	--	R
9248	--	18	PT2403	RCIC TURBINE STEAM SUPPLY PRESSURE	BECH-M124/30	RB	716	(1C128)	S	--	N/A	N/A	YES	APED-E51-009<5>	--	R
9249	--	20	PT4398A	DRYWELL PRESSURE	BECH-M143<2>/8	RB	757	SOUTH SIDE	S	--	N/A	N/A	YES	BECH-E124<003>	--	R

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9250	--	20	PT4398B	DRYWELL PRESSURE	BECH-M143<2>/8	RB	786	NORTH SIDE	S	--	N/A	N/A	YES	BECH-E124<003>	--	R
9251	--	20	PT4399A	DRYWELL PRESSURE	BECH-M143<2>/8	RB	757	SOUTH SIDE	S	--	N/A	N/A	YES	--	--	R
9252	--	20	PT4399B	DRYWELL PRESSURE	BECH-M143<2>/8	RB	786	NORTH SIDE	S	--	N/A	N/A	YES	--	--	R
9253	--	18	PT4599A	RX VESSEL ACCIDENT RANGE PRESSURE	BECH-M115/37/G8	RB	786	(1C056)	--	06	N/A	N/A	YES	--	--	R
9254	--	18	PT4599B	RX VESSEL ACCIDENT RANGE PRESSURE	BECH-M115/37/F2	RB	757	(1C055)	--	06	N/A	N/A	YES	--	--	R
9255	--	20	RE9184A	DRYWELL AREA RADIATION MONITOR	BECH-M148/10	DW	757	(1C009)	S	--	N/A	N/A	YES	BECH-E063	--	R
9256	--	20	RE9184B	DRYWELL AREA RADIATION MONITOR	BECH-M148/10	DW	757	(1C011)	S	--	N/A	N/A	YES	BECH-E063	--	R
9257	--	20	RE9185A	TORUS CHAMBER AREA RADIATION DETECTOR	BECH-M148/10	BAY 01	716	(1C011)	S	--	N/A	N/A	YES	BECH-E063	--	R
9258	--	20	RE9185B	TORUS CHAMBER AREA RADIATION DETECTOR	BECH-M148/10	BAY 07	716	(1C011)	S	--	N/A	N/A	YES	BECH-E063	--	R
9259	--	20	RIM9184A	INDICATOR,RAD,DW RADMON,DRYWELL AREA	BECH-M148/10	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9260	--	20	RIM9184B	INDICATOR,RAD,DW RADMON,DRYWELL AREA	BECH-M148/10	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9261	--	20	RIM9185A	INDICATOR,RAD,DW RADMON,TORUS CHAMBER AREA	BECH-M148/10	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9262	--	20	RIM9185B	INDICATOR,RAD,DW RADMON,TORUS CHAMBER AREA	BECH-M148/10	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9263	--	20	RR9184A	RECORDER,RAD,DW RADMON	BECH-M148/10	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9264	--	20	RR9184B	RECORDER,RAD,DW RADMON	BECH-M148/10	CB	786	(1C009)	S	--	N/A	N/A	YES	--	--	R
9265	--	088	SV1804A	CV-1804A CONTROL AIR SUPPLY ISOLATION	BECH-M117/39/A5	RB	757	SOUTH SIDE	--	06	N/A	N/A	YES	--	--	R
9266	--	088	SV1804B	CV-1804B CONTROL AIR SUPPLY ISOLATION	BECH-M117/39/A5	RB	757	SOUTH SIDE	--	06	N/A	N/A	YES	--	--	R
9267	--	088	SV1870A	SCRAM DISCH VOLUME VENT AND DRAIN VALVE CONTROL	BECH-M118/17/D4	RB	757	SOUTH SIDE	S	05	N/A	N/A	YES	--	--	IR

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	SORT	NOTES	OP. ST. Normal	OP. ST. Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9268	--	088	SV1870B	SCRAM DISCH VOLUME VENT AND DRAIN VALVE CONTROL	BECH-M118/17/C3	RB	757	SOUTH SIDE	S	05	N/A	N/A	YES	--	--	IR
9269	--	088	SV3704	CV-3704 CONTROL AIR SUPPLY ISOLATION	BECH-M137<1>/12/E7	BAY 08	716	--	S	05	N/A	N/A	YES	BECH-E122<009>, BECH-M266, BECH-E515<156>	--	IR
9270	--	088	SV3705	CV-3705 CONTROL AIR SUPPLY ISOLATION	BECH-M137<1>/12/E7	BAY 08	716	--	S	05	N/A	N/A	YES	BECH-E122<009>, BECH-M266, BECH-E515<157>	--	IR
9271	--	088	SV3728	CV-3728 CONTROL AIR SUPPLY ISOLATION	BECH-M137<1>/12/C6	BAY 16	716	--	S	05	N/A	N/A	YES	BECH-M405<01>, BECH-E515<158>	--	IR
9272	--	088	SV3729	CV-3729 CONTROL AIR SUPPLY ISOLATION	BECH-M137<1>/12/C6	BAY 16	716	--	S	05	N/A	N/A	YES	BECH-M405<01>, BECH-E515<159>	--	IR
9273	--	088	SV4300	CV-4300 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C7	RB	735	NE CORNER ROOM	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9274	--	088	SV4300X	CV-4300 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C7	RB	735	NE CORNER ROOM	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9275	--	088	SV4301	CV-4301 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C8	RB	735	NE CORNER ROOM	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9276	--	088	SV4302	CV-4302 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D6	RB	812	DW HVAC ROOM	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9277	--	088	SV4302X	CV-4302 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D7	RB	812	DW HVAC ROOM	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9278	--	088	SV4303	CV-4303 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D7	RB	812	DW HVAC ROOM	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9279	--	088	SV4304	CV-4309 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/A7	RB	735	NE CORNER ROOM	S	--	N/A	N/A	YES	BECH-E122<023>, BECH-E515<160>	--	R
9280	--	088	SV4305	CV-4305 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/A7	RB	735	NE CORNER ROOM	S	--	N/A	N/A	YES	BECH-E122<023>, BECH-E515<161>	--	R
9281	--	088	SV4306	CV-4306 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C2	RB	757	[illegible]	S	--	N/A	N/A	YES	BECH-E122<013>	--	R

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PAUL W. HAYES / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
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Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9282	--	088	SV4307	CV-4307 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C2	RB	757	NORTH SIDE	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9283	--	088	SV4308	CV-4308 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/B2	RB	757	NORTH SIDE	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9284	--	088	SV4309	CV-4309 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/B7	RB	735	NE CORNER ROOM	S	--	N/A	N/A	YES	BECH-E122<013>, BECH-E515<162>	--	R
9285	--	088	SV4310	CV-4310 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C6	RB	812	DW HVAC ROOM	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9286	--	088	SV4311	CV-4311 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D3	RB	757	NORTH SIDE	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9287	--	088	SV4312	CV-4312 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C3	RB	757	NORTH SIDE	S	--	N/A	N/A	YES	APED-A71-003<14>, BECH-E122<012>	--	R
9288	--	088	SV4313	CV-4313 CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/C3	RB	757	NORTH SIDE	S	--	N/A	N/A	YES	APED-A71-003<14>, BECH-E122<012>	--	R
9289	--	088	SV4331A	LOWER DRYWELL SPRAY CAD N2 INBOARD ISOLATION	BECH-M143<3>/3/B4	RB	766	RHR VALVE ROOM	S	--	N/A	N/A	YES	BECH-E122<034>	--	R
9290	--	088	SV4331B	LOWER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	BECH-M143<3>/3/B4	RB	766	RHR VALVE ROOM	S	--	N/A	N/A	YES	BECH-E122<034>	--	R
9291	--	088	SV4332A	UPPER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	BECH-M143<3>/3/B4	RB	786	SOUTH SIDE	S	--	N/A	N/A	YES	BECH-E122<033>	--	R
9292	--	088	SV4332B	UPPER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	BECH-M143<3>/3/B4	RB	786	SOUTH SIDE	S	--	N/A	N/A	YES	BECH-E122<033>	--	R
9293	--	088	SV4333A	WEST TORUS SPRAY HDR CAD N2 SUPPLY INBOARD	BECH-M143<3>/3/C4	BAY 13	716	--	S	--	N/A	N/A	YES	BECH-E122<034>	--	R
9294	--	088	SV4333B	WEST TORUS SPRAY HDR CAD N2 SUPPLY OUTBOARD ISOL	BECH-M143<3>/3/C4	BAY 13	716	--	S	--	N/A	N/A	YES	BECH-E122<034>	--	R
9295	--	088	SV4334A	NORTH TORUS SPRAY HEADER CAD N2 SUPPLY INBD ISOL	BECH-M143<3>/3/C4	BAY 16	716	--	S	--	N/A	N/A	YES	BECH-E122<033>	--	R

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PAUL W. HAYES / ENGINEER — Print or Type Name/Title
Signature
APRIL 24, 1995 — Date

KEVIN G. CARDANY / ENGINEER — Print or Type Name/Title
Signature
APRIL 24, 1995 — Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- EQUIPMENT LOCATION ---> Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9296	--	088	SV4334B	NORTH TORUS SPRAY HEADER CAD N2 SUPPLY OUTBD ISOL	BECH-M143<3>/3/C4	BAY 16	716	--	S	--	N/A	N/A	YES	BECH-E122<033>	--	R
9297	--	088	SV4371A	CV-4371A CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/E4	RB	757	SOUTH SIDE	S	05	N/A	N/A	YES	--	--	IR
9298	--	088	SV4371C	CV-4371C CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/E6	RB	757	SOUTH SIDE	S	05	N/A	N/A	YES	--	--	IR
9299	--	088	SV4378A	CV-4378A CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D5	RB	757	SOUTH SIDE	S	05	N/A	N/A	YES	--	--	IR
9300	--	088	SV4378B	CV-4378B CONTROL AIR SUPPLY ISOLATION	BECH-M143<1>/11/D5	RB	757	SOUTH SIDE	S	05	N/A	N/A	YES	--	--	IR
9301	--	088	SV4412B	INBOARD MSIV CV-4412 DC POWERED PILOT VALVE	BECH-M114/45/G3	DW	757	SE QUADRANT	--	--	N/A	N/A	YES	BECH-E122<011>, BECH-E515<178>	--	R
9302	--	088	SV4413B	OUTBOARD MSIV CV-4413 DC POWERED PILOT VALVE	BECH-M114/45/F2	RB	757	STEAM TUNNEL	--	--	N/A	N/A	YES	BECH-E122<011>, BECH-E515<181>	--	R
9303	--	088	SV4415B	INBOARD MSIV CV-4415 DC POWERED PILOT VALVE	BECH-M114/45/G3	DW	757	SE QUADRANT	--	--	N/A	N/A	YES	BECH-E122<011>, BECH-E515<184>	--	R
9304	--	088	SV4416B	OUTBOARD MSIV CV-4416 DC POWERED PILOT VALVE	BECH-M114/45/F2	RB	757	STEAM TUNNEL	--	--	N/A	N/A	YES	BECH-E122<011>, BECH-E515<187>	--	R
9305	--	088	SV4418B	INBOARD MSIV CV-4418 DC POWERED PILOT VALVE	BECH-M114/45/G3	DW	757	NE QUADRANT	--	--	N/A	N/A	YES	BECH-E122<011>, BECH-E515<190>	--	R
9306	--	088	SV4419B	OUTBOARD MSIV CV-4419 DC POWERED PILOT VALVE	BECH-M114/45/F2	RB	757	STEAM TUNNEL	--	--	N/A	N/A	YES	BECH-E122<011>, BECH-E515<193>	--	R
9307	--	088	SV4420B	INBOARD MSIV CV-4420 DC POWERED PILOT VALVE	BECH-M114/45/G3	DW	757	NE QUADRANT	--	--	N/A	N/A	YES	BECH-E122<011>, BECH-E515<196>	--	R
9308	--	088	SV4421B	OUTBOARD MSIV CV-4421 DC POWERED PILOT VALVE	BECH-M114/45/F2	RB	757	STEAM TUNNEL	--	--	N/A	N/A	YES	BECH-E122<011>, BECH-E515<199>	--	R
9309	--	088	SV4594A	LOOP A JET PUMP SAMPLE LINE INBOARD ISOLATION	BECH-M115/37/D3	RB	--	--	S	--	N/A	N/A	YES	BECH-E112<019>	--	R
9310	--	088	SV4594B	LOOP B JET PUMP SAMPLE LINE INBOARD ISOLATION	BECH-M115/37/C6	RB	--	--	S	--	N/A	N/A	YES	BECH-E112<025>	--	R

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Print or Type Name/Title

Paul W. Hayes
Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Kevin G. Cardany
Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9311	--	088	SV4595A	LOOP A JET PUMP SAMPLE LINE OUTBOARD ISOLATION	BECH-M115/37/D3	RB	--	--	S	--	N/A	N/A	YES	BECH-E112<025>	--	R
9312	--	088	SV4595B	LOOP B JET PUMP SAMPLE LINE OUTBOARD ISOLATION	BECH-M115/37/C6	RB	757	--	S	--	N/A	N/A	YES	BECH-E112<025>	--	R
9313	--	088	SV4639	CV-4639 NITROGEN SUPPLY ISOLATION	BECH-M116/36/F6	DW	775	SW QUADRANT	--	06	N/A	N/A	YES	BECH-E122<010>, BECH-E515<201>	--	R
9314	--	088	SV4640	CV-4640 CONTROL AIR SUPPLY ISOLATION	BECH-M116/36/F6	RB	786	LPCS ROOM	--	06	N/A	N/A	YES	BECH-E122<010>, BECH-E515<202>	--	R
9315	--	088	SV8101A	DRYWELL #1 SAMPLE LINE ISOLATION	BECH-M181/20/F5	RB	757	DW AIRLOCK MEZZ	S	05	N/A	N/A	YES	--	--	IR
9316	--	088	SV8101B	DRYWELL #1 SAMPLE LINE ISOLATION	BECH-M181/20/F4	RB	757	NORTH SIDE	S	05	N/A	N/A	YES	--	--	IR
9317	--	088	SV8102A	DRYWELL #1 SAMPLE LINE ISOLATION	BECH-M181/20/F5	RB	757	DW AIRLOCK MEZZ	S	05	N/A	N/A	YES	--	--	IR
9318	--	088	SV8102B	DRYWELL #1 SAMPLE LINE ISOLATION	BECH-M181/20/F4	RB	757	NORTH SIDE	S	05	N/A	N/A	YES	--	--	IR
9319	--	088	SV8103A	DRYWELL #2 SAMPLE LINE ISOLATION	BECH-M181/20/F5	RB	757	DW AIRLOCK MEZZ	S	05	N/A	N/A	YES	--	--	IR
9320	--	088	SV8103B	DRYWELL #2 SAMPLE LINE ISOLATION	BECH-M181/20/F4	RB	757	NORTH SIDE	S	05	N/A	N/A	YES	--	--	IR
9321	--	088	SV8104A	DRYWELL #2 SAMPLE LINE ISOLATION	BECH-M181/20/F5	RB	757	DW AIRLOCK MEZZ	S	05	N/A	N/A	YES	--	--	IR
9322	--	088	SV8104B	DRYWELL #2 SAMPLE LINE ISOLATION	BECH-M181/20/F4	RB	757	NORTH SIDE	S	05	N/A	N/A	YES	--	--	IR
9323	--	088	SV8105A	DRYWELL SAMPLE RETURN LINE ISOLATION	BECH-M181/20/E5	RB	757	DW AIRLOCK MEZZ	S	05	N/A	N/A	YES	--	--	IR
9324	--	088	SV8105B	DRYWELL SAMPLE RETURN LINE ISOLATION	BECH-M181/20/E4	RB	776	--	S	05	N/A	N/A	YES	--	--	IR
9325	--	088	SV8106A	DRYWELL SAMPLE RETURN LINE ISOLATION	BECH-M181/20/E5	RB	757	DW AIRLOCK MEZZ	S	05	N/A	N/A	YES	--	--	IR
9326	--	088	SV8106B	DRYWELL SAMPLE RETURN LINE ISOLATION	BECH-M181/20/E4	RB	776	--	S	05	N/A	N/A	YES	--	--	IR
9327	--	088	SV8107A	CAM SYS A TORUS SAMPLE LINE INBOARD ISOL	BECH-M181/20/D5	BAY 05	716	--	S	05	N/A	N/A	YES	BECH-E122<029>	--	IR
9328	--	088	SV8107B	CAM SYS B TORUS SAMPLE LINE INBOARD ISOL	BECH-M181/20/D4	BAY 13	716	--	S	05	N/A	N/A	YES	BECH-E122<029>	--	IR

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Signature

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Date

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9329	--	088	SV8108A	CAM SYS A TORUS SAMPLE LINE OUTBOARD ISO	BECH-M181/20/D5	BAY 05	716	--	S	05	N/A	N/A	YES	BECH-E122<029>	--	IR
9330	--	088	SV8108B	CAM SYS B TORUS SAMPLE LINE OUTBOARD ISO	BECH-M181/20/D4	BAY 13	716	--	S	05	N/A	N/A	YES	BECH-E122<029	--	IR
9331	--	088	SV8109A	CAM SYS A TORUS SAMPLE RETURN INBOARD IS	BECH-M181/20/D5	BAY 09	716	--	S	05	N/A	N/A	YES	BECH-E122<029>	--	IR
9332	--	088	SV8109B	CAM SYS B TORUS SAMPLE RETURN INBOARD IS	BECH-M181/20/D4	BAY 01	716	--	S	05	N/A	N/A	YES	BECH-E122<029>	--	IR
9333	--	088	SV8110A	CAM SYS A TORUS SAMPLE RETURN OUTBOARD I	BECH-M181/20/D5	BAY 09	716	--	S	05	N/A	N/A	YES	BECH-E122<029>	--	IR
9334	--	088	SV8110B	CAM SYS B TORUS SAMPLE RETURN OUTBOARD I	BECH-M181/20/D4	BAY 01	716	--	S	05	N/A	N/A	YES	BECH-E122<029>	--	IR
9335	--	088	SV8772A	PASS LIQ SAMPLE RETURN TO TORUS INBD ISO	BECH-M187/8/B8	BAY 15	716	--	S	--	N/A	N/A	YES	BECH-E112<026>	--	R
9336	--	088	SV8772B	PASS LIQ SAMPLE RETURN TO TORUS OUTBD IS	BECH-M187/8/B8	BAY 15	716	--	S	--	N/A	N/A	YES	BECH-E111<026>	--	R
9337	--	07	ZS1804A	CV-1804A VALVE POSITION SWITCH	BECH-M117/39	RB	757	(CV1804A)	--	13	N/A	N/A	YES	--	--	R
9338	--	07	ZS1804B	CV-1804B VALVE POSITION SWITCH	BECH-M117/39	RB	757	(CV1804B)	--	13	N/A	N/A	YES	--	--	R
9339	--	07	ZS1859A	CV-1859A VALVE POSITION SWITCH	BECH-M118/17	RB	776	(CV1859A)	--	13	N/A	N/A	YES	--	--	R
9340	--	07	ZS1859B	CV-1859B VALVE POSITION SWITCH	BECH-M118/17	RB	776	(CV1859B)	--	13	N/A	N/A	YES	--	--	R
9341	--	07	ZS1867A	CV-1867A VALVE POSITION SWITCH	BECH-M118/17	BAY 10	716	(CV1867A)	--	13	N/A	N/A	YES	--	--	R
9342	--	07	ZS1867B	CV-1867B VALVE POSITION SWITCH	BECH-M118/17	BAY 10	716	(CV1867B)	--	13	N/A	N/A	YES	--	--	R
9343	--	07	ZS3704	CV-3704 VALVE POSITION SWITCH	BECH-M137<1>/12	BAY 08	716	(CV3704)	--	13	N/A	N/A	YES	BECH-E122<009>	--	R
9344	--	07	ZS3705	CV-3705 VALVE POSITION SWITCH	BECH-M137<1>/12	BAY 08	716	(CV3705)	--	13	N/A	N/A	YES	BECH-E122<009>	--	R
9345	--	07	ZS3728	CV-3728 VALVE POSITION SWITCH	BECH-M137<1>/12	BAY 16	716	(CV3728)	--	13	N/A	N/A	YES	BECH-E122<009>	--	R
9346	--	07	ZS3729	CV-3729 VALVE POSITION SWITCH	BECH-M137<1>/12	BAY 16	716	(CV3729)	--	13	N/A	N/A	YES	BECH-E122<009>	--	R
9347	--	07	ZS4300	CV-4300 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	716	(CV4300)	S	--	N/A	N/A	YES	--	--	R

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Print or Type Name/Title

Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

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Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	SORT	NOTES	OP. Normal	ST. Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9348	--	07	ZS4301	CV-4301 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	735	(CV4301)	S	--	N/A	N/A	YES	--	--	R
9349	--	07	ZS4302	CV-4302 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	812	(CV4302)	S	--	N/A	N/A	YES	--	--	R
9350	--	07	ZS4303	CV-4303 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	812	(CV4303)	S	--	N/A	N/A	YES	--	--	R
9351	--	07	ZS4304	CV-4304 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	735	(CV4304)	S	--	N/A	N/A	YES	BECH-E122<023>	--	R
9352	--	07	ZS4305	CV-4305 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	735	(CV4305)	S	--	N/A	N/A	YES	BECH-E122<023>	--	R
9353	--	07	ZS4306	CV-4306 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	766	(CV4306)	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9354	--	07	ZS4307	CV-4307 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	757	(CV4307)	S	--	N/A	N/A	YES	BECH-E122<012>	--	R
9355	--	07	ZS4308	CV-4308 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	757	(CV4308)	S	--	N/A	N/A	YES	BECH-E122<012>	--	R
9356	--	07	ZS4309	CV-4309 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	735	(CV4309)	S	--	N/A	N/A	YES	--	--	R
9357	--	07	ZS4310	CV-4310 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	812	(CV4310)	S	--	N/A	N/A	YES	--	--	R
9358	--	07	ZS4311	CV-4311 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	757	(CV4311)	S	--	N/A	N/A	YES	BECH-E122<013>	--	R
9359	--	07	ZS4312	CV-4312 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	757	(CV4312)	S	--	N/A	N/A	YES	BECH-E122<012>	--	R
9360	--	07	ZS4313	CV-4313 VALVE POSITION SWITCH	BECH-M143<1>/11	RB	757	(CV4313)	S	--	N/A	N/A	YES	BECH-E122<012>	--	R
9361	--	088	ZS4331A	SV-4331A VALVE POSITION SWITCH	BECH-M143<3>/3	RB	766	(SV4331A)	--	13	N/A	N/A	YES	BECH-E122<034>	--	R
9362	--	088	ZS4331B	SV-4331B VALVE POSITION SWITCH	BECH-M143<3>/3	RB	766	(SV4331B)	--	13	N/A	N/A	YES	BECH-E122<034>	--	R
9363	--	088	ZS4332A	SV-4332A VALVE POSITION SWITCH	BECH-M143<3>/3	RB	786	(SV4332A)	--	13	N/A	N/A	YES	BECH-E122<033>	--	R
9364	--	088	ZS4332B	SV-4332B VALVE POSITION SWITCH	BECH-M143<3>/3	RB	786	(SV4332B)	--	13	N/A	N/A	YES	BECH-E122<033>	--	R
9365	--	088	ZS4333A	SV-4333A VALVE POSITION SWITCH	BECH-M143<3>/3	BAY 13	716	(SV4333A)	--	13	N/A	N/A	YES	BECH-E122<034>	--	R
9366	--	088	ZS4333B	SV-4333B VALVE POSITION SWITCH	BECH-M143<3>/3	BAY 13	716	(SV4333B)	--	13	N/A	N/A	YES	BECH-E122<034>	--	R
9367	--	088	ZS4334A	SV-4334A VALVE POSITION SWITCH	BECH-M143<3>/3	BAY 16	716	(SV4334A)	--	13	N/A	N/A	YES	BECH-E122<033>	--	R
9368	--	088	ZS4334B	SV-4334B VALVE POSITION SWITCH	BECH-M143<3>/3	BAY 16	716	(SV4334B)	--	13	N/A	N/A	YES	BECH-E122<033>	--	R
9369	--	07	ZS4371A	CV-4371A VALVE POSITION SWITCH	BECH-M143<1>/11	RB	757	(CV4371A)	--	13	N/A	N/A	YES	--	--	R
9370	--	07	ZS4371C	CV-4371C VALVE POSITION SWITCH	BECH-M143<1>/11	RB	757	(CV4371C)	--	13	N/A	N/A	YES	--	--	R

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DUANE ARNOLD ENERGY CENTER
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Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- EQUIPMENT LOCATION ---> Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9371	--	07	ZS4378A	CV-4378A VALVE POSITION SWITCH	BECH-M143<1>/11	RB	757	(CV4378A)	--	13	N/A	N/A	YES	--	--	R
9372	--	07	ZS4378B	CV-4378B VALVE POSITION SWITCH	BECH-M143<1>/11	RB	757	(CV4378B)	--	13	N/A	N/A	YES	--	--	R
9373	--	07	ZS4412B	CV-4412 "CLOSE" POSITION SWITCH	BECH-M114/45	DW	757	(CV4412)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9374	--	07	ZS4412C	CV-4412 "OPEN" POSITION SWITCH	BECH-M114/45	DW	757	(CV4412)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9375	--	07	ZS4413B	CV-4413 "CLOSE" POSITION SWITCH	BECH-M114/45	RB	757	(CV4413)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9376	--	07	ZS4413C	CV-4413 "OPEN" POSITION SWITCH	BECH-M114/45	RB	757	(CV4413)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9377	--	07	ZS4415B	CV-4415 "CLOSE" POSITION SWITCH	BECH-M114/45	DW	757	(CV4415)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9378	--	07	ZS4415C	CV-4415 "OPEN" POSITION SWITCH	BECH-M114/45	DW	757	(CV4415)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9379	--	07	ZS4416B	CV-4416 "CLOSE" POSITION SWITCH	BECH-M114/45	RB	757	(CV4416)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9380	--	07	ZS4416C	CV-4416 "OPEN" POSITION SWITCH	BECH-M114/45	RB	757	(CV4416)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9381	--	07	ZS4418B	CV-4418 "CLOSE" POSITION SWITCH	BECH-M114/45	DW	757	(CV4418)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9382	--	07	ZS4418C	CV-4418 "OPEN" POSITION SWITCH	BECH-M114/45	DW	757	(CV4418)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9383	--	07	ZS4419B	CV-4419 "CLOSE" POSITION SWITCH	BECH-M114/45	RB	757	(CV4419)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9384	--	07	ZS4419C	CV-4419 "OPEN" POSITION SWITCH	BECH-M114/45	RB	757	(CV4419)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9385	--	07	ZS4420B	CV-4420 "CLOSE" POSITION SWITCH	BECH-M114/45	DW	757	(CV4420)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9386	--	07	ZS4420C	CV-4420 "OPEN" POSITION SWITCH	BECH-M114/45	DW	757	(CV4420)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9387	--	07	ZS4421B	CV-4421 "CLOSE" POSITION SWITCH	BECH-M114/45	RB	757	(CV4421)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9388	--	07	ZS4421C	CV-4421 "OPEN" POSITION SWITCH	BECH-M114/45	RB	757	(CV4421)	--	13	N/A	N/A	YES	BECH-E122<011>	--	R
9389	--	08B	ZS4594A	SV-4594A VALVE POSITION SWITCH	BECH-M115/37	RB	--	(SV4594A)	--	13	N/A	N/A	YES	BECH-E112<025>	--	R
9390	--	08B	ZS4594B	SV-4594B POSITION SWITCH, POST ACCID SAMPLING	BECH-M115/37	--	--	(SV4594B)	--	13	N/A	N/A	YES	--	--	R
9391	--	08B	ZS4595A	SV-4595A VALVE POSITION SWITCH	BECH-M115/37	RB	--	(SV4595A)	--	13	N/A	N/A	YES	BECH-E112<025>	--	R
9392	--	08B	ZS4595B	SV-4595B POSITION SWITCH, POST ACCID SAMPLING	BECH-M115/37	--	--	(SV4595B)	--	13	N/A	N/A	YES	BECH-E112<025>	--	R

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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	SORT	NOTES	OP. Normal	ST. Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9393	--	07	ZS4639	CV-4639 VALVE POSITION SWITCH	BECH-M116/36	DW	775	(CV4639)	--	13	N/A	N/A	YES	BECH-E122<010>	--	R
9394	--	07	ZS4640	CV-4640 VALVE POSITION SWITCH	BECH-M116/36	RB	786	(CV4640)	--	13	N/A	N/A	YES	BECH-E122<010>	--	R
9395	--	07	ZS5704A	CV-5704A VALVE POSITION SWITCH	BECH-M157<1>/6	BAY 10	716	(CV5704A)	--	13	N/A	N/A	YES	BECH-E113<094>	--	R
9396	--	07	ZS5704B	CV-5704B VALVE POSITION SWITCH	BECH-M157<1>/6	BAY 14	716	(CV5704B)	--	13	N/A	N/A	YES	BECH-E113<094>	--	R
9397	--	07	ZS5718A	CV-5718A VALVE POSITION SWITCH	BECH-M157<1>/6	BAY 10	716	(CV5718A)	--	13	N/A	N/A	YES	BECH-E113<094>	--	R
9398	--	07	ZS5718B	CV-5718B VALVE POSITION SWITCH	BECH-M157<1>/6	BAY 14	716	(CV5718B)	--	13	N/A	N/A	YES	BECH-E113<094>	--	R
9399	--	088	ZS8772A	SV-8772A POSITION SWITCH, POST ACCID SAMPLING	BECH-M187/8	BAY 15	716	(SV8772A)	--	13	N/A	N/A	YES	BECH-E112<026>	--	R
9400	--	088	ZS8772B	SV-8772B POSITION SWITCH, POST ACCID SAMPLING	BECH-M187/8	BAY 15	716	(SV8772B)	--	13	N/A	N/A	YES	BECH-E112<026>	--	R
9401	--	01	1B3219	RWCU INLET INBOARD ISOLATION MO-2700	--	CB	757	(1B32)	S	--	N/A	N/A	YES	BECH-E122<003>	--	R
9402	--	01	1B3220	MAIN STEAM LINE DRAIN INBD ISOLATION MO-4423	--	CB	757	(1B32)	S	--	N/A	N/A	YES	BECH-E122<002>	--	R
9403	--	01	1B3233	HPCI/RCIC TURB EXHAUST VACUUM BKR MO-2290A	--	CB	757	(1B32)	S	--	N/A	N/A	YES	BECH-E121<023A>	--	R
9404	--	01	1B3411	CS PUMP 1P-211A OUTBOARD TORUS SUCTION MO-2100	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<004>	--	R
9405	--	01	1B3413	CORE SPRAY LOOP A INBD INJECTION VALVE MO-2117	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<005>	--	R
9406	--	01	1B3414	CORE SPRAY LOOP A TEST BYPASS VALVE MO-2112	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<007>	--	R
9407	--	01	1B3415	CORE SPRAY PUMP 1P-211A MIN FLOW BYPASS MO-2104	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<006>	--	R
9408	--	01	1B3417	RWCU RETURN HDR OUTBOARD ISOLATION MO-2740	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E122<014>	--	R
9409	--	01	1B3419	RHR LOOP A DRYWELL SPRAY INBD ISOLATION MO-2000	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<048>	--	R

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<---------- EQUIPMENT LOCATION -----> Building	Flr.Elv.	Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9410	--	01	1B3420	RHR LOOP A DRYWELL SPRAY OUTBD ISOLATION MO-2001	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<060>	--	R
9411	--	01	1B3423	RHR LOOP A TORUS CLNG & SPRAY ISOLATION MO-2005	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<049>	--	R
9412	--	01	1B3424	RHR LOOP A TORUS SPRAY HDR ISOLATION MO-2006	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<059>	--	R
9413	--	01	1B3425	RHR LOOP A TORUS CLNG & TEST RETURN ISOL MO-2007	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<059>	--	R
9414	--	01	1B3426	RHR PUMPS 1P-229A/C MIN FLOW BYPASS MO-2009	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<059>	--	R
9415	--	01	1B3428	RHR PUMP 1P-229A TORUS SUCTION VALVE MO-2012	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<048>	--	R
9416	--	01	1B3429	RHR PUMP 1P-229C TORUS SUCTION VALVE MO-2015	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<043>	--	R
9417	--	01	1B3435	SPARE	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<050>	--	R
9418	--	01	1B3438	RHR LOOP B S/D COOLING INBD ISOLATION MO-1908	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E122<002A>	--	R
9419	--	01	1B3448	RHR LOOP A TORUS SUCTION ISOLATION MO-2069	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<045>	--	R
9420	--	01	1B3449	CS PUMP 1P-211A INBOARD TORUS SUCTION MO-2147	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<004>	--	R
9421	--	01	1B3451	RHR HX 1E201A SHELL SIDE VENT OUTBD ISOL MO-2044	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<047>	--	R
9422	--	01	1B3452	RHR HX 1E201A SHELL SIDE VENT INBD ISOL MO-2044B	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<047>	--	R
9423	--	01	1B3453	HPCI STEAM SUPPLY INBD ISOLATION MO-2238	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<014>	--	R
9424	--	01	1B3493	RHR LOOP A LPCI INBOARD INJECTION VALVE MO-2003	--	RB	786	(1B34)	S	--	N/A	N/A	YES	BECH-E121<052>	--	R

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--------- EQUIPMENT Building	Flr.Elv.	LOCATION -----> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9425	--	01	1B3701	MSIV-LCS LINE A INBOARD BLEED VALVE MO-8401A	--	RB	786	(1B37)	S	--	N/A	N/A	YES	BECH-E122<038>	--	R
9426	--	01	1B3702	MSIV-LCS LINE B INBOARD BLEED VALVE MO-8401B	--	RB	786	(1B37)	S	--	N/A	N/A	YES	BECH-E122<038>	--	R
9427	--	01	1B3703	MSIV-LCS LINE C INBOARD BLEED VALVE MO-8401C	--	RB	786	(1B37)	S	--	N/A	N/A	YES	BECH-E122<038>	--	R
9428	--	01	1B3704	MSIV-LCS LINE D INBOARD BLEED VALVE MO-8401D	--	RB	786	(1B37)	S	--	N/A	N/A	YES	BECH-E122<038>	--	R
9429	--	01	1B4208	RBCCW INLT TO DW EQUIP DRAIN SUMP HX MO-4841B	--	CB	757	(1B42)	S	--	N/A	N/A	YES	BECH-E111<005>	--	R
9430	--	01	1B4209	RCIC TURBINE STEAM SUPPLY ISOLATION MO-2400	--	CB	757	(1B42)	S	--	N/A	N/A	YES	BECH-E121<029>	--	R
9431	--	01	1B4224	RBCCW RETURN FROM EQUIP DRAIN SUMP HX MO-4841A	--	CB	757	(1B42)	S	--	N/A	N/A	YES	BECH-E111<017>	--	R
9432	--	01	1B4232	HPCI/RCIC TURB EXHAUST VACUUM BREAKER MO-2290B	--	CB	757	(1B42)	S	--	N/A	N/A	YES	BECH-E121<023A>	--	R
9433	--	01	1B4411	CS PUMP 1P-211B OUTBOARD TORUS SUCTION MO-2120	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<004A>	--	R
9434	--	01	1B4413	CORE SPRAY LOOP B INBD INJECTION VALVE MO-2137	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<005A>	--	R
9435	--	01	1B4414	CORE SPRAY LOOP B TEST BYPASS VALVE MO-2132	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<007A>	--	R
9436	--	01	1B4415	CS PUMP 1P-211B MINIMUM FLOW BYPASS MO-2124	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<006A>	--	R
9437	--	01	1B4419	RHR LOOP B DRYWELL SPRAY INBD ISOLATION MO-1902	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<048>	--	R
9438	--	01	1B4420	RHR LOOP B DRYWELL SPRAY OUTBD ISOLATION MO-1903	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<060>	--	R
9439	--	01	1B4424	RHR PUMP 1P-229B TORUS SUCTION VALVE MO-1913	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<043D>	--	R

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PAUL W. HAYES / ENGINEER — Print or Type Name/Title
Paul W. Hayes — Signature
APRIL 24, 1995 — Date

KEVIN G. CARDANY / ENGINEER — Print or Type Name/Title
Kevin G. Cardany — Signature
APRIL 24, 1995 — Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	SORT	NOTES	OP. Normal	ST. Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9440	--	01	1B4426	RHR PUMP 1P-229D TORUS SUCTION VALVE MO-1921	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<043E>	--	R
9441	--	01	1B4427	RHR LOOP B TORUS CLNG & SPRAY ISOLATION MO-1932	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<049A>	--	R
9442	--	01	1B4428	RHR LOOP B TORUS SPRAY HDR ISOLATION MO-1933	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<059>	--	R
9443	--	01	1B4429	RHR LOOP B TORUS CLNG & TEST RETURN ISOL MO-1934	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<059B>	--	R
9444	--	01	1B4430	RHR PUMPS 1P-229B/D MIN FLOW BYPASS MO-1935	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<054A>	--	R
9445	--	01	1B4436	SPARE	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<050>	--	R
9446	--	01	1B4440	RHR LOOP B TORUS SUCTION ISOLATION MO-1989	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<045B>	--	R
9447	--	01	1B4441	CS PUMP 1P-211B INBOARD TORUS SUCTION MO-2146	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<004C>	--	R
9448	--	01	1B4443	RHR HX 1E201B SHELL SIDE VENT OUTBD ISOL MO-1949	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<047>	--	R
9449	--	01	1B4444	RHR HX 1E201B SHELL SIDE VENT INBD ISOL MO-1949B	--	RB	757	(1B44)	S	--	N/A	N/A	YES	BECH-E121<047>	--	R
9450	--	01	1B4493	RHR LOOP B LPCI INBOARD INJECTION VALVE MO-1905	--	RB	757	(1B44A)	S	--	N/A	N/A	YES	BECH-E121<052A>	--	R
9451	--	01	1D1401	RCIC TURBINE STM SUPPLY OUTBD ISOLATION MO-2401	--	RB	786	(1D14)	S	--	N/A	N/A	YES	BECH-E027	--	R
9452	--	01	1D1406	RCIC PUMP MINIMUM FLOW BYPASS VALVE MO-2510	--	RB	786	(1D14)	S	--	N/A	N/A	YES	BECH-E027	--	R
9453	--	01	1D1408	RCIC FEEDWATER INJECTION VALVE MO-2512	--	RB	786	(1D14)	S	--	N/A	N/A	YES	BECH-E027	--	R
9454	--	01	1D1410	RCIC PUMP TORUS SUCTION INBD ISOLATION MO-2516	--	RB	786	(1D14)	S	--	N/A	N/A	YES	BECH-E027	--	R

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Print or Type Name/Title

Paul W. Hayes
Signature

APRIL 24, 1995
Date

KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Kevin G. Cardany
Signature

APRIL 24, 1995
Date

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
Filter Criteria: <none>
Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--------- EQUIPMENT Building	Flr.Elv.	LOCATION -----> Rm. or Row/Col.	SORT	NOTES	<-- OP. ST. --> Normal	Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9455	--	01	1D1411	RCIC PUMP TORUS SUCTION OUTBD ISOLATION MO-2517	--	RB	786	(1D14)	S	--	N/A	N/A	YES	BECH-E027	--	R
9456	--	01	1D4101	HPCI OUTBOARD TORUS SUCTION MO-2322	--	RB	786	(1D41)	S	--	N/A	N/A	YES	BECH-E028	--	R
9457	--	01	1D4102	HPCI INBOARD TORUS SUCTION MO-2321	--	RB	786	(1D41)	S	--	N/A	N/A	YES	BECH-E028	--	R
9458	--	01	1D4103	HPCI MINIMUM FLOW BYPASS MO-2318	--	RB	786	(1D41)	S	--	N/A	N/A	YES	BECH-E028	--	R
9459	--	01	1D4106	HPCI INJECTION VALVE MO-2312	--	RB	786	(1D41)	S	--	N/A	N/A	YES	BECH-E028	--	R
9460	--	01	1D4109	HPCI OUTBOARD STEAM LINE ISOLATION MO-2239	--	RB	786	(1D41)	S	--	N/A	N/A	YES	BECH-E028	--	R
9461	--	01	1D4203	MAIN STEAM LINE DRAIN OUTBD ISOLATION MO-4424	--	RB	757	(1D42)	S	--	N/A	N/A	YES	BECH-E028	--	R
9462	--	01	1D4204	RWCU SUCTION OUTBOARD ISOLATION MO-2701	--	RB	757	(1D42)	S	--	N/A	N/A	YES	BECH-E028	--	R
9463	--	01	1D4206	RHR LOOP B SHUTDOWN CLG OUTBD SUCTION MO-1909	--	RB	757	(1D42)	S	--	N/A	N/A	YES	BECH-E028	--	R
9464	--	08B	1S218ABALL	'A' TIP BALL VALVE	--	--	--	--	S	--	N/A	N/A	YES	APED-C51-003<2>	--	R
9465	--	08B	1S218BBALL	'B' TIP BALL VALVE	--	--	--	--	S	--	N/A	N/A	YES	APED-C51-003<2>	--	R
9466	--	08B	1S218CBALL	'C' TIP BALL VALVE	--	--	--	--	S	--	N/A	N/A	YES	APED-C51-003<2>	--	R
9467	--	20	95-K4305	CV4305 CONTROL RELAY	--	CB	786	(1C024)	S	--	N/A	N/A	YES	BECH-E122<023>	--	R
9468	--	20	95-K4371A	CV 4371A CONTROL RELAY	--	CB	786	(1C035)	S	--	N/A	N/A	YES	BECH-E122<024>	--	R
9469	--	20	95-K4371C	CV-4371C CONTROL RELAY	--	CB	786	(1C035)	S	--	N/A	N/A	YES	BECH-E122<024>	--	R
9470	--	20	95-K4378A	CV-4378A CONTROL RELAY	--	CB	786	(1C035)	S	--	N/A	N/A	YES	BECH-E122<024>	--	R
9471	--	20	95-K4378B	CV-4378B CONTROL RELAY	--	CB	786	(1C035)	S	--	N/A	N/A	YES	BECH-E122<024>	--	R
9472	--	20	95-K4594A	CONTROL RELAY	--	CB	786	(1C029)	S	--	N/A	N/A	YES	BECH-E112<025>	--	R
9473	--	20	95-K4594B	CONTROL RELAY	--	CB	786	(1C029)	S	--	N/A	N/A	YES	BECH-E112<025>	--	R

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Signature
APRIL 24, 1995 — Date

KEVIN G. CARDANY / ENGINEER — Print or Type Name/Title
Signature
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DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Sorted By Line Number -

Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: Line Number
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Program File Name & Version: SSEM 2.2

LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	SORT	NOTES	<-- OP. Normal	ST. --> Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9474	--	20	95-K4594C	PASS,RX LIQUID SAMPLE VLV, OVERRIDE STATUS RELAY	--	CB	--	(1C029)	S	--	N/A	N/A	YES	BECH-E112<025>	--	R
9475	--	20	95-K4594D	PASS,RX LIQUID SAMPLE VLV, OVERRIDE STATUS RELAY	--	CB	--	(1C029)	S	--	N/A	N/A	YES	BECH-E112<025>	--	R
9476	--	20	95-K583	N2 ISOL SUPPLY, OVERRIDE STATUS RLY	--	--	--	(1C024)	S	--	N/A	N/A	YES	BECH-E122<024>	--	R
9477	--	20	95-K8100A	NSS SHUTOFF SYS AUX RELAY	--	CB	786	(1C029)	S	--	N/A	N/A	YES	BECH-E122<029>	--	R
9478	--	20	95-K8100B	NSS SHUTOFF SYS AUX RELAY	--	CB	786	(1C029)	S	--	N/A	N/A	YES	BECH-E122<029>	--	R
9479	--	20	95-K8100C	CONT ATMOS MON ISOL, LOOP A, OVERRIDE	--	--	--	(1C029)	S	--	N/A	N/A	YES	BECH-E112<029>	--	R
9480	--	20	95-K8100D	CONT ATMOS MON ISOL,LOOP B,OVERRIDE S	--	CB	--	(1C029)	S	--	N/A	N/A	YES	BECH-E112<029>	--	R
9481	--	20	95-K8100E	RELAY,NSSS SYSTEM	--	CB	--	(1C029)	S	--	N/A	N/A	YES	BECH-E122<029>	--	R
9482	--	20	95-K8100F	RELAY,NSSS SYSTEM	--	CB	--	(1C029)	S	--	N/A	N/A	YES	BECH-E122<029>	--	R
9483	--	20	95-K8101A	NSS SHUTOFF SYS AUX RELAY	--	CB	786	(1C029)	S	--	N/A	N/A	YES	BECH-E122<029>	--	R
9484	--	20	95-K8101B	NSS SHUTOFF SYS AUX RELAY	--	CB	786	(1C029)	S	--	N/A	N/A	YES	BECH-E122<029>	--	R
9485	--	20	95-K8101E	RELAY,NSSS SYSTEM	--	CB	--	(1C029)	S	--	N/A	N/A	YES	BECH-E122<029>	--	R
9486	--	20	95-K8101F	RELAY,NSSS SYSTEM	--	CB	--	(1C029)	S	--	N/A	N/A	YES	BECH-E122<029>	--	R
9487	--	R	HS2130	PT1962, FT2130, LITS4540 TRAN SW	--	RB	757	(1C388)	S	--	N/A	N/A	YES	BECH-E121<010>	1C388	R
9488	--	20	95-K4300	SV4300 CONTROL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9489	--	20	95-K4301	SV4301 CONTROL RELAY	APED-A71-003<15>	CB	786	(1C042)	S	11	N/A	N/A	YES	--	--	R
9490	--	20	95-K4301X	SV4301 CONTROL RELAY	APED-A71-003<15>	CB	786	(1C042)	S	11	N/A	N/A	YES	--	--	R
9491	--	20	95-K4302	SV4302 CONTROL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9493	--	20	95-K4303	SV4303 CONTROL RELAY	APED-A71-003<15>	CB	786	(1C042)	S	11	N/A	N/A	YES	--	--	R
9494	--	20	95-K4303X	SV4303 CONTROL RELAY	APED-A71-003<15>	CB	786	(1C042)	S	11	N/A	N/A	YES	--	--	R

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Signature

APRIL 24, 1995
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Print or Type Name/Title

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LINE NO.	TRAIN	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Dwg. No./Rev./Zone	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	SORT	NOTES	OP. Normal	ST. Desired	POWER REQD?	SUPPORTING SYS. DWG. NO./REV.	REQ'D INTERCONNECTIONS & SUPPORTING COMPONENTS	REG. ISSUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9495	--	20	95-K4304	CV4305 CONTROL RELAY	BECH-E122<23>	CB	786	(1C024)	S	11	N/A	N/A	YES	--	--	R
9496	--	20	95-K4306	SV4306 CONTROL RELAY	APED-A71-003<15>	CB	786	(1C042)	S	11	N/A	N/A	YES	--	--	R
9497	--	20	95-K4307	SV4307 CONTROL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9498	--	20	95-K4308	SV4308 CONTROL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9499	--	20	95-K4309	SV4309 CONTROL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9500	--	20	95-K4309X	SV4309 CONTROL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9501	--	20	95-K4310	SV4310 CONTROL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9501A	--	20	95-K4310X	DRYWELL VENT CONTROL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9502	--	20	95-K4311	SV4311 CONTROL RELAY	APED-A71-003<15>	CB	786	(1C042)	S	11	N/A	N/A	YES	--	--	R
9503	--	20	95-K4312	SV4312 CONTROL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9504	--	20	95-K4313	SV4313 CONTROL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9505	--	20	95-K4595A	CONTROL RELAY	BECH-E112<25>	CB	786	(1C029)	S	11	N/A	N/A	YES	--	--	R
9506	--	20	95-K4595B	CONTROL RELAY	BECH-E112<25>	CB	786	(1C029)	S	11	N/A	N/A	YES	--	--	R
9507	--	20	A71B-K061X	GROUP 3 DIVISION 2 SIGNAL RELAY	APED-A71-003<15>	CB	786	(1C042)	S	11	N/A	N/A	YES	--	--	R
9508	--	20	A71B-K063X	GROUP 3 DIVISION 1 SIGNAL RELAY	APED-A71-003<14>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9509	--	20	A71B-K056X	RELAY NSSS SYSTEM	APED-A71-003<7>	CB	786	(1C041)	S	11	N/A	N/A	YES	--	--	R
9510	--	18	1S266	VALVE, INJECTION, NMS, TIP POSN CHG MECH 1S218	BECH-E060	--	--	TIP ROOM	S	--	N/A	N/A	YES	APED-C51-001	--	R

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Print or Type Name/Title

Signature

APRIL 24, 1995
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KEVIN G. CARDANY / ENGINEER
Print or Type Name/Title

Signature

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Date

Appendix C

SEISMIC REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
6001	03	1A3	4160VAC/4160VAC ESSENTIAL SWITCHGEAR	CB	757	H13
6050	03	1A4	4160VAC/4160 VAC ESSENTIAL SWITCHGEAR	CB	757	F11
6006	02	1B03	480VAC/CONTROL BUILDING, 480VAC LOAD CENTER	CB	757	H12
6055	02	1B04	480VAC/CONTROL BUILDING 480VAC LOAD CENTER	CB	757	G12
6003	02	1B09	480VAC/INTAKE STRUCTURE 480VAC LOAD CENTER	IS	767	A2, DOOR 609
6052	02	1B20	480VAC/INTAKE STRUCTURE 480VAC LOAD CENTER	IS	767	B2, DOOR 603
6053	01	1B21	480VAC/INTAKE STRUCTURE 480VAC MOTOR CONTROL CENTER	IS	767	B2, DOOR 603
6007	01	1B32	480VAC/CB 480VAC ESSENTIAL MOTOR CONTROL CENTER	CB	757	H12
9401	01	1B3219	RWCU INLET INBOARD ISOLATION MO-2700	CB	757	(1B32)
9402	01	1B3220	MAIN STEAM LINE DRAIN INBD ISOLATION MO-4423	CB	757	(1B32)
9403	01	1B3233	HPCI/RCIC TURB EXHAUST VACUUM BKR MO-2290A	CB	757	(1B32)
6009	01	1B34	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	RB	786	F6
9404	01	1B3411	CS PUMP 1P-211A OUTBOARD TORUS SUCTION MO-2100	RB	786	(1B34)
9405	01	1B3413	CORE SPRAY LOOP A INBD INJECTION VALVE MO-2117	RB	786	(1B34)
9406	01	1B3414	CORE SPRAY LOOP A TEST BYPASS VALVE MO-2112	RB	786	(1B34)
9407	01	1B3415	CORE SPRAY PUMP 1P-211A MIN FLOW BYPASS MO-2104	RB	786	(1B34)
9408	01	1B3417	RWCU RETURN HDR OUTBOARD ISOLATION MO-2740	RB	786	(1B34)
9409	01	1B3419	RHR LOOP A DRYWELL SPRAY INBD ISOLATION MO-2000	RB	786	(1B34)
9410	01	1B3420	RHR LOOP A DRYWELL SPRAY OUTBD ISOLATION MO-2001	RB	786	(1B34)
9411	01	1B3423	RHR LOOP A TORUS CLNG & SPRAY ISOLATION MO-2005	RB	786	(1B34)
9412	01	1B3424	RHR LOOP A TORUS SPRAY HDR ISOLATION MO-2006	RB	786	(1B34)
9413	01	1B3425	RHR LOOP A TORUS CLNG & TEST RETURN ISOL MO-2007	RB	786	(1B34)

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9414	01	1B3426	RHR PUMPS 1P-229A/C MIN FLOW BYPASS MO-2009	RB	786	(1B34)
9415	01	1B3428	RHR PUMP 1P-229A TORUS SUCTION VALVE MO-2012	RB	786	(1B34)
9416	01	1B3429	RHR PUMP 1P-229C TORUS SUCTION VALVE MO-2015	RB	786	(1B34)
9417	01	1B3435	SPARE	RB	786	(1B34)
9418	01	1B3438	RHR LOOP B S/D COOLING INBD ISOLATION MO-1908	RB	786	(1B34)
9419	01	1B3448	RHR LOOP A TORUS SUCTION ISOLATION MO-2069	RB	786	(1B34)
9420	01	1B3449	CS PUMP 1P-211A INBOARD TORUS SUCTION MO-2147	RB	786	(1B34)
9421	01	1B3451	RHR HX 1E201A SHELL SIDE VENT OUTBD ISOL MO-2044	RB	786	(1B34)
9422	01	1B3452	RHR HX 1E201A SHELL SIDE VENT INBD ISOL MO-2044B	RB	786	(1B34)
9423	01	1B3453	HPCI STEAM SUPPLY INBD ISOLATION MO-2238	RB	786	(1B34)
9424	01	1B3493	RHR LOOP A LPCI INBOARD INJECTION VALVE MO-2003	RB	786	(1B34)
6010	01	1B34A	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	RB	786	F6
6012	01	1B36	480VAC/PUMP HOUSE 480VAC MOTOR CONTROL CENTER	PH	761	B3, "A" SIDE RM
6013	01	1B37	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	RB	786	F6
9425	01	1B3701	MSIV-LCS LINE A INBOARD BLEED VALVE MO-8401A	RB	786	(1B37)
9426	01	1B3702	MSIV-LCS LINE B INBOARD BLEED VALVE MO-8401B	RB	786	(1B37)
9427	01	1B3703	MSIV-LCS LINE C INBOARD BLEED VALVE MO-8401C	RB	786	(1B37)
9428	01	1B3704	MSIV-LCS LINE D INBOARD BLEED VALVE MO-8401D	RB	786	(1B37)
6056	01	1B42	480VAC/CONTROL BUILDING 480VAC MOTOR CONTROL CENTER	CB	757	F11
9429	01	1B4208	RBCCW INLT TO DW EQUIP DRAIN SUMP HX MO-4841B	CB	757	(1B42)
9430	01	1B4209	RCIC TURBINE STEAM SUPPLY ISOLATION MO-2400	CB	757	(1B42)

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9431	01	1B4224	RBCCW RETURN FROM EQUIP DRAIN SUMP HX MO-4841A	CB	757	(1B42)
9432	01	1B4232	HPCI/RCIC TURB EXHAUST VACUUM BREAKER MO-2290B	CB	757	(1B42)
6058	01	1B44	480VAC/RB 757' LEVEL 480VAC MOTOR CONTROL CENTER	RB	757	D9.1
9433	01	1B4411	CS PUMP 1P-211B OUTBOARD TORUS SUCTION MO-2120	RB	757	(1B44)
9434	01	1B4413	CORE SPRAY LOOP B INBD INJECTION VALVE MO-2137	RB	757	(1B44)
9435	01	1B4414	CORE SPRAY LOOP B TEST BYPASS VALVE MO-2132	RB	757	(1B44)
9436	01	1B4415	CS PUMP 1P-211B MINIMUM FLOW BYPASS MO-2124	RB	757	(1B44)
9437	01	1B4419	RHR LOOP B DRYWELL SPRAY INBD ISOLATION MO-1902	RB	757	(1B44)
9438	01	1B4420	RHR LOOP B DRYWELL SPRAY OUTBD ISOLATION MO-1903	RB	757	(1B44)
9439	01	1B4424	RHR PUMP 1P-229B TORUS SUCTION VALVE MO-1913	RB	757	(1B44)
9440	01	1B4426	RHR PUMP 1P-229D TORUS SUCTION VALVE MO-1921	RB	757	(1B44)
9441	01	1B4427	RHR LOOP B TORUS CLNG & SPRAY ISOLATION MO-1932	RB	757	(1B44)
9442	01	1B4428	RHR LOOP B TORUS SPRAY HDR ISOLATION MO-1933	RB	757	(1B44)
9443	01	1B4429	RHR LOOP B TORUS CLNG & TEST RETURN ISOL MO-1934	RB	757	(1B44)
9444	01	1B4430	RHR PUMPS 1P-229B/D MIN FLOW BYPASS MO-1935	RB	757	(1B44)
9445	01	1B4436	SPARE	RB	757	(1B44)
9446	01	1B4440	RHR LOOP B TORUS SUCTION ISOLATION MO-1989	RB	757	(1B44)
9447	01	1B4441	CS PUMP 1P-211B INBOARD TORUS SUCTION MO-2146	RB	757	(1B44)
9448	01	1B4443	RHR HX 1E201B SHELL SIDE VENT OUTBD ISOL MO-1949	RB	757	(1B44)
9449	01	1B4444	RHR HX 1E201B SHELL SIDE VENT INBD ISOL MO-1949B	RB	757	(1B44)

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Seismic Review Items -

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9450	01	1B4493	RHR LOOP B LPCI INBOARD INJECTION VALVE MO-1905	RB	757	(1B44A)
6059	01	1B44A	480VAC/RB 757' LEVEL 480VAC MOTOR CONTROL CENTER	RB	757	D8.1
6061	01	1B46	480VAC/PUMP HOUSE 480VAC MOTOR CONTROL CENTER	PH	761	C1, "B" SIDE RM
6004	01	1B91	480VAC/INTAKE STRUCTURE 480VAC MOTOR CONTROL CENTER	IS	767	A2, DOOR 609
8605	20	1C003	HPCI/RB & DW COOLING & ISOLATION CONTROL PANEL	CB	786	MCR
8608	20	1C004	RWCU/RWCU & RECIRC CONTROL PANEL	CB	786	MCR
8611	20	1C005	CRD/REACTOR CONTROL PANEL	CB	786	MCR
8658	20	1C006	CDS/FEEDWATER AND CONDENSATE CONTROL PANEL	CB	786	MCR
8614	20	1C008	BLD/GENERATOR AND AUXILIARY POWER PANEL	CB	786	MCR
8609	20	1C009	DRM/ACCIDENT MONITORING PANEL	CB	786	MCR
8677	20	1C010	PROCESS RADIATION MONITOR VERTICAL BOARD	CB	786	BACK PANEL AREA
8678	20	1C011	AREA RADIATION MONITOR VERTICAL BOARD CONTROL	CB	786	BACK PANEL AREA
8679	20	1C013	T.I.P. (REACTOR NEUTRON MAPPING) CONTROL VERTICAL	CB	786	BACK PANEL AREA
8680	20	1C014	MSIV-LEAKAGE CONTROL PANEL	CB	786	BACK PANEL AREA
8698	20	1C015	CHAN A PRIMARY ISOL & RX PROTECTION VERTICAL BRD	CB	786	BACK PANEL AREA
8681	20	1C016	REACTOR PROTECT SYSTEM TEST & MONITOR VERT BRD	CB	786	BACK PANEL AREA
8699	20	1C017	CHAN B PRIMARY ISOL & RX PROTECTION VERTICAL BRD	CB	786	BACK PANEL AREA
8607	20	1C018	FW/FW & RECIRC CONTROL PANEL	CB	786	BACK PANEL AREA
8604	20	1C019	SMP/PROCESS INSTRUMENTATION EQUIPMENT BOARD	CB	786	BACK PANEL AREA
8682	20	1C024	VERT BOARD	CB	786	BACK PANEL AREA
8621	20	1C026	HVAC/TB & CB HVAC CONTROL PANEL	CB	786	BACK PANEL AREA

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8693	20	1C027	CONTROL ROD POSITION INFORMATION CABINET	CB	786	BACK PANEL AREA
8683	20	1C029	EXCESS FLOW CHECK VALVES CONTROL PANEL	CB	786	BACK PANEL AREA
8664	20	1C031	PNL/TURBINE GENERATOR RELAY PANEL	CB	786	BACK PANEL AREA
8650	20	1C032	RHR/DIVISION I RHR, CORE SPRAY & AUTO BLOWDOWN RELAY	CB	786	BACK PANEL AREA
8651	20	1C033	RHR/DIVISION II RHR, CORE SPRAY & AUTO BLOWDOWN RELAY	CB	786	BACK PANEL AREA
8684	20	1C035	PANEL, CAD	CB	786	BACK PANEL AREA
8685	20	1C041	INBOARD PRIM CONTAINMENT ISOL VALVE RELAY	CB	786	BACK PANEL AREA
8686	20	1C042	OUTBOARD PRIM CONTAINMENT ISOL VALVE RELAY	CB	786	BACK PANEL AREA
8652	20	1C043	CS/DIVISION I CORE SPRAY RELAY VERTICAL BOARD	CB	786	BACK PANEL AREA
8655	20	1C044	CS/DIVISION II CORE SPRAY RELAY VERTICAL BOARD	CB	786	BACK PANEL AREA
8697	20	1C045	AUTO BLOWDOWN RELAY VERTICAL BOARD	CB	786	BACK PANEL AREA
8612	20	1C055	RPS/RPS INSTRUMENTATION PANEL	RB	757	E9
8612A	18	1C055A	RPS/RX VESSEL LEVEL AND PRESS INSTR PNL	RB	757	E9
8610	20	1C056	RPS/RPS INSTRUMENTATION PANEL	RB	786	G9
8610A	18	1C056A	RPS/RX VESSEL LEVEL AND PRESS INSTR PNL	RB	786	G9
8699C	18	1C057	RX RECIRC PUMP IP-201A INSTRUMENT RACK	RB	735	NE CORNER ROOM
8665	18	1C058	RVR/RECIRCULATION PUMP 1P201B INSTRUMENTATION RACK	RB	735	CRD PUMP ROOM
8659	20	1C091	SBDG/SBDG 1G-31 GAUGE BOARD	TB	757	P4
8661	20	1C092	SBDG/SBDG 1G-21 GAUGE BOARD	TB	757	N4
8667	20	1C093	480VAC/SBDG 1G-31 CONTROL PANEL	TB	757	P5
8668	20	1C094	SBDG/SBDG 1G-21 CONTROL PANEL	TB	757	N5
8617	18	1C120	HPCI/HPCI INSTRUMENTATION RACK	RB	724	HPCI ROOM
8687	18	1C121A	JET PUMP INSTRUMENT RACK	RB	757	F9

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Seismic Review Items -

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8687A	18	1C121B	JET PUMP INSTRUMENT RACK	RB	757	F9
8688	18	1C122	INSTRUMENT RACK	RB	757	SOUTH SIDE
8699A	18	1C126A	MAIN STEAM INSTRUMENT RACK	RB	757	RB
8699B	18	1C126B	MAIN STEAM INSTRUMENT RACK	RB	757	RB
8618	18	1C128	RCIC INSTRUMENTATION RACK	RB	716	RCIC ROOM
8615	18	1C129A	RHR/RHR LOOP A INSTRUMENTATION RACK	RB	716	H5.2
8616	18	1C129B	RHR/RHR LOOP B INSTRUMENTATION RACK	RB	716	D10, NW CR
8619	20	1C133A	CRHVAC/1VAC030A UNIT CONTROL PANEL	CB	800	J13
8620	20	1C133B	CRHVAC/1VAC030B UNIT CONTROL PANEL	CB	800	J13
8696	20	1C142	CONTAINMENT ATMOSPHERE CONTROL INSTRUMENT PANEL	CB	757	ESS SWGR ROOM
8669	20	1C151	HVAC/EMER DIESEL ROOM VENT CONTROL CABINET	TB	757	P5
8670	20	1C152	HVAC/EMER DIESEL ROOM VENT CONTROL CABINET	TB	757	N5
8694	20	1C156	SUPPLY FAN 1V-SF-50 CONTROL PANEL	IS	767	A2
8695	20	1C157	SUPPLY FAN 1V-SF-51 CONTROL PANEL	IS	767	B2
8689	20	1C218A	PRIMARY CONTAINMENT H2-02 ANALYZER PANEL	RB	757	E6.1
8689A	20	1C218B	PRIMARY CONTAINMENT H2-02 ANALYZER PANEL	RB	757	E10
8690	20	1C219A	PRIMARY CONTAINMENT RAD MONITORING PANEL	RB	757	E6.1
8691	20	1C219B	PRIMARY CONTAINMENT RAD MONITORING PANEL	RB	757	E10
8657	20	1C351	4160VAC/ESSENTIAL BUS 1A3 DEGRADED VOLT DETECTOR	CB	757	H12
8665	20	1C352	4160VAC/ESSENTIAL BUS 1A4 DEGRADED VOLT DETECTOR	CB	757	G12
3613	20	1C388	RSD/ALTERNATE SHUTDOWN PANEL	RB	757	E9
8692	20	1C390	ALTERNATE SHUTDOWN CAPABILITY SYSTEM	RB	786	G6
8656	20	1C422B	RSD/REMOTE SHUTDOWN FUSE PANEL	RB	757	D7
8675	20	1C429A	CRHVAC/CONTROL BUILDING CHILLER A CONTROL PANEL	RB	812	F10
8676	20	1C429B	CRHVAC/CONTROL BUILDING CHILLER B CONTROL PANEL	RB	812	F10
6101	15	1D1	125VDC/125VDC DIVISION 1 BATTERY	CB	757	H13
6102	14	1D10	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL # 1	CB	757	G12

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
6103	14	1D11	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL A	CB	757	G12
6104	16	1D12	125VDC/1D1 125VDC DIVISION 1 MAIN BATTERY CHARGER	CB	757	G12
6112	16	1D120	125VDC/125VDC BACKUP BATTERY CHARGER	CB	757	H12
6105	14	1D13	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL C	CB	757	G12
6106	01	1D14	125VDC/RCIC SYSTEM 125VDC MOTOR CONTROL CENTER	RB	786	F6
9451	01	1D1401	RCIC TURBINE STM SUPPLY OUTBD ISOLATION MO-2401	RB	786	(1D14)
9452	01	1D1406	RCIC PUMP MINIMUM FLOW BYPASS VALVE MO-2510	RB	786	(1D14)
9453	01	1D1408	RCIC FEEDWATER INJECTION VALVE MO-2512	RB	786	(1D14)
9454	01	1D1410	RCIC PUMP TORUS SUCTION INBD ISOLATION MO-2516	RB	786	(1D14)
9455	01	1D1411	RCIC PUMP TORUS SUCTION OUTBD ISOLATION MO-2517	RB	786	(1D14)
6306	16	1D15	120VAC/120 VOLT INSTRUMENT AC POWER SUPPLY	CB	757	H11
6107	15	1D2	125VDC/125VDC DIVISION 2 BATTERY	CB	757	F13
6108	14	1D20	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL # 2	CB	757	F12
6109	14	1D21	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL B	CB	757	F12
6110	16	1D22	125VDC/1D2 125VDC (DIVISION 2) MAIN BATTERY CHARGER	CB	757	F12
6111	14	1D23	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL D	CB	757	F12
6301	16	1D25	120VAC/120 VOLT INSTRUMENT AC POWER SUPPLY	CB	757	F11
6200	15	1D4	250VDC/250VDC BATTERY	CB	757	G13
6201	14	1D40	250VDC/250VDC DISTRIBUTION PANEL	CB	757	G13
6202	01	1D41	250VDC/HPCI 250VDC MOTOR CONTROL CENTER	RB	757	G5.2
9456	01	1D4101	HPCI OUTBOARD TORUS SUCTION MO-2322	RB	786	(1D41)
9457	01	1D4102	HPCI INBOARD TORUS SUCTION MO-2321	RB	786	(1D41)
9458	01	1D4103	HPCI MINIMUM FLOW BYPASS MO-2318	RB	786	(1D41)
9459	01	1D4106	HPCI INJECTION VALVE MO-2312	RB	786	(1D41)

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9460	01	1D4109	HPCI OUTBOARD STEAM LINE ISOLATION MO-2239	RB	786	(1D41)
6203	01	1D42	250VDC/RB 757' LEVEL 250VDC MOTOR CONTROL CENTER	RB	757	G10
9461	01	1D4203	MAIN STEAM LINE DRAIN OUTBD ISOLATION MO-4424	RB	757	(1D42)
9462	01	1D4204	RWCU SUCTION OUTBOARD ISOLATION MO-2701	RB	757	(1D42)
9463	01	1D4206	RHR LOOP B SHUTDOWN CLG OUTBD SUCTION MO-1909	RB	757	(1D42)
6204	16	1D43	250VDC/1D4 250VDC BATTERY CHARGER	TB	757	H12
6205	16	1D44	250VDC/1D4 250VDC BATTERY CHARGER	CB	757	F12
6404	16	1D45	120VAC/120 VOLT UNINTERRUPTIBLE AC POWER SUPPLY	CB	757	H11
8317	21	1E053A	DGS/JACKET WATER COOLER	TB	757	P5
8316	21	1E053B	DGS/JACKET WATER COOLER	TB	757	D5
4011	21	1E201A	RHR/LOOP A HEAT EXCHANGER	RB	731	H5.2
4031	21	1E201B	RHR/LOOP B HEAT EXCHANGER	RB	716	D10, NW CR
6063	17	1G021	SBDG/DIESEL GENERATOR, EMER AC PWR TO 1A4	TB	757	P5
6015	17	1G031	SBDG/DIESEL GENERATOR, EMER AC PWR TO 1A3	TB	757	P5
8438	12	1K003	HVIA/HVAC INSTRUMENT AIR COMPRESSOR A	RB	787	G10
8439	12	1K004	HVIA/HVAC INSTRUMENT AIR COMPRESSOR B	RB	787	G10
8702	14	1L08	CRL/480V/277V LIGHTING PANEL	CB	757	G11
8460	01	1N305	CRHVAC/CHILLER 1V-CH-1A STAR-DELTA LOCAL STARTER	RB	812	F10
8461	01	1N405	CRHVAC/CHILLER 1V-CH-1B STAR-DELTA LOCAL STARTER	RB	812	F10
8101	06	1P022A	RHRSW/RHR SERVICE WATER PUMP A	PH	761	D4, "A" SIDE RM
8103	06	1P022B	RHRSW/RHR SERVICE WATER PUMP B	PH	761	D2, "B" SIDE RM
8102	06	1P022C	RHRSW/RHR SERVICE WATER PUMP C	PH	761	D3, "A" SIDE RM
8104	06	1P022D	RHRSW/RHR SERVICE WATER PUMP D	PH	761	D1, "B" SIDE RM
8303	05	1P044A	DGS/DIESEL OIL TRANSFER PUMP	N/A	757	--
8302	05	1P044B	DGS/DIESEL OIL TRANSFER PUMP	N/A	757	--

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8001	06	1P099A	ESW/EMERGENCY SERVICE WATER PUMP A	PH	761	C3, "A" SIDE RM
8002	06	1P099B	ESW/EMERGENCY SERVICE WATER PUMP B	PH	761	C2, "B" SIDE RM
8201	06	1P117A	RWS/RIVER WATER SUPPLY PUMP A	IS	767	A3, DOOR 609
8203	06	1P117B	RWS/RIVER WATER SUPPLY PUMP B	IS	767	B3, DOOR 603
8202	06	1P117C	RWS/RIVER WATER SUPPLY PUMP C	IS	767	A3, DOOR 609
8204	06	1P117D	RWS/RIVER WATER SUPPLY PUMP D	IS	767	B3, DOOR 603
3109	06	1P211A	CS/CORE SPRAY PUMP A	RB	716	H6.5
3119	06	1P211B	CS/CORE SPRAY PUMP B	RB	716	D10, NW CR
4005	06	1P229A	RHR/RHR PUMP A	RB	716	H6.5
4025	06	1P229B	RHR/RHR PUMP B	RB	716	D10, NW CR
4008	06	1P229C	RHR/RHR PUMP C	RB	716	H6.5
4028	06	1P229D	RHR/RHR PUMP D	RB	716	D10, NW CR
3021	21	1R001A	MS/MSIV ACCUMULATOR	DW	757	G7.1
3022	21	1R001B	MS/MSIV ACCUMULATOR	DW	757	G7.1
3023	21	1R001C	MS/MSIV ACCUMULATOR	DW	757	G7.1
3024	21	1R001D	MS/MSIV ACCUMULATOR	DW	757	G7.1
3045	21	1R002A	MS/MSIV ACCUMULATOR	RB	757	H8.1
3046	21	1R002B	MS/MSIV ACCUMULATOR	RB	757	H8.1
3047	21	1R002C	MS/MSIV ACCUMULATOR	RB	757	H8.1
3048	21	1R002D	MS/MSIV ACCUMULATOR	RB	757	H8.1
2013	21	1R003A	SRV/NITROGEN ACCUMULATOR	DW	775	F8
2014	21	1R003B	SRV/NITROGEN ACCUMULATOR	DW	775	F7.1
2015	21	1R003C	SRV/NITROGEN ACCUMULATOR	DW	775	F7.1
2016	21	1R003D	SRV/NITROGEN ACCUMULATOR	DW	775	G8
9464	08B	1S218ABALL	'A' TIP BALL VALVE	--	--	--
5169	0	1S218AEXPL	TIP/SHEAR VALVE (1S260A/SHR ?)	--	--	TIP ROOM
9465	08B	1S218BBALL	'B' TIP BALL VALVE	--	--	--

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5170	0	1S218BEXPL	TIP/SHEAR VALVE (1S260B/SHR ?)	--	--	TIP ROOM
9466	08B	1S218CBALL	'C' TIP BALL VALVE	--	--	--
5171	0	1S218CEXPL	TIP/SHEAR VALVE (1S260C/SHR ?)	--	--	TIP ROOM
1002	21	1S220	CRD/HYDRAULIC CONTROL UNIT ACCUMULATOR (89 TOTAL)	RB	757	CRD AREA
9510	18	1S266	VALVE, INJECTION, NMS, TIP POSN CHG MECH 1S218	--	--	TIP ROOM
8301	21	1T035	DGS/40,000 GAL DIESEL OIL STORAGE TANK	N/A	757	--
8305	21	1T037A	DGS/1,000 GAL DIESEL OIL DAY TANK	TB	757	P4
8304	21	1T037B	DGS/1,000 GAL DIESEL OIL DAY TANK	TB	757	N4
5224A	21A	1T105A	CAC/CV-4304 CONTROL AIR SUPPLY ACCUMULATOR	RB	716	H10, NE CR
5224B	21A	1T105B	CAC/CV-4305 CONTROL AIR SUPPLY ACCUMULATOR	RB	716	H10, NE CR
8319	21	1T113A	DGS/JACKET WATER EXPANSION TANK	TB	757	P4
8318	21	1T113B	DGS/JACKET WATER EXPANSION TANK	TB	757	N4
8321	21	1T114A	DGS/LUBE OIL MAKE-UP TANK	TB	757	P4
8320	21	1T114B	DGS/LUBE OIL MAKE-UP TANK	TB	757	N4
8313	21	1T115A	DGS/AIR RECEIVER	TB	757	P5
8310	21	1T115B	DGS/AIR RECEIVER	TB	757	N5
8314	21	1T116A	DGS/AIR RECEIVER	TB	757	P5
8311	21	1T116B	DGS/AIR RECEIVER	TB	757	N5
8315	21	1T117A	DGS/AIR RECEIVER	TB	757	P5
8312	21	1T117B	DGS/AIR RECEIVER	TB	757	N5
8533	10	1VAC011	HVAC/RHR & CS ROOM AC UNIT A	RB	747	D10, NW CR
8534	10	1VAC012	HVAC/RHR & CS ROOM AC UNIT B	RB	747	H5.2
8009	10	1VAC014A	HPCI/LOOP A HPCI ROOM COOLING UNIT	RB	747	H5, HPCI ROOM
8010	10	1VAC014B	HPCI/LOOP B HPCI ROOM COOLING UNIT	RB	747	H5, HPCI ROOM
8007	10	1VAC015A	RCIC/LOOP A RCIC ROOM COOLING UNIT	RB	725	RCIC ROOM
8008	10	1VAC015B	RCIC/LOOP B RCIC ROOM COOLING UNIT	RB	725	F5, RCIC ROOM
8401	10	1VAC030A	CRHVAC/CONTROL ROOM AC UNIT A	CB	800	H13

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
8402	10	1VAC030B	CRHVAC/CONTROL ROOM AC UNIT B	CB	800	H13
8446	11	1VCH001A	CRHVAC/CONTROL BUILDING CHILLER A	RB	812	F10
8447	11	1VCH001B	CRHVAC/CONTROL BUILDING CHILLER B	RB	812	F10
8446A	05	1VCP030A	CRHVAC/CB HVAC CHILLED WATER PUMP	RB	812	CHILLERS AREA
8447A	05	1VCP030B	CRHVAC/CB HVAC CHILLED WATER PUMP	RB	812	CHILLERS AREA
8435	09	1VEF030A	CRHVAC/BATTERY ROOM EXHAUST FAN A	CB	800	G13
8436	09	1VEF030B	CRHVAC/BATTERY ROOM EXHAUST FAN B	CB	800	G13
8437	09	1VEF030C	CRHVAC/BATTERY ROOM EXHAUST FAN C	CB	800	G13
8452	21	1VHX031A	CRHVAC/NON-ESSENTIAL COOLING HX A	RB	812	F10
8453	21	1VHX031B	CRHVAC/NON-ESSENTIAL COOLING HX B	RB	812	F10
8407	09	1VRF030A	CRHVAC/EXHAUST FAN A	CB	800	J13
8408	09	1VRF030B	CRHVAC/EXHAUST FAN B	CB	800	J13
8442	21	1VS012	HVIA/LOOP A RECEIVER	RB	786	G10
8443	21	1VS013	HVIA/LOOP B RECEIVER	RB	786	G10
8551	09	1VSF020	HVAC/EMER DIESEL ROOM VENT FAN	TB	757	P5
8552	09	1VSF021	HVAC/EMER DIESEL ROOM VENT FAN	TB	757	N5
8513	09	1VSF056A	HVAC/SW PUMP ROOM VENTILATION FAN A	PH	761	A3
8514	09	1VSF056B	HVAC/SW PUMP ROOM VENTILATION FAN B	PH	775	A1
8507	09	1VSF50	HVAC/INTAKE STRUCTURE VENT FAN A	IS	767	A2, DOOR 609
8508	09	1VSF51	HVAC/INTAKE STRUCTURE VENT FAN B	IS	767	B2, DOOR 603
6051	04	1X020	480VAC/TRANSFORMER, 480V SWGR, 1A4 TO 1B20	IS	767	--
6005	04	1X031	480VAC/TRANSFORMER, 480VAC SWGR, 1A3 TO 1B03	CB	757	H12
6054	04	1X041	480VAC/TRANSFORMER, 480V SWGR, 1A4 TO 1B04	CB	757	SWGR ROOM
6002	04	1X091	480VAC/TRANSFORMER, 480V SWGR, 1A3 TO 1B09	IS	767	--
6403	04	1Y002	IAC/INSTRUMENT AC PANEL 1Y021 SUPPLY TRANSFORMER	CB	763	G13
6402	04	1Y004	120VAC/REGULATING TRANSFORMER	CB	757	H12

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
6309	14	1Y010	IAC/INSTRUMENT AC 1Y11 MAIN AND TIE BREAKER PANEL	CB	757	G12
6305	14	1Y021	120VAC/120V INSTRUMENT AC DISTRIBUTION PANEL	CB	757	G13
6401	14	1Y022	120VAC/1Y002 TO 1Y023 AUTOMATIC TRANSFER SWITCH	CB	757	H11
6400	14	1Y023	120VAC/120V UNINTERRUPTIBLE AC DISTRIBUTION PANEL	CB	757	H11
6310	14	1Y11	120VAC/120V INSTRUMENT AC DISTRIBUTION PANEL	CB	757	G12
6307	14	1Y15	IAC/MANUAL BYPASS SWITCH PANEL	CB	757	H11
6308	04	1Y1A	IAC/REGULATING TRANSFORMER	CB	757	H11
6304	14	1Y20	IAC/INSTRUMENT AC 1Y21 MAIN AND TIE BREAKER PANEL	CB	757	G13
6302	14	1Y25	IAC/MANUAL BYPASS SWITCH PANEL	CB	757	F11
6303	04	1Y2A	IAC/REGULATING TRANSFORMER	CB	757	F11
9488	20	95-K4300	SV4300 CONTROL RELAY	CB	786	(1C041)
9489	20	95-K4301	SV4301 CONTROL RELAY	CB	786	(1C042)
9490	20	95-K4301X	SV4301 CONTROL RELAY	CB	786	(1C042)
9491	20	95-K4302	SV4302 CONTROL RELAY	CB	786	(1C041)
9493	20	95-K4303	SV4303 CONTROL RELAY	CB	786	(1C042)
9494	20	95-K4303X	SV4303 CONTROL RELAY	CB	786	(1C042)
9495	20	95-K4304	CV4305 CONTROL RELAY	CB	786	(1C024)
9467	20	95-K4305	CV4305 CONTROL RELAY	CB	786	(1C024)
9496	20	95-K4306	SV4306 CONTROL RELAY	CB	786	(1C042)
9497	20	95-K4307	SV4307 CONTROL RELAY	CB	786	(1C041)
9498	20	95-K4308	SV4308 CONTROL RELAY	CB	786	(1C041)
9499	20	95-K4309	SV4309 CONTROL RELAY	CB	786	(1C041)
9500	20	95-K4309X	SV4309 CONTROL RELAY	CB	786	(1C041)
9501	20	95-K4310	SV4310 CONTROL RELAY	CB	786	(1C041)
9501A	20	95-K4310X	DRYWELL VENT CONTROL RELAY	CB	786	(1C041)
9502	20	95-K4311	SV4311 CONTROL RELAY	CB	786	(1C042)
9503	20	95-K4312	SV4312 CONTROL RELAY	CB	786	(1C041)

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9504	20	95-K4313	SV4313 CONTROL RELAY	CB	786	(1C041)
9468	20	95-K4371A	CV 4371A CONTROL RELAY	CB	786	(1C035)
9469	20	95-K4371C	CV-4371C CONTROL RELAY	CB	786	(1C035)
9470	20	95-K4378A	CV-4378A CONTROL RELAY	CB	786	(1C035)
9471	20	95-K4378B	CV-4378B CONTROL RELAY	CB	786	(1C035)
9472	20	95-K4594A	CONTROL RELAY	CB	786	(1C029)
9473	20	95-K4594B	CONTROL RELAY	CB	786	(1C029)
9474	20	95-K4594C	PASS,RX LIQUID SAMPLE VLV, OVERRIDE STATUS RELAY	CB	--	(1C029)
9475	20	95-K4594D	PASS,RX LIQUID SAMPLE VLV, OVERRIDE STATUS RELAY	CB	--	(1C029)
9505	20	95-K4595A	CONTROL RELAY	CB	786	(1C029)
9506	20	95-K4595B	CONTROL RELAY	CB	786	(1C029)
9476	20	95-K583	N2 ISOL SUPPLY, OVERRIDE STATUS RLY	--	--	(1C024)
9477	20	95-K8100A	NSS SHUTOFF SYS AUX RELAY	CB	786	(1C029)
9478	20	95-K8100B	NSS SHUTOFF SYS AUX RELAY	CB	786	(1C029)
9479	20	95-K8100C	CONT ATMOS MON ISOL, LOOP A, OVERRIDE	--	--	(1C029)
9480	20	95-K8100D	CONT ATMOS MON ISOL,LOOP B,OVERRIDE S	CB	--	(1C029)
9481	20	95-K8100E	RELAY,NSSS SYSTEM	CB	--	(1C029)
9482	20	95-K8100F	RELAY,NSSS SYSTEM	CB	--	(1C029)
9483	20	95-K8101A	NSS SHUTOFF SYS AUX RELAY	CB	786	(1C029)
9484	20	95-K8101B	NSS SHUTOFF SYS AUX RELAY	CB	786	(1C029)
9485	20	95-K8101E	RELAY,NSSS SYSTEM	CB	--	(1C029)
9486	20	95-K8101F	RELAY,NSSS SYSTEM	CB	--	(1C029)
9009	20	A71B-K013	N.S.S.S. SYSTEM	CB	786	(1C004)
9010	20	A71B-K015	N.S.S.S. SYS	CB	786	(1C016)
9011	20	A71B-K017	N.S.S.S. SYS	CB	786	(1C041)
9012	20	A71B-K017A	INBOARD MSIV CLOSED INPUT TO "A" MSIV-LCS	CB	786	(1C014)
9013	20	A71B-K017B	INBOARD MSIV CLOSED INPUT TO "B" MSIV-LCS	CB	786	(1C014)
9014	20	A71B-K017C	INBOARD MSIV CLOSED INPUT TO "C" MSIV-LCS	CB	786	(1C014)
9015	20	A71B-K017D	INBOARD MSIV CLOSED INPUT TO "D" MSIV-LCS	CB	786	(1C014)

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
9016	20	A71B-K018	N.S.S.S. SYS	CB	786	(1C042)
9017	20	A71B-K019	N.S.S.S. SYS	CB	786	(1C041)
9018	20	A71B-K020	N.S.S.S. SYS	CB	786	(1C042)
9019	20	A71B-K023	N.S.S.S. SYS	CB	786	(1C041)
9020	20	A71B-K024	N.S.S.S. SYSTEM	CB	786	(1C042)
9021	20	A71B-K033	RELAY, RAD W EQUIP DRAIN PUMP	CB	786	(1C004)
9022	20	A71B-K034	N.S.S.S. SYSTEM	CB	786	(1C004)
9023	20	A71B-K036	MAIN STEAM ISOLATION VALVE (INBOARD)	CB	786	(1C041)
9024	20	A71B-K038	MAIN STEAM ISOLATION VALVE (OUTBOARD)	CB	786	(1C042)
9025	20	A71B-K051	MAIN STEAM ISOLATION VALVE (INBOARD)	CB	786	(1C041)
9026	20	A71B-K052	MAIN STEAM ISOLATION VALVE (OUTBOARD)	CB	786	(1C042)
9027	20	A71B-K056	N.S.S.S. SYS	CB	786	(1C041)
9509	20	A71B-K056X	RELAY NSSS SYSTEM	CB	786	(1C041)
9028	20	A71B-K057	N.S.S.S. SYS	CB	786	(1C042)
9029	20	A71B-K059	N.S.S.S. SYS	CB	786	(1C041)
9030	20	A71B-K060	N.S.S.S. SYS	CB	786	(1C042)
9031	20	A71B-K061	N.S.S.S. SYS	CB	786	(1C042)
9507	20	A71B-K061X	GROUP 3 DIVISION 2 SIGNAL RELAY	CB	786	(1C042)
9032	20	A71B-K063	N.S.S.S. SYS	CB	786	(1C041)
9508	20	A71B-K063X	GROUP 3 DIVISION 1 SIGNAL RELAY	CB	786	(1C041)
9033	20	A71B-K070	RELAY, N2 MAKEUP VALVES	CB	786	(1C042)
9034	20	A71B-K074A	NSSS SYSTEM RELAY	CB	786	(1C003)
9035	20	A71B-K074B	NSSS SYSTEM	CB	786	(1C042)
9036	20	A71B-K075	OFFGAS VENT H-H RAD ANN RELAY	CB	786	(1C010)
9037	20	A71B-K076	OFFGAS VENT H-H RAD ANN RELAY	CB	786	(1C010)
9038	20	A71B-K1804A	N.S.S.S. SYS	CB	786	(1C041)
9039	20	A71B-K1804B	N.S.S.S. SYS	CB	786	(1C042)
9040	20	A71B-K1908	RELAY,MO1908 OPEN,SPDS	CB	786	(1C003)
9041	20	A71B-K1909	RELAY,MO1909 OPEN,SPDS	CB	786	(1C003)
9042	20	A71B-K3704	N.S.S.S. SYS	CB	786	(1C041)

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
9043	20	A71B-K3705	N.S.S.S. SYS	CB	786	(1C042)
9044	20	A71B-K3728	N.S.S.S. SYS	CB	786	(1C041)
9045	20	A71B-K3729	N.S.S.S. SYS	CB	786	(1C042)
9046	20	A71B-K4310X	DRYWELL VENT CONTROL RELAY	CB	786	(1C041)
9047	20	A71B-K4413	MSIV CV4413 POSITION TO SPDS RELAY	CB	786	(1C004)
9048	20	A71B-K4416	MSIV CV4416 POSITION TO SPDS RELAY	CB	786	(1C004)
9049	20	A71B-K4419	MSIV CV4419 POSITION TO SPDS RELAY	CB	786	(1C004)
9050	20	A71B-K4421	MSIV CV4421 POSITION TO SPDS RELAY	CB	786	(1C004)
9051	20	A71B-K4639	N.S.S.S. SYS	CB	786	(1C041)
9052	20	A71B-K4639A	CIMS PCIS OVERRIDE RELAY	CB	786	(1C004)
9053	20	A71B-K4640	N.S.S.S. SYS	CB	786	(1C042)
9054	20	A71B-K4640A	CIMS PCIS OVERRIDE RELAY	CB	786	(1C004)
9055	20	A71B-K59X	INBD GROUP 2 ANN INPUT RELAY	--	--	(1C041)
9056	20	A71B-K60X	OUTBD GRP 2 ANN INPUT RELAY	--	--	(1C042)
9001	20	AN8181A	INDICATOR,ANALYZER,CACS,CONTAINMENT O2 MONITOR	RB	757	(1C218A)
9002	20	AN8181B	INDICATOR,ANALYZER,CACS,CONTAINMENT O2 MONITOR	RB	757	(1C219B)
9003	20	AN8182A	INDICATOR,ANALYZER,CACS,CONTAINMENT H2 MONITOR	RB	757	(1C219A)
9004	20	AN8182B	INDICATOR,ANALYZER,CACS,CONTAINMENT H2 MONITOR	RB	757	(1C219B)
9005	20	AR4381A	RECORDER,ANALYZER CACS CONT H2	CB	786	(1C009)
9006	20	AR4381B	RECORDER CACS ANALYZER CONT O2	CB	786	(1C009)
9007	20	AR4382A	RECORDER,CACS ANALYZER,CONT H2	CB	786	(1C009)
9008	20	AR4382B	RECORDER,CACS ANALYZER,CONT O2	CB	786	(1C009)
8415	07	AV6133A	CRHVAC/LOOP A RECIRCULATION DAMPER CONTROL VALVE	CB	800	(1C133A)
8416	07	AV6133B	CRHVAC/LOOP B RECIRCULATION DAMPER CONTROL VALVE	CB	800	(1C133A)
8466	07	AV6134A	CRHVAC/VALVE, AIR, CB H&V, DO6106A	CB	800	--
8467	07	AV6134B	CRHVAC/VALVE, AIR, CB H&V, DO6106B	CB	800	--

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
9058	20	C51-J600-3	MONITOR,VALVE,CONTROL,NMS,TIP VLV MONTR CHAN A, B	CB	786	(1C013)
9059	20	C51-J600-4	MONITOR,VALVE,CONTROL,NMS,TIP VALVE MONTR CHAN C	CB	786	(1C013)
9060	20	C71-K031A	COMPUTER INPUT-CV1859A CLOSED	CB	786	(1C005)
9061	20	C71-K031B	COMPUTER INPUT,CV1859A OPEN	CB	786	(1C005)
9062	20	C71-K031C	COMPUTER INPUT-CV1867A CLOSED	CB	786	(1C005)
9063	20	C71-K031D	COMPUTER INPUT-CV1867A OPEN	CB	786	(1C005)
9064	20	C71-K031E	COMPUTER INPUT-CV1859B CLOSED	CB	786	(1C005)
9065	20	C71-K031F	COMPUTER INPUT-CV1859B OPEN	CB	786	(1C005)
9066	20	C71-K031G	COMPUTER INPUT-CV1867B CLOSED	CB	786	(1C005)
9067	20	C71-K031H	COMPUTER INPUT-CV1867B OPEN	CB	786	(1C005)
3148	07	CV1804A	CRD/"A" RECIRC PUMP MINI-PURGE SUPPLY ISOL	RB	757	F6.1
3149	07	CV1804B	CRD/"B" RECIRC PUMP MINI-PURGE SUPPLY ISOL	RB	757	F6.1
1004	07	CV1849	CRD/INLET SCRAM VALVE (89 TOTAL)	RB	757	CRD AREA
1005	07	CV1850	CRD/OUTLET SCRAM VALVE (89 TOTAL)	RB	757	CRD AREA
1014	07	CV1859A	CRD/SCRAM DISCHARGE VOLUME VENT ISOLATION VALVE	RB	776	F9
1015	07	CV1859B	CRD/SCRAM DISCHARGE VOLUME VENT ISOLATION VALVE	RB	776	F9
1016	07	CV1867A	CRD/SCRAM DISCHARGE VOLUME DRAIN ISOLATION VALVE	BAY 10	716	F5.2
1017	07	CV1867B	CRD/SCRAM DISCHARGE VOLUME DRAIN ISOLATION VALVE	BAY 10	716	F5.2
8011	07	CV1956A	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE	RB	812	F10
8012	07	CV1956B	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE	RB	812	F10
8003	07	CV2080	ESW/LOOP A DIESEL COOLER ISOLATION VALVE	TB	757	P4
8004	07	CV2081	ESW/LOOP B DIESEL COOLER ISOLATION VALVE	TB	757	N4
5153	07	CV2211	HPCI/HPCI STM SUP DRAIN LINE UPSTREAM AUTO ISOL	RB	724	G5, HPCI ROOM
5154	07	CV2212	HPCI/HPCI STM SUP DRAIN LINE DOWNSTREAM AUTO ISOL	RB	724	G5, HPCI ROOM

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5161	07	CV2234	HPCI/HPCI CONDENSATE PP DISCH TO CRW INBOARD ISOLATION	RB	724	G5, HPCI ROOM
5117	07	CV2410	RCIC/RCIC STM SUP DRAIN LINE UPSTREAM AUTO ISOL	RB	716	RCIC ROOM
5118	07	CV2411	RCIC/RCIC STM SUP DRAIN LINE DOWNSTREAM AUTO ISOL	RB	716	F5, RCIC RM
5114	07	CV2436	RCIC/CONDENSTAE PUMP 1P-228 DISCH DRAIN TO CRW	RB	716	F5, RCIC RM
5145	07	CV3704	RS/DRYWELL FLOOR DRAIN SUMP INBOARD ISOL	BAY 08	716	G7.1
5147	07	CV3705	RS/DRYWELL FLOOR DRAIN SUMP OUTBOARD ISOL	BAY 08	716	G7.1
5141	07	CV3728	RS/DRYWELL EQUIP DRAIN SUMP INBOARD ISOL	BAY 16	716	E9.1
5142	07	CV3729	RS/DRYWELL EQUIP DRAIN SUMP OUTBOARD ISOL	BAY 16	716	E9.1
5179	07	CV4371A	CAC/CONTAINMENT N2 SUPPLY ISOLATION	RB	757	G6.1
5181	07	CV4371C	CAC/TORUS/DW VACUUM BKR N2 SUPPLY ISOL	RB	757	G6.1
5183	07	CV4378A	CAC/N2 COMPRESSOR 1K-14 DW SUCTION ISOLATION	RB	757	F6.1
5185	07	CV4378B	CAC/N2 COMPRESSOR 1K-14 DW SUCTION ISOLATION	RB	757	F6.1
3001	07	CV4412	MS/MAIN STEAM ISOLATION VALVE (MSIV)	DW	757	G8.1
3025	07	CV4413	MS/MAIN STEAM ISOLATION VALVE (MSIV)	RB	757	H7.1
3002	07	CV4415	MS/MAIN STEAM ISOLATION VALVE (MSIV)	DW	757	G7.1
3026	07	CV4416	MS/MAIN STEAM ISOLATION VALVE (MSIV)	RB	757	H7.1
3003	07	CV4418	MS/MAIN STEAM ISOLATION VALVE (MSIV)	DW	757	G8.1
3027	07	CV4419	MS/MAIN STEAM ISOLATION VALVE (MSIV)	RB	757	H8.1
3004	07	CV4420	MS/MAIN STEAM ISOLATION VALVE (MSIV)	DW	757	G7.1
3028	07	CV4421	MS/MAIN STEAM ISOLATION VALVE (MSIV)	RB	757	H8.1
3144	07	CV4639	RR/RECIRC SAMPLE LINE INBOARD ISOLATION	DW	798	F7.1
3145	07	CV4640	RR/RX RECIRC SAMPLE LINE OUTBOARD ISOLATION	RB	786	F7.1
8208A	07	CV4909	RWS/RIVER WATER RADWASTE DILUTION LINE ISOLATION	PH	727	A4
8205	07	CV4910A	RWS/LOOP A DILUTION FLOW LINE ISOLATION VALVE	PH	727	B3
8206	07	CV4910B	RWS/LOOP B DILUTION FLOW LINE ISOLATION VALVE	PH	727	A3

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8210	07	CV4914	RWS/LOOP B STILLING BASIN DISCHARGE ISOLATION VALVE	PH	747	B3
8209	07	CV4915	RWS/LOOP A STILLING BASIN DISCHARGE ISOLATION VALVE	PH	747	B3
5197	07	CV5704A	DCW/DRYWELL COOLING LOOP A WELL WATER RETURN ISOL	BAY 10	716	F6.1
5198	07	CV5704B	DCW/DRYWELL COOLING LOOP B WELL WATER RETURN ISOL	BAY 14	716	D7.1
5191	07	CV5718A	DCW/DRYWELL COOLING LOOP A WELL WATER SUPPLY ISOL	BAY 10	716	F6.1
5192	07	CV5718B	DCW/DRYWELL COOLING LOOP B WELL WATER SUPPLY ISOL	BAY 14	716	D7.1
8423	07	CV6116A	CRHVAC/LOOP A COOLING COIL BYPASS VALVE	CB	800	G13
8424	07	CV6116B	CRHVAC/LOOP B COOLING COIL BYPASS VALVE	CB	800	J13
8454	07	CV6919A	CRHVAC/NON-ESSENTIAL COOLING HX A INLET ISOL VALVE	RB	812	F10
8455	07	CV6919B	CRHVAC/NON-ESSENTIAL COOLING HX B INLET ISOL VALVE	RB	812	F10
8456	07	CV6920A	CRHVAC/NON-ESSENTIAL COOLING HX A OUTLET ISOL VALVE	RB	812	F10
8457	07	CV6920B	CRHVAC/NON-ESSENTIAL COOLING HX B OUTLET ISOL VALVE	RB	812	F10
8462	10	D06106A	CRHVAC/1VAC030A MAXIMUM AIR SUPPLY DAMPER	CB	800	H13
8463	10	D06106B	CRHVAC/1VAC030B MAXIMUM AIR SUPPLY DAMPER	CB	800	H13
8474	10	D06107A	CRHVAC/DAMPER, CB H&V, CNTR BLDG EXH	--	--	--
8475	10	D06107B	CRHVAC/DAMPER, CB H&V, CNTR BLDG EXH	--	--	--
8413	10	D06109A	CRHVAC/LOOP A RECIRCULATION DAMPER	CB	807	G13
8414	10	D06109B	CRHVAC/LOOP B RECIRCULATION DAMPER	CB	800	J13
8464	10	D06112A	CRHVAC/1VAC030A MINIMUM AIR SUPPLY DAMPER	CB	800	H13
8465	10	D06112B	CRHVAC/1VAC030B MINIMUM AIR SUPPLY DAMPER	CB	800	H13
8403	10	D06113A	CRHVAC/LOOP A AC EXHAUST DAMPER	CB	800	F13
8404	10	D06113B	CRHVAC/LOOP B AC EXHAUST DAMPER	CB	800	J13
8470	10	D06123A	CRHVAC/CB HVAC OUTSIDE AIR INTAKE DAMPER	CB	800	G13
8471	10	D06123B	CRHVAC/CB HVAC OUTSIDE AIR INTAKE DAMPER	CB	800	G13
8409	10	D06127A	CRHVAC/LOOP A EXHAUST FAN DAMPER	CB	800	G13

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8410	10	DO6127B	CRHVAC/LOOP B EXHAUST FAN DAMPER	CB	800	J13
8541	10	DO7000A1	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	TB	780	N4
8545	10	DO7000A2	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	TB	780	N4
8542	10	DO7000B1	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	TB	780	N4
8546	10	DO7000B2	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	TB	780	N4
8548A	10	DO7001A1	HVAC/VENTILATION FAN 1V-SF-20 RETURN AIR DAMPER	TB	757	A DIESEL ROOM
8548C	10	DO7001A2	HVAC/VENTILATION FAN 1V-SF-20 RETURN AIR DAMPER	TB	757	A DIESEL ROOM
8548B	10	DO7001B1	HVAC/VENTILATION FAN 1V-SF-21 RETURN AIR DAMPER	TB	757	B DIESEL ROOM
8548D	10	DO7001B2	HVAC/VENTILATION FAN 1V-SF-21 RETURN AIR DAMPER	TB	757	B DIESEL ROOM
8553	10	DO7002A1	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	P4
8555	10	DO7002A2	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	P4
8557	10	DO7002A3	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	N4
8554	10	DO7002B1	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	N4
8556	10	DO7002B2	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	N4
8558	10	DO7002B3	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	N4
8527	10	DO7536U	HVAC/SW PUMP ROOM EXHAUST DAMPER	PH	780	A1
8528	10	DO7536V	HVAC/SW PUMP ROOM EXHAUST DAMPER	PH	780	A1
8530	10	DO7537U	HVAC/SW PUMP ROOM EXHAUST DAMPER	PH	780	A1
8531	10	DO7537V	HVAC/SW PUMP ROOM EXHAUST DAMPER	PH	780	A1
8519	10	DO7538A	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER A	PH	761	A3, "A" SIDE RM
8520	10	DO7538B	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER B	PH	775	A1
8515	10	DO7539A	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER A	PH	761	A3
8516	10	DO7539B	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER B	PH	775	A1
8501	10	DO7709A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	IS	770	A1, DOOR 605
8504	10	DO7709B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	IS	770	B2, DOOR 607
8502	10	DO7710A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	IS	770	A1, DOOR 605

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8505	10	D07710B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	IS	770	B2, DOOR 607
8503	10	D07711A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	IS	770	A1, DOOR 605
8506	10	D07711B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	IS	770	B2, DOOR 607
8512A	10	D07712A	HVAC/SUPPLY FAN 1VSF50 RETURN AIR INLET DAMPER	IS	766	A1
8512B	10	D07712B	HVAC/SUPPLY FAN 1VSF51 RETURN AIR INLET DAMPER	IS	766	B1
8509	10	D07713A	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	IS	778	A3, DOOR 609
8511	10	D07713B	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	IS	778	B3, DOOR 603
8510	10	D07716A	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	IS	778	A3, DOOR 609
8512	10	D07716B	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	IS	778	B3, DOOR 603
9068	20	E/E4396C	VOLTAGE TO VOLTAGE CONVERTER FOR DW PRESSURE PI4	--	--	(1C009A)
9069	20	E/E4396D	VOLTAGE TO VOLTAGE CONVERTER FOR DW PRESSURE PI4	--	--	(1C009B)
9070	20	E/S2207	POWER SUP,ELEC,HPCI,PT2207	CB	786	(1C018)
9071	20	E/S2309	INVERTER, HPCI PROCESS INSTRUMENTATION	CB	786	(1C003)
9072	20	E/S2403	POWER SUP,ELEC,RCIC,1S203 STM SUP PT2403	CB	786	(1C019)
9073	20	E/S2509	INVERTER,DC TO AC,RCIC PUMP,1P216,DISCHA	CB	786	(1C019)
9074	20	E/S4565A	POWER SUPPLY TO DIVISION I FOX NEST	CB	786	(1C003)
9075	20	E/S4565B	POWER SUPPLY TO DIVISION II FOX NEST	CB	786	(1C003)
9076	20	E/S4599A	POWER SUP,ELEC,NONNUCINST,PT4599A	CB	786	(1C009)
9077	20	E/S4599B	POWER SUP,ELEC,NONNUCINST,PT4599B	CB	786	(1C009)
9078	20	E11A-K1902	RELAY,MO1902 OPEN,SPDS	CB	786	(1C003)
9079	20	E11A-K1903	RELAY,MO1903 OPEN,SPDS	CB	786	(1C003)
9080	20	E11A-K1905	RELAY,MO1905 OPEN,SPDS	CB	786	(1C003)
9081	20	E11A-K1932	RELAY,MO1932 OPEN,SPDS	CB	786	(1C003)
9082	20	E11A-K1933	RELAY,MO1933 OPEN,SPDS	CB	786	(1C003)

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
9083	20	E11A-K1934	RELAY,MO1934 OPEN,SPDS	CB	786	(1C003)
9084	20	E11A-K1935-B1	TIME DELAY RELAY, MIN FLOW MO1935,RHR	CB	786	(1C003)
9085	20	E11A-K1935-B2	TIME DELAY RELAY, MIN FLOW MO1935, RHR	CB	786	(1C003)
9086	20	E11A-K1935-B3	TIME DELAY RELAY, MIN FLOW MO1935,RHR	RB	757	(1C388)
9087	20	E11A-K1935-B4	TIME DELAY RELAY, MIN FLOW MO1935, RHR	RB	757	(1C388)
9088	20	E11A-K2000	RELAY,MO2000 OPEN,SPDS	CB	786	(1C003)
9089	20	E11A-K2001	RELAY,MO2001 OPEN,SPDS	CB	786	(1C003)
9090	20	E11A-K2003	RELAY,MO2003 OPEN,SPDS	CB	786	(1C003)
9091	20	E11A-K2005	RELAY,MO2005 OPEN,SPDS	CB	786	(1C003)
9092	20	E11A-K2006	RELAY,MO2006 OPEN,SPDS	CB	786	(1C003)
9093	20	E11A-K2007	RELAY,MO2007 OPEN,SPDS	CB	786	(1C003)
9094	20	E11A-K2009-A1	TIME DELAY RELAY,MIN FLOW MO2009,RHR	CB	786	(1C003)
9095	20	E11A-K2009-A2	TIME DELAY REALY,MIN FLOW MO2009,RHR	CB	786	(1C003)
9096	20	E21A-K2104-A1	MO2104 2 SEC TIME DELAY OPEN,RELAY	CB	786	(1C003)
9097	20	E21A-K2104-A2	MO2104 2 SEC TIME DELAY CLOSE,RELAY	CB	786	(1C003)
9098	20	E21A-K2112	MO2112 POSITION INDICATION TO SPDS,RELAY	CB	786	(1C003)
9099	20	E21A-K2117	MO2117 POSITION INDICATION TO SPDS,RELAY	CB	786	(1C003)
9100	20	E21A-K2124-B1	MO2124 2 SEC TIME DELAY OPEN,RELAY	RB	757	(1C388)
9101	20	E21A-K2124-B2	MO2124 2 SEC TIME DELAY CLOSE,RELAY	RB	757	(1C388)
9102	20	E21A-K2132	MO2132 POSITION INDICATION TO SPDS,RELAY	RB	812	(1C003)
9103	20	E21A-K2137	MO2137 POSITION INDICATION TO SPDS,RELAY	RB	812	(1C003)
9104	20	E41-K2312	NOT VERIFIED - FOR CHAMPS PROJECT USE ONLY - MSMTC	CB	786	(1C003)
9105	20	E41-K2318-B1	TIME DELAY RELAY,MIN FLOW MO2318, HPCI	--	--	(1C003)
9106	20	E41-K2318-B2	TIME DELAY RELAY,MIN FLOW MO2318, HPCI	--	--	(1C003)
9107	20	E51-K2510-A1	TIME DELAY RELAY, MIN FLOW MO2510,RCIC	--	--	(1C004)
9108	20	E51-K2510-A2	TIME DELAY RELAY, MIN FLOW MO2510,RCIC	--	--	(1C004)
9109	20	E51-K2512	NOT VERIFIED - FOR CHAMPS PROJECT USE ONLY - MSMTC	CB	786	(1C004)
8112	18	FT1944	RHRSW/LOOP B FLOW RATE TRANSMITTER	RB	735	(1C058)
4042	18	FT1971A	RHR/LOOP A FLOW TRANSMITTER	RB	716	(1C129A)

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
4044	18	FT1971B	RHR/LOOP B FLOW TRANSMITTER	RB	716	(1C129B), NW CR
8111	18	FT2050	RHRSW/LOOP A FLOW RATE TRANSMITTER	RB	724	(1C120)
3125	18	FT2110	CS/LOOP A FLOW RATE TRANSMITTER	RB	716	(1C123)
3126	18	FT2130	CS/LOOP B FLOW RATE TRANSMITTER	RB	716	(1C124), NW CR
8214	18	FT4916	RWS/LOOP B FLOW RATE TRANSMITTER	PH	727	A1
8213	18	FT4917	RWS/LOOP A FLOW RATE TRANSMITTER	PH	747	B2
8019	18	FT4938A	ESW/LOOP A FLOW RATE TRANSMITTER	PH	761	A3
8020	18	FT4938B	ESW/LOOP B FLOW RATE TRANSMITTER	PH	761	A3
9487	R	HS2130	PT1962, FT2130, LITS4540 TRAN SW	RB	757	(1C388)
3162B	07	HV2201	HPCI/HPCI TURBINE STOP VALVE	RB	724	HPCI ROOM
9126	20	I/E4396C	POWER SUPPLY,WR CNTMNT LVL XMTR	--	--	(1C009)
9127	20	I/E4396D	POWER SUPPLY,WR CNTMNT LVL XMTR	--	--	(1C009)
9128	20	I/E4397A	POWER SUPPLY,WIDE RANGE TORUS LEVEL	--	--	(1C009)
9129	20	I/E4397B	POWER SUPPLY,WIDE RANGE TORUS LEVEL	--	--	--
9130	20	I/E4398A	POWER SUPPLY,NR DW PRESSURE	--	--	(1C009)
9131	20	I/E4398B	POWER SUPPLY,NR DW PRESSURE	--	--	--
9132	20	I/E4399A	POWER SUPPLY,WR DW PRESS XMTR	--	--	(1C009)
9133	20	I/E4399B	POWER SUPPLY,WR DW PRESS XMITR	--	--	(1C009)
9134	20	I/E4599A	POWER SUPPLY,WR RX PRESS XMTR	--	--	(1C009)
9135	20	I/E4599B	POWER SUPPLY,WR RX PRESS XMTR	--	--	(1C009)
9138	20	LI4397A	TORUS WATER LEVEL INDICATOR,1.5 TO 16 FT	CB	786	(1C003)
9139	20	LI4397B	TORUS WATER LEVEL INDICATOR, 1.5 TO 16 F	CB	786	(1C003)
9140	20	LI4539	INDICATOR,LVL,RPS	CB	786	(1C005)
9141	20	LI4540	INDICATOR,LVL,RPS	CB	786	(1C005)
9142	20	LI4565B	INDICATOR,POST-ACCIDENT RPV SHROUD LEVEL	CB	786	(1C003)
9143	20	LI4565C	INDICATOR, POST ACCIDENT RPV SHROUD LEVE	CB	786	MCR
8309	18	LIS3207	DGS/DIESEL OIL DAY TANK LOW-LOW LEVEL ALARM	TB	757	(1C008)
8307	18	LIS3208	DGS/DIESEL OIL DAY TANK LEVEL SWITCH	TB	757	P4

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8308	18	LIS3209	DGS/DIESEL OIL DAY TANK LOW-LOW LEVEL ALARM	TB	757	(1C008)
8306	18	LIS3210	DGS/DIESEL OIL DAY TANK LEVEL SWITCH	TB	757	N4
3132E	18	LIS4535	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	RB	786	(1C056)
3132F	18	LIS4536	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	RB	757	(1C055)
3132G	18	LIS4537	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	RB	786	(1C056)
3132H	18	LIS4538	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	RB	757	(1C055)
3132A	18	LIS4592A	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	RB	786	(1C056)
3132B	18	LIS4592B	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	RB	786	(1C056)
3132C	18	LIS4592C	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	RB	757	(1C055)
3132D	18	LIS4592D	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	RB	757	(1C055)
3127	18	LITS4539	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	786	(1C056)
3128	18	LITS4540	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	757	(1C055)
9144	20	LR4396A	TORUS WATER LEVEL RECORDER	CB	786	(1C009)
9145	20	LR4396B	TORUS WATER LEVEL RECORDER	CB	786	(1C009)
9146	20	LR4565A	RECORDER,POST ACCIDENT RPV SHROUD LEVEL	CB	786	(1C003)
9147	20	LR4565B	RECORDER,POST ACCIDENT RPV SHROUD LEVEL	CB	786	(1C003)
9152	20	LS4565A	LEVEL SWITCH,RHR INTERLOCK	CB	786	(1C003)
9153	20	LS4565B	LEVEL SWITCH,RHR INTERLOCK	CB	786	(1C003)
9154	20	LS4565C	LEVEL SWITCH,RHR INTERLOCK	CB	786	(1C003)
9155	20	LS4565D	LEVEL SWITCH,RHR INTERLOCK	CB	786	(1C003)
9148	20	LSY4565A	RELAY FOR LEVEL SWITCH LS4565A	CB	786	(1C003)
9149	20	LSY4565B	RELAY FOR LEVEL SWITCH LS4565B	CB	786	(1C003)
9150	20	LSY4565C	RELAY FOR LEVEL SWITCH LS4565C	CB	786	(1C003)
9151	20	LSY4565D	RELAY FOR LEVEL SWITCH LS4565D	CB	786	(1C003)
9156	20	LT4396C	DW PRESSURE (TO LY-4396A FOR CONT WTR LEVEL INST)	RB	757	SOUTH SIDE
9157	20	LT4396D	DW PRESSURE (TO LY-4396B FOR CONT WTR LEVEL INST)	RB	786	NORTH SIDE
3133	18	LT4397A	RCS/TORUS WATER LEVEL TRANSMITTER	BAY 02	716	(1C009)
3134	18	LT4397B	RCS/TORUS WATER LEVEL TRANSMITTER	BAY 02	716	(1C009)

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
3129	18	LT4565A	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	757	(1C122)
3130	18	LT4565B	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	757	(1C122)
3131	18	LT4565C	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	757	(1C121)
3132	18	LT4565D	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	757	(1C121)
9164	20	LY4396A	CONTAINMENT WATER LEVEL SUMMER	CB	786	(1C009)
9165	20	LY4396B	CONTAINMENT WATER LEVEL SUMMER	CB	786	(1C009)
9166	20	LY4539	REACTOR LEVEL SIGNAL CONDITIONER LY4539	RB	786	(1C056)
9167	20	LY4540	RX VESSEL LEVEL INSTR SIGNAL CONDITIONER	RB	757	(1C055)
9168	20	LY4565A	LEVEL CONVERTER	CB	786	(1C003)
9169	20	LY4565B	LEVEL CONVERTER	CB	786	(1C003)
9170	20	LY4565C	LEVEL CONVERTER	CB	786	(1C003)
9171	20	LY4565D	LEVEL CONVERTER	CB	786	(1C003)
4036A	08A	MO1902	RHR/LOOP B DRYWELL SPRAY INBOARD ISOLATION VALVE	RB	766	E7.1
4036	08A	MO1903	RHR/LOOP B DRYWELL SPRAY OUTBOARD ISOLATION VALVE	BAY 14	716	D7.1
4038	08A	MO1904	RHR/LOOP B LPCI OUTBOARD INJECT VALVE	RB	757	RHR ROOM
4039	08A	MO1905	RHR/LOOP B LPCI INBOARD INJECT VALVE	RB	757	RHR ROOM
9175	08A	MO1908-O	OPERATING MECH,RHR,PMP B,D SUCT,SHTDN CLG	DW	775	SW QUADRANT
9176	08A	MO1909-O	OPERATING MECH,RHR,PMP B,D SUCT,SHTDN CLG	RB	766	RHR VALVE ROOM
9177	08A	MO1913-O	OPERATING MECH,RHR,1P229B SUCT,SUPPR POOL	RB	716	NW CORNER ROOM
9178	08A	MO1921-O	OPERATING MECH,RHR,PUMP D SUCT,SUPPR POOL	RB	716	NW CORNER ROOM
4037	08A	MO1932	RHR/LOOP B TORUS SPRAY OUTBOARD ISOLATION VALVE	BAY 14	716	D7.1
4040	08A	MO1933	RHR/LOOP B TORUS SPRAY INBOARD ISOLATION VALVE	BAY 13	716	D7.1
4041	08A	MO1934	RHR/LOOP B TORUS RETURN ISOLATION VALVE	BAY 13	716	D7.1
4028A	08A	MO1935	RHR/RHR PUMPS 1P-229B/D MIN FLOW BYPASS	BAY 16	716	E9.1
4029	08A	MO1940	RHR/LOOP B HX BYPASS VALVE	RB	732	D10, NW CR
8110	08A	MO1947	RHRSW/LOOP B PRESSURE CONTROL VALVE	RB	734	D10, NW CR

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9183	08A	MO1949A-O	OPERATING MECH,RHR,HTEXCH 1E201B TO TORUS	RB	747	NW CORNER ROOM
9184	08A	MO1949B-O	OPERATING MECH,RHR,HTEXCH 1E201B TO TORUS	RB	732	NW CORNER ROOM
9185	08A	MO1970-O	OPERATING MECH,RHR,TEST,1E201B TO TORUS	BAY 15	716	--
9186	08A	MO1989-O	OPERATING MECH,PRCNMT,SUPPR POOL TO RHR PUMP	BAY 16	716	--
4016A	08A	MO2000	RHR/LOOP A DRYWELL SPRAY INBOARD ISOLATION VALVE	RB	786	D8
4016	08A	MO2001	RHR/LOOP A DRYWELL SPRAY OUTBOARD ISOLATION VALVE	BAY 16	716	E9.1
4019	08A	MO2003	RHR/LOOP A LPCI INBOARD INJECT VALVE	RB	757	RHR ROOM
4018	08A	MO2004	RHR/LOOP A LPCI OUTBOARD INJECT VALVE	RB	757	RHR ROOM
4017	08A	MO2005	RHR/LOOP A TORUS SPRAY OUTBOARD ISOLATION VALVE	BAY 15	716	E9.1
4020	08A	MO2006	RHR/LOOP A TORUS SPRAY INBOARD ISOLATION VALVE	BAY 15	716	E9.1
4021	08A	MO2007	RHR/LOOP A TORUS RETURN ISOLATION VALVE	BAY 15	716	E9.1
4008A	08A	MO2009	RHR/RHR PUMPS 1P-229A/C MIN FLOW BYPASS	BAY 10	716	F5.2
4046	08A	MO2010	RHR/CROSS TIE ISOLATION VALVE	BAY 15	716	D8.1
9194	08A	MO2012-O	OPERATING MECH,RHR,1P229A SUCT,SUPPR POOL	RB	716	SE CORNER ROOM
9195	08A	MO2015-O	OPERATING MECH,RHR,1P229C SUCT,SUPPR POOL	RB	716	SE CORNER ROOM
4009	08A	MO2030	RHR/LOOP A HX BYPASS VALVE	RB	731	H5.2
9196	08A	MO2038-O	OPERATING MECH,RHR,TEST LINE,1E201A-TORUS	BAY 10	716	--
8025	08A	MO2039A	ESW/CB CHILLER 1V-CH-1A WELL WATER SUPPLY ISOLATION	RB	812	CHILLER AREA
8026	08A	MO2039B	ESW/CB CHILLER 1V-CH-1B WELL WATER SUPPLY ISOLATION	RB	812	CHILLER AREA
9197	08A	MO2044A-O	OPERATING MECH,RHR,HTEXCH 1E201A TO TORUS	RB	747	SE CORNER ROOM
9198	08A	MO2044B-O	OPERATING MECH,RHR,HTEXCH 1E201A TO TORUS	RB	747	SE CORNER ROOM
8109	08A	MO2046	RHRSW/LOOP A PRESSURE CONTROL VALVE	RB	731	H5, HPCI ROOM

DUANE ARNOLD ENERGY CENTER
SAFE SHUTDOWN EQUIPMENT LIST (SSEL)
- Seismic Review Items -

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9199	08A	MO2069-O	OPERATING MECH,PRCNMT,SUPPR POOL TO RHR PUMP	BAY 10	716	--
8015	08A	MO2077	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE	RB	812	F10
8016	08A	MO2078	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE	RB	812	F10
9200	08A	MO2100-O	OPERATING MECH,LPCS	RB	716	SE CORNER ROOM
3110	08A	MO2104	CS/LOOP A MINIMUM FLOW LINE ISOLATION VALVE	BAY 10	716	F5.2
9202	08A	MO2112-O	OPERATING MECH,LPCS	BAY 10	716	--
5125	08A	MO2115	CS/LOOP A OUTBOARD VESSEL ISOLATION VALVE	RB	786	E8
3114	08A	MO2117	CS/LOOP A INBOARD VESSEL ISOLATION VALVE	RB	786	F7
9204	08A	MO2120-O	OPERATING MECH,LPCS	RB	716	NW CORNER ROOM
3120	08A	MO2124	CS/LOOP B MINIMUM FLOW LINE ISOLATION VALVE	BAY 01	716	E10
9206	08A	MO2132-O	OPERATING MECH,LPCS	BAY 02	716	--
5126	08A	MO2135	CS/LOOP B OUTBOARD VESSEL ISOLATION VALVE	RB	786	F9
3124	08A	MO2137	CS/LOOP B INBOARD VESSEL ISOLATION VALVE	RB	786	F9
9208	08A	MO2146-O	OPERATING MECH,PRCNMT	BAY 14	716	--
9209	08A	MO2147-O	OPERATING MECH,PRCNMT	BAY 10	716	--
3161	08A	MO2238	HPCI/STEAM SUPPLY INBOARD ISOL	DW	775	F7.1
3162	08A	MO2239	HPCI/STEAM SUPPLY OUTBOARD ISOL	RB	775	F7.1
9212	08A	MO2290A-O	OPERATOR,HPCI VACUUM BREAKER ISOL.	BAY 10	716	--
9213	08A	MO2290B-O	OPERATOR,HPCI VACUUM BREAKER ISOL.	BAY 10	716	--
9214	08A	MO2312-O	OPERATOR,HPCI INJECT	RB	757	STEAM TUNNEL
9215	08A	MO2318-O	OPERATOR,HPCI MIN FLOW BYPASS	RB	724	HPCI ROOM
9216	08A	MO2321-O	OPERATOR,HPCI,INBOARD TORUS SUCTION ISOL	BAY 10	716	--
9217	08A	MO2322-O	OPERATING MECH,HPCI,TORUS SUPPLY LINE	RB	724	HPCI ROOM
3158	08A	MO2400	RCIC/RCIC STEAM SUPPLY INBOARD ISOL	DW	775	G8
3159	08A	MO2401	RCIC/RCIC STEAM SUPPLY OUTBOARD ISOL	RB	757	H8.1
3159A	08A	MO2404	RCIC/RCIC TURBINE STEAM SUPPLY ISOLATION	RB	716	RCIC ROOM

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9220	08A	MO2510-O	OPERATOR,MIN FLOW BYPASS,RCIC PUMP	RB	716	RCIC ROOM
9221	08A	MO2512-O	OPERATOR,RCIC INJECT INTO FDWTR	RB	757	STEAM TUNNEL
9222	08A	MO2516-O	OPERATOR,INBOARD TORUS SUCTION,RCIC	BAY 10	716	--
9223	08A	MO2517-O	OPERATOR,OUTBOARD TORUS SUCTION,RCIC	RB	716	RCIC ROOM
3101	08A	MO2700	RWCU/RWCU INLET INBOARD ISOLATION VALVE	DW	775	F7.1
3102	08A	MO2701	RWCU/RWCU INLET OUTBOARD ISOLATION VALVE	RB	786	G6.1
9226	08A	MO2740-O	OPERATING MECH,RWCU,1E214A TO RCIC DISCH	RB	757	TIP ROOM MEZZ
9227	08A	MO4423-O	OPERATING MECH,NUC BOILER,VLV MO4423	DW	757	NE QUADRANT
9228	08A	MO4424-O	OPERATING MECH,VLV MO4424	RB	757	STEAM TUNNEL
3142	08A	MO4441	FW/RX FEEDWATER LOOP A INLET STOP CHECK	RB	757	H7.1
3143	08A	MO4442	FW/RX FEEDWATER LOOP B INLET STOP CHECK	RB	757	H8.1
9229	08A	MO4841A-O	OPERATING MECH,RBCCW	BAY 02	716	--
9230	08A	MO4841B-O	OPERATING MECH,RBCCW	BAY 10	716	--
9231	08A	MO8401A-O	MSIV-LCS "A" LINE INBD BLEED VALVE OPERATING MEC	RB	757	STEAM TUNNEL
9232	08A	MO8401B-O	MSIV-LCS "B" LINE INBD BLEED VALVE OPERATING MEC	RB	757	STEAM TUNNEL
9233	08A	MO8401C-O	MSIV-LCS "C" LINE INBD BLEED VALVE OPERATING MEC	RB	757	STEAM TUNNEL
9234	08A	MO8401D-O	MSIV-LCS "D" LINE INBD BLEED VALVE OPERATING MEC	RB	757	STEAM TUNNEL
8427	07	PCV6116A	CRHVAC/LOOP A COOLING COIL BYPASS PRESSURE CONTROL VLV	CB	800	HVAC ROOM
8428	07	PCV6116B	CRHVAC/LOOP B COOLING COIL BYPASS PRESSURE CONTROL VLV	CB	800	HVAC ROOM
8023	18	PDI4938A	ESW/LOOP A FLOW ELEMENT DP	PH	761	B3, "A" SIDE RM
8024	18	PDI4938B	ESW/LOOP B FLOW ELEMENT DP	PH	761	C2, "B" SIDE RM
9235	20	PI2207	INDICATOR,PRESS,HPCI TURBINE STEAM SUPPLY	CB	786	(1C003)
9236	20	PI2403	INDICATOR,PRESS,RCIC,1S203 STN SUP LINE	CB	786	(1C004)
9237	20	PI4396C	DW PRESSURE IND,1C-03	--	--	(1C003)

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9238	20	PI4396D	DW PRESSURE IND, 1C-03	--	--	(1C003)
9239	20	PI4398A	INDICATOR,PRESS,SPS,DW,PRIMARY CONTAINMENT	CB	786	(1C009)
9240	20	PI4398B	INDICATOR,PRESS,SPS,DW,PRIMARY CONTAINMENT	CB	786	(1C009)
9241	20	PI4599A	INDICATOR,PRESS,NONNUCINST,IT201 REACTOR VESSEL	CB	786	(1C009)
9242	20	PI4599B	INDICATOR,PRESS,NONNUCINST,IT201 REACTOR VESSEL	CB	786	(1C009)
9243	20	PR4398A	RECORDER,PRESS,SPS,DW,PRIMARY CONTAINMENT	CB	786	(1C009)
9244	20	PR4398B	RECORDER,PRESS,SPS,DW,PRIMARY CONTAINMENT	CB	786	(1C009)
9245	20	PR4599A	RECORDER,PRESS,NONNUCINST,1T201 REACTOR VESSEL	CB	786	(1C009)
9246	20	PR4599B	RECORDER,PRESS,NONNUCINST,1T201 REACTOR VESSEL	CB	786	(1C009)
3136A	18	PS4593A	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	RB	786	(1C056)
3136B	18	PS4593B	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	RB	786	(1C056)
3136C	18	PS4593C	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	RB	757	(1C055)
3136D	18	PS4593D	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	RB	757	(1C055)
8440	18	PS7335A	HVIA/LOOP A PRESSURE SWITCH	RB	786	G10
8441	18	PS7335B	HVIA/LOOP B PRESSURE SWITCH	RB	786	G10
2001	07	PSV4400	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	G7.1
2002	07	PSV4401	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	G7.1
2003	07	PSV4402	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	F6.1
2004	07	PSV4405	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	F8.1
2005	07	PSV4406	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	G8.1
2006	07	PSV4407	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	G8
4045	18	PT1962	RHR/LOOP B PRESSURE TRANSMITTER	RB	716	(1C129B), NW CR
4043	18	PT2032	RHR/LOOP A PRESSURE TRANSMITTER	RB	716	(1C129A)
3135	18	PT2106	CS/LOOP A PRESSURE TRANSMITTER	RB	716	(1C123)
3136	18	PT2126	CS/LOOP B PRESSURE TRANSMITTER	RB	716	(1C124), NW CR
9247	18	PT2207	HPCI TURBINE STEAM INLET PRESSURE	RB	724	(1C120)
9248	18	PT2403	RCIC TURBINE STEAM SUPPLY PRESSURE	RB	716	(1C128)

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9249	20	PT4398A	DRYWELL PRESSURE	RB	757	SOUTH SIDE
9250	20	PT4398B	DRYWELL PRESSURE	RB	786	NORTH SIDE
9251	20	PT4399A	DRYWELL PRESSURE	RB	757	SOUTH SIDE
9252	20	PT4399B	DRYWELL PRESSURE	RB	786	NORTH SIDE
2019	18	PT4599A	SRV/RCS PRESSURE TRANSMITTER	RB	786	(1C056)
2020	18	PT4599B	SRV/RCS PRESSURE TRANSMITTER	RB	757	(1C055)
9255	20	RE9184A	DRYWELL AREA RADIATION MONITOR	DW	757	(1C009)
9256	20	RE9184B	DRYWELL AREA RADIATION MONITOR	DW	757	(1C011)
9257	20	RE9185A	TORUS CHAMBER AREA RADIATION DETECTOR	BAY 01	716	(1C011)
9258	20	RE9185B	TORUS CHAMBER AREA RADIATION DETECTOR	BAY 07	716	(1C011)
9259	20	RIM9184A	INDICATOR,RAD,DW RADMON,DRYWELL AREA	CB	786	(1C009)
9260	20	RIM9184B	INDICATOR,RAD,DW RADMON,DRYWELL AREA	CB	786	(1C009)
9261	20	RIM9185A	INDICATOR,RAD,DW RADMON,TORUS CHAMBER AREA	CB	786	(1C009)
9262	20	RIM9185B	INDICATOR,RAD,DW RADMON,TORUS CHAMBER AREA	CB	786	(1C009)
9263	20	RR9184A	RECORDER,RAD,DW RADMON	CB	786	(1C009)
9264	20	RR9184B	RECORDER,RAD,DW RADMON	CB	786	(1C009)
8417	18	SL6109A	CRHVAC/LOOP A SIGNAL LIMITER	CB	800	(1C133A)
8418	18	SL6109B	CRHVAC/LOOP B SIGNAL LIMITER	CB	800	(1C133B)
8429	18	SL6116A	CRHVAC/LOOP A SIGNAL LIMITER	CB	800	(1C133A)
8430	18	SL6116B	CRHVAC/LOOP B SIGNAL LIMITER	CB	800	(1C133B)
3150	08B	SV1804A	CRD/CV-1804A CONTROL AIR SUPPLY ISOL	RB	757	F6.1
3151	08B	SV1804B	CRD/CV-1804B CONTROL AIR SUPPLY ISOL	RB	757	F6.1
1008	08B	SV1840A	CRD/BACKUP SCRAM PILOT VALVE	RB	757	G6.1
1009	08B	SV1840B	CRD/BACKUP SCRAM PILOT VALVE	RB	757	G6.1
1006	08B	SV1855	CRD/SCRAM PILOT VALVE (89 TOTAL)	RB	757	CRD AREA
1007	08B	SV1856	CRD/SCRAM PILOT VALVE (89 TOTAL)	RB	757	CRD AREA
1018	08B	SV1868A	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	RB	757	G6.1
1019	08B	SV1868B	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	RB	757	G6.1

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1020	08B	SV1869A	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	RB	757	G6.1
1021	08B	SV1869B	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	RB	757	G6.1
9267	08B	SV1870A	SCRAM DISCH VOLUME VENT AND DRAIN VALVE CONTROL	RB	757	SOUTH SIDE
9268	08B	SV1870B	SCRAM DISCH VOLUME VENT AND DRAIN VALVE CONTROL	RB	757	SOUTH SIDE
8013	08B	SV1956A	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE SOLENOID	RB	812	F10
8014	08B	SV1956B	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE SOLENOID	RB	812	F10
8005	08B	SV2080	ESW/LOOP A DIESEL COOLER ISOLATION VALVE SOLENOID	TB	757	(1C091)
8006	08B	SV2081	ESW/LOOP B DIESEL COOLER ISOLATION VALVE SOLENOID	TB	757	(1C092)
5155	08B	SV2211	HPCI/CV-2211 CONTROL AIR SUPPLY ISOLATION	RB	724	G5, HPCI ROOM
5156	08B	SV2212	HPCI/CV-2212 CONTROL AIR SUPPLY ISOLATION	RB	724	G5, HPCI ROOM
5162	08B	SV2234	HPCI/CV-2234 CONTROL AIR SUPPLY ISOLATION	RB	724	G5, HPCI ROOM
3162C	08B	SV2259	HPCI/HPCI TURBINE REMOTE TRIP VALVE	RB	724	HPCI ROOM
5119	08B	SV2410	RCIC/CV-2410 CONTROL AIR SUPPLY ISOL	RB	716	F5, RCIC RM
5120	08B	SV2411	RCIC/CV-2411 CONTROL AIR SUPPLY ISOL	RB	716	RCIC ROOM
5116	08B	SV2436	RCIC/CV-2436 CONTROL AIR SUPPLY ISOL	RB	716	F5, RCIC RM
9269	08B	SV3704	CV-3704 CONTROL AIR SUPPLY ISOLATION	BAY 08	716	--
9270	08B	SV3705	CV-3705 CONTROL AIR SUPPLY ISOLATION	BAY 08	716	--
9271	08B	SV3728	CV-3728 CONTROL AIR SUPPLY ISOLATION	BAY 16	716	--
9272	08B	SV3729	CV-3729 CONTROL AIR SUPPLY ISOLATION	BAY 16	716	--
9273	08B	SV4300	CV-4300 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM
9274	08B	SV4300X	CV-4300 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM
9275	08B	SV4301	CV-4301 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
9276	08B	SV4302	CV-4302 CONTROL AIR SUPPLY ISOLATION	RB	812	DW HVAC ROOM
9277	08B	SV4302X	CV-4302 CONTROL AIR SUPPLY ISOLATION	RB	812	DW HVAC ROOM
9278	08B	SV4303	CV-4303 CONTROL AIR SUPPLY ISOLATION	RB	812	DW HVAC ROOM
9279	08B	SV4304	CV-4309 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM
9280	08B	SV4305	CV-4305 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM
9281	08B	SV4306	CV-4306 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE
9282	08B	SV4307	CV-4307 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE
9283	08B	SV4308	CV-4308 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE
9284	08B	SV4309	CV-4309 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM
9285	08B	SV4310	CV-4310 CONTROL AIR SUPPLY ISOLATION	RB	812	DW HVAC ROOM
9286	08B	SV4311	CV-4311 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE
9287	08B	SV4312	CV-4312 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE
9288	08B	SV4313	CV-4313 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE
9289	08B	SV4331A	LOWER DRYWELL SPRAY CAD N2 INBOARD ISOLATION	RB	766	RHR VALVE ROOM
9290	08B	SV4331B	LOWER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	RB	766	RHR VALVE ROOM
9291	08B	SV4332A	UPPER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	RB	786	SOUTH SIDE
9292	08B	SV4332B	UPPER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	RB	786	SOUTH SIDE
9293	08B	SV4333A	WEST TORUS SPRAY HDR CAD N2 SUPPLY INBOARD	BAY 13	716	--
9294	08B	SV4333B	WEST TORUS SPRAY HDR CAD N2 SUPPLY OUTBOARD ISOL	BAY 13	716	--
9295	08B	SV4334A	NORTH TORUS SPRAY HEADER CAD N2 SUPPLY INBD ISOL	BAY 16	716	--
9296	08B	SV4334B	NORTH TORUS SPRAY HEADER CAD N2 SUPPLY OUTBD ISOL	BAY 16	716	--
9297	08B	SV4371A	CV-4371A CONTROL AIR SUPPLY ISOLATION	RB	757	SOUTH SIDE
9298	08B	SV4371C	CV-4371C CONTROL AIR SUPPLY ISOLATION	RB	757	SOUTH SIDE

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 15:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9299	08B	SV4378A	CV-4378A CONTROL AIR SUPPLY ISOLATION	RB	757	SOUTH SIDE
9300	08B	SV4378B	CV-4378B CONTROL AIR SUPPLY ISOLATION	RB	757	SOUTH SIDE
2007	08B	SV4400	SRV/SRV PILOT VALVE	DW	775	--
2008	08B	SV4401	SRV/SRV PILOT VALVE	DW	775	--
2009	08B	SV4402	SRV/SRV PILOT VALVE	DW	775	--
2010	08B	SV4405	SRV/SRV PILOT VALVE	DW	775	--
2011	08B	SV4406	SRV/SRV PILOT VALVE	DW	775	--
2012	08B	SV4407	SRV/SRV PILOT VALVE	DW	775	--
9309	08B	SV4594A	LOOP A JET PUMP SAMPLE LINE INBOARD ISOLATION	RB	--	--
9310	08B	SV4594B	LOOP B JET PUMP SAMPLE LINE INBOARD ISOLATION	RB	--	--
9311	08B	SV4595A	LOOP A JET PUMP SAMPLE LINE OUTBOARD ISOLATION	RB	--	--
9312	08B	SV4595B	LOOP B JET PUMP SAMPLE LINE OUTBOARD ISOLATION	RB	757	--
3146	08B	SV4639	RR/CV-4639 NITROGEN SUPPLY ISOL	DW	775	F7.1
3147	08B	SV4640	RR/CV-4640 CONTROL AIR SUPPLY ISOL	RB	786	F7.1
8208B	08B	SV4909	RWS/CV4909 INSTRUMENT AIR SUPPLY ISOLATION	PH	727	C2
8207	08B	SV4910A	RWS/LOOP A DILUTION FLOW LINE ISOLATION VALVE SOLENOID	PH	727	B3
8208	08B	SV4910B	RWS/LOOP B DILUTION FLOW LINE ISOLATION VALVE SOLENOID	PH	727	B3
8212	08B	SV4914	RWS/LOOP B STILLING BASIN DISCHARGE ISOL VALVE PILOT	PH	747	B4
8211	08B	SV4915	RWS/LOOP A STILLING BASIN DISCHARGE ISOL VALVE PILOT	PH	747	B2
5199	08B	SV5704A	DCW/CV-5704A CONTROL AIR SUPPLY ISOLATION	BAY 10	742	F6.1
5200	08B	SV5704B	DCW/CV-5704B CONTROL AIR SUPPLY ISOLATION	BAY 14	716	D7.1
5193	08B	SV5718A	DCW/CV-5718A CONTROL AIR SUPPLY ISOLATION	BAY 10	716	F6.1
5194	08B	SV5718B	DCW/CV-5718B CONTROL AIR SUPPLY ISOLATION	BAY 14	716	D7.1
8476	08B	SV6107A	CRHVAC/VALVE, SOL, CB H&V, DO6107A	CB	800	--
8477	08B	SV6107B	CRHVAC/VALVE, SOL, CB H&V, DO6107B	CB	800	--

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8468	08B	SV6109A	CRHVAC/VALVE, SOL, CB H&V, AV6134A & AV6133A	CB	800	(1C133A)
8469	08B	SV6109B	CRHVAC/VALVE, SOL, CB H&V, AV6134B & AV6133B	CB	800	(1C133B)
8472	08B	SV6110A	CRHVAC/D06123A CONTROL AIR SUPPLY	CB	800	G13
8473	08B	SV6110B	CRHVAC/D06123B CONTROL AIR SUPPLY	CB	800	G13
8405	08B	SV6113A	CRHVAC/LOOP A AC EXHAUST DAMPER SOLENOID	CB	800	(1C133A)
8406	08B	SV6113B	CRHVAC/LOOP B AC EXHAUST DAMPER SOLENOID	CB	800	(1C133B)
8411	08B	SV6127A	CRHVAC/LOOP A EXHAUST FAN DAMPER SOLENOID	CB	800	(1C133A)
8412	08B	SV6127B	CRHVAC/LOOP B EXHAUST FAN DAMPER SOLENOID	CB	800	(1C133B)
8458	08B	SV6920A	CRHVAC/NON-ESSENTIAL COOLING HX A ISOL VALVE SOLENOID	RB	812	F10
8459	08B	SV6920B	CRHVAC/NON-ESSENTIAL COOLING HX B ISOL VALVE SOLENOID	RB	812	F10
8543	08B	SV7000A	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	TB	757	(1C151)
8544	08B	SV7000B	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	TB	757	(1C152)
8547	08B	SV7001A	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	TB	757	(1C151)
8548	08B	SV7001B	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	TB	757	(1C152)
8559	08B	SV7002A	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER SOLENOID	TB	757	(1C151)
8560	08B	SV7002B	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER SOLENOID	TB	757	(1C152)
8444	08B	SV7333A	HVIA/LOOP A RECEIVER ISOLATION VALVE	CB	800	J13
8445	08B	SV7333B	HVIA/LOOP B RECEIVER ISOLATION VALVE	CB	800	J13
8529	08B	SV7536	HVAC/SW PUMP ROOM EXHAUST DAMPER SOLENOID	PH	780	A1
8532	08B	SV7537	HVAC/SW PUMP ROOM EXHAUST DAMPER SOLENOID	PH	780	A1
8521	08B	SV7538A	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER A SOLENOID	PH	761	A3
8522	08B	SV7538B	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER B SOLENOID	PH	775	A1
8517	08B	SV7539A	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER A SOLENOID	PH	761	A3

Report Date/Time: 04-21-95 / 14:47:22
Data Base File Name/Date/Time: DAEC_R1.DBF / 04/19/95 / 13:50:14
Sort Criteria: ID Number
Filter Criteria: (Eval. Type CONTAINS 'S')
Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8518	08B	SV7539B	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER B SOLENOID	PH	775	A1
9315	08B	SV8101A	DRYWELL #1 SAMPLE LINE ISOLATION	RB	757	DW AIRLOCK MEZZ
9316	08B	SV8101B	DRYWELL #1 SAMPLE LINE ISOLATION	RB	757	NORTH SIDE
9317	08B	SV8102A	DRYWELL #1 SAMPLE LINE ISOLATION	RB	757	DW AIRLOCK MEZZ
9318	08B	SV8102B	DRYWELL #1 SAMPLE LINE ISOLATION	RB	757	NORTH SIDE
9319	08B	SV8103A	DRYWELL #2 SAMPLE LINE ISOLATION	RB	757	DW AIRLOCK MEZZ
9320	08B	SV8103B	DRYWELL #2 SAMPLE LINE ISOLATION	RB	757	NORTH SIDE
9321	08B	SV8104A	DRYWELL #2 SAMPLE LINE ISOLATION	RB	757	DW AIRLOCK MEZZ
9322	08B	SV8104B	DRYWELL #2 SAMPLE LINE ISOLATION	RB	757	NORTH SIDE
9323	08B	SV8105A	DRYWELL SAMPLE RETURN LINE ISOLATION	RB	757	DW AIRLOCK MEZZ
9324	08B	SV8105B	DRYWELL SAMPLE RETURN LINE ISOLATION	RB	776	--
9325	08B	SV8106A	DRYWELL SAMPLE RETURN LINE ISOLATION	RB	757	DW AIRLOCK MEZZ
9326	08B	SV8106B	DRYWELL SAMPLE RETURN LINE ISOLATION	RB	776	--
9327	08B	SV8107A	CAM SYS A TORUS SAMPLE LINE INBOARD ISOL	BAY 05	716	--
9328	08B	SV8107B	CAM SYS B TORUS SAMPLE LINE INBOARD ISOL	BAY 13	716	--
9329	08B	SV8108A	CAM SYS A TORUS SAMPLE LINE OUTBOARD ISO	BAY 05	716	--
9330	08B	SV8108B	CAM SYS B TORUS SAMPLE LINE OUTBOARD ISO	BAY 13	716	--
9331	08B	SV8109A	CAM SYS A TORUS SAMPLE RETURN INBOARD IS	BAY 09	716	--
9332	08B	SV8109B	CAM SYS B TORUS SAMPLE RETURN INBOARD IS	BAY 01	716	--
9333	08B	SV8110A	CAM SYS A TORUS SAMPLE RETURN OUTBOARD I	BAY 09	716	--
9334	08B	SV8110B	CAM SYS B TORUS SAMPLE RETURN OUTBOARD I	BAY 01	716	--
9335	08B	SV8772A	PASS LIQ SAMPLE RETURN TO TORUS INBD ISO	BAY 15	716	--
9336	08B	SV8772B	PASS LIQ SAMPLE RETURN TO TORUS OUTBD IS	BAY 15	716	--
8450	07	TCV6924A	CRHVAC/CHILLER A TEMPERATURE CONTROL VALVE	RB	812	F10
8451	07	TCV6924B	CRHVAC/CHILLER B TEMPERATURE CONTROL VALVE	RB	812	F10
4049	19	TE4324	CNT/TORUS WATER TEMPERATURE (20-220 DEGREES F)	BAY 15	716	TORUS CATWALK

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Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
4050	19	TE4325	CNT/TORUS WATER TEMPERATURE (20-220 DEGREES F)	BAY 04	716	TORUS CATWALK
4048	19	TE4386J	CAC/DRYWELL TEMPERATURE (ELEVATION 780')	DW	775	NE QUADRANT
4047	19	TE4386L	CAC/DRYWELL TEMPERATURE (ELEVATION 830')	DW	824	SE QUADRANT
8421	18	TT6109A	CRHVAC/LOOP A MIXED AIR TEMPERATURE TRANSMITTER	CB	800	H13
8422	18	TT6109B	CRHVAC/LOOP B MIXED AIR TEMPERATURE TRANSMITTER	CB	800	H13
8419	18	TT6111A	CRHVAC/LOOP A OUTSIDE TEMPERATURE TRANSMITTER	CB	800	F13
8420	18	TT6111B	CRHVAC/LOOP B OUTSIDE TEMPERATURE TRANSMITTER	CB	800	F13
8431	18	TT6114A	CRHVAC/LOOP A AC UNIT DISCHARGE TEMPERATURE TRANSMITTER	CB	800	H13
8432	18	TT6114B	CRHVAC/LOOP B AC UNIT DISCHARGE TEMPERATURE TRANSMITTER	CB	800	H13
8539	18	TT7115	HVAC/RHR & CS ROOM AC UNIT A TEMPERATURE TRANSMITTER	RB	747	D10
8537	18	TT7117	HVAC/RHR & CS ROOM AC UNIT A TEMPERATURE TRANSMITTER	RB	747	D10, NW CR
8540	18	TT7118	HVAC/RHR & CS ROOM AC UNIT B TEMPERATURE TRANSMITTER	RB	747	H5.2
8538	18	TT7120	HVAC/RHR & CS ROOM AC UNIT B TEMPERATURE TRANSMITTER	RB	747	H5.2
8327	18	ZC3236A	DGS/DIESEL OVERSPEED SENSOR	TB	757	P4
8326	18	ZC3236B	DGS/DIESEL OVERSPEED SENSOR	TB	757	P4
8425	07	ZC6116A	CRHVAC/LOOP A COOLING COIL BYPASS POSITION CONTROLLER	CB	800	HVAC ROOM
8426	07	ZC6116B	CRHVAC/LOOP B COOLING COIL BYPASS POSITION CONTROLLER	CB	800	HVAC ROOM
9347	07	ZS4300	CV-4300 VALVE POSITION SWITCH	RB	716	(CV4300)
9348	07	ZS4301	CV-4301 VALVE POSITION SWITCH	RB	735	(CV4301)
9349	07	ZS4302	CV-4302 VALVE POSITION SWITCH	RB	812	(CV4302)
9350	07	ZS4303	CV-4303 VALVE POSITION SWITCH	RB	812	(CV4303)
9351	07	ZS4304	CV-4304 VALVE POSITION SWITCH	RB	735	(CV4304)

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Sort Criteria: ID Number
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Program File Name & Version: SSEM 2.2

LINE NO.	CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	BUILDING	ELEV	ROOM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9352	07	ZS4305	CV-4305 VALVE POSITION SWITCH	RB	735	(CV4305)
9353	07	ZS4306	CV-4306 VALVE POSITION SWITCH	RB	766	(CV4306)
9354	07	ZS4307	CV-4307 VALVE POSITION SWITCH	RB	757	(CV4307)
9355	07	ZS4308	CV-4308 VALVE POSITION SWITCH	RB	757	(CV4308)
9356	07	ZS4309	CV-4309 VALVE POSITION SWITCH	RB	735	(CV4309)
9357	07	ZS4310	CV-4310 VALVE POSITION SWITCH	RB	812	(CV4310)
9358	07	ZS4311	CV-4311 VALVE POSITION SWITCH	RB	757	(CV4311)
9359	07	ZS4312	CV-4312 VALVE POSITION SWITCH	RB	757	(CV4312)
9360	07	ZS4313	CV-4313 VALVE POSITION SWITCH	RB	757	(CV4313)

Appendix D

SCREENING VERIFICATION DATA SHEETS (SVDS)

Screening Verification Data Sheets (SVDS)
for
Reactor Building 757' and TIP Room
(107 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1002	21	1S220	CRD/HYDRAULIC CONTROL UNIT ACCUMULATOR (89 TOTAL)	RB	757	CRD AREA	757	YES	N/A	N/A	YES	YES	YES	YES	YES	DEK07 2093
1004	07	CV1849	CRD/INLET SCRAM VALVE (89 TOTAL)	RB	757	CRD AREA	757	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2093
1005	07	CV1850	CRD/OUTLET SCRAM VALVE (89 TOTAL)	RB	757	CRD AREA	757	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2093
1006	08B	SV1855	CRD/SCRAM PILOT VALVE (89 TOTAL)	RB	757	CRD AREA	757	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2093
1007	08B	SV1856	CRD/SCRAM PILOT VALVE (89 TOTAL)	RB	757	CRD AREA	757	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2093
1014	07	CV1859A	CRD/SCRAM DISCHARGE VOLUME VENT ISOLATION VALVE	RB	776	F9	782	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2193
9216	08A	MO2740-0	OPERATING MECH,RWCU,1E214A TO RCIC DISCH	RB	757	TIP ROOM MEZZ	781	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2193
9316	08B	SV8101B	DRYWELL #1 SAMPLE LINE ISOLATION	RB	757	NORTH SIDE	762	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2093
9318	08B	SV8102B	DRYWELL #1 SAMPLE LINE ISOLATION	RB	757	NORTH SIDE	762	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2093
9320	08B	SV8103B	DRYWELL #2 SAMPLE LINE ISOLATION	RB	757	NORTH SIDE	762	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2093
9322	08B	SV8104B	DRYWELL #2 SAMPLE LINE ISOLATION	RB	757	NORTH SIDE	762	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2093
9324	08B	SV8105B	DRYWELL SAMPLE RETURN LINE ISOLATION	RB	776	--	778	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2093

CERTIFICATION:

All the information contained on this Screening Verification Data Sheet (SVDS) is, to the best of our knowledge and belief, correct and accurate. "All information" includes each entry and conclusion (whether verified to be seismically adequate or not).

Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/26/93
Thomas R. Kipp	Thomas R. Kipp	7/26/93
STEPHEN J. EDER	S J Eder, PE	7/26/93

CERTIFICATION:

The information provided to the Seismic Capability Engineers regarding systems and operations of the equipment contained on this SVDS is, to the best of our knowledge and belief, correct and accurate.

Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1008	08R	SV1840A	CRD/BACKUP SCRAM PILOT VALVE	RB	757	G6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
1009	08B	SV1840B	CRD/BACKUP SCRAM PILOT VALVE	RB	757	G6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
1018	08B	SV1868A	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	RB	757	G6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
1019	08B	SV1868B	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	RB	757	G6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
1020	08B	SV1869A	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	RB	757	G6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
1021	08B	SV1869B	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	RB	757	G6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
3148	07	CV1804A	CRD/"A" RECIRC PUMP MINI-PURGE SUPPLY ISOL	RB	757	F6.1	757	YES	BS	GRS	YES	YES	YES	NO	NO	AS072 093
3149	07	CV1804B	CRD/"B" RECIRC PUMP MINI-PURGE SUPPLY ISOL	RB	757	F6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
3150	08B	SV1804A	CRD/CV-1804A CONTROL AIR SUPPLY ISOL	RB	757	F6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
3151	08B	SV1804B	CRD/CV-1804B CONTROL AIR SUPPLY ISOL	RB	757	F6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
4018	08A	MO2004	RHR/LOOP A LPCI OUTBOARD INJECT VALVE	RB	757	RHR ROOM	757	YES	BS	GRS	YES	YES	YES	NO	NO	AS072 093
4019	08A	MO2003	RHR/LOOP A LPCI INBOARD INJECT VALVE	RB	757	RHR ROOM	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093

CERTIFICATION:

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Print or Type Name	Signature	Date
KRISTIN SMITH	Kristin E. Smith	7/26/93
RODRIGO ARAYA	R Araya M. P.E.	7/26/93

CERTIFICATION:

The information provided to the Seismic Capability Engineers regarding systems and operations of the equipment contained on this SVDS is, to the best of our knowledge and belief, correct and accurate.

Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1015	07	CV18598	CRD/SCRAM DISCHARGE VOLUME VENT ISOLATION VALVE	RB	776	F9	782	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2193

CERTIFICATION:

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Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/30/93
Thomas R. Kipp	Thomas R. Kipp	7/30/93
STEPHEN J. EDER	, PE	8/5/93

CERTIFICATION:

The information provided to the Seismic Capability Engineers regarding systems and operations of the equipment contained on this SVDS is, to the best of our knowledge and belief, correct and accurate.

Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
2020	18	PT4599B	SRV/RCS PRESSURE TRANSMITTER	RB	757	(1C055)	BOX		8612	1C055						FH081 893
3128	18	LITS4540	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	757	(1C055)	BOX		8612	1C055						FH081 893
3129	18	LT4565A	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	757	(1C122)	BOX		8688	1C122						FH081 893
3130	18	LT4565B	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	757	(1C122)	BOX		8688	1C122						FH081 893
3131	18	LT4565C	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	757	(1C121)	BOX		8687	1C121A						FH081 893
3132	18	LT4565D	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	757	(1C121)	BOX		8687	1C121A						FH081 893
8612	20	1C055	RPS/RPS INSTRUMENTATION PANEL	RB	757	E9	757	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 693
8687	18	1C121A	JET PUMP INSTRUMENT RACK	RB	757	F9	757	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 893
8687A	18	1C121B	JET PUMP INSTRUMENT RACK	RB	757	F9	757	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 893
8688	18	1C122	INSTRUMENT RACK	RB	757	SOUTH SIDE	757	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 893

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
David Freed P.E.	David A Freed	9/14/93
H. HADIDI	Faber for H. Hadidi	9/20/93 *

* see SQUS for original signature

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3045	21	1R002A	MS/MSIV ACCUMULATOR	RB	757	H8.1	757	YES	N/A	N/A	N/A	N/A	YES	NO	NO	DEK07 2193
3046	21	1R002B	MS/MSIV ACCUMULATOR	RB	757	H8.1	757	YES	N/A	N/A	N/A	N/A	YES	NO	NO	DEK07 2193
3047	21	1R002C	MS/MSIV ACCUMULATOR	RB	757	H8.1	757	YES	N/A	N/A	N/A	N/A	YES	NO	NO	DEK07 2193
3048	21	1R002D	MS/MSIV ACCUMULATOR	RB	757	H8.1	757	YES	N/A	N/A	N/A	N/A	YES	NO	NO	DEK07 2193

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Print or Type Name	Signature	Date
D. J. DOYLE	for D.J. Doyle	8/9/93
T. R. KIPP	for T.R. Kipp	8/9/93
S. J. EDER	, PE	8/9/93

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
4036A	08A	MO1902	RHR/LOOP B DRYWELL SPRAY INBOARD ISOLATION VALVE	RB	766	E7.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
4038	08A	MO1904	RHR/LOOP B LPCI OUTBOARD INJECT VALVE	RB	757	RHR ROOM	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
4039	08A	MO1905	RHR/LOOP B LPCI INBOARD INJECT VALVE	RB	757	RHR ROOM	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
5179	07	CV4371A	CAC/CONTAINMENT N2 SUPPLY ISOLATION	RB	757	G6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
5181	07	CV4371C	CAC/TORUS/DW VACUUM BKR N2 SUPPLY ISOL	RB	757	G6.1	758	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
5183	07	CV4378A	CAC/N2 COMPRESSOR 1K-14 DW SUCTION ISOLATION	RB	757	F6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
5185	07	CV4378B	CAC/N2 COMPRESSOR 1K-14 DW SUCTION ISOLATION	RB	757	F6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
9297	08B	SV4371A	CV-4371A CONTROL AIR SUPPLY ISOLATION	RB	757	SOUTH SIDE	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
9298	08B	SV4371C	CV-4371C CONTROL AIR SUPPLY ISOLATION	RB	757	SOUTH SIDE	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
9299	08B	SV4378A	CV-4378A CONTROL AIR SUPPLY ISOLATION	RB	757	SOUTH SIDE	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
9300	08B	SV4378B	CV-4378B CONTROL AIR SUPPLY ISOLATION	RB	757	SOUTH SIDE	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
9315	08B	SV8101A	DRYWELL #1 SAMPLE LINE ISOLATION	RB	757	DW AIRLOCK MEZZ	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093

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Print or Type Name	Signature	Date
KRISTIN SMITH	Kristi E. Smith	7/26/93
RODRIGO ARAYA	R Araya M.S. P.E.	7/26/93

CERTIFICATION:

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Print or Type Name	Signature	Date

Report Date/Time: 09-16-93 / 13:12:34

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5169	00	1S218AEXPL	TIP/SHEAR VALVE (1S260A/SHR ?)	--	--	--	759	YES	BS	GRS	YES	NO	YES	YES	NO	CF081 893
5170	00	1S218BEXPL	TIP/SHEAR VALVE (1S260B/SHR ?)	--	--	--	759	YES	BS	GRS	YES	NO	YES	YES	NO	CF081 893
5171	00	1S218CEXPL	TIP/SHEAR VALVE (1S260C/SHR ?)	--	--	--	759	YES	BS	GRS	YES	NO	YES	YES	NO	CF081 893
9464	088	1S218ABALL	'A' TIP BALL VALVE	--	--	--	759	YES	BS	GRS	YES	NO	YES	YES	NO	CF081 893
9465	088	1S218BBALL	'B' TIP BALL VALVE	--	--	--	759	YES	BS	GRS	YES	NO	YES	YES	NO	CF081 793
9466	088	1S218CBALL	'C' TIP BALL VALVE	--	--	--	759	YES	BS	GRS	YES	NO	YES	YES	NO	CF081 793

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Print or Type Name	Signature	Date
CAROLINE S. SCHLOSSER	Caroline Schlosser, PE	9-16-93
DAVID A. FREED PE	David A. Freed	9-16-93

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
~~6057~~	~~01~~	~~1B43~~	~~480VAC/RB 757' LEVEL 480VAC MOTOR CONTROL CENTER~~	~~RB~~	~~757~~	~~G10~~	~~757~~	~~YES~~	~~ABS~~	~~CRS~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~AK090 393~~
6058	01	1B44	480VAC/RB 757' LEVEL 480VAC MOTOR CONTROL CENTER	RB	757	D9.1	757	YES	ABS	CRS	YES	NO	NO	NO	NO	AK090 493
6059	01	1B44A	480VAC/RB 757' LEVEL 480VAC MOTOR CONTROL CENTER	RB	757	D8.1	757	YES	ABS	CRS	YES	NO	NO	NO	NO	AK090 493
8656	20	1C422B	RSD/REMOTE SHUTDOWN FUSE PANEL	RB	757	D7	757	YES	ABS	CRS	YES	YES	YES	NO	NO	AK090 393

Deleted From 5562 CDA 7/94

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Print or Type Name	Signature	Date
RODRIGO ARAYA, P.E.	RArayaM	9/16/93
T.R. Kipp	for TRKipp	9/20/93 *

* see SEWS for original signature

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6202	01	1D41	250VDC/HPCI 250VDC MOTOR CONTROL CENTER	RB	757	G5.2	757	YES	ABS	CRS	YES	YES	YES	NO	NO	AE081 993

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Print or Type Name	Signature	Date
STEPHEN J. EDER	, PE	8/20/93
RODRIGO ARAYA	, PE	8/20/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6203	01	1D42	250VDC/RB 757' LEVEL 250VDC MOTOR CONTROL CENTER	RB	757	G10	757	YES	ABS	CRS	YES	YES	YES	YES	YES	AE081 993
~~6204~~	~~16~~	~~1D43~~	~~250VDC/1D4 250VDC BATTERY CHARGER~~	~~TB~~	~~757~~	~~H12~~	~~757~~	~~YES~~	~~ABS~~	~~CRS~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~AE081 993~~
~~6205~~	~~16~~	~~1D44~~	~~250VDC/1D4 250VDC BATTERY CHARGER~~	~~CB~~	~~757~~	~~F12~~	~~757~~	~~YES~~	~~ABS~~	~~CRS~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~AE081 993~~

LOCATED IN CONTROL BLDG. CB

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Print or Type Name	Signature	Date
STEPHEN J. EDER		8/20/93
RODRIGO ARAYA	R Araya M PE	8/20/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8613	20	1C388	RSD/ALTERNATE SHUTDOWN PANEL	RB	757	E9	771	YES	BS	GRS	YES	YES	YES	YES	YES	AH080 993

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya PE	8-17-93
HASSAN HADIDI-TAMJED	Hassan Hadidi PE	8-17-93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9317	08B	SV8102A	DRYWELL #1 SAMPLE LINE ISOLATION	RB	757	DW AIRLOCK MEZZ	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
9319	08B	SV8103A	DRYWELL #2 SAMPLE LINE ISOLATION	RB	757	DW AIRLOCK MEZZ	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
9321	08B	SV8104A	DRYWELL #2 SAMPLE LINE ISOLATION	RB	757	DW AIRLOCK MEZZ	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
9323	08B	SV8105A	DRYWELL SAMPLE RETURN LINE ISOLATION	RB	757	DW AIRLOCK MEZZ	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093
9325	08B	SV8106A	DRYWELL SAMPLE RETURN LINE ISOLATION	RB	757	DW AIRLOCK MEZZ	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 093

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Print or Type Name	Signature	Date
KRISTIN SMITH	Kristi E Smith	7/26/93
RODRIGO ARAYA	R Araya M.S., P.E.	7/26/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9326	088	SV8106B	DRYWELL SAMPLE RETURN LINE ISOLATION	RB	776	--	778	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2093

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Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/26/93
Thomas R. Kipp	Thomas R. Kipp	7/26/93
STEPHEN J. EDER		7/26/93

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Print or Type Name	Signature	Date

Data [illegible]ERDAEC.DBF / 05/27/94 / 07:33:30
SCREENING VERIFICATION DATA SHEET (SVDS)
Filter Criteria: (Building='RB') AND (Elevation>='757') AND (Elevation<'786') AND (SVDS Notes='BS052794')
Program File Name & Version: SSEM 2.2

REACTOR BUILDING - 757'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3132C	18	LIS4592C	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	RB	757	(1C055) A	BOX		8612A	1C055A						BS052794
3132D	18	LIS4592D	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	RB	757	(1C055) A	BOX		8612A	1C055A						BS052794
3132F	18	LIS4536	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	RB	757	(1C055)	BOX		8612	1C055						BS052794
3132H	18	LIS4538	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	RB	757	(1C055)	BOX		8612	1C055						BS052794
3136C	18	PS4593C	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	RB	757	(1C055) A	BOX		8612A	1C055A						BS052794
3136D	18	PS4593D	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	RB	757	(1C055) A	BOX		8612A	1C055A						BS052794
8612A	18	1C055A	RPS/RX VESSEL LEVEL AND PRESS INSTR PNL	RB	757	E9	757	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
8689	20	1C218A	PRIMARY CONTAINMENT H2-02 ANALYZER PANEL	RB	757	E6.1	757	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
8690	20	1C219A	PRIMARY CONTAINMENT RAD MONITORING PANEL	RB	757	E6.1	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052794
8691	20	1C219B	PRIMARY CONTAINMENT RAD MONITORING PANEL	RB	757	E10	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052794
9156	20	LT4396C	DW PRESSURE (TO LY-4396A FOR CONT WTR LEVEL INST)	RB	757	SOUTH SIDE	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzi Beigi	5-27-94
CAROLINE S. SCHLASSMAN	Caroline S. Schlassman PE	6-1-94

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
REACTOR BUILDING - 757'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<---------- EQUIPMENT Building	Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8699A	18	1C126A	MAIN STEAM INSTRUMENT RACK	RB	757	RB	757	YES	BS	GRS	YES	NO	YES	NO	NO	BJ ES052 194
8699B	18	1C126B	MAIN STEAM INSTRUMENT RACK	RB	757	RB	757	YES	BS	GRS	YES	NO	YES	NO	NO	BJ ES052 194

CERTIFICATION:

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
CAROLINE S. SCHUBERMAN	Caroline S. Schuberman PE	6-1-94
FARZIN BEIGI	Farzin Beigi	6-3-94

CERTIFICATION:

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Print or Type Name	Signature	Date

Data BWANEFARNONBmENBRGW/CENFERDAEC.DBF / 05/27/94 / 07:33:30
SCBBENIBBIVERIAICATBONNDAGArSHEET (SVDS)
Filter Criteria: (Building=='RB') AND (Elevation>='757') AND (Elevation<'786') AND (SVDS Notes=='BS052794')
Program File Name & Version: SSEM 2.2
REACTOR BUILDING-757'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--------- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9176	08A	MO1909-O	OPERATING MECH,RHR,PMP B,D SUCT,SHTDN CLG	RB	766	RHR VALVE ROOM	765	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9249	20	PT4398A	DRYWELL PRESSURE	RB	757	SOUTH SIDE	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9251	20	PT4399A	DRYWELL PRESSURE	RB	757	SOUTH SIDE	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9267	08B	SV1870A	SCRAM DISCH VOLUME VENT AND DRAIN VALVE CONTROL	RB	757	SOUTH SIDE	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9268	08B	SV1870B	SCRAM DISCH VOLUME VENT AND DRAIN VALVE CONTROL	RB	757	SOUTH SIDE	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9281	08B	SV4306	CV-4306 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE	759	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9282	08B	SV4307	CV-4307 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE	759	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9283	08B	SV4308	CV-4308 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE	759	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9286	08B	SV4311	CV-4311 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE	759	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9287	08B	SV4312	CV-4312 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE	758	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9288	08B	SV4313	CV-4313 CONTROL AIR SUPPLY ISOLATION	RB	757	NORTH SIDE	759	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzin Beigi	5-27-94
CAROLINE S. SCHLASEMAN	Caroline Schlaseman PE	6-1-94

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Print or Type Name	Signature	Date

Data [illegible]ERDAEC.DBF / 05/27/94 / 07:33:30
SCREENING VERIFICATION DATA SHEET (SVDS)
Filter Criteria: (Building='RB') AND (Elevation>='757') AND (Elevation<'786') AND (SVDS Notes='BS052794')
Program File Name & Version: SSEM 2.2

REACTOR BUILDING - 757'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9289	088	SV4331A	LOWER DRYWELL SPRAY CAD N2 INBOARD ISOLATION	RB	766	RHR VALVE ROOM	768	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
9290	088	SV4331B	LOWER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	RB	766	RHR VALVE ROOM	768	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
9353	07	ZS4306	CV-4306 VALVE POSITION SWITCH	RB	766	(CV4306)	770	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
9354	07	ZS4307	CV-4307 VALVE POSITION SWITCH	RB	757	(CV4307)	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
9355	07	ZS4308	CV-4308 VALVE POSITION SWITCH	RB	757	(CV4308)	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
9358	07	ZS4311	CV-4311 VALVE POSITION SWITCH	RB	757	(CV4311)	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
9359	07	ZS4312	CV-4312 VALVE POSITION SWITCH	RB	757	(CV4312)	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
9360	07	ZS4313	CV-4313 VALVE POSITION SWITCH	RB	757	(CV4313)	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzi Beji	5-27-94
CAROLINE S. SCHREEMAN	Caroline S. Schreeman PE	6-1-94

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
REACTOR BUILDING - 757'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9309	08B	SV4594A	LOOP A JET PUMP SAMPLE LINE INBOARD ISOLATION	RB	--	--	774	YES	BS	GRS	YES	YES	N/A	YES	YES	BS052 194
9310	08B	SV4594B	LOOP B JET PUMP SAMPLE LINE INBOARD ISOLATION	RB	--	--	780	YES	BS	GRS	YES	YES	N/A	YES	YES	BS052 194
9311	08B	SV4595A	LOOP A JET PUMP SAMPLE LINE OUTBOARD ISOLATION	RB	--	--	774	YES	BS	GRS	YES	YES	N/A	YES	YES	BS052 194
9312	08B	SV4595B	LOOP B JET PUMP SAMPLE LINE OUTBOARD ISOLATION	RB	757	--	780	YES	BS	GRS	YES	YES	N/A	YES	YES	BS052 194

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzin Beigi	5-26-94
CAROLINE S. SCHUBERT	Caroline S. Schubert PE	6-1-94

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8689A	20	1C218B	PRIMARY CONTAINMENT H2-02 ANALYZER PANEL	RB	757	E10	757	YES	BS	GRS	YES	YES	YES	YES	YES	BS112 194

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Print or Type Name	Signature	Date
CAROLINE S. SCHLASSMAN	PE	4-19-95
FARZIN R. BEIGI		4-25-95

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9510	18	1S266	VALVE, INJECTION, HMS, TIP POSN CHG MECH 1S218	--	--	TIP ROOM	761	YES	BS	GRS	YES	YES	YES	YES	YES	BS031 095

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Print or Type Name	Signature	Date
CAROLINE S. SCHLASEMAN	Caroline S. Schlaseman PE	4-19-95
FARZIN R. BEIGI	Farzin Beigi	4-24-95

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Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
Reactor Building 786'
(35 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
2019	18	PT4599A	SRV/RCS PRESSURE TRANSMITTER	RB	786	(1C056)	790	YES	BS	GRS	YES	YES	YES	NO	NO	AS072 993
3124	08A	MO2137	CS/LOOP B INBOARD VESSEL ISOLATION VALVE	RB	786	F9	806	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 793
3127	18	LITS4539	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	RB	786	(1C056)	BOX		8610	1C056						AS072 893
4016A	08A	MO2000	RHR/LOOP A DRYWELL SPRAY INBOARD ISOLATION VALVE	RB	786	D8	789	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 793
5125	08A	MO2115	CS/LOOP A OUTBOARD VESSEL ISOLATION VALVE	RB	786	E8	806	N/A	N/A	N/A	YES	N/A	N/A	YES	YES	AS072 793
5126	08A	MO2135	CS/LOOP B OUTBOARD VESSEL ISOLATION VALVE	RB	786	F9	792.5	N/A	N/A	N/A	YES	N/A	N/A	YES	YES	AS072 793
8440	18	PS7335A	HVIA/LOOP A PRESSURE SWITCH	RB	786	G10	791	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 893
8441	18	PS7335B	HVIA/LOOP B PRESSURE SWITCH	RB	786	G10	791	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 893
8442	21	1VS012	HVIA/LOOP A RECEIVER	RB	786	G10	786	YES	N/A	N/A	N/A	N/A	YES	YES	YES	AS072 993
8443	21	1VS013	HVIA/LOOP B RECEIVER	RB	786	G10	786	YES	N/A	N/A	N/A	N/A	YES	YES	YES	AS072 993
9157	20	LT4396D	DW PRESSURE (TO LY-4396B FOR CONT WTR LEVEL INST)	RB	786	NORTH SIDE	790	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 993
9166	20	LY4539	REACTOR LEVEL SIGNAL CONDITIONER LY4539	RB	786	(1C056)	BOX		8610	1C056						AS072 993

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Print or Type Name	Signature	Date
KRISTIN E. SMITH	Kristin E. Smith	7/30/93
RODRIGO ARAYA	R Araya M PE	7/30/93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--------- EQUIPMENT Building	Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3102	08A	MO2701	RWCU/RWCU INLET OUTBOARD ISOLATION VALVE	RB	786	G6.1	798	NO	ABS	CRS	YES	YES	YES	YES	YES	CK072 993
3114	08A	MO2117	CS/LOOP A INBOARD VESSEL ISOLATION VALVE	RB	786	F7	800	NO	ABS	CRS	YES	YES	YES	YES	YES	CK072 993
3145	07	CV4640	RR/RX RECIRC SAMPLE LINE OUTBOARD ISOLATION	RB	786	F7.1	800	NO	ABS	CRS	YES	YES	YES	YES	YES	CK072 993
3147	08B	SV4640	RR/CV-4640 CONTROL AIR SUPPLY ISOL	RB	786	F7.1	BOX		3145	CV4640						CK072 993

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Print or Type Name	Signature	Date
Thomas R. Kipp	Thomas R. Kipp	7/30/93
CAROLINE S. SCHLAGENHAUF	Caroline S. Schlagenhauf PE	7-30-93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6013	01	1837	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	RB	786	F6	786	YES	ABS	CRS	YES	NO	NO	NO	NO	AK090 393

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Print or Type Name	Signature	Date
RODRIGO ARAYA, P.E.	R Araya M	9/16/93
T.R. Kipp	Stiller for TR Kipp	9/20/93

* see SEWS for original signature

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	< EQUIPMENT Building	Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6106	01	1D14	125VDC/RCIC SYSTEM 125VDC MOTOR CONTROL CENTER	RB	786	F6	786	YES	BS	GRS	YES	YES	YES	NO	NO	AHNP: 393

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya, PE	8/19/93
HASSAN HADIDI-TAMJED	Hassan Hadidi-T, PE	8/19/93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- EQUIPMENT Building	Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8438	12	1K003	HVIA/HVAC INSTRUMENT AIR COMPRESSOR A	RB	787	G10	787	YES	BS	GRS	YES	NO	YES	YES	NO	AS072 893
8439	12	1K004	HVIA/HVAC INSTRUMENT AIR COMPRESSOR B	RB	787	G10	787	YES	BS	GRS	YES	NO	YES	YES	NO	AS072 893
8610	20	1C056	RPS/RPS INSTRUMENTATION PANEL	RB	786	G9	786	YES	BS	GRS	YES	YES	YES	YES	YES	AS073 093

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya M, PE	8/12/93
K.E. SMITH	for K.E. Smith	8/12/93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9250	20	PT4398B	DRYWELL PRESSURE	RB	786	NORTH SIDE	790	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 993
9252	20	PT4399B	DRYWELL PRESSURE	RB	786	NORTH SIDE	790	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 993
9291	08B	SV4332A	UPPER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	RB	786	SOUTH SIDE	787	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 893
9292	08B	SV4332B	UPPER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	RB	786	SOUTH SIDE	787	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 893

CERTIFICATION:

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
KRISTINE, SMITH	Kristine Smith	7/30/93
RODRIGO ARAYA	R Araya M PE	7/30/93

CERTIFICATION:

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Print or Type Name	Signature	Date

Report Date/Time: 05-27-94 / 08:28:43

DUANE ARNOLD ENERGY CENTER File Name/Date/Time: DAEC.DBF / 05/27/94 / 07:33:30
SCREENING VERIFICATION DATA SHEET (SVDS) Line Number
REACTOR BUILDING 786'
Filter Criteria: (Building=='RB') AND (Elevation>='786') AND (SVDS Notes=='BS052794')
Program File Name & Version: SSEM 2.2

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3132A	18	LIS4592A	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	RB	786	(1C056) A C62	BOX		8610A	1C056A						BS052794
3132B	18	LIS4592B	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	RB	786	(1C056) A C60	BOX		8610A	1C056A						BS052794
3132E	18	LIS4535	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	RB	786	(1C056)	BOX		8610	1C056						BS052794
3132G	18	LIS4537	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	RB	786	(1C056)	BOX		8610	1C056						BS052794
3136A	18	PS4593A	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	RB	786	(1C056) A C68	BOX		8610A	1C056A						BS052794
3136B	18	PS4593B	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	RB	786	(1C056) A C64	BOX		8610A	1C056A						BS052794
8610A	18	1C056A	RPS/RX VESSEL LEVEL AND PRESS INSTR PNL	RB	786	G9	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
8692	20	1C390	ALTERNATE SHUTDOWN CAPABILITY SYSTEM	RB	786	G6	790	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzi Bej	5-27-94
CAROLINE S. SCHASEMAN	Caroline S. Schaseman PE	6-1-94

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--------- EQUIPMENT Building	Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6009	01	1B34	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	RB	786	F6	786	YES	ABS	CRS	YES	YES	YES	YES	YES	BE030 995
6010	01	1B34A	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	RB	786	F6	786	YES	ABS	CRS	YES	YES	YES	YES	YES	BE031 095

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Print or Type Name	Signature	Date
FARZIN R. BEIGI	Farzin Beigi	4-25-95
STEPHEN J. EDER, PE		4-25-95

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Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
Reactor Building 812'
(33 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8011	07	CV1956A	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 693
8012	07	CV1956B	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 693
8013	08B	SV1956A	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE SOLENOID	RB	812	F10	BOX		8011	CV1956A						AS072 693
8014	08B	SV1956B	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE SOLENOID	RB	812	F10	BOX		8012	CV1956B						AS072 693
8015	08A	MO2077	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 693
8016	08A	MO2078	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 693
8450	07	TCV6924A	CRHVAC/CHILLER A TEMPERATURE CONTROL VALVE	RB	812	F10	BOX		[illegible]	1VCH001A						AS072 693
8451	07	TCV6924B	CRHVAC/CHILLER B TEMPERATURE CONTROL VALVE	RB	812	F10	BOX		8447	1VCH001B						AS072 693
8454	07	CV6919A	CRHVAC/NON-ESSENTIAL COOLING HX A INLET ISOL VALVE	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 693
8455	07	CV6919B	CRHVAC/NON-ESSENTIAL COOLING HX B INLET ISOL VALVE	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 693
8456	07	CV6920A	CRHVAC/NON-ESSENTIAL COOLING HX A OUTLET ISOL VALVE	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 693
~~8457~~	~~07~~	~~CV6920B~~	~~CRHVAC/NON-ESSENTIAL COOLING HX B OUTLET ISOL VALVE~~	~~RB~~	~~812~~	~~F10~~	~~812~~	~~NO~~	~~ABS~~	~~CRS~~	~~YES~~	~~YES~~	~~YES~~	~~NO~~	~~NO~~	~~AS072 693~~ SUPERSEDED BY 8/20/93 SVDS. CSA 9-14-93

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Print or Type Name	Signature	Date
KRISTIN E. SMITH	Kristi E Smith	7/30/93
RODRIGO ARAYA	R Araya Ng PE	7/30/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8452	21	1VHX031A	CRHVAC/NON-ESSENTIAL COOLING HX A	RB	812	F10	812	NO	N/A	N/A	YES	YES	YES	YES	YES	AB081 793
8453	21	1VHX031B	CRHVAC/NON-ESSENTIAL COOLING HX B	RB	812	F10	812	NO	N/A	N/A	YES	YES	NO	YES	NO	AB081 793

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Print or Type Name	Signature	Date
FARZIN R BEIGI	Farzi Beig	8-19-93
RODRIGO ARAYA	R Araya PE	8-19-93

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8457	07	CV6920B	CRHVAC/NON-ESSENTIAL COOLING HX B OUTLET ISOL VALVE	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	YES	YES	ASD72 693

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya JR, PE	8/20/93
K. SMITH	for K Smith	8/20/93
STEPHEN J. EDER	S Eder, PE	8/20/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8458	08B	SV6920A	CRHVAC/NON-ESSENTIAL COOLING HX A ISOL VALVE SOLENOID	RB	812	F10	817	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 693
8459	08B	SV6920B	CRHVAC/NON-ESSENTIAL COOLING HX B ISOL VALVE SOLENOID	RB	812	F10	817	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 693
8025	08A	MO2039A	ESW/CB CHILLER 1V-CH-1A WELL WATER SUPPLY ISOLATION	RB	812	CHILLER AREA	812	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 693
8026	08A	MO2039B	ESW/CB CHILLER 1V-CH-1B WELL WATER SUPPLY ISOLATION	RB	812	CHILLER AREA	812	NO	ABS	CRS	YES	YES	YES	YES No *	YES	AS072 693
8446	11	1VCH001A	CRHVAC/CONTROL BUILDING CHILLER A	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	~~YES~~	NO	AS072 793
8447	11	1VCH001B	CRHVAC/CONTROL BUILDING CHILLER B	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	No * ~~YES~~	NO	AS072 793
8675	20	1C429A	CRHVAC/CONTROL BUILDING CHILLER A CONTROL PANEL	RB	812	F10	BOX		8446	1VCH001A						AS072 793
8676	20	1C429B	CRHVAC/CONTROL BUILDING CHILLER B CONTROL PANEL	RB	812	F10	BOX		8447	1VCH001B						AS072 793

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Print or Type Name	Signature	Date
KRISTIN E. SMITH	Kristi E Smith	7/30/93
RODRIGO ARAYA	R Araya Ms, PE	7/30/93
* STEPHEN J. EDER	S Eder, PE	8/13/93
* R Araya Ms P.E	RODRIGO ARAYA	8/13/93

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9276	08B	SV4302	CV-4302 CONTROL AIR SUPPLY ISOLATION	RB	812	DW HVAC ROOM	812	NO	ABS	CRS	YES	YES	YES	YES	YES	CE082 193
9277	08B	SV4302X	CV-4302 CONTROL AIR SUPPLY ISOLATION	RB	812	DW HVAC ROOM	812	NO	ABS	CRS	YES	YES	YES	YES	YES	CE082 193
9278	08B	SV4303	CV-4303 CONTROL AIR SUPPLY ISOLATION	RB	812	DW HVAC ROOM	812	NO	ABS	CRS	YES	YES	YES	YES	YES	CE082 193
9285	08B	SV4310	CV-4310 CONTROL AIR SUPPLY ISOLATION	RB	812	DW HVAC ROOM	812	NO	ABS	CRS	YES	YES	YES	YES	YES	CE082 193

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Print or Type Name	Signature	Date
STEPHEN J. EDER	PE	8/22/93
CAROLINE S. SCHLASSMAN	PE	8-22-93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
REACTOR BUILDING - 812'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<---------- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8446A	05	1VCP030A	CRHVAC/CB HVAC CHILLED WATER PUMP	RB	812	CHILLERS AREA	812	NO	ABS	CRS	YES	NO	NO	YES	NO	BS052 794
8447A	05	1VCP030B	CRHVAC/CB HVAC CHILLED WATER PUMP	RB	812	CHILLERS AREA	812	NO	ABS	CRS	YES	NO	NO	YES	NO	BS052 794

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Print or Type Name	Signature	Date
CAROLINE S. SCHAEFFER	Caroline S. Schaeffer PE	6-1-94
FAEZEH BELGI	Faezeh Belgi	6-3-94

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REACTOR BUILDING - 812'

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8460	01	1N305	CRHVAC/CHILLER 1V-CH-1A STAR-DELTA LOCAL STARTER	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	YES	YES	B/S052 194
8461	01	1N405	CRHVAC/CHILLER 1V-CH-1B STAR-DELTA LOCAL STARTER	RB	812	F10	812	NO	ABS	CRS	YES	YES	YES	YES	YES	B/S052 194

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Print or Type Name	Signature	Date
CAROLINE S. SCHLASEMAN	Caroline S. Schlaseman PE	6-1-94
FARIN BEIGI	Farin Beigi	6-3-94

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9349	07	ZS4302	CV-4302 VALVE POSITION SWITCH	RB	812	(CV4302)	816	NO	ABS	CRS	YES	YES	YES	YES	YES	BE030 895

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Print or Type Name	Signature	Date
FARZIN R. BEIGI	Farzin Beigi	4-24-95
STEPHEN J. EDER, PE	Stephen J. Eder	4/24/95

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SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9350	07	ZS4303	CV-4303 VALVE POSITION SWITCH	RB	812	(CV4303)	816	NO	ABS	CRS	YES	YES	YES	YES	YES	ES030 895
9357	07	ZS4310	CV-4310 VALVE POSITION SWITCH	RB	812	(CV4310)	816	NO	ABS	CRS	YES	YES	YES	YES	YES	ES030 895

CERTIFICATION:

All the information contained on this Screening Verification Data Sheet (SVDS) is, to the best of our knowledge and belief, correct and accurate. "All information" includes each entry and conclusion (whether verified to be seismically adequate or not).

Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
CAROLINE S. SCHLASEMAN	Caroline S. Schlaseman PE	4-19-95
STEPHEN J. EDER, PE		4-19-95

CERTIFICATION:

The information provided to the Seismic Capability Engineers regarding systems and operations of the equipment contained on this SVDS is, to the best of our knowledge and belief, correct and accurate.

Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
RCIC Room
(13 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--------- EQUIPMENT Building	Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5114	07	CV2436	RCIC/CONDENSTAE PUMP 1P-228 DISCH DRAIN TO CRW	RB	716	F5, RCIC RM	721	YES	N/A	N/A	YES	YES	YES	YES	YES	AB081 993
5116	088	SV2436	RCIC/CV-2436 CONTROL AIR SUPPLY ISOL	RB	716	F5, RCIC RM	720	YES	N/A	N/A	YES	YES	YES	YES	YES	AB081 993
5117	07	CV2410	RCIC/RCIC STM SUP DRAIN LINE UPSTREAM AUTO ISOL	RB	716	RCIC ROOM	717	YES	N/A	N/A	YES	YES	YES	YES	YES	AB081 993
5118	07	CV2411	RCIC/RCIC STM SUP DRAIN LINE DOWNSTREAM AUTO ISOL	RB	716	F5, RCIC RM	717	YES	N/A	N/A	YES	YES	YES	YES	YES	AB081 993
5119	088	SV2410	RCIC/CV-2410 CONTROL AIR SUPPLY ISOL	RB	716	F5, RCIC RM	721	YES	N/A	N/A	YES	YES	YES	YES	YES	AB081 993
5120	088	SV2411	RCIC/CV-2411 CONTROL AIR SUPPLY ISOL	RB	716	RCIC ROOM	720	YES	N/A	N/A	YES	YES	YES	YES	YES	AB081 993

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Print or Type Name	Signature	Date
RODRIGO ARCYA	R Arcya PE.	8-20-93
FARZIN R BEIGI	Farz Beigi	8-20-93

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8007	10	1VAC015A	RCIC/LOOP A RCIC ROOM COOLING UNIT	RB	725	RCIC ROOM	726	YES	BS	GRS	YES	YES	YES	YES	YES	AB082 093
8008	10	1VAC015B	RCIC/LOOP B RCIC ROOM COOLING UNIT	RB	725	F5, RCIC ROOM	726	YES	BS	GRS	YES	YES	YES	YES	YES	AB082 093
8618	18	1C128	RCIC INSTRUMENTATION RACK	RB	716	RCIC ROOM	716	YES	BS	GRS	YES	YES	YES	YES	YES	AB081 993
9220	08A	MO2510-0	OPERATOR,MIN FLOW BYPASS,RCIC PUMP	RB	716	RCIC ROOM	720	YES	BS	GRS	YES	YES	YES	YES	YES	AB081 993
9223	08A	MO2517-0	OPERATOR,OUTBOARD TORUS SUCTION,RCIC	RB	716	RCIC ROOM	724	YES	BS	GRS	YES	YES	YES	YES	YES	AB081 993
9248	18	PT2403	RCIC TURBINE STEAM SUPPLY PRESSURE	RB	716	(1C128)	BOX		8618	1C128						AB081 993

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya III PE	8/20/93
FARZIN R BEIGI (*)	R Araya III for Farzin Beigi	8/20/93

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

(*) See SEWS for original signatures

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
RCIC Room

Data Base File Name/Date/Time: DAEC.DBF / 05/27/94 / 07:33:30
Sort Criteria: Line Number
Filter Criteria: (Line Number=='3159A')
Program File Name & Version: SSEM 2.2

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3159A	08A	M02404	RCIC/RCIC TURBINE STEAM SUPPLY ISOLATION	RB	716	RCIC ROOM	722	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzi Beigi	5-27-94
CAROLINE S. SCHASSMAN	Caroline S. Schassman PE	6-1-94

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
HPCI Room
(16 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5153	07	CV2211	HPCI/HPCI STM SUP DRAIN LINE UPSTREAM AUTO ISOL	RB	724	G5, HPCI ROOM	718	YES	N/A	N/A	N/A	N/A	N/A	YES	YES	DEK07 2993
5154	07	CV2212	HPCI/HPCI STM SUP DRAIN LINE DOWNSTREAM AUTO ISOL	RB	724	G5, HPCI ROOM	718	YES	N/A	N/A	N/A	N/A	N/A	YES	YES	DEK07 2993
5155	08B	SV2211	HPCI/CV-2211 CONTROL AIR SUPPLY ISOLATION	RB	724	G5, HPCI ROOM	718	YES	N/A	N/A	N/A	N/A	N/A	YES	YES	DEK07 2993
5156	08B	SV2212	HPCI/CV-2212 CONTROL AIR SUPPLY ISOLATION	RB	724	G5, HPCI ROOM	718	YES	N/A	N/A	N/A	N/A	N/A	YES	YES	DEK07 2993
5161	07	CV2234	HPCI/HPCI CONDENSATE PP DISCH TO CRW INBOARD ISOLATION	RB	724	G5, HPCI ROOM	718	YES	N/A	N/A	N/A	N/A	N/A	YES	YES	DEK07 2993
5162	08B	SV2234	HPCI/CV-2234 CONTROL AIR SUPPLY ISOLATION	RB	724	G5, HPCI ROOM	BOX		5161	CV2234						DEK07 2993
8109	08A	MO2046	RHRSW/LOOP A PRESSURE CONTROL VALVE	RB	731	H5, HPCI ROOM	731	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2993
9215	08A	MO2318-0	OPERATOR,HPCI MIN FLOW BYPASS	RB	724	HPCI ROOM	724	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2993
9217	08A	MO2322-0	OPERATING MECH,HPCI,TORUS SUPPLY LINE	RB	724	HPCI ROOM	724	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2993

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/30/93
Thomas R. Kipp	Thomas R. Kipp	7/30/93
STEPHEN J. EDER	Stephen J. Eder, PE	8/4/93

CERTIFICATION:

The information provided to the Seismic Capability Engineers regarding systems and operations of the equipment contained on this SVDS is, to the best of our knowledge and belief, correct and accurate.

Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8009	10	1VAC014A	HPCI/LOOP A HPCI ROOM COOLING UNIT	RB	747	H5, HPCI ROOM	747	YES	BS	GRS	YES	NO	NO	YES	NO	DEK07 2893
8010	10	1VAC014B	HPCI/LOOP B HPCI ROOM COOLING UNIT	RB	747	H5, HPCI ROOM	747	YES	BS	GRS	YES	NO	NO	NO	NO	DEK07 2893

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Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/30/93
Thomas R. Kipp	Thomas R. Kipp	7/30/93
STEPHEN J. EDER	Stephen J. Eder, PE	8/3/93

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Print or Type Name	Signature	Date
STEPHEN J. EDER	Stephen J. Eder	8/13/93
FARZIN R BEIGI	Farzin R Beigi	8/13/93

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8111	18	FT2050	RHRSW/LOOP A FLOW RATE TRANSMITTER	RB	724	(1C120)	BOX		8617	1C120						AB081 993
8617	18	1C120	HPCI/HPCI INSTRUMENTATION RACK	RB	724	HPCI ROOM	724	YES	BS	GRS	YES	YES	YES	YES	YES	AB081 993
9247	18	PT2207	HPCI TURBINE STEAM INLET PRESSURE	RB	724	(1C120)	BOX		8617	1C120						AB081 993

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya M., P.E.	8-20-93
FARZIN R BEIGI	Farzin Beigi	8-20-93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
HPCI Room

Data Base File Name/Date/Time: DAEC.DBF / 05/27/94 / 07:33:30
Sort Criteria: Line Number
Filter Criteria: (Line Number=='3162B') OR (Line Number=='3162C')
Program File Name & Version: SSEM 2.2

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3162B	07	HV2201	HPCI/HPCI TURBINE STOP VALVE	RB	724	HPCI ROOM	723	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
3162C	08B	SV2259	HPCI/HPCI TURBINE REMOTE TRIP VALVE	RB	724	HPCI ROOM	721	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzin Beig	5-27-94
CAROLINE S. SCHLASEMAN	Caroline S. Schlaseman PE	6-1-94

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Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
NE Corner Room
(14 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
5224A	21	1T105A	CAC/CV-4304 CONTROL AIR SUPPLY ACCUMULATOR	RB	716	H10, NE CR	716	YES	N/A	N/A	YES	YES	YES	YES	YES	AB081 993
5224B	21	1T105B	CAC/CV-4305 CONTROL AIR SUPPLY ACCUMULATOR	RB	716	H10, NE CR	716	YES	N/A	N/A	YES	YES	YES	YES	YES	AB081 993

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Print or Type Name	Signature	Date
RODRIGO ARAYA	[signature] P.E.	8/20/93
FARZIN R BEIGI	[signature]	8/20/93

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Print or Type Name	Signature	Date

Page No. 1 Data Base File Name/Date/Time: DAEC.DBF BUGRE2ARBOLB 8EEBGY3CENTER
Report Date/Time: 05-27-94 / 08S8rt3Criteria: Line Number SCREENING VERIFICATION DATA SHEET (SVDS)
Filter Criteria: (Building=='RB') AND (Elevation<'757') AND (Room Number<>'RCIC ROOM') AND (Room Number<>'HPCI ROOM') AND (SVDS Notes=='BS052794')
Program File Name & Version: SSEM 2.2

NE CORNER Room

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<---------- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Soectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8699C	18	1C057	RX RECIRC PUMP 1P-201A INSTRUMENT RACK	RB	735	NE CORNER ROOM	735	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9273	08B	SV4300	CV-4300 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM	753	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9274	08B	SV4300X	CV-4300 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM	753	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9275	08B	SV4301	CV-4301 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM	753	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9279	08B	SV4304	CV-4309 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM	740	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9280	08B	SV4305	CV-4305 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM	740	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9284	08B	SV4309	CV-4309 CONTROL AIR SUPPLY ISOLATION	RB	735	NE CORNER ROOM	751	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9347	07	ZS4300	CV-4300 VALVE POSITION SWITCH	RB	716	(CV4300)	753	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9348	07	ZS4301	CV-4301 VALVE POSITION SWITCH	RB	735	(CV4301)	751	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9351	07	ZS4304	CV-4304 VALVE POSITION SWITCH	RB	735	(CV4304)	738	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
9352	07	ZS4305	CV-4305 VALVE POSITION SWITCH	RB	735	(CV4305)	738	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzi Beigi	5-27-94
CAROLINE S. SCHLASEMAN	Caroline Schlaseman PE	6-1-94

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Print or Type Name	Signature	Date

Data Base File Name/Date/Time: DAEC.DBF . [illegible]
Report Date/Time: 05-27-94 / 08:08:30
SCREENING VERIFICATION DATA SHEET (SVDS)
Filter Criteria: Line Number (Building='RB') AND (Elevation<'757') AND (Room Number<>'RCIC ROOM') AND (Room Number<>'HPCI ROOM') AND (SVDS Notes='BS052794')
Program File Name & Version: SSEM 2.2

NE CORNER ROOM

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- EQUIPMENT Building	Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9356	07	ZS4309	CV-4309 VALVE POSITION SWITCH	RB	735	(CV4309)	751	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzi Beigi	5-27-94
CAROLINE S. SCHLASEMAN	Caroline S. Schlaseman PE	6-1-94

CERTIFICATION:

The information provided to the Seismic Capability Engineers regarding systems and operations of the equipment contained on this SVDS is, to the best of our knowledge and belief, correct and accurate.

Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
NW Corner Room
(19 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- EQUIPMENT Building	Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3119	06	1P211B	CS/CORE SPRAY PUMP B	RB	716	D10, NW CR	721	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 193
4025	06	1P229B	RHR/RHR PUMP B	RB	716	D10, NW CR	716	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 193
4028	06	1P229D	RHR/RHR PUMP D	RB	716	D10, NW CR	716	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 193
9177	08A	M01913-0	OPERATING MECH,RHR,1P229B SUCT,SUPPR POOL	RB	716	NW CORNER ROOM	721	YES	BS	GRS	YES	YES	YES	YES	YES	BF080 993

CERTIFICATION:

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
David A. Freed	David A. Freed PE.	8/12/93
FARZIN R. BEIGI	Farzin Beigi	8/12/93

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Interact OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3126	18	FT2130	CS/LOOP B FLOW RATE TRANSMITTER	RB	716	(1C124), NW CR	716	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 993
3136	18	PT2126	CS/LOOP B PRESSURE TRANSMITTER	RB	716	(1C124), NW CR	716	YES	BS	GRS	YES	YES	YES	YES	YES	AS073 09[illegible]
4044	18	FT1971B	RHR/LOOP B FLOW TRANSMITTER	RB	716	(1C129B), NW CR BOX			8616	1C129B						AS072 993
9178	08A	MO1921-0	OPERATING MECH,RHR,PUMP D SUCT,SUPPR POOL	RB	716	NW CORNER ROOM	723	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 993
9183	08A	MO1949A-0	OPERATING MECH,RHR,HTEXCH 1E201B TO TORUS	RB	747	NW CORNER ROOM	747	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 993
9184	08A	MO1949B-0	OPERATING MECH,RHR,HTEXCH 1E201B TO TORUS	RB	732	NW CORNER ROOM	747	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 993

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Print or Type Name	Signature	Date
KRISTIN E. SMITH	Kris E Smith	7/30/93
RODRIGO ARAYA	R Araya M PE	7/30/93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
4031	21	1E201B	RHR/LOOP B HEAT EXCHANGER	RB	716	D10, NW CR	737	YES	N/A	N/A	YES	YES	YES	YES	YES	BF081 893

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Print or Type Name	Signature	Date
FARZIN R BEIGI	Farz Beig	8-18-93
DAVID A. FREED P.E.	David A. Freed	8-18-93

CERTIFICATION:

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DUANE ARNOLD ENERGY CENTER
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LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
4029	08A	MO1940	RHR/LOOP B HX BYPASS VALVE	RB	732	D10, NW CR	733	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 893
4045	18	PT1962	RHR/LOOP B PRESSURE TRANSMITTER	RB	716	(1C1298), NW CR	BOX		8616	1C1298						AS072 993
8110	08A	MO1947	RHRSW/LOOP B PRESSURE CONTROL VALVE	RB	734	D10, NW CR	736	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 893
9204	08A	MO2120-0	OPERATING MECH,LPCS	RB	716	NE CORNER ROOM	716	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 893

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Print or Type Name	Signature	Date
KRISTINE G SMITH	Kristine G Smith	7/30/93
RODRIGO ARAYA	R Araya PE	7/30/93

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deems it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- EQUIPMENT Building	Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8616	18	1C129B	RHR/RHR LOOP B INSTRUMENTATION RACK	RB	716	D10, NW CR	716	YES	BS	GRS	YES	YES	YES	YES	YES	AS073 093

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya M, PE	8/12/93
K.E. SMITH	OK for K E Smith	8/12/93

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8533	10	1VAC011	HVAC/RHR & CS ROOM AC UNIT A	RB	747	D10, NW CR	747	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 893
8537	18	TT7117	HVAC/RHR & CS ROOM AC UNIT A TEMPERATURE TRANSMITTER	RB	747	D10, NW CR	747	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 893
8539	18	TT7115	HVAC/RHR & CS ROOM AC UNIT A TEMPERATURE TRANSMITTER	RB	747	D10	747	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 893

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Print or Type Name	Signature	Date
David A. Freed PE.	David A. Freed	9/14/93
H. HADIDI	for H. Hadidi	9/20/93

* See SEWS for original signature

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
SE Corner Room
(18 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9194	08A	M02012-0	OPERATING MECH,RHR,1P229A SUCT,SUPPR POOL	RB	716	SE CORNER ROOM	722	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 093
9195	08A	M02015-0	OPERATING MECH,RHR,1P229C SUCT,SUPPR POOL	RB	716	SE CORNER ROOM	723	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 093
9197	08A	M02044A-0	OPERATING MECH,RHR,HTEXCH 1E201A TO TORUS	RB	747	SE CORNER ROOM	752	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 193
9198	08A	M02044B-0	OPERATING MECH,RHR,HTEXCH 1E201A TO TORUS	RB	747	SE CORNER ROOM	752	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 193
9200	08A	M02100-0	OPERATING MECH,LPCS	RB	716	SE CORNER ROOM	721	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 193

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Print or Type Name	Signature	Date
David A. Freed	David Freed P.E.	8/12/93
FARZIN R. BEIGI	Farzin Beigi	8/12/93

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Print or Type Name	Signature	Date

Report Date/Time: 08-17-93 / 18:53:00

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3109	06	1P211A	CS/CORE SPRAY PUMP A	RB	716	H6.5	716	YES	BS	GRS	YES	YES	YES	NO	NO	BF081 793
4005	06	1P229A	RHR/RHR PUMP A	RB	716	H6.5	716	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
4008	06	1P229C	RHR/RHR PUMP C	RB	716	H6.5	716	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
4009	08A	MO2030	RHR/LOOP A HX BYPASS VALVE	RB	731	H5.2	735	YES	BS	GRS	YES	YES	YES	NO	NO	BF081 793

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Print or Type Name	Signature	Date
DAVID A. FREED P.E.	David A Freed	8-17-93
FAR[illegible] LR BEIGI	Fari Beigi	8-17-93

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3125	18	FT2110	CS/LOOP A FLOW RATE TRANSMITTER	RB	716	(1C123)	720	YES	ABS	CRS	YES	YES	YES	YES	YES	BF081 493
3135	18	PT2106	CS/LOOP A PRESSURE TRANSMITTER	RB	716	(1C123)	716	YES	ABS	CRS	YES	YES	YES	YES	YES	BF081 493
4042	18	FT1971A	RHR/LOOP A FLOW TRANSMITTER	RB	716	(1C129A)	720	YES	ABS	CRS	YES	YES	YES	YES	YES	BF081 493
4043	18	PT2032	RHR/LOOP A PRESSURE TRANSMITTER	RB	716	(1C129A)	718	YES	ABS	CRS	YES	YES	YES	YES	YES	BF081 493
8615	18	1C129A	RHR/RHR LOOP A INSTRUMENTATION RACK	RB	716	H5.2	716	YES	ABS	CRS	YES	YES	YES	YES	YES	BF081 393

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Print or Type Name	Signature	Date
FARZIN R BEIGI	Farzi Beg	8-14-93
DAVID A. FREED	David A. Freed P.E.	8-14-93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
4011	21	1E201A	RHR/LOOP A HEAT EXCHANGER	RB	731	H5.2	731	YES	N/A	N/A	YES	YES	YES	YES	YES	BF081 893

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Print or Type Name	Signature	Date
FARZIN R BEIGI	Farzin Beigi	8-18-93
DAVID A. FREED PE.	David A. Freed	8/18/93

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8534	10	1VAC012	HVAC/RHR & CS ROOM AC UNIT B	RB	747	H5.2	748	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 893
8538	18	TT7120	HVAC/RHR & CS ROOM AC UNIT B TEMPERATURE TRANSMITTER	RB	747	H5.2	747	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 893
8540	18	TT7118	HVAC/RHR & CS ROOM AC UNIT B TEMPERATURE TRANSMITTER	RB	747	H5.2	747	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 893

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Print or Type Name	Signature	Date
David A. Freed PE.	David A. Freed	9/14/93
H. Hadidi	Stephen for H. Hadidi	9/20/93

* see SEWS for original signature

CERTIFICATION:

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Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
CRD Pump Room
(2 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--------- EQUIPMENT Building	Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8112	18	FT1944	RHRSW/LOOP B FLOW RATE TRANSMITTER	RB	735	(1C058)	BOX		8666	1C058						FH081 893
8666	18	1C058	RVR/RECIRCULATION PUMP 1P201B INSTRUMENTATION RACK	RB	735	CRD PUMP ROOM	735	YES	ABS	CRS	YES	YES	YES	YES	YES	FH081 893

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Print or Type Name	Signature	Date
H. Hadidi (PE)	SJZ for H. Hadidi *	8/22/93
F. Beigi	SJZ for F. Beigi *	8/22/93

* see SEWS for original signature

CERTIFICATION:

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Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
Steam Tunnel
(15 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3025	07	CV4413	MS/MAIN STEAM ISOLATION VALVE (MSIV)	RB	757	H7.1	763	YES	DOC	CRS	YES	NO	YES	YES	NO	BF081 893
3026	07	CV4416	MS/MAIN STEAM ISOLATION VALVE (MSIV)	RB	757	H7.1	763	YES	DOC	CRS	YES	NO	YES	YES	NO	BF081 893
3027	07	CV4419	MS/MAIN STEAM ISOLATION VALVE (MSIV)	RB	757	H8.1	763	YES	DOC	CRS	YES	NO	YES	NO	NO	BF081 893
3028	07	CV4421	MS/MAIN STEAM ISOLATION VALVE (MSIV)	RB	757	H8.1	762	YES	DOC	CRS	YES	NO	YES	NO	NO	BF081 893

CERTIFICATION:

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Print or Type Name	Signature	Date
FARZIN R BEIGI	Farzin Beig	8-18-93
DAVID A FREED P.E.	David A Freed	8-18-93

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DUANE ARNOLD ENERGY CENTER
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3142	08A	MO4441	FW/RX FEEDWATER LOOP A INLET STOP CHECK	RB	757	H7.1	773	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 693

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Print or Type Name	Signature	Date
FARZIN R BEIGI	Farzin Beigi	8-17-93
DAVID A. FREED P.E.	David A Freed	8.17.93

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D 2 of 5

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

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3143	08A	M04442	FW/RX FEEDWATER LOOP B INLET STOP CHECK	RB	757	H8.1	773	YES	BS	GRS	YES	YES	YES	NO	NO	BF081 693
3159	08A	M02401	RCIC/RCIC STEAM SUPPLY OUTBOARD ISOL	RB	757	H8.1	773	YES	BS	GRS	YES	YES	YES	NO	NO	BF081 693

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DAVID A. FREED P.E.	David A Freed	8/17/93
FARZIN R BEIGI	Farzi Beigi	8/17/93

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

Data Base File Name/Date/Time: DAEC.DBF / 08/22/93 / 15:04:14
Sort Criteria: Line Number
Filter Criteria: (Line Number='3162')
Program File Name & Version: SSEM 2.00

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
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3162	08A	MO2239	HPCI/STEAM SUPPLY OUTBOARD ISOL	RB	~~775~~ 757'	F7.1	765	YES	BS	GRS	YES	YES	YES	YES	YES	EF082 193

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Print or Type Name	Signature	Date
DAVID A. FREED, PE	FOR D.A.FREED *	9-1-93
S.J. EDER, PE		9/20/93

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* SEE SEWS FOR ORIGINAL SIGNATURE

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9214	08A	MO2312-0	OPERATOR,HPCI INJECT	RB	757	STEAM TUNNEL	763	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 693
9221	08A	MO2512-0	OPERATOR,RCIC INJECT INTO FDWTR	RB	757	STEAM TUNNEL	759	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 693
9228	08A	MO4424-0	OPERATING MECH,VLV MO4424	RB	757	STEAM TUNNEL	761	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 693
9231	08A	MO84G1A-0	MSIV-LCS "A" LINE INBD BLEED VALVE OPERATING MEC	RB	757	STEAM TUNNEL	761	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 693
9232	08A	MO8401B-0	MSIV-LCS "B" LINE INBD BLEED VALVE OPERATING MEC	RB	757	STEAM TUNNEL	759	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 693
9233	08A	MO8401C-0	MSIV-LCS "C" LINE INBD BLEED VALVE OPERATING MEC	RB	757	STEAM TUNNEL	759	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 693
9234	08A	MO8401D-0	MSIV-LCS "D" LINE INBD BLEED VALVE OPERATING MEC	RB	757	STEAM TUNNEL	759	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 693

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DAVID A. FREED, P.E.	David A Freed	8-17-93

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Screening Verification Data Sheets (SVDS)
for
Torus Room
(65 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

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3120	08A	MO2124	CS/LOOP B MINIMUM FLOW LINE ISOLATION VALVE	BAY 01	716	E10	744	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 693
3133	18	LT4397A	RCS/TORUS WATER LEVEL TRANSMITTER	BAY 02	716	(1CD09)	720	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
3134	18	LT4397B	RCS/TORUS WATER LEVEL TRANSMITTER	BAY 02	716	(1CD09)	720	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
4050	19	TE4325	CNT/TORUS WATER TEMPERATURE (20-220 DEGREES F)	BAY 04	716	TORUS CATWALK	725	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
5145	07	CV3704	RS/DRYWELL FLOOR DRAIN SUMP INBOARD ISOL	BAY 08	716	G7.1	749	YES	N/A	N/A	YES	YES	YES	YES	YES	BH081 493
5147	07	CV3705	RS/DRYWELL FLOOR DRAIN SUMP OUTBOARD ISOL	BAY 08	716	G7.1	749	YES	N/A	N/A	YES	YES	YES	YES	YES	BH081 493
9206	08A	MO2132-0	OPERATING MECH,LPCS	BAY 02	716	--	751	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
9229	08A	MO4841A-0	OPERATING MECH,RBCCW	BAY 02	716	--	750	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
9257	20	RE9185A	TORUS CHAMBER AREA RADIATION DETECTOR	BAY 01	716	(1CD11)	734	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
9258	20	RE9185B	TORUS CHAMBER AREA RADIATION DETECTOR	BAY 07	716	(1CD11)	734	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493

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Print or Type Name	Signature	Date
FARZIN R BEIGI	Farzi Beigi	8-16-93
HASSAN HADIDI-TAMJEDPE	Hassan Hadidi-T. PE	8-16-93

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9269	08B	SV3704	CV-3704 CONTROL AIR SUPPLY ISOLATION	BAY 08	716	--	752	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
9270	08B	SV3705	CV-3705 CONTROL AIR SUPPLY ISOLATION	BAY 08	716	--	752	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
9327	08B	SV8107A	CAM SYS A TORUS SAMPLE LINE INBOARD ISOL	BAY 05	716	--	733	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
9329	08B	SV8108A	CAM SYS A TORUS SAMPLE LINE OUTBOARD ISO	BAY 05	716	--	733	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
9331	08B	SV8109A	CAM SYS A TORUS SAMPLE RETURN INBOARD IS	BAY 09	716	--	733	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
9332	08B	SV8109B	CAM SYS B TORUS SAMPLE RETURN INBOARD IS	BAY 01	716	--	733	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
9333	08B	SV8110A	CAM SYS A TORUS SAMPLE RETURN OUTBOARD I	BAY 09	716	--	733	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493
9334	08B	SV8110B	CAM SYS B TORUS SAMPLE RETURN OUTBOARD I	BAY 01	716	--	733	YES	BS	GRS	YES	YES	YES	YES	YES	BH081 493

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FARZIN R BEIGI	Farzi Beigi	8-16-93
HASSAN HADIDI-TAMJED,PE	Hassan Hadidi-T, PE	8-16-93

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1016	07	CV1867A	CRD/SCRAM DISCHARGE VOLUME DRAIN ISOLATION VALVE	BAY 10	716	F5.2	748	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 893
1017	07	CV1867B	CRD/SCRAM DISCHARGE VOLUME DRAIN ISOLATION VALVE	BAY 10	716	F5.2	747	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 893
3110	08A	MO2104	CS/LOOP A MINIMUM FLOW LINE ISOLATION VALVE	BAY 10	716	F5.2	734	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 893
4008A	08A	MO2009	RHR/RHR PUMPS 1P-229A/C MIN FLOW BYPASS	BAY 10	716	F5.2	747	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 893

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Print or Type Name	Signature	Date
David A. Freed PE.		9/22/93
Caroline S. Schauer PE	CAROLINE S. SCHAUER	9-22-93

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5191	07	CV5718A	DCW/DRYWELL COOLING LOOP A WELL WATER SUPPLY ISOL	BAY 10	716	F6.1	748	YES	N/A	N/A	YES	YES	YES	YES	YES	CF081 893
5193	088	SV5718A	DCW/CV-5718A CONTROL AIR SUPPLY ISOLATION	BAY 10	716	F6.1	750	YES	N/A	N/A	YES	YES	YES	YES	YES	CF081 993
5197	07	CV5704A	DCW/DRYWELL COOLING LOOP A WELL WATER RETURN ISOL	BAY 10	716	F6.1	748	YES	N/A	N/A	YES	YES	YES	YES	YES	CF081 993
5199	088	SV5704A	DCW/CV-5704A CONTROL AIR SUPPLY ISOLATION	BAY 10	742	F6.1	750	YES	N/A	N/A	YES	YES	YES	YES	YES	CF081 993

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CAROLINE S. SCHLAEGER	Caroline S. Schlaeger PE	9-22-93

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9196	08A	M02038-0	OPERATING MECH,RHR,TEST LINE,1E201A-TORUS	BAY 10	716	--	748	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 993
9199	08A	M02069-0	OPERATING MECH,PRCNMT,SUPPR POOL TO RHR PUMP	BAY 10	716	--	721	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 993
9202	08A	M02112-0	OPERATING MECH,LPCS	BAY 10	716	--	751	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 993
9209	08A	M02147-0	OPERATING MECH,PRCNMT	BAY 10	716	--	722	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 993
9212	08A	M02290A-0	OPERATOR,HPCI VACUUM BREAKER ISOL.	BAY 10	716	--	745	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 993
9213	08A	M02290B-0	OPERATOR,HPCI VACUUM BREAKER ISOL.	BAY 10	716	--	745	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 993
9216	08A	M02321-0	OPERATOR,HPCI,INBOARD TORUS SUCTION ISOL	BAY 10	716	--	726	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 993
9222	08A	M02516-0	OPERATOR,INBOARD TORUS SUCTION,RCIC	BAY 10	716	--	724	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 993
9230	08A	M04841B-0	OPERATING MECH,RBCCW	BAY 10	716	--	744	YES	BS	GRS	YES	YES	YES	YES	YES	CF081 993

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5198	07	CV5704B	DCW/DRYWELL COOLING LOOP B WELL WATER RETURN ISOL	BAY 14	716	D7.1	748	YES	N/A	N/A	YES	YES	YES	YES	YES	BF081 993
5200	088	SV5704B	DCW/CV-5704B CONTROL AIR SUPPLY ISOLATION	BAY 14	716	D7.1	753	YES	N/A	N/A	YES	YES	YES	YES	YES	BF081 993

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Print or Type Name	Signature	Date
FARZIN R BEIGI	Farzi Beig	8-20-93
DAVID A. FREED, P.E.	David A. Freed	8-20-93

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9185	08A	M01970-0	OPERATING MECH,RHR,TEST,1E2015 TO TORUS	BAY 15	716	--	750	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9186	08A	M01989-0	OPERATING MECH,PRCNMT,SUPPR POOL TO RHR PUMP	BAY 16	716	--	719	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9208	08A	M02146-0	OPERATING MECH,PRCNMT	BAY 14	716	--	721	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9271	08B	SV3728	CV-3728 CONTROL AIR SUPPLY ISOLATION	BAY 16	716	--	753	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9272	08B	SV3729	CV-3729 CONTROL AIR SUPPLY ISOLATION	BAY 16	716	--	753	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9293	08B	SV4333A	WEST TORUS SPRAY HDR CAD N2 SUPPLY INBOARD	BAY 13	716	--	747	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9294	08B	SV4333B	WEST TORUS SPRAY HDR CAD N2 SUPPLY OUTBOARD ISOL	BAY 13	716	--	747	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9295	08B	SV4334A	NORTH TORUS SPRAY HEADER CAD N2 SUPPLY INBD ISOL	BAY 16	716	--	747	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793

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Print or Type Name	Signature	Date
David A. Freed P.E	David A Freed	8/17/93
FARZIN R BEIGI	Farzi R Beigi	8/17/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
9296	088	SV4334B	NORTH TORUS SPRAY HEADER CAD N2 SUPPLY OUTBD ISOL	BAY 16	716	--	747	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9328	088	SV8107B	CAM SYS B TORUS SAMPLE LINE INBOARD ISOL	BAY 13	716	--	732	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9330	088	SV8108B	CAM SYS B TORUS SAMPLE LINE OUTBOARD ISO	BAY 13	716	--	732	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9335	088	SV8772A	PASS LIQ SAMPLE RETURN TO TORUS INBD ISO	BAY 15	716	--	733	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
9336	088	SV8772B	PASS LIQ SAMPLE RETURN TO TORUS OUTBD IS	BAY 15	716	--	733	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793

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FARZIN R DEKAI	Farzin Beig	8-17-93
DAVID A. FREED PE	David A Freed	8-17-93

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5141	07	CV3728	RS/DRYWELL EQUIP DRAIN SUMP INBOARD ISOL	BAY 16	716	E9.1	750	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
5142	07	CV3729	RS/DRYWELL EQUIP DRAIN SUMP OUTBOARD ISOL	BAY 16	716	E9.1	750	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
5192	07	CV5718B	DCW/DRYWELL COOLING LOOP B WELL WATER SUPPLY ISOL	BAY 14	716	D7.1	747	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
5194	08B	SV5718B	DCW/CV-5718B CONTROL AIR SUPPLY ISOLATION	BAY 14	716	D7.1	749	YES	BS	GPS	YES	YES	YES	YFS	YES	BF081 793

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David A. Freed P.E.	David A Freed	8/17/93
FARZIN R BEIGI	Farz Beigi	8/17/93

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4016	08A	MO2001	RHR/LOOP A DRYWELL SPRAY OUTBOARD ISOLATION VALVE	BAY 16	716	E9.1	750	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
4017	08A	MO2005	RHR/LOOP A TORUS SPRAY OUTBOARD ISOLATION VALVE	BAY 15	716	E9.1	746	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
4020	08A	MO2006	RHR/LOOP A TORUS SPRAY INBOARD ISOLATION VALVE	BAY 15	716	E9.1	747	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
4021	08A	MO2007	RHR/LOOP A TORUS RETURN ISOLATION VALVE	BAY 15	716	E9.1	746	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
4028A	08A	MO1935	RHR/RHR PUMPS 1P-229B/D MIN FLOW BYPASS	BAY 16	716	E9.1	751	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
4036	08A	MO1903	RHR/LOOP B DRYWELL SPRAY OUTBOARD ISOLATION VALVE	BAY 14	716	D7.1	749	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
4037	08A	MO1932	RHR/LOOP B TORUS SPRAY OUTBOARD ISOLATION VALVE	BAY 14	716	D7.1	747	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
4040	08A	MO1933	RHR/LOOP B TORUS SPRAY INBOARD ISOLATION VALVE	BAY 13	716	D7.1	748	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 693
4041	08A	MO1934	RHR/LOOP B TORUS RETURN ISOLATION VALVE	BAY 13	716	D7.1	746	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 693
4046	08A	MO2010	RHR/CROSS TIE ISOLATION VALVE	BAY 15	716	D8.1	743	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793
4049	19	TE4324	CNT/TORUS WATER TEMPERATURE (20-220 DEGREES F)	BAY 15	716	TORUS CATWALK	726	YES	BS	GRS	YES	YES	YES	YES	YES	BF081 793

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FARZIN R BEIGI	Farzi Beigi	8-17-93
DAVID A. FREED P.E.	David A. Freed	8-17-93

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Screening Verification Data Sheets (SVDS)
for
Drywell
(35 items)

DUANE ARNOLD ENERGY CENTER
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2001	07	PSV4400	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	G7.1	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 093
2002	07	PSV4401	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	G7.1	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 293
2003	07	PSV4402	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	F6.1	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 293
2004	07	PSV4405	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	F8.1	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 293
2005	07	PSV4406	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	G8.1	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 293
2006	07	PSV4407	SRV/SAFETY RELIEF VALVE (SRV)	DW	775	G8	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 293

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Print or Type Name	Signature	Date
R. Araya PE.	JK for R. Araya *	8/22/93
David A. Freed	David A Freed	8/22/93

* See SEWS & field notes for original signature

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2007	088	SV4400	SRV/SRV PILOT VALVE	DW	775	--	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 093
2009	088	SV4402	SRV/SRV PILOT VALVE	DW	775	--	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 293
2010	088	SV4405	SRV/SRV PILOT VALVE	DW	775	--	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 293
2011	088	SV4406	SRV/SRV PILOT VALVE	DW	775	--	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 293
2012	088	SV4407	SRV/SRV PILOT VALVE	DW	775	--	778	YES	BS	GRS	YES	YES	YES	YES	YES	AF082 293

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R. ARAYA	for R. Araya *	8/22/93
D. FREED P.E.		8/22/93

* See SEWS & field notes for original signature

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2008	08B	SV4401	SRV/SRV PILOT VALVE	DW	775	--	778	YES	BS	GRS	YES	NO	YES	YES	NO	EF082 093

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Print or Type Name	Signature	Date
STEPHEN J. EDER	[signature] PE	8/22/93
DAVID A. FREED P.E.	[signature]	8/22/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
2013	21	1R003A	SRV/NITROGEN ACCUMULATOR	DW	775	F8	775	YES	N/A	N/A	YES	YES	YES	YES	YES	CF082 393
2014	21	1R003B	SRV/NITROGEN ACCUMULATOR	DW	775	F7.1	775	YES	N/A	N/A	YES	YES	YES	YES	YES	CF082 393
2015	21	1R003C	SRV/NITROGEN ACCUMULATOR	DW	775	F7.1	775	YES	N/A	N/A	YES	YES	YES	YES	YES	CF082 393
2016	21	1R003D	SRV/NITROGEN ACCUMULATOR	DW	775	G8	775	YES	N/A	N/A	YES	YES	YES	YES	YES	CF082 393
3021	21	1R001A	MS/MSIV ACCUMULATOR	DW	757	G7.1	757	YES	N/A	N/A	YES	YES	YES	YES	YES	CF082 393
3022	21	1R001B	MS/MSIV ACCUMULATOR	DW	757	G7.1	757	YES	N/A	N/A	YES	YES	YES	YES	YES	CF082 393
3023	21	1R001C	MS/MSIV ACCUMULATOR	DW	757	G7.1	757	YES	N/A	N/A	YES	YES	YES	YES	YES	CF082 393
3024	21	1R001D	MS/MSIV ACCUMULATOR	DW	757	G7.1	757	YES	N/A	N/A	YES	YES	YES	YES	YES	CF082 393

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Print or Type Name	Signature	Date
CAROLINE S. SCHAEFFER	Caroline S. Schaeffer PE	9-23-93
DAVID A. FREED	David A. Freed PE	9-23-93

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3001	07	CV4412	MS/MAIN STEAM ISOLATION VALVE (MSIV)	DW	757	G8.1	763	YES	DOC	CRS	YES	NO	YES	YES	NO	AF082 093
3002	07	CV4415	MS/MAIN STEAM ISOLATION VALVE (MSIV)	DW	757	G7.1	763	YES	DOC	CRS	YES	NO	YES	YES	NO	AF082 093
3003	07	CV4418	MS/MAIN STEAM ISOLATION VALVE (MSIV)	DW	757	G8.1	763	YES	DOC	CRS	YES	NO	YES	YES	NO	AF082 093
3004	07	CV4420	MS/MAIN STEAM ISOLATION VALVE (MSIV)	DW	757	G7.1	763	YES	DOC	CRS	YES	NO	YES	YES	NO	AF082 093

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DAVID A. FREED P.E.	David A Freed	8-21-93
R. ARAYA	GB* for R. Araya	8/21/93

* See SEWS & OENS for original signature

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3101	08A	M02700	RWCU/RWCU INLET INBOARD ISOLATION VALVE	DW	775	F7.1	777	YES	BS	GRS	YES	YES	YES	YES	YES	CF082 293
3158	08A	M02400	RCIC/RCIC STEAM SUPPLY INBOARD ISOL	DW	775	G8	777	YES	BS	GRS	YES	YES	YES	YES	YES	CF082 293
3161	08A	M02238	HPCI/STEAM SUPPLY INBOARD ISOL	DW	775	F7.1	775	YES	BS	GRS	YES	YES	YES	YES	YES	CF082 293
9175	08A	M01908-0	OPERATING MECH,RHR,PMP B,D SUCT,SHTDN CLG	DW	775	SW QUADRANT	777	YES	BS	GRS	YES	YES	YES	YES	YES	CF082 293
9227	08A	M04423-0	OPERATING MECH,NUC BOILER,VLV M04423	DW	757	NE QUADRANT	761	YES	BS	GRS	YES	YES	YES	YES	YES	CF082 293

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Print or Type Name	Signature	Date
CAROLINE S. SCHUESSLER	Caroline S. Schuessler PE	9-23-93
DAVID A. FREED P.E.	David A. Freed	7-23-93

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
3144	07	CV4639	RR/RECIRC SAMPLE LINE INBOARD ISOLATION	DW	798	F7.1	798	NO	ABS	CRS	YES	YES	YES	YES	YES	CF082 293
3146	088	SV4639	RR/CV-4639 NITROGEN SUPPLY ISOL	DW	~~775~~ 798	F7.1	798	NO	ABS	CRS	YES	YES	YES	YES	YES	CF082 293
4047	19	TE4386L	CAC/DRYWELL TEMPERATURE (ELEVATION 830')	DW	824	SE QUADRANT	826	NO	ABS	CRS	YES	YES	YES	YES	YES	CF082 293
4048	19	TE4386J	CAC/DRYWELL TEMPERATURE (ELEVATION 780')	DW	775	NE QUADRANT	779	YES	ABS	CRS	YES	YES	YES	YES	YES	CF082 293
9255	20	RE9184A	DRYWELL AREA RADIATION MONITOR	DW	757	(1C009)	760	YES	DOC	CRS	YES	N/A	YES	YES	YES	CF082 293
9256	20	RE9184B	DRYWELL AREA RADIATION MONITOR	DW	757	(1C011)	760	YES	DOC	CRS	YES	N/A	YES	YES	YES	CF082 293

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Print or Type Name	Signature	Date
CAROLINE S. SCHUERMAN	Caroline S. Schuerman, PE	9-23-93
DAVID A. FREED	David A. Freed PE	9-23-93

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Print or Type Name	Signature	Date

P.7 of 7

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- EQUIPMENT LOCATION ---> Building	Flr.Elv.	Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6061	01	1846	480VAC/PUMP HOUSE 480VAC MOTOR CONTROL CENTER	PH	761	C1, "B" SIDE RM	761	YES	ABS	CRS	YES	NO	NO	YES	NO	AK090 393

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Print or Type Name	Signature	Date
RODRIGO ARAYA, P.E.	R Araya M	9/16/93
T.R. Kipp	Helen for TR Kipp	9/22/93 *

* see SEWS for original signature

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8001	06	1P099A	ESW/EMERGENCY SERVICE WATER PUMP A PH		761	C3, "A" SIDE RM	761	YES	DOC	CRS	YES	NO	NO	YES	NO	EKS07 2993
8002	06	1P099B	ESW/EMERGENCY SERVICE WATER PUMP B PH		761	C2, "B" SIDE RM	761	YES	DOC	CRS	YES	NO	NO	YES	NO	EKS07 2993

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Print or Type Name	Signature	Date
KRISTIN E. SMITH	Kristin E. Smith	7/30/93
Thomas R. Kipp	Thomas R. Kipp	7/30/93
STEPHEN J. EDER	Stephen J. Eder, PE	8/10/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8019	18	FT4938A	ESW/LOOP A FLOW RATE TRANSMITTER	PH	761	A3	752	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993
8020	18	FT4938B	ESW/LOOP B FLOW RATE TRANSMITTER	PH	761	A3	752	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993
8023	18	PDI4938A	ESW/LOOP A FLOW ELEMENT DP	PH	761	B3, "A" SIDE RM	767	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993
8024	18	PDI4938B	ESW/LOOP B FLOW ELEMENT DP	PH	761	C2, "B" SIDE RM	767	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993
8213	18	FT4917	RWS/LOOP A FLOW RATE TRANSMITTER	PH	747	B2	747	YES	ABS	CRS	YES	YES	YES	YES	YES	EK071 993
8214	18	FT4916	RWS/LOOP B FLOW RATE TRANSMITTER	PH	727	A1	739	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993
8527	10	D07536U	HVAC/SW PUMP ROOM EXHAUST DAMPER	PH	780	A1	780	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993
8528	10	D07536V	HVAC/SW PUMP ROOM EXHAUST DAMPER	PH	780	A1	780	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993
8529	08B	SV7536	HVAC/SW PUMP ROOM EXHAUST DAMPER SOLENOID	PH	780	A1	783	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993
8530	10	D07537U	HVAC/SW PUMP ROOM EXHAUST DAMPER	PH	780	A1	780	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993
8531	10	D07537V	HVAC/SW PUMP ROOM EXHAUST DAMPER	PH	780	A1	780	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993
8532	08B	SV7537	HVAC/SW PUMP ROOM EXHAUST DAMPER SOLENOID	PH	780	A1	764	YES	BS	GRS	YES	YES	YES	YES	YES	EK071 993

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Print or Type Name	Signature	Date
Thomas R. Kipp	Thomas R. Kipp	7/26/93
STEPHEN J. EDER	S. Eder, PE	7/26/93

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8101	06	1P022A	RHRSW/RHR SERVICE WATER PUMP A	PH	761	D4, "A" SIDE RM	761	YES	BS	GRS	YES	NO	NO	YES	NO	ADE07 1993
8102	06	1P022C	RHRSW/RHR SERVICE WATER PUMP C	PH	761	D3, "A" SIDE RM	761	YES	BS	GRS	YES	NO	NO	YES	NO	ADE07 1993
8103	06	1P022B	RHRSW/RHR SERVICE WATER PUMP B	PH	761	D2, "B" SIDE RM	761	YES	BS	GRS	YES	NO	NO	YES	NO	ADE07 1993
8104	06	1P022D	RHRSW/RHR SERVICE WATER PUMP D	PH	761	D1, "B" SIDE RM	761	YES	BS	GRS	YES	NO	NO	YES	NO	ADE07 1993
8205	07	CV4910A	RWS/LOOP A DILUTION FLOW LINE ISOLATION VALVE	PH	727	B3	727	YES	BS	GRS	YES	YES	N/A	YES	YES	ADE07 1993
8206	07	CV4910B	RWS/LOOP B DILUTION FLOW LINE ISOLATION VALVE	PH	727	A3	727	YES	BS	GRS	YES	YES	N/A	YES	YES	ADE07 1993
8207	08B	SV4910A	RWS/LOOP A DILUTION FLOW LINE ISOLATION VALVE SOLENOID	PH	727	B3	727	YES	BS	GRS	YES	YES	YES	YES	YES	ADE07 1993
8208	08B	SV4910B	RWS/LOOP B DILUTION FLOW LINE ISOLATION VALVE SOLENOID	PH	727	B3	727	YES	BS	GRS	YES	YES	YES	YES	YES	ADE07 1993

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Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/26/93
STEPHEN J EDER	S Eder, PE	7/26/93
RODRIGO ARAYA	R Araya M, PE	7/26/93

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8209	07	CV4915	RWS/LOOP A STILLING BASIN DISCHARGE ISOLATION VALVE	PH	747	B3	749.5	YES	ABS	CRS	YES	YES	N/A	YES	YES	EKS07 1993
8210	07	CV4914	RWS/LOOP B STILLING BASIN DISCHARGE ISOLATION VALVE	PH	747	B3	749.5	YES	ABS	CRS	YES	YES	N/A	YES	YES	EKS07 1993
8211	088	SV4915	RWS/LOOP A STILLING BASIN DISCHARGE ISOL VALVE PILOT	PH	747	B2	751	YES	ABS	CRS	YES	YES	YES	YES	YES	EKS07 1993
8212	088	SV4914	RWS/LOOP B STILLING BASIN DISCHARGE ISOL VALVE PILOT	PH	747	B4	751.25	YES	ABS	CRS	YES	YES	YES	YES	YES	EKS07 1993

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Thomas R. Kipp	Thomas R. Kipp	7/26/93
STEPHEN J EDER	S Eder, PE	7/26/93
KRISTIN SMITH	Kristin Smith	7/26/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8513	09	1VSF056A	HVAC/SW PUMP ROOM VENTILATION FAN A	PH	761	A3	780	YES	BS	GRS	YES	YES	YES	YES	YES	AE071 993
8515	10	D07539A	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER A	PH	761	A3	780	YES	BS	GRS	YES	YES	YES	YES	YES	AE071 993
8517	08B	SV7539A	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER A SOLENOID	PH	761	A3	780	YES	BS	GRS	YES	YES	YES	YES	YES	AE071 993
8519	10	D07538A	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER A	PH	761	A3, "A" SIDE RM	780	YES	BS	GRS	YES	YES	YES	YES	YES	AE071 993
8521	08B	SV7538A	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER A SOLENOID	PH	761	A3	780	YES	BS	GRS	YES	YES	YES	YES	YES	AE071 993

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RODRIGO ARAYA		7/26/93
STEPHEN J. EDER	, PE	7/26/93

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8514	09	1VSF056B	HVAC/SW PUMP ROOM VENTILATION FAN B	PH	775	A1	780	YES	BS	GRS	YES	YES	YES	YES	YES	DEKO7 1993
8516	10	DO7539B	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER B	PH	775	A1	780	YES	BS	GRS	YES	YES	YES	YES	YES	DEKO7 1993
8518	08B	SV7539B	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER B SOLENOID	PH	775	A1	780	YES	BS	GRS	YES	YES	YES	YES	YES	DEKO7 1993
8520	10	DO7538B	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER B	PH	775	A1	780	YES	BS	GRS	YES	YES	YES	YES	YES	DEKO7 1993
8522	08B	SV7538B	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER B SOLENOID	PH	775	A1	780	YES	BS	GRS	YES	YES	YES	YES	YES	DEKO7 1993

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Print or Type Name	Signature	Date
Thomas R. Kipp	Thomas R. Kipp	7/26/93
DAVID DOYLE	David J. Doyle	7/26/93
STEPHEN J. EDER	S. Eder, PE	7/26/93

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Print or Type Name	Signature	Date

Report Date/Time: 05-27-94 / 08:09:00

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
PUMP HOUSE

Data Base File Name/Date/Time: DAEC.DBF / 05/27/94 / 07:33:30
Sort Criteria: Line Number
Filter Criteria: (Building=='PH') AND (SVDS Notes=='BS052794')
Program File Name & Version: SSEM 2.2

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<-- Building	EQUIPMENT Flr.Elv.	LOCATION --> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8208A	07	CV4909	RWS/RIVER WATER RADWASTE DILUTION LINE ISOLATION	PH	727	A4	730	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
8208B	08B	SV4909	RWS/CV4909 INSTRUMENT AIR SUPPLY ISOLATION	PH	727	C2	731	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794

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Print or Type Name	Signature	Date
FARYN BEIGI	Faryn Beigi	5-27-94
CAROLINE S. SCHUBERMAN	Caroline S. Schuberman PE	6-1-94

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6012	01	1B36	480VAC/PUMP HOUSE 480VAC MOTOR CONTROL CENTER	PH	761	B3, "A" SIDE RM	761	YES	ABS	CRS	YES	YES	YES	YES	YES	BS032 295

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Print or Type Name	Signature	Date
CAROLINE S. SCHLABEMAN	PE	4-19-95
MARTIN R. BEIGI		4-24-95

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Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
Intake Structure
(26 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6004	01	1B91	480VAC/INTAKE STRUCTURE 480VAC MOTOR CONTROL CENTER	IS	767	A2, DOOR 609	767	YES	~~BS~~ GERS	~~GRS~~ CRS	YES	NO	YES	NO	NO	AH081 493

SEE SEWS FOR REVISION 5-24-95 CDL

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya M.S. PE	8/19/93
HASSAN HADIDI-TAMJED	Hassan Hadidi PE	8/19/93

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6051	04	1X020	480VAC/TRANSFORMER, 480V SWGR, 1A4 TO 1B20	~~EB~~ IS	~~757~~ 767	~~ESS SWGR ROOM~~ B2, DOOR 603	~~767~~ 767 ok	YES	~~BC~~ ABS	~~GRS~~ CRS	YES	YES	YES	YES	YES	AC090 593
6052	02	1B20	480VAC/INTAKE STRUCTURE 480VAC LOAD CENTER	IS	767	B2, DOOR 603	767	YES	~~BC~~ ~~ABS~~ GERS	~~GRS~~ CRS	YES	NO	YES	NO	NO	AC090 193
6053	01	1B21	480VAC/INTAKE STRUCTURE 480VAC MOTOR CONTROL CENTER	IS	767	B2, DOOR 603	767	YES	~~BC~~ ~~ABS~~ GERS	~~GRS~~ CRS	YES	YES	YES	YES	YES	AC090 593

SEE SEWS FOR REVISION 5-24-95 cdk

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Print or Type Name	Signature	Date
CAROLINE S. SCHLAEGMAN	PE	9-14-93
RODRIGO ARAYA, P.E.		9/16/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8201	06	1P117A	RWS/RIVER WATER SUPPLY PUMP A	IS	767	A3, DOOR 609	767	YES	ABS	CRS	YES	NO	NO	YES	NO	AE081 093
8202	06	1P117C	RWS/RIVER WATER SUPPLY PUMP C	IS	767	A3, DOOR 609	767	YES	ABS	CRS	YES	NO	NO	YES	NO	AE081 093
8203	06	1P117B	RWS/RIVER WATER SUPPLY PUMP B	IS	767	B3, DOOR 603	767	YES	ABS	CRS	YES	NO	NO	YES	NO	AE081 093
8204	06	1P117D	RWS/RIVER WATER SUPPLY PUMP D	IS	767	B3, DOOR 603	767	YES	ABS	CRS	YES	NO	NO	YES	NO	AE081 093

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R. Araya, PE	8-12-93
S. J. EDER	S. J. Eder, PE	8/12/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8501	10	D07709A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	IS	770	A1, DOOR 605	772	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8502	10	D07710A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	IS	770	A1, DOOR 605	770	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8503	10	D07711A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	IS	770	A1, DOOR 605	768	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8504	10	D07709B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	IS	770	B2, DOOR 607	772	YES	BS	GRS	YES	NO	YES	YES	NO	DE072 693
8505	10	D07710B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	IS	770	B2, DOOR 607	770	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8506	10	D07711B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	IS	770	B2, DOOR 607	768	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8507	09	1VSF50	HVAC/INTAKE STRUCTURE VENT FAN A	IS	767	A2, DOOR 609	774	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8508	09	1VSF51	HVAC/INTAKE STRUCTURE VENT FAN B	IS	767	B2, DOOR 603	774	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8509	10	D07713A	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	IS	778	A3, DOOR 609	778	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8510	10	D07716A	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	IS	778	A3, DOOR 609	778	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8511	10	D07713B	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	IS	778	B3, DOOR 603	778	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8512	10	D07716B	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	IS	778	B3, DOOR 603	778	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693

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Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/30/93
STEPHEN J. EDER	[signature], PE	8/10/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8694	20	1C156	SUPPLY FAN 1V-SF-50 CONTROL PANEL	IS	767	A2	772	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693
8695	20	1C157	SUPPLY FAN 1V-SF-51 CONTROL PANEL	IS	767	B2	772	YES	BS	GRS	YES	YES	YES	YES	YES	DE072 693

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DAVID DOYLE	David Doyle	7/30/93
STEPHEN J. EDER	S. Eder, PE	8/10/93

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
INTAKE STRUCTURE

Data Base File Name/Date/Time: DAEC.DBF / 05/27/94 / 07:33:30
Sort Criteria: Line Number
Filter Criteria: (Building=='IS') AND (SVDS Notes=='BS052794')
Program File Name & Version: SSEM 2.2

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8512A	10	D07712A	HVAC/SUPPLY FAN 1VSF50 RETURN AIR INLET DAMPER	IS	766	A1	766	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794
8512B	10	D07712B	HVAC/SUPPLY FAN 1VSF51 RETURN AIR INLET DAMPER	IS	766	B1	765	YES	BS	GRS	YES	YES	YES	YES	YES	BS052794

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzi Beigi	5-27-94
CAROLINE S. SCHLAGENHAUF	Caroline S. Schlagenhauf PE	6-1-94

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6002	04	1X091	480VAC/TRANSFORMER, 480V SWGR, 1A3 TO 1B09	IS	767	--	767	YES	~~BS or~~ ABS	~~BRS or~~ CRS	YES	YES	YES	YES	YES	BE031 095

SEE SEWS FOR REVISION 5-24-95 CDA

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Print or Type Name	Signature	Date
FARZIN R. BEIGI	Farzin Beigi	4-24-95
STEPHEN J. EDER, PE		4-25-95

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Print or Type Name	Signature	Date

P.7 of 8

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<---------- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<80'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6003	02	1B09	480VAC/INTAKE STRUCTURE 480VAC LOAD CENTER	IS	767	A2, DOOR 609	767	YES	~~BS or ABS~~ GERS	~~GRS or~~ CRS	YES	YES	YES	YES	YES	BS032 195

SEE SEWS FOR REVISION 5-24-95 CSA

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Print or Type Name	Signature	Date
CAROLINE S. SCHLASEMAN	Caroline S. Schlaseman PE	4-19-95
FARZIN R. BEIGI	Farzin Beigi	4-24-95

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Print or Type Name	Signature	Date

D 8 of 8

Screening Verification Data Sheets (SVDS)
for
Control Building 757'
(Switchgear & Battery Room)
(42 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION Rm. or Row/Col. ---->	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8657	20	2351	4160VAC/ESSENTIAL BUS 1A3 DEGRADED VOLT DETECTOR	CB	757	H12	757	YES	ABS	CRS	YES	YES	YES	YES	YES	ES031 095

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Print or Type Name	Signature	Date
CAROLINE S. SCHLAESEMAN	Caroline S. Schlaseman PE	4-19-95
STEPHEN J. EDER, PE		4/19/95

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
6050	03	1A4	4160VAC/4160 VAC ESSENTIAL SWITCHGEAR	CB	757	F11	757	YES	ABS	CRS	YES	NO	YES	NO	NO	AC090 493	
6054	04	1X041	480VAC/TRANSFORMER, 480V SWGR, 1A4 TO 1B04	TB	757	SWGR ROOM	757	YES	ABS	CRS	YES	~~N~~NO	~~N~~NO	YES	~~N~~NO	AC090 493	SEE SDUS FOR REVISIONS 5-24-95 CSD
6055	02	1B04	480VAC/CONTROL BUILDING 480VAC LOAD CENTER	CB	757	G12	757	YES	ABS	CRS	YES	NO	~~N~~YES	NO	NO	AC090 593	
6056	01	1B42	480VAC/CONTROL BUILDING 480VAC MOTOR CONTROL CENTER	CB	757	F11	757	YES	ABS	CRS	YES	NO	YES	NO	NO	AC090 493	
6110	16	1D22	125VDC/1D2 125VDC (DIVISION 2) MAIN BATTERY CHARGER	CB	757	F12	757	YES	ABS	CRS	YES	YES	YES	YES	YES	AC090 493	
8665	20	1C352	4160VAC/ESSENTIAL BUS 1A4 DEGRADED VOLT DETECTOR	CB	757	G12	757	YES	ABS	CRS	YES	YES	YES	YES	YES	AC090 493	

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CAROLINE S. SCHASSMAN	Caroline S. Schassman, PE	9-14-93
RODRIGO ARAYA, P.E.	R Araya M	9/16/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6101	15	1D1	125VDC/125VDC DIVISION 1 BATTERY	CB	757	H13	757	YES	BS	GRS	YES	YES	YES	NO	NO	AH081 193
6112	16	1D120	125VDC/125VDC BACKUP BATTERY CHARGER	CB	757	H12	757	YES	ABS	CRS	YES	YES	YES	NO	NO	AH081 493

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya Ms, P.E.	8/17/93
HASSAN HADIDI-TAMJED	Hassan Hadidi, P.E.	8/17/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6104	16	1D12	125VDC/1D1 125VDC DIVISION 1 MAIN BATTERY CHARGER	CB	757	G12	757	YES	ABS	CRS	YES	YES	YES	YES	YES	A8081 893

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya Mg PE	8/19/93
FARRIN R BAIG	Farrin Baig	8/19/93

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6102	14	1D10	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL # 1	CB	757	G12	757	YES	ABS	CRS	YES	NO	YES	YES	NO	AK090 393
6103	14	1D11	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL A	CB	757	G12	762	YES	ABS	CRS	YES	YES	YES	YES	YES	AK090 393
6105	14	1D13	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL C	CB	757	G12	762	YES	ABS	CRS	YES	YES	YES	YES	YES	AK090 393
6107	15	1D2	125VDC/125VDC DIVISION 2 BATTERY	CB	757	F13	757	YES	BS	GRS	YES	YES	YES	NO	NO	AK090 393
6108	14	1D20	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL # 2	CB	757	F12	757	YES	ABS	CRS	YES	YES	YES	YES	YES	AK090 393
6109	14	1D21	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL B	CB	757	F12	762	YES	ABS	CRS	YES	YES	YES	YES	YES	AK090 393
6111	14	1D23	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL D	CB	757	F12	762	YES	ABS	CRS	YES	YES	YES	YES	YES	AK090 393
6201	14	1D40	250VDC/250VDC DISTRIBUTION PANEL	CB	757	G13	757	YES	ABS	CRS	YES	YES	YES	YES	YES	AK090 393

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
RODRIGO ARAYA, P.E.	R Araya M	9/16/93
T.R. Kipp	T.R. Kipp for T.R. Kipp	9/20/93 *

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

* See SEWS for original signature

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6200	15	1D4	250VDC/250VDC BATTERY	CB	757	G13	757	YES	ABS	CRS	YES	YES	YES	NO	NO	AE081 993

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Print or Type Name	Signature	Date
STEPHEN J. EDER	[signature], PE	8/22/93
RODRIGO ARAYA	[signature], PE	8/20/93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
~~6203~~	~~01~~	~~1D42~~	~~250VDC/RB 757' LEVEL 250VDC MOTOR CONTROL CENTER~~	~~RB~~	~~757~~	~~B10~~	~~757~~	~~YES~~	~~ABS~~	~~CRS~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~AE081 993~~	LOCATED IN RX BLDG. CR
6204	16	1D43	250VDC/1D4 250VDC BATTERY CHARGER	TB	757	H12	757	YES	ABS	CRS	YES	YES	YES	YES	YES	AE081 993	
6205	16	1D44	250VDC/1D4 250VDC BATTERY CHARGER	CB	757	F12	757	YES	ABS	CRS	YES	YES	YES	YES	YES	AE081 993	

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Print or Type Name	Signature	Date
STEPHEN J. EDER	PE	8/20/93
RODRIGO ARAYA	PE	8/20/93

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Print or Type Name	Signature	Date

Report Date/Time: 06-01-94 / 15:10:13

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
CONTROL BUILDING - 757'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6301	16	1D25	120VAC/120 VOLT INSTRUMENT AC POWER SUPPLY	CB	757	F11	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052 794
6302	14	1Y25	IAC/MANUAL BYPASS SWITCH PANEL	CB	757	F11	757	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
6303	04	1Y2A	IAC/REGULATING TRANSFORMER	CB	757	F11	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052 794
6306	16	1D15	120VAC/120 VOLT INSTRUMENT AC POWER SUPPLY	CB	757	H11	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052 794
6307	14	1Y15	IAC/MANUAL BYPASS SWITCH PANEL	CB	757	H11	757	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 794
6308	04	1Y1A	IAC/REGULATING TRANSFORMER	CB	757	H11	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052 794
6402	04	1Y004	120VAC/REGULATING TRANSFORMER	CB	757	H12	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052 794
6403	04	1Y002	IAC/INSTRUMENT AC PANEL 1Y021 SUPPLY TRANSFORMER	CB	763	G13	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052 794
6404	16	1D45	120VAC/120 VOLT UNINTERRUPTIBLE AC POWER SUPPLY	CB	757	H11	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052 794
8702	14	1L08	CRL/480V/277V LIGHTING PANEL	CB	757	G11	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052 794

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
CAROLINE S. SCHAEFFER	Caroline S. Schaeffer PE	6-1-94
FARZIN BEIGI	Farzin Beigi	6-1-94

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
CONTROL BUILDING - 757'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6304	14	1Y20	IAC/INSTRUMENT AC 1Y21 MAIN AND TIE BREAKER PANEL	CB	757	G13	757	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
6305	14	1Y021	120VAC/120V INSTRUMENT AC DISTRIBUTION PANEL	CB	757	G13	757	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
6309	14	1Y010	IAC/INSTRUMENT AC 1Y11 MAIN AND TIE BREAKER PANEL	CB	757	G12	757	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
6310	14	1Y11	120VAC/120V INSTRUMENT AC DISTRIBUTION PANEL	CB	757	G12	757	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
6400	14	1Y023	120VAC/120V UNINTERRUPTIBLE AC DISTRIBUTION PANEL	CB	757	H11	757	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
6401	14	1Y022	120VAC/1Y002 TO 1Y023 AUTOMATIC TRANSFER SWITCH	CB	757	H11	757	YES	~~ABS~~ BS	~~CRS~~ GRS	YES	YES	YES	YES	YES	BS052 194
8696	20	1C142	CONTAINMENT ATMOSPHERE CONTROL INSTRUMENT PANEL	CB	757	ESS SWGR ROOM	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BS052 194

FB CHANGED IN DATABASE 5-27-94 CLR

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzin Beigi	5-26-94
CAROLINE S. SCHUTSMAN	Caroline S. Schutsman PE	6-1-94

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6001	03	1A3	4160VAC/4160VAC ESSENTIAL SWITCHGEAR	CB	757	H13	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BE030 995
6005	04	1X031	480VAC/TRANSFORMER, 480VAC SWGR, 1A3 TO 1B03	CB	757	H12	757	YES	ABS	CRS	YES	NO	NO	YES	NO	BE030 995
6006	02	1B03	480VAC/CONTROL BUILDING, 480VAC LOAD CENTER	CB	757	H12	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BE032 995
6007	01	1B32	480VAC/CB 480VAC ESSENTIAL MOTOR CONTROL CENTER	CB	757	H12	757	YES	ABS	CRS	YES	YES	YES	YES	YES	BE031 095

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Print or Type Name	Signature	Date
FARZIN R. BEIGI	Farzin Beigi	4-24-95
STEPHEN J. EDER, PE		4/25/95

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8604	20	1C019	SMP/PROCESS INSTRUMENTATION EQUIPMENT BOARD	CB	786	BACK PANEL AREA	786	YES	ABS	CRS	YES	YES	YES	YES	YES	AKD90 393
8651	20	1C033	RHR/DIVISION II RHR, CORE SPRAY & AUTO BLOWDOWN RELAY	CB	786	BACK PANEL AREA	786	YES	ABS	CRS	YES	~~YES~~ NO	YES	YES	~~YES~~ NO	AKD90 393
8655	20	1C044	CS/DIVISION II CORE SPRAY RELAY VERTICAL BOARD	CB	786	BACK PANEL AREA	786	YES	ABS	CRS	YES	~~YES~~ NO	YES	NO	NO	AKD90 393

OK 5/95
(SEE REVISED SCDUS FOR SIGNATURES)

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Print or Type Name	Signature	Date
RODRIGO ARAYA, P.E.	R Araya	9/16/93
T.R. KIPP	for TR Kipp	9/20/93 *

* See SCDUS for original signature

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8605	20	1C003	HPCI/RB & DW COOLING & ISOLATION CONTROL PANEL	CB	786	MCR	786	YES	ABS	CRS	YES	~~YES~~ NO COA 5/95 (SEE REVISED SQNS FOR SIGNATURES)	YES	NO	NO	FH082 093

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Print or Type Name	Signature	Date
STEPHEN J. EDER	[signature] PE	8/22/93
H. HADIDI	SB for H. Hadidi *	8/22/93
F. BRIGI	SB for F. Brigi *	8/22/93

* for original signature see SQNS

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8607	20	1C018	FW/FW & RECIRC CONTROL PANEL	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	~~NO~~ YES	YES	~~NO~~ YES	EH082 293

CDA 5/95
(SEE REVISED SEWS FOR SIGNATURES)

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Print or Type Name	Signature	Date
S.J. EDER, PE		9/20/93
H. HADIDI	for H. Hadidi	9/20/93 *

* See SEWS for original signature

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8608	20	1C004	RWCU/RWCU & RECIRC CONTROL PANEL	CB	786	MCR	786	YES	BS	GRS	YES	YES	YES	NO	NO	AB082 093
8638	20	1C006	CDS/FEEDWATER AND CONDENSATE CONTROL PANEL	CB	786	MCR	786	YES	BS	GRS	YES	YES	YES	NO	NO	AB082 093
8664	20	1C031	PNL/TURBINE GENERATOR RELAY PANEL	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	NO	NO	AB081 993

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Print or Type Name	Signature	Date
FARZIN R BEIGI	Farzi Beigi	8-20-93
RODRIGO ARAYA	R Araya	8-20-93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8609	20	1C009	DRM/ACCIDENT MONITORING PANEL	CB	786	MCR	786	YES	BS	GRS	YES	YES	YES	NO	NO	AH080 993
8614	20	1C008	BLD/GENERATOR AND AUXILIARY POWER PANEL	CB	786	MCR	786	YES	BS	GRS	YES	NO	YES	NO	NO	AH080 993

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Print or Type Name	Signature	Date
STEPHEN J. EDER	S. Eder, PE	8/22/93
R. ARAYA	for R. Araya	8/22/93
H. HADIDI	for H. Hadidi	8/22/93

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8611	20	1C005	CRD/REACTOR CONTROL PANEL	CB	786	MCR	786	YES	ABS	CRS	YES	YES	YES	NO	NO	FH081 693
8621	20	1C026	HVAC/TB & CB HVAC CONTROL PANEL	CB	786	BACK PANEL AREA	786	YES	ABS	CRS	YES	NO	~~NO~~ YES	YES	NO	FH082 093

Add 5/95 (SEE REVISED SEWS FOR SIGNATURES)

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Print or Type Name	Signature	Date
DAVID A. FREEMAN	*	9/14/93
H. HADIDI	*	9/20/93

* See SEWS for original signature

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LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--------- EQUIPMENT LOCATION -----> Building	Flr.Elv.	Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8650	20	1C032	RHR/DIVISION I RHR, CORE SPRAY & AUTO BLOWDOWN RELAY	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	AH081 493

CERTIFICATION:

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
RODRIGO ARAYA, P.E.	R Araya M	9/16/93
H. HADIDI	See for H. Hadidi	9/15/93 *

* See SEWS for original signature

CERTIFICATION:

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8652	20	1C043	CS/DIVISION I CORE SPRAY RELAY VERTICAL BOARD	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	NO	YES	NO	NO	EH082 193

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Print or Type Name	Signature	Date
STEPHEN J. EDER	S/ Eder, PE *	8/22/93
H. Hadidi	S/2 for H. Hadidi	8/22/93

* for original signature see SE-03

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
CONTROL BUILDING - 786'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8677	20	1C010	PROCESS RADIATION MONITOR VERTICAL BOARD	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
8678	20	1C011	AREA RADIATION MONITOR VERTICAL BOARD CONTROL	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
8679	20	1C013	T.I.P. (REACTOR NEUTRON MAPPING) CONTROL VERTICAL	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	NO	YES	YES	NO	BS052 194
8680	20	1C014	MSIV-LEAKAGE CONTROL PANEL	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	NO	NO	YES	NO	BS052 194
8681	20	1C016	REACTOR PROTECT SYSTEM TEST & MONITOR VERT BRD	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
8682	20	1C024	VERT BOARD	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	NO	YES	YES	NO	BS052 194
8683	20	1C029	EXCESS FLOW CHECK VALVES CONTROL PANEL	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
8684	20	1C035	PANEL, CAD	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
8685	20	1C041	INBOARD PRIM CONTAINMENT ISOL VALVE RELAY	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
8686	20	1C042	OUTBOARD PRIM CONTAINMENT ISOL VALVE RELAY	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
8693	20	1C027	CONTROL ROD POSITION INFORMATION CABINET	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	NO	YES	YES	NO	BS052 194
8697	20	1C045	AUTO BLOWDOWN RELAY VERTICAL BOARD	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzin Beigi	5-26-94
CAROLINE J. SCHLASEMAN	Caroline J. Schlaseman PE	6-1-94

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
CONTROL BUILDING - 786'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8698	20	1C075	CHAN A PRIMARY ISOL & RX PROTECTION VERTICAL BRD	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194
8699	20	1C017	CHAN B PRIMARY ISOL & RX PROTECTION VERTICAL BRD	CB	786	BACK PANEL AREA	786	YES	BS	GRS	YES	YES	YES	YES	YES	BS052 194

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzi Beigi	5-26-94
CAROLINE S. SCHUASEMANN	Caroline S. Schuaseman PE	6-1-94

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Print or Type Name	Signature	Date

Screening Verification Data Sheets (SVDS)
for
Control Building 800′
(55 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8401	10	1VAC030A	CRHVAC/CONTROL ROOM AC UNIT A	CB	800	H13	800	YES	DGC	CRS	YES	NO	YES	NO	NO	ES072 693
8402	10	1VAC030B	CRHVAC/CONTROL ROOM AC UNIT B	CB	800	H13	800	YES	DOC	CRS	YES	NO	YES	NO	NO	ES072 693

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Print or Type Name	Signature	Date
K.E. SMITH	for K.E. Smith	8/10/93
STEPHEN J. EDER		8/10/93

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Print or Type Name	Signature	Date

* ON ORIGINAL SIGNATURE SHEET, ANCHORS LABELED "U" DUE TO LACK OF TIGHTNESS CHECK. ANCHORS WERE CHECKED, AND PASSED, SO ITEM IS ADEQUATE SJE

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8403	10	D06113A	CRHVAC/LOOP A AC EXHAUST DAMPER	CB	800	F13	800	YES	ABS	CRS	YES	YES	YES	YES	YES	AS072 393
8404	10	D06113B	CRHVAC/LOOP B AC EXHAUST DAMPER	CB	800	J13	800	YES	ABS	CRS	YES	YES	YES	YES	YES	AS072 393
8405	08B	SV6113A	CRHVAC/LOOP A AC EXHAUST DAMPER SOLENOID	CB	800	(1C133A)	BOX		8619	1C133A						AS072 293
8406	08B	SV6113B	CRHVAC/LOOP B AC EXHAUST DAMPER SOLENOID	CB	800	(1C133B)	BOX		8620	1C133B						AS072 293
8407	09	1VRF030A	CRHVAC/EXHAUST FAN A	CB	800	J13	BOX		8401	1VAC030A						AS072 393
8408	09	1VRF030B	CRHVAC/EXHAUST FAN B	CB	800	J13	BOX		8402	1VAC030B						AS072 393
8409	10	D06127A	CRHVAC/LOOP A EXHAUST FAN DAMPER	CB	800	G13	800	YES	ABS	CRS	YES	YES	YES	YES	YES	AS072 393
8410	10	D06127B	CRHVAC/LOOP B EXHAUST FAN DAMPER	CB	800	J13	800	YES	ABS	CRS	YES	YES	YES	NO	NO	AS072 393
8411	08B	SV6127A	CRHVAC/LOOP A EXHAUST FAN DAMPER SOLENOID	CB	800	(1C133A)	BOX		8619	1C133A						AS072 293
8412	08B	SV6127B	CRHVAC/LOOP B EXHAUST FAN DAMPER SOLENOID	CB	800	(1C133B)	BOX		8620	1C133B						AS072 293
8413	10	D06109A	CRHVAC/LOOP A RECIRCULATION DAMPER	CB	807	G13	800	YES	ABS	CRS	YES	YES	YES	YES	YES	AS072 393
8414	10	D06109B	CRHVAC/LOOP B RECIRCULATION DAMPER	CB	800	J13	800	YES	ABS	CRS	YES	YES	YES	YES	YES	AS072 393

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Print or Type Name	Signature	Date
RODRIGO ARANA	E Arana-M, PE	7/26/93
KEISTAL E SMITH	Keistal E Smith	7/26/93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8415	07	AV6133A	CRHVAC/LOOP A RECIRCULATION DAMPER CONTROL VALVE	CB	800	(1C133A)	BOX		8619	1C133A						AS072 393
8416	07	AV6133B	CRHVAC/LOOP B RECIRCULATION DAMPER CONTROL VALVE	CB	800	(1C133B) 7/94	BOX		~~8620~~ ~~8619~~ 7/94	1C133B						AS072 393
8417	18	SL6109A	CRHVAC/LOOP A SIGNAL LIMITER	CB	800	(1C133A)	BOX		8619	1C133A						AS072 293
8418	18	SL6109B	CRHVAC/LOOP B SIGNAL LIMITER	CB	800	(1C133B)	BOX		8620	1C133B						AS072 293
8419	18	TT6111A	CRHVAC/LOOP A OUTSIDE TEMPERATURE TRANSMITTER	CB	800	F13	808.5	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 393
8420	18	TT6111B	CRHVAC/LOOP B OUTSIDE TEMPERATURE TRANSMITTER	CB	800	F13	808.5	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 393
8421	18	TT6109A	CRHVAC/LOOP A MIXED AIR TEMPERATURE TRANSMITTER	CB	800	H13	805	NO	ABS	CRS	YES	YES	N/A	YES	YES	AS072 293
8422	18	TT6109B	CRHVAC/LOOP B MIXED AIR TEMPERATURE TRANSMITTER	CB	800	H13	805	NO	ABS	CRS	YES	YES	N/A	YES	YES	AS072 293
8423	07	CV6116A	CRHVAC/LOOP A COOLING COIL BYPASS VALVE	CB	800	G13	806.3	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 393
8424	07	CV6116B	CRHVAC/LOOP B COOLING COIL BYPASS VALVE	CB	800	J13	800	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 493
8425	07	ZC6116A	CRHVAC/LOOP A COOLING COIL BYPASS POSITION CONTROLLER	CB	800	HVAC ROOM	BOX		8423	CV6116A						AS072 293
8426	07	ZC6116B	CRHVAC/LOOP B COOLING COIL BYPASS POSITION CONTROLLER	CB	800	HVAC ROOM	BOX		8424	CV6116B						AS072 293

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Print or Type Name	Signature	Date
RODRIGO ARAYA	R Araya M, PE	7/26/93
KRISTIN E. SMITH	Kristi E Smith	7/26/93

CERTIFICATION:

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	HARX NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8427	07	PCV6116A	CRHVAC/LOOP A COOLING COIL BYPASS PRESSURE CONTROL VLV	CB	800	HVAC ROOM	800	YES	ABS	CRS	YES	YES	YES	YES	YES	AS072 293
8428	07	PCV6116B	CRHVAC/LOOP B COOLING COIL BYPASS PRESSURE CONTROL VLV	CB	800	HVAC ROOM	817	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 293
8429	18	SL6116A	CRHVAC/LOOP A SIGNAL LIMITER	CB	800	(1C133A)	BOX		8619	1C133A						AS072 193
8430	18	SL6116B	CRHVAC/LOOP B SIGNAL LIMITER	CB	800	(1C133B)	BOX		8620	1C133B						AS072 193
8431	18	TT6114A	CRHVAC/LOOP A AC UNIT DISCHARGE TEMPERATURE TRANSMITTER	CB	800	H13	811.5	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 393
8432	18	TT6114B	CRHVAC/LOOP B AC UNIT DISCHARGE TEMPERATURE TRANSMITTER	CB	800	H13	811.5	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 393
8435	09	1VEF030A	CRHVAC/BATTERY ROOM EXHAUST FAN A	CB	800	G13	800	YES	BS	GRS	YES	NO	NO	NO	NO	AS072 293
8436	09	1VEF030B	CRHVAC/BATTERY ROOM EXHAUST FAN B	CB	800	G13	800	YES	BS	GRS	YES	NO	NO	NO	NO	AS072 293
8437	09	1VEF030C	CRHVAC/BATTERY ROOM EXHAUST FAN C	CB	800	G13	800	YES	BS	GRS	YES	NO	NO	NO	NO	AS072 293
8619	20	1C133A	CRHVAC/1VAC030A UNIT CONTROL PANEL	CB	800	J13	804	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 493
8620	20	1C133B	CRHVAC/1VAC030B UNIT CONTROL PANEL	CB	800	J13	805	NO	ABS	CRS	YES	YES	YES	YES	YES	AS072 493

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RODRIGO ARAYA	R Araya M, PE	7/26/93
KRISTIN G. SMITH	Kristi G Smith	7/26/93

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
CONTROL BUILDING - 800'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8444	08B	SV7333A	HVIA/LOOP A RECEIVER ISOLATION VALVE	CB	800	J13	805	NO	ABS	CRS	YES	YES	N/A	YES	YES	BS052 194
8445	08B	SV7333B	HVIA/LOOP B RECEIVER ISOLATION VALVE	CB	800	J13	805	NO	ABS	CRS	YES	YES	N/A	YES	YES	BS052 194
8462	10	D06106A	CRHVAC/1VAC030A MAXIMUM AIR SUPPLY DAMPER	CB	800	H13	808	NO	ABS	CRS	YES	YES	YES	YES	YES	BS052 194
8463	10	D06106B	CRHVAC/1VAC030B MAXIMUM AIR SUPPLY DAMPER	CB	800	H13	808	NO	ABS	CRS	YES	YES	YES	YES	YES	BS052 194
8464	10	D06112A	CRHVAC/1VAC030A MINIMUM AIR SUPPLY DAMPER	CB	800	H13	808	NO	ABS	CRS	YES	YES	YES	YES	YES	BS052 194
8465	10	D06112B	CRHVAC/1VAC030B MINIMUM AIR SUPPLY DAMPER	CB	800	H13	808	NO	ABS	CRS	YES	YES	YES	YES	YES	BS052 194
8466	07	AV6134A	CRHVAC/VALVE, AIR, CB H&V, D06106A	CB	800	--	805	NO	ABS	CRS	YES	YES	N/A	YES	YES	BS052 194
8467	07	AV6134B	CRHVAC/VALVE, AIR, CB H&V, D06106B	CB	800	--	806	NO	ABS	CRS	YES	YES	N/A	YES	YES	BS052 194
8468	08B	SV6109A	CRHVAC/VALVE, SOL, CB H&V, AV6134A & AV6133A	CB	800	(1C133A)	805	NO	ABS	CRS	YES	YES	N/A	YES	YES	BS052 194
8469	08B	SV6109B	CRHVAC/VALVE, SOL, CB H&V, AV6134B & AV6133B	CB	800	(1C133B)	805	NO	ABS	CRS	YES	YES	N/A	YES	YES	BS052 194
8470	10	D06123A	CRHVAC/CB HVAC OUTSIDE AIR INTAKE DAMPER	CB	800	G13	812	NO	ABS	CRS	YES	YES	YES	YES	YES	BS052 194
8471	10	D06123B	CRHVAC/CB HVAC OUTSIDE AIR INTAKE DAMPER	CB	800	G13	812	NO	ABS	CRS	YES	YES	YES	YES	YES	BS052 194

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzi Beigi	5-26-94
CAROLINE S. SCHLAEFMAN	Caroline S. Schlaefman PE	6-1-94

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DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
CONTROL BUILDING - 800'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- EQUIPMENT Building	Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8472	08B	SV6110A	CRHVAC/D06123A CONTROL AIR SUPPLY	CB	800	G13	813	NO	ABS	CRS	YES	YES	N/A	YES	YES	BS052 194
8473	08B	SV6110B	CRHVAC/D06123B CONTROL AIR SUPPLY	CB	800	G13	813	NO	ABS	CRS	YES	YES	N/A	YES	YES	BS052 194

CERTIFICATION:

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
FARZIN BEIGI	Farzin Beigi	5-26-94
CAROLINE S. SCHUSEMAN	Caroline S. Schuseman PE	6-1-94

CERTIFICATION:

The information provided to the Seismic Capability Engineers regarding systems and operations of the equipment contained on this SVDS is, to the best of our knowledge and belief, correct and accurate.

Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

D6 of 7

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)
CONTROL BUILDING 800'

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8474	10	D06107A	CRHVAC/DAMPER, CB H&V, CNTR BLDG EXH	--	--	--	800	NO	ABS	CRS	YES	YES	YES	YES	YES	BE052 595
8475	10	D06107B	CRHVAC/DAMPER, CB H&V, CNTR BLDG EXH	--	--	--	800	NO	ABS	CRS	YES	YES	YES	YES	YES	BE052 595
8476	08B	SV6107A	CRHVAC/VALVE, SOL, CB H&V, D06107A	CB	800	--	800	NO	ABS	CRS	YES	YES	N/A	YES	YES	BE052 595
8477	08B	SV6107B	CRHVAC/VALVE, SOL, CB H&V, D06107B	CB	800	--	800	NO	ABS	CRS	YES	YES	N/A	YES	YES	BE052 595

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Print or Type Name	Signature	Date
FARZIN BEIGI	Farzin Beigi	7-31-95
STEPHEN J. EDER		8/9/95

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

P. 7 OF 7

Screening Verification Data Sheets (SVDS)
for
Turbine Building (and Protected Yard)
(57 items)

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6015	17	16031	SBDG/DIESEL GENERATOR, EMER AC PWR TB TO 1A3		757	PS	757	YES	ABS	CRS	YES	YES	YES	NO	NO	AS072 693

CERTIFICATION:

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
KRISTIN E. SMITH	Kristin E Smith	7/30/93
RODRIGO ARAYA	R Araya PE	7/30/93

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	Building	Flr.Elv.	Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Interact OK?	Equip OK?	Notes	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
~~6060~~	~~01~~	~~1B45~~	~~480VAC/TURBINE BUILDING 480VAC MOTOR CONTROL CENTER~~	~~TB~~	~~757~~	~~N5~~	~~757~~	~~YES~~	~~GERS~~	~~CRS~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~AK090 393~~	DELETED FROM SSEL C&D 7/94
8661	20	1C092	SBDG/SBDG 1G-21 GAUGE BOARD	TB	757	N4	757	YES	ABS	CRS	YES	NO	YES	NO	NO	AK090 393	
~~8662~~	~~20~~	~~1C110~~	~~SBDG/DIESEL GEN 1G-21 CONTROL RELAY AND TERMINAL PANEL~~	~~TB~~	~~757~~	~~N5~~	~~757~~	~~YES~~	~~BS~~	~~CRS~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~YES~~	~~AK090 393~~	DELETED FROM SSEL C&D 7/94
8668	20	1C094	SBDG/SBDG 1G-21 CONTROL PANEL	TB	757	N5	757	YES	ABS	CRS	YES	NO	NO	NO	NO	AK090 393	

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Print or Type Name	Signature	Date
RODRIGO ARAYA, P.E.	R Araya M	9/16/93
T. R. Kipp	See SEWS for original signature	9/20/93 *

CERTIFICATION:

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Print or Type Name	Signature	Date

* See SEWS for original signature

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- EQUIPMENT Building	Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
6063	17	1G021	SBDG/DIESEL GENERATOR, EMER AC PWR TO 1A4	TB	757	P5	757	YES	ABS	CRS	YES	YES	YES	NO	NO	AS072 393
8003	07	CV2080	ESW/LOOP A DIESEL COOLER ISOLATION VALVE	TB	757	P4	759	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 493
8004	07	CV2081	ESW/LOOP B DIESEL COOLER ISOLATION VALVE	TB	757	N4	759	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 493
8005	08B	SV2080	ESW/LOOP A DIESEL COOLER ISOLATION VALVE SOLENOID	TB	757	(1C091)	BOX		8003	CV2080						AS072 493
8006	08B	SV2081	ESW/LOOP B DIESEL COOLER ISOLATION VALVE SOLENOID	TB	757	(1C092)	BOX		8004	CV2081						AS072 493
8306	18	LIS3210	DGS/DIESEL OIL DAY TANK LEVEL SWITCH	TB	757	N4	757	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 393
8307	18	LIS3208	DGS/DIESEL OIL DAY TANK LEVEL SWITCH	TB	757	P4	757.5	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 493
8326	18	ZC3236B	DGS/DIESEL OVERSPEED SENSOR	TB	757	P4	BOX		6063	1G021						AS072 493
8327	18	ZC3236A	DGS/DIESEL OVERSPEED SENSOR	TB	757	P4	BOX		6015	1G031						AS072 493
8548A	10	DO7001A1	HVAC/VENTILATION FAN 1V-SF-20 RETURN AIR DAMPER	TB	757	A DIESEL ROOM	772	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 493
8548B	10	DO7001B1	HVAC/VENTILATION FAN 1V-SF-21 RETURN AIR DAMPER	TB	757	B DIESEL ROOM	772	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 493
8548C	10	DO7001A2	HVAC/VENTILATION FAN 1V-SF-20 RETURN AIR DAMPER	TB	757	A DIESEL ROOM	772	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 493

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Print or Type Name	Signature	Date
KRISTIN E. SMITH	K E Smith	7/26/93
RODRIGO ARAYA	R Araya M. PE	7/26/93

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

Data Base File Name/Date/Time: DAEC.DBF / 08/20/93 / 19:05:50
Sort Criteria: Line Number
Filter Criteria: (Line Number=='8304') OR (Line Number=='8305')
Program File Name & Version: SSEM 2.00

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ---> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8304	21	1T037B	DGS/1,000 GAL DIESEL OIL DAY TANK	TB	757	N4	757	YES	N/A	N/A	YES	YES	YES	YES	YES	CE081 993
8305	21	1T037A	DGS/1,000 GAL DIESEL OIL DAY TANK	TB	757	P4	757	YES	N/A	N/A	YES	YES	YES	YES	YES	CE081 993

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Print or Type Name	Signature	Date
CAROLINE S. SCHUSTER	Caroline A. Schuster, PE	8-21-93
STEPHEN J EDER	Stephen J Eder, PE	8/21/93

CERTIFICATION:

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Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8308	18	LIS3209	DGS/DIESEL OIL DAY TANK LOW-LOW LEVEL ALARM	TB	757	(1C008)	757	YES	BS	GRS	YES	YES	YES	YES	YES	CD072 793
8309	18	LIS3207	DGS/DIESEL OIL DAY TANK LOW-LOW LEVEL ALARM	TB	757	(1C008)	757	YES	BS	GRS	YES	YES	YES	YES	YES	CD072 793
8316	21	1E053B	DGS/JACKET WATER COOLER	TB	757	D5	BOX		6063	1G021						CD072 793
8317	21	1E053A	DGS/JACKET WATER COOLER	TB	757	P5	BOX		6015	1G031						CD072 793
8541	10	D07000A1	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	TB	780	N4	780	YES	BS	GRS	YES	YES	YES	YES	YES	CD072 393
8542	10	D07000B1	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	TB	780	K4	780	YES	BS	GRS	YES	YES	YES	YES	YES	CD072 393
8545	10	D07000A2	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	TB	780	N4	780	YES	BS	GRS	YES	YES	YES	YES	YES	CD072 393
8546	10	D07000B2	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	TB	780	N4	780	YES	BS	GRS	YES	YES	YES	YES	YES	CD072 393

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Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/30/93
CARoline S. SCHIASSI	Caroline S. Schiassi PE	7-30-93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--------- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8310	21	1T115B	DGS/AIR RECEIVER	TB	757	N5	757	YES	N/A	N/A	N/A	N/A	YES	YES	YES	DEKD7 2993

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Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/30/93
Thomas R. Kipp	Thomas R. Kipp	7/30/93
STEPHEN J. EDER	Stephen J. Eder, PE	8/10/93

CERTIFICATION:

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8311	21	1T116B	DGS/AIR RECEIVER	TB	757	N5	757	YES	N/A	N/A	N/A	N/A	YES	YES	YES	DEK07 2993
8312	21	1T117B	DGS/AIR RECEIVER	TB	757	N5	757	YES	N/A	N/A	N/A	N/A	YES	YES	YES	DEK07 2993
8313	21	1T115A	DGS/AIR RECEIVER	TB	757	P5	757	YES	N/A	N/A	N/A	N/A	YES	YES	YES	DEK07 2993
8314	21	1T116A	DGS/AIR RECEIVER	TB	757	P5	757	YES	N/A	N/A	N/A	N/A	YES	YES	YES	DEK07 2993
8315	21	1T117A	DGS/AIR RECEIVER	TB	757	P5	757	YES	N/A	N/A	N/A	N/A	YES	YES	YES	DEK07 2993
8318	21	1T113B	DGS/JACKET WATER EXPANSION TANK	TB	757	N4	757	YES	N/A	N/A	YES	N/A	YES	YES	YES	DEK07 2393
8319	21	1T113A	DGS/JACKET WATER EXPANSION TANK	TB	757	P4	757	YES	N/A	N/A	YES	N/A	YES	YES	YES	DEK07 2393
8543	08B	SV7000A	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	TB	757	(1C151)	BOX		8669	1C151						DEK07 2393
8544	08B	SV7000B	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	TB	757	(1C152)	BOX		8670	1C152						DEK07 2393
8547	08B	SV7001A	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	TB	757	(1C151)	BOX		8669	1C151						DEK07 2393
8548	08B	SV7001B	HVAC/EMER DIESEL ROOM VENT INLET DAMPER SOLENOID	TB	757	(1C152)	BOX		8670	1C152						DEK07 2393
8559	08B	SV7002A	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER SOLENOID	TB	757	(1C151)	BOX		8669	1C151						DEK07 2393

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Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/30/93
Thomas R. Kipp	Thomas R. Kipp	7/30/93
STEPHEN J. EDER	Stephen J. Eder, PE	8/2/93

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8320	21	1T114B	DGS/LUBE OIL MAKE-UP TANK	TB	757	N4	757	YES	N/A	N/A	N/A	N/A	NO	YES	NO	CD073 093
8321	21	1T114A	DGS/LUBE OIL MAKE-UP TANK	TB	757	P4	757	YES	N/A	N/A	N/A	N/A	NO	YES	NO	CD073 093

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Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/30/93
CAROLINE S. SCHASSMAN	Caroline S. Schassman, PE	7-30-93 [OSVS signed 8-13-93 DD]
STEPHEN J. EDER	Stephen J. Eder, PE	8/13/93

CERTIFICATION:

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Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION -----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8548D	10	D07001B2	HVAC/VENTILATION FAN 1V-SF-21 RETURN AIR DAMPER	TB	757	B DIESEL ROOM	772	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 493
8551	09	1VSF020	HVAC/EMER DIESEL ROOM VENT FAN	TB	757	P5	771	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 493
8552	09	1VSF021	HVAC/EMER DIESEL ROOM VENT FAN	TB	757	N5	771	YES	BS	GRS	YES	YES	YES	YES	YES	AS072 493

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Print or Type Name	Signature	Date
KRISTIN B. SMITH	Kristi E. Smith	7/26/93
RODRIGO ARAYA, PE	R Araya M	7/26/93

CERTIFICATION:

The information provided to the Seismic Capability Engineers regarding systems and operations of the equipment contained on this SVDS is, to the best of our knowledge and belief, correct and accurate.

Approved: (One signature of Systems or Operations Engineer is required if the Seismic Capability Engineers deem it necessary.)

Print or Type Name	Signature	Date

DUANE ARNOLD ENERGY CENTER
SCREENING VERIFICATION DATA SHEET (SVDS)

LINE NO.	EQUIP CLASS	MARK NO.	SYSTEM/EQUIPMENT DESCRIPTION	<--- Building	EQUIPMENT Flr.Elv.	LOCATION ----> Rm. or Row/Col.	Base Elev.	<40'?	Capacity Spectrum	Demand Spectrum	Cap. > Demand?	Caveats OK?	Anchor OK?	Inter-act OK?	Equip OK?	Notes
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8553	10	D07002A1	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	P4	777	YES	BS	GRS	YES	NO	YES	YES	NO	DEK07 2293
8554	10	D07002B1	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	N4	777	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2293
8555	10	D07002A2	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	P4	777	YES	BS	GRS	YES	NO	YES	YES	NO	DEK07 2293
8556	10	D07002B2	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	N4	777	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2293
8557	10	D07002A3	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	N4	777	YES	BS	GRS	YES	NO	YES	YES	NO	DEK07 2293
8558	10	D07002B3	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	TB	757	N4	777	YES	BS	GRS	YES	YES	YES	YES	YES	DEK07 2293

CERTIFICATION:

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Approved: (Signatures of all Seismic Capability Engineers on the Seismic Review Team (SRT) are required; there should be at least two on the SRT. All signatories should agree with all of the entries and conclusions. One signatory should be a licensed professional engineer.)

Print or Type Name	Signature	Date
Thomas R. Kipp	Thomas R. Kipp	7/26/93
DAVID DOYLE	David Doyle	7/26/93
STEPHEN J EDER	Stephen J Eder, PE	7/26/93

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8560	08B	SV7002B	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER SOLENOID	TB	757	(1C152)	BOX		8670	1C152						DEK07 2393
8669	20	1C151	HVAC/EMER DIESEL ROOM VENT CONTROL CABINET	TB	757	P5	761	YES	BS	GRS	YES	YES	YES	NO	NO	DEK07 2393
8670	20	1C152	HVAC/EMER DIESEL ROOM VENT CONTROL CABINET	TB	757	N5	761	YES	BS	GRS	YES	NO	YES	YES	NO	DEK07 2393

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Print or Type Name	Signature	Date
DAVID DOYLE	David Doyle	7/30/93
Thomas R. Kipp	Thomas R. Kipp	7/30/93
STEPHEN J. EDER	S. Eder, PE	8/10/93

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8659	20	1C091	SBDG/SBDG 1G-31 GAUGE BOARD	TB	757	P4	7557	YES	ABS	CRS	YES	NO	YES	NO	NO	AH081 493

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Print or Type Name	Signature	Date
R. Araya	for R. Araya, PE	8/21/93
H. Hadidi	for H. Hadidi, PE	8/21/93

See original signature on SEWS & DSVS SF

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8667	20	1C093	480VAC/SBDG 1G-31 CONTROL PANEL	TB	757	P5	757	YES	BS	GRS	YES	YES	YES	NO	NO	AH081 393

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Print or Type Name	Signature	Date
RODRIGO ARAYA, P.E.	R Araya M	8-17-93
HASSAN HADIDI-TAMJED	Hassan Hadidi-Tamjed, P.E.	8-17-93

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DUANE ARNOLD ENERGY CENTER
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
8301	21	1T035	DGS/40,000 GAL DIESEL OIL STORAGE TANK	N/A	757	--	757	YES	N/A	N/A	YES	NO	YES	YES	NO	FH082 393
8302	05	1P044B	DGS/DIESEL OIL TRANSFER PUMP	N/A	757	--	757	YES	DOC	GRS	YES	N/A	YES	YES	YES	FH082 393
8303	05	1P044A	DGS/DIESEL OIL TRANSFER PUMP	N/A	757	--	757	YES	DOC	GRS	YES	N/A	YES	YES	YES	FH082 393

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Print or Type Name	Signature	Date
David A. Freed RE	David A. Freed	9/14/93
H. HADIDI	See SEWS for H. Hadidi *	9/20/93 *

* see SEWS for original signature

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Print or Type Name	Signature	Date

Appendix E

THIRD-PARTY AUDIT REPORTS

1. Initial Audit Report dated August 16, 1993.
2. Final Audit Reported dated June 6, 1995.

REPORT OF PEER REVIEW
DAEC USI A-46/IPEEE SEISMIC ASSESSMENT

Date: August 10 and 11, 1993

Place: Duane Arnold Energy Center (DAEC)
Palo, Iowa

Peer Reviewers: Dr. James Johnson, EQE
Mr. William R. Schmidt, MPR

These individuals have over 50 combined years of experience in nuclear power and seismic engineering, were key participants in the development of the SQUG and IPEEE methodologies, and have experience in seismic walkdown assessments. Both meet or exceed the qualifications of the GIP for Seismic Capability Engineers (SCEs). The Peer Reviewers, as a group, have experience in nuclear plant and systems engineering, seismic engineering, USI A-46 and the seismic IPEEE (both SMA and PRA methods).

PURPOSE

To report the results of Part I of the Peer Review of the DAEC USI A-46/IPEEE seismic assessments. Part I is intended to cover approach, procedures, personnel qualifications, walkdown preparations, including data gathering, and preliminary findings. Part II will be performed at or near completion of the program and will concentrate on findings and the final report of the walkdown.

SCOPE OF REVIEW

To cover those portions of the seismic assessments performed by or under the direction of the SCEs for resolution of USI A-46 and the seismic IPEEE.

SUMMARY

The Peer Review included reviews of project procedures, technical approach and completed analyses and documentation, followed by in-plant walkdown evaluations conducted by the Peer Reviewers to spot-check findings and judgements made to date by the Seismic Review Teams (SRTs). An overall impression of the seismic ruggedness of the DAEC plant was

also obtained. The time spent over the two-day review was split approximately equally between these two main areas. The main areas covered, conclusions reached and recommendations are summarized below.

1. **Project Status** - As of the week ending just prior to the start of this review, approximately 270 components have been reviewed out of a total 480 which are targeted to be completed by the end of the current refueling outage. Of these components, 239 have been completed and required documentation signed and closed out. The number of components reviewed represents approximately 56% of the target.

   In the longer term, there are approximately 1,300 individual components to be reviewed in this integrated program over the period late 1993 through mid-1995. Of these 1,300 components, about 800 will require in-plant walkdowns. The components are being reviewed for seismic adequacy as part of Resolution of Unresolved Safety Issue A-46, the seismic assessment portion of the Individual Plant Examination of External Events (IPEEE) and completion of Regulatory Guide 1.97 commitments.

   Of the 270 components reviewed to date about 25 (or less than 10%) are classified as outliers (that is, they do not meet the screening guidelines of the SQUG Generic Implementation Procedure) and will require further evaluation. Four of the outliers warranted initiation of the DAEC/QDR process. The present QDRs are being processed by IELP and it is understood that none of the QDRs challenge the operability of the affected systems.

2. **Procedural/Programmatic** - Specific procedural and programmatic areas reviewed and discussed during this visit include the following:

   - Project procedures for relay evaluation, equipment selection, equipment seismic walkdowns, and disposition of findings.

   - Determination of seismic demand for equipment in all DAEC buildings, including comparisions of seismic ground motion spectra with the SQUG Bounding Spectra, comparison of in-structure response spectra with the SQUG reference spectra and categorization of DAEC in structure response sprectra as conservative design spectra. (These spectra are included in calculations PJB-78-05-01 and 78-09-02).

   - Definition of grade level for DAEC buildings (calculation 78-09-01).

   - Concrete strengths used for anchorage evaluations (calculation 78-10-01).

   - Qualifications of Seismic Capability Engineers (SCEs) assigned to the DAEC project.

   - Evaluation and disposition of all outliers and recommended QDRs.

- Sample of completed Screening Evaluation Worksheets (SEWs)and equipment data packages.

- Methodology for evaluating masonry (block) walls.

- Methodology for evaluating fire, flood, and spray hazards.

- Types of concrete anchorages used at DAEC and the drawings and documentation available to define each type.

3. **In-plant Evaluations** - The Reviewers performed in-plant walkdowns accompanied by the Walkdown Manager (S. Eder) and Walkdown Coordinator (C. Schlaseman). During most of these walkdowns the Reviewers were also accompanied by the IELP Project Manager (M. Monsef). The main areas covered during the walkdowns were as follows:

   - Standby Diesel Generator Room B
   - RHR/service water area in Pump House
   - HPCI pump room and HVAC space
   - Control room, control room HVAC room, space above control room ceiling
   - Reactor building elevations 757, 786, and 812

   As part of these walkdowns, the Reviewers inspected and evaluated SRT findings for the following equipment items:

   - Standby diesel generators
   - Standby diesel generator lube oil tanks (with inaccessible anchorage)
   - Standby diesel generator control panel (with vibration isolators)
   - Standby diesel generator fuel oil day tank
   - RHR/emergency service water pumps
   - HPCI pump room HVAC cooler units
   - 125 volt dc motor control center
   - Typical instrument rack
   - Control building chiller
   - Chilled water system motor-operated valves
   - Battery room exhaust fans
   - Control room HVAC air handlers
   - Control room panel
   - Control room ceiling, light fixtures, and suspension system

CONCLUSIONS

The main conclusions of the review are as follows:

1. Project procedures are judged to be good. One recommendation is included in the following section.

2. The technical approach and coverage by the SRTs is judged to be good; specific recommendations follow.

3. The SRTs are performing effectively. Completed documentation is in good order and indicates conscientious and careful evaluations by the SRT members.

4. The Reviewers found the judgements and finding dispositions made by the SRTs to date to be conservative and appropriate.

In addition to the above conclusions regarding the seismic assessment work, the Reviewers noted that the DAEC plant appears to be generally well designed and constructed for seismic loadings.

RECOMMENDATIONS

1. To be consistent with IELP letter dated June 21, 1992 to NRC, it is recommended that the SRTs use conservative in-structure response spectra (licensing basis floor spectra accepted by NRC) for calculations of seismic demand for quantitative analyses. Exceptions should be reviewed on a case-by-case basis.

2. Walkdown Procedure SVW-7809-02 should be revised, or a relay walkdown procedure developed, to include the SCE interfaces with and responsibilities in the relay evaluation. These include assisting in estimating and approving in-cabinet amplification and natural frequencies, where needed for evaluation of relay capacity.

3. The walkdown procedure currently includes component-specific data sheets (Attachment 9.1) which address flood/spray and fire concerns for IPEEE components. Dr. Johnson recommended that the SRTs consult with the IELP engineers responsible for the overall IPE fire and flood evaluations and either (1) assure that SCEs are aware of all fire and flood sources identified by IE or (2) conduct a separate fire/flood hazard walkdown with the IE fire/flood IPE experts on an area-by-area basis.

4. The basis for assigning a strength of 3500 psi to pump house concrete above elevation 761 ft. should be documented.

Peer Reviewers

J. J. Johnson, EQE

Wm. R. Schmidt, MPR

June 6, 1995

Report of Peer Review
by:

W. R. Schmidt, MPR
J. J. Johnson, EQE

Date: May 23 and 24, 1995

Place: DAEC - Palo, Iowa

Purpose: To perform a peer review of the USI A-46 and Seismic IPEEE reviews of the DAEC plant

Persons Contacted:

Mr. M. Monsef, IES Program Manager
Mr. B. Bernier, IES
Ms. C. Schlaseman, MPR
Mr. S. Eder, EQE

SUMMARY

The topics to be reviewed during this visit to the DAEC facility are listed in the agenda which is attached as Enclosure 1. This is the second phase of a two-part Peer Review. The first phase evaluated planning, program procedures and personnel qualification and is reported in Peer Review report dated August 18, 1993. This second and final review is intended to cover the results of the plant seismic walkdowns, the judgments made by the seismic review teams and the conclusions reached.

The results of the Peer Review are summarized below.

A. Status of USI A-46 and Seismic IPEEE Assessments

The A-46 and Seismic IPEEE assessments are essentially complete. The preliminary results are presented in the following reports (draft at the time of the review):

- DAEC IPEEE Report, Section 3, "Seismic Analysis"
- DAEC USI A-46 Seismic Evaluation Report - Draft, MPR-1536, Revision B, May 1995
- DAEC USI A-46 Relay Evaluation Report - Draft, Revision B, May 1995

In addition to these reports, Screening Evaluation Work Sheets (SEWS) for all equipment items, backup analyses and other supporting documentation are in Project files.

The scope of the evaluations included the following:

- Total equipment items evaluated - 1361
- A-46 and IPEEE - common equipment items - 464
- IPEEE-only equipment items - 306
- Regulatory Guide (R.G.) 1.97-only equipment items* - 483
- IPEEE & R. G. 1.97-common equipment items - 45
- A-46, IPEEE & R. G. 1.97-common equipment items - 63
- Equipment items requiring walkdown - 620

All of the items requiring walkdown have been evaluated with the exception of 2 control room HVAC dampers and 2 solenoid valves associated with these dampers. These 4 items will be walked down in May or June, 1995. Backup documentation is essentially complete for all items and has been reviewed and signed off.

The number of GIP outliers as of this review is approximately 100. Of these, all but about 10 have been resolved.

The final reports of the A-46 equipment review, the A-46 relay reviews and the IPEEE reviews are scheduled to be finalized and submitted to the NRC in November, 1995.

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* These equipment items are original plant equipment which were designated by IES as Regulation Guide 1.97 equipment and whose seismic adequacy is based on the A-46 seismic verification method.

B. Scope of Peer Review

The following areas were reviewed by the Peer Reviewers:

1. The seismic portion (Section 3) of the IPEEE Report

   Specific topics reviewed in detail included:

   - Treatment of shallow soil effects.
   - Qualification of a masonry wall in the SE Corner Room, not included in original NRC IE 80-11 report.
   - Evaluation of NSSS equipment in IPEEE scope.
   - Seismic-induced fire hazards.
   - Seismic-induced flooding hazards.
   - Resolution of previous Peer Review comments and recommendations.

2. DAEC Seismic Evaluation Report (MPR-1536, Revision B)

   Specific areas discussed in detail included:

   - Compatibility of Abnormal Operating Procedure 901 with SSEL and documentation of Operations Departments Review of SSEL.
   - Basis for inclusion of R. G. 1.97 equipment in scope of seismic review.
   - Use of GRS and IRS for capacity-demand evaluations.
   - Methods of estimating natural frequencies.
   - Tank and HX evaluations.
   - Cable and conduit reviews.
   - SCE interfaces with relay review.
   - Resolution of previous Peer Review comments and recommendations.

3. Outliers and areas where intent, but not the letter of caveats are met.

   Main areas reviewed included:

   Intent is Met

   - Cases where valve actuators are braced independent of pipe.
   - Valve operator heights or weights exceed GIP limits (analysis for 3g load).
   - Cast-iron valve yokes (valve-specific analysis)

   Outliers

   - Equipment types not represented in GIP equipment classes (equipment-specific qualification data).
   - 40,000 gallon buried diesel oil storage tank.
   - Vibration isolation mounts.
   - Vertical pumps with shaft length > 20' (equipment-specific seismic qualification data).
   - Anchorage deviations.
   - Potential for impacting of cabinets.
   - Interaction concerns.
   - Block walls.
   - Control room ceiling.
   - Modifications to resolve outliers.

4. Other areas reviewed included the following:

   - Cable tray bounding calculations.
   - SBDG room fire protection system design and operation. This system is a Viking pre-actuation water system. Heat/flame detector actuates system. Local sprinkler heads have fusible link or equivalent for local actuation. System is well supported seismically. Smoke detectors annunciate only. System is independent

of louver/damper system precluding possibility of inadvertent isolation of DG room and potential smothering of DG.

- Analysis of masonry wall between essential switchgear rooms.

5. In-plant walkdown/walkby inspections were conducted with the IES Program Manager (M. Monsef), the Walkdown Manager (S. Eder, EQE) and the Walkdown Coordinator (C. Schlaseman, MPR). The following areas and equipment were inspected:

   - Pump house, including

     - 480V MCCs 1B36 and 1B46
     - ESW pumps
     - RHRSW pumps

   - Reactor building (elevations 757' and 786'), including

     - I&C cabinet 1C422B
     - AOVs CV4371A and CV1804A (which had been replaced)
     - 480V MCCs 1B34, 1B34A and 1B37

   - Control building, including

     - Essential switchgear rooms (switchgear, transformers 1X31 and 1X41).

     - Shake space and conduit pass-throughs between reactor building and control building on elevation 757'.

     - Battery room.

   - Turbine building (elevations 734' and 757'), including

     - Main turbine-generator lube oil storage tank.

   - Standby diesel generator rooms, including

     - Control panels
     - Air receivers
     - EDG's
     - Lube oil storage tank
     - Fuel day tanks

During these inspections, all significant outliers and examples of instances where the intent, but not the letter, of the GIP were met were reviewed.

C. Results of Review

The Peer Reviewers concluded that the seismic walkdown inspections and equipment/raceway evaluations were well organized and documented and conservatively done. Backup documentation, including SEWS, calculations, data packages and photographs are extensive and in good order. There were no areas where the Peer Reviewers were in disagreement with the conclusions of the DAEC Seismic Review Teams (SRTs). Several areas were identified where the Peer Reviewers recommended additional actions to strengthen or confirm the SRT conclusions. These areas are summarized below.

1. Intake Structure/Pump House Equipment - There are IRS exceedances of the ABS in the Intake Structure and Pump House. In the pump house the exceedances are below 4-5 Hz. The equipment of concern are two MCCs with top restraint. The Peer Reviewers inspected the MCCs and agreed with the SRTs that these MCCs have fundamental frequencies well over 4-5 Hz. In the Intake Structure there are IRS exceedances of the ABS in the 8 to 25 Hz range. Equipment involved includes mechanical equipment (pumps and dampers), transformers, MCC's and low voltage switchgear. The SRTs took credit for known and estimated natural frequencies to avoid the exceedances. The Peer Reviewers agreed with the SRT conclusions for the mechanical equipment and transformer, for which natural frequency analysis or test data exist. However, the Peer Reviewers were concerned that the MCCs and low voltage switchgear could have important frequencies in the 9 to 25 Hz range. Accordingly, available GERS were used to evaluate these electrical items. It was concluded that the GERS show the MCCs and switchgear are acceptable for all frequencies of interest. The capacities of all SSEL equipment in the Pump House and Intake Structure are considered to exceed the IRS demand.

2. Seismic Review Reports - The Peer Reviewers found the reports to be complete and comprehensive. Recommended minor clarifications and additions were provided to the IES A-46/Seismic IPEEE Project Team.

3. 480V Transformers 1X31 and 1X41 - These transformers were designated as GIP outliers because of marginal strength load path from the coil to the transformer base plate. Calculations performed by the SRT indicate the transformers will remain operable in an earthquake, but rely on plastic behavior of structural members. The Peer Reviewers concur that these transformers are outliers and should be strengthened. However, they noted that the input seismic loads (from the Control Building 757' elevation IRS) are unrealistically high. The DBE PGA at bedrock is 0.12g. This is amplified per the DAEC FSAR by x1.5 to account for 30'-40' of shallow soil (i.e., to 0.18g at 757' grade). The transformers are located on the

Control Building basement slab at elevation 757'. Therefore, it is reasonable to expect a ZPA at the transformers of between 0.18g and 1.5 x 0.18g, the latter being a reasonable upper bound estimate. The corresponding peak spectral acceleration is 1.5 x 0.45g, or 0.68g. This estimated acceleration load is significantly lower than the peak of the IRS of 1.18g used in the SRT's analyses of the transformer load path.

Therefore the IRS for the 757' Control Building level appears unrealistically conservative.

The Peer Reviewers were favorably impressed with the numerous practical modifications which have been designed and already implemented in the plant since the equipment outliers were identified. Examples of these modifications and improvements include the following:

- Special retainer clips added to fluorescent light bulbs to prevent their falling out.
- Addition of grout under SBDG control panel to eliminate potential for impacting.
- Addition of restraints for switchgear breaker hoists.
- Installation of extended brackets to bolt previously unattached cabinets together.
- Addition of lateral stops on control room air handler vibration isolation mounts.
- Relocating a wall-mounted junction box to eliminate potential for impact with an MCC containing essential relays.
- Removal or securing of possible interaction hazards (e.g., gas bottles, cabinets, tool chests, etc.)
- Closing of S-hooks on suspended light fixtures.

Such modifications are simple, practical and effective.

Wm. R. Schmidt, MPR Associates

James J. Johnson, EQE

Enclosure 1

Agenda - DAEC A-46/IPEEE Peer Review

1. Review status, plans, and commitments for the A-46 and Seismic IPEEE reviews.

2. Review draft reports - discuss questions, review bases for results and conclusions of these reports.

3. Review resolution of Peer Review comments during initial review in August 1993.

4. Review documentation - SEWS, selected backup calculations, outlier resolutions. Select specific items for in-plant inspections.

5. In-plant review of selected areas.