Enclosure 1

Seismic Walkdown Report In Response To The 50.54(f) Information Request Regarding Fukushima Near-Term Task Force Recommendation 2.3: Seismic for the LaSalle County Station, Unit 1, Report Number: 12Q0108.50-R-001, Revision 1

(938 pages)

SEISMIC WALKDOWN REPORT

IN RESPONSE TO THE 50.54(f) INFORMATION REQUEST REGARDING FUKUSHIMA NEAR-TERM TASK FORCE RECOMMENDATION 2.3: SEISMIC

for the

LASALLE COUNTY GENERATING STATION UNIT 1
2601 North 21st Road, Marseilles, Illinois, 61341-9757
Facility Operating License No. NPF-11
NRC Docket No. 50-373
Correspondence No.: RS-12-163

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Contents

List of Tables iii

Executive Summary iv

1 Introduction 1-1

1.1 Purpose 1-1
1.2 Background 1-1
1.3 Plant Overview 1-1
1.4 Approach 1-2
1.5 Conclusion 1-2

2 Seismic Licensing Basis 2-1

2.1 Overview 2-1
2.2 SAFE SHUTDOWN EARTHQUAKE (SSE) 2-1
2.3 DESIGN OF SEISMIC CATEGORY I SSCS 2-1
2.3.1 Summary of Seismic Design 2-1
2.3.2 Summary of Codes and Standards 2-2

3 Personnel Qualifications 3-1

3.1 Overview 3-1
3.2 Project Personnel 3-1
3.2.1 Stevenson & Associates Personnel 3-2
3.2.2 Additional Personnel 3-4

4 Selection of SSCs 4-1

4.1 Overview 4-1
4.2 SWEL Development 4-1
4.2.1 SWEL 1 – Sample of Required Items for the Five Safety Functions 4-1
4.2.2 SWEL 2 Development – Spent Fuel Pool Related Items 4-4

5 Seismic Walkdowns and Area Walk-Bys 5-1

5.1 Overview 5-1
5.2 Seismic Walkdowns 5-1
5.2.1 Adverse Anchorage Conditions 5-2
5.2.2 Configuration Verification 5-2

5.2.3 Adverse Seismic Spatial Interactions 5-3
5.2.4 Other Adverse Seismic Conditions 5-4
5.2.5 Conditions Identification during Seismic Walkdowns 5-4
5.3 Area Walk-Bys 5-4
5.3.1 Conditions Identification during Area Walk-bys 5-6
5.4 Supplemental Information on Electrical Cabinet Inspections 5-6
6 Licensing Basis Evaluations 6-1
7 IPEEE Vulnerabilities Resolution Report 7-1
8 Peer Review 8-1
9 References 9-1

Appendices

A Project Personnel Resumes and SWE Certificates A-1
B Equipment Lists B-1
C Seismic Walkdown Checklists (SWCs) C-1
D Area Walk-By Checklists (AWCs) D-1
E Plan for Future Seismic Walkdown of Inaccessible Equipment E-1
F Peer Review Report F-1

List of Tables

Table 2-1. List of Codes, Standards, and Specifications 2-3

Table 3-1. Personnel Roles 3-1

Table 5-1. Anchorage Configuration Confirmation 5-3

Table 5-2. Conditions Identified during Seismic Walkdowns 5-8

Table 5-3. Conditions Identified during Area Walk-Bys 5-10

Table B-1a. Base List 1a - Items Exclusive to Unit 1 ..... B-3

Table B-1b. Base List 1b - Items Common to Units 1 and 2 ..... B-59

Table B-2. Base List 2 ..... B-76

Table B-3. SWEL 1 ..... B-77

Table B-4. SWEL 2 ..... B-82

Table C-1. Summary of Seismic Walkdown Checklists C-2

Table D-1. Summary of Area Walk-By Checklists D-2

Table E-1. Inaccessible and Deferred Equipment E-2

Table E-2. Supplemental Cabinet Internal Inspection List E-3

Executive Summary

The purpose of this report is to provide information as requested by the Nuclear Regulatory Commission (NRC) in its March 12, 2012 letter issued to all power reactor licensees and holders of construction permits in active or deferred status. (Ref. 6) In particular, this report provides information requested to address Enclosure 3, Recommendation 2.3: Seismic, of the March 12, 2012 letter. (Ref. 6)

Following the accident at the Fukushima Dai-ichi nuclear power plant resulting from the March 11, 2011, Great Tohoku Earthquake and subsequent tsunami, the NRC established the Near Term Task Force (NTTF) in response to Commission direction. The NTTF issued a report - *Recommendations for Enhancing Reactor Safety in the 21st Century: The Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident* - that made a series of recommendations, some of which were to be acted upon "without unnecessary delay." (Ref. 7) On March 12, 2012, the NRC issued a letter to all power reactor licensees in accordance with 10CFR50.54(f). The 50.54(f) letter requests information to assure that certain NTTF recommendations are addressed by all U.S. nuclear power plants. (Ref. 6) The 50.54(f) letter requires, in part, all U.S. nuclear power plants to perform seismic walkdowns to identify and address degraded, non-conforming or unanalyzed conditions and to verify the current plant configuration is within the current seismic licensing basis. This report documents the seismic walkdowns performed at LaSalle County Generating Station Unit 1 in response, in part, to the 50.54(f) letter issued by the NRC.

The Nuclear Energy Institute (NEI), supported by industry personnel, cooperated with the NRC to prepare guidance for conducting seismic walkdowns as required in the 50.54(f) letter, Enclosure 3, Recommendation 2.3: Seismic. (Ref. 6) The guidelines and procedures prepared by NEI and endorsed by the NRC were published through the Electric Power Research Institute (EPRI) as EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic,* dated June 2012; henceforth, referred to as the "EPRI guidance document." (Ref. 1) Exelon/LaSalle has utilized this NRC endorsed guidance as the basis for the seismic walkdowns and this report. (Ref. 1)

The EPRI guidance document was used to perform the engineering walkdowns and evaluations described in this report. In accordance with the EPRI guidance document, the following topics are addressed in the subsequent sections of this report.

- Seismic Licensing Basis
- Personnel Qualifications
- Selection of Systems, Structures, and Components (SSC)
- Seismic Walkdowns and Area Walk-Bys
- Seismic Licensing Basis Evaluations
- IPEEE Vulnerabilities Resolution Report
- Peer Review

Seismic Licensing Basis

The Seismic Licensing Basis is briefly described in Section 2 of this report. The safe shutdown earthquake for the LaSalle County Station site is 0.20g horizontal ground acceleration and 0.133g vertical ground acceleration. (Ref. 2 section 3.7)

Personnel Qualifications

Personnel qualifications are discussed in Section 3 of this report. The personnel who performed the key activities required to fulfill the objectives and requirements of the 50.54(f) letter are qualified and trained as required in the EPRI guidance document. (Ref. 1) These personnel are responsible for:

- Selecting the SSCs that should be placed on the Seismic Walkdown Equipment List (SWEL),
- Performing the Seismic Walkdowns and Area Walk-Bys,
- Performing the seismic licensing basis evaluations, as applicable,
- Identifying the list of plant-specific vulnerabilities identified during the IPEEE program and describing the actions taken to eliminate or reduce them,
- Performing the peer reviews

Selection of SSCs

Selection of SSCs is discussed in Section 4 of this report. The process used to select the items that were included in the overall Seismic Walkdown Equipment List (SWEL) is described in detail in the EPRI guidance document, Section 3: Selection of SSCs. (Ref. 1) The SWEL is comprised of two groups of items, which are described at a high level in the following subsections.

Sample of Required Items for the Five Safety Functions – SWEL 1

Screen #1 narrowed the scope of SSCs in the plant to those that are designed to Seismic Category I requirements because they have a seismic licensing basis.

Screen #2 narrowed the scope of SSCs by selecting only those that do not regularly undergo inspections to confirm that their configuration continues to be consistent with the plant licensing basis.

Screen #3 narrowed the scope of SSCs included on SWEL 1 as only those associated with maintaining the five safety functions. These five safety functions include the four safe shutdown functions (reactor reactivity control, reactor coolant pressure control, reactor coolant inventory control, and decay heat removal, which includes the Ultimate Heat Sink), plus the containment functions.

Screen #4 was a process intended to result in a SWEL 1 that sufficiently represented the broader population of plant equipment and systems needed to meet the objectives of the 50.54(f) letter. The following five sample attributes were used:

- A variety of types of systems
- Major new or replacement equipment
- A variety of types of equipment
- A variety of environments

- Equipment enhanced due to vulnerabilities identified during the IPEEE program

Spent Fuel Pool Related Items – SWEL 2

Screen #1 and Screen #2 were used to narrow the scope of spent fuel pool related SSCs to those that have a seismic licensing basis and those that are appropriate for an equipment walkdown process. Screen #3 was a process intended to result in SWEL 2 that sufficiently represents the broader population of spent fuel pool Seismic Category I equipment and systems to meet the objectives of the 50.54(f) letter, and included the following sample selection attributes:

- A variety of types of systems
- Major new or replacement equipment
- A variety of types of equipment
- A variety of environments

Screen #4 identified items of the spent fuel pool that could potentially cause a rapid drain-down of the pool, even if such items are not Seismic Category I. Rapid drain-down is defined as lowering of the water level to the top of the fuel assemblies within 72 hours after the earthquake. Any items identified as having the potential for rapidly draining the spent fuel pool were to be added to SWEL 2.

For LaSalle Unit 1, the SWEL is comprised of:

- SWEL 1 resulted with 114 items for walkdown.
- SWEL 2 resulted with 2 items for walkdown.
- No items associated with spent fuel pool rapid drain-down are included on SWEL 2.

Seismic Walkdowns and Area Walk-Bys

Section 5, Appendix C, and Appendix D of this report documents the equipment Seismic Walkdowns and the Area Walk-Bys. The online seismic walkdowns for LaSalle Unit 1 were performed during the weeks of August 27, September 3, September 10, and September 17 2012. During the walkdown activities, the walkdown team consisted of two (2) Seismic Walkdown Engineers (SWEs), a station Equipment Operator, and various station personnel.

The seismic walkdowns focused on the seismic adequacy of the items on the SWEL. The walkdowns focused on the following:

- Adverse anchorage conditions
- Adverse seismic spatial interactions
- Other adverse seismic conditions (e.g., degradation, configuration, etc.,)

Area Walk-Bys were conducted in each area of the plant that contained an item on the SWEL (generally within 35 feet of the SWEL component). The Area Walk-By was performed to identify potentially adverse seismic conditions associated with other SSCs located in the vicinity of the SWEL item. The key examination factors that were considered in the Area Walk-Bys included the following:

- Anchorage conditions (if visible without opening equipment)
- Significantly degraded equipment in the area
- Potential seismic interaction
- A visual assessment (from the floor) of cable/conduit raceways and HVAC ducting (e.g., condition of supports or fill conditions of cable trays)
- Potential adverse interactions that could cause flooding/spray and fire in the area
- Other housekeeping items, including temporary installations

The seismic walkdown team inspected 109 of the 116 components on the SWEL (comprised of SWEL 1 and SWEL 2). Walkdowns for seven (7) components were deferred due to accessibility issues such as being located in containment or energized equipment. The seven (7) remaining items will be inspected during a unit outage or another time when the equipment is accessible, as required. Anchorage verification was required for a minimum of 31 components. (Ref. 1) A total of 42 anchorage configurations were confirmed to be installed in accordance with the station documentation.

Following the completion of the online seismic walkdowns, the industry was made aware that the NRC staff had clarified a position on opening electrical cabinets to inspect for other adverse seismic conditions. Supplemental inspections of 18 electrical cabinets are planned and will be completed, as required, during a unit outage or another time when the equipment becomes accessible. The list of electrical cabinets along with the milestone completion schedule is provided in Table E-2.

During the seismic walkdowns at the LaSalle Unit 1 nine (9) Issue Reports (IRs) were issued. After evaluation through the corrective action program (CAP), it was determined that none of the conditions identified in the IRs were found to be adverse seismic conditions.

Seismic Licensing Basis Evaluations

The EPRI guidance document, Section 5: Seismic Licensing Basis Evaluation provides a detailed process to perform and document seismic licensing basis evaluations of SSCs identified when potentially adverse seismic conditions are identified. The process provides a means to identify, evaluate and document how the identified potentially adverse seismic condition meets a station's seismic licensing basis without entering the condition into a station's CAP. In lieu of this process, Exelon/LaSalle utilized the existing processes and procedures (Site CAP Expectations) to identify, evaluate and document conditions identified during the Seismic Walkdowns.

In accordance with Exelon/LaSalle processes and procedures, all questionable conditions identified by the SWEs during the walkdowns were entered into the station CAP to be further evaluated and addressed as required. The SWEs provided input to support the identification and evaluation (including seismic licensing basis evaluations, as required) of the potentially adverse seismic conditions entered into the CAP. The station corrective action program is a more robust process than that provided in the EPRI guidance document; in part, ensuring each condition is properly evaluated for conformance with design and licensing bases and corrected as required.

Conditions identified during the walkdowns were documented on the Checklists (SWCs), Area Walk-By Checklists (AWCs), and entered into the CAP. For those conditions that

required, seismic licensing basis evaluations were completed and documented within the IR. Tables 5-2 and 5-3 in the report provide the IR, a summary of the condition, and the action completion status.

IPEEE Vulnerabilities

IPEEE vulnerabilities are addressed in Section 7 of this report. No vulnerabilities were identified as a result of the effort that addressed the Individual Plant Examination of External Events (IPEEE). (Ref. 5) Further, no anomalies, outliers, findings, or plant improvements were identified as a result of the IPEEE program. (Ref. 3 & 5)

Peer Reviews

A peer review team consisting of at least two individuals was assembled and peer reviews were performed in accordance with Section 6: Peer Reviews of the EPRI guidance document. The Peer Review process included the following activities:

- Review of the selection of SSCs included on the SWEL
- Review of a sample of the checklists prepared for the Seismic Walkdowns and Area Walk-Bys
- Review of licensing basis evaluations, as applicable
- Review of the decisions for entering the potentially adverse conditions into the CAP process
- Review of the submittal report
- Provided a summary report of the peer review process in the submittal report

Section 8 of this report contains a summary of the Peer Review. The Peer Review determined that the objectives and requirements of the 50.54(f) letter are met. Further, it was concluded by the peer reviews that the efforts completed and documented within this report are in accordance with the EPRI guidance document.

Summary

In summary, seismic walkdowns have been performed at the LaSalle County Generating Station Unit 1 in accordance with the NRC endorsed walkdown methodology. All potentially degraded, nonconforming, or unanalyzed conditions identified as a result of the seismic walkdowns have been entered into the corrective action program.

Evaluations of the identified conditions are complete and documented within the CAP. These evaluations determined the Seismic Walkdowns resulted in no adverse anchorage conditions, no adverse seismic spatial interactions, and no other adverse seismic conditions associated with the items on the SWEL. Similarly, the Area Walk-Bys resulted in no adverse seismic conditions associated with other SSCs located in the vicinity of the SWEL item(s).

The Seismic Walkdowns identified nine (9) minor conditions. Other than these minor conditions, the Seismic Walkdowns identified no degraded, nonconforming, or unanalyzed conditions that required either immediate or follow-on action. No planned or newly identified protection or mitigation features have resulted from the efforts to address the 50.54(f) letter.

Follow-on activities required to complete the efforts to address Enclosure 3 of the 50.54(f) letter include inspection of seven (7) items deferred due to inaccessibility along

with supplemental inspections of 18 electrical cabinets. Area Walk-Bys will be completed, as required, during these follow-on activities.

1 Introduction

1.1 PURPOSE

The purpose of this report is to provide information as requested by the Nuclear Regulatory Commission (NRC) in its March 12, 2012 letter issued to all power reactor licensees and holders of construction permits in active or deferred status. (Ref. 6) In particular, this report provides information requested to address Enclosure 3, Recommendation 2.3: Seismic, of the March 12, 2012 letter. (Ref. 6)

1.2 BACKGROUND

Following the accident at the Fukushima Dai-ichi nuclear power plant resulting from the March 11, 2011, Great Tohoku Earthquake and subsequent tsunami, the NRC established the Near Term Task Force (NTTF) in response to Commission direction. The NTTF issued a report - *Recommendations for Enhancing Reactor Safety in the 21st Century: The Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident* - that made a series of recommendations, some of which were to be acted upon "without unnecessary delay." (Ref. 7) On March 12, 2012, the NRC issued a letter to all power reactor licensees in accordance with 10CFR50.54(f). The 50.54(f) letter requests information to assure that certain NTTF recommendations are addressed by all U.S. nuclear power plants. (Ref. 6) The 50.54(f) letter requires, in part, all U.S. nuclear power plants to perform seismic walkdowns to identify and address degraded, non-conforming or unanalyzed conditions and to verify the current plant configuration is within the current seismic licensing basis. This report documents the seismic walkdowns performed at LaSalle County Generating Station Unit 1 in response, in part, to the 50.54(f) letter issued by the NRC.

The Nuclear Energy Institute (NEI), supported by industry personnel, cooperated with the NRC to prepare guidance for conducting seismic walkdowns as required in the 50.54(f) letter, Enclosure 3, Recommendation 2.3: Seismic. (Ref. 6) The guidelines and procedures prepared by NEI and endorsed by the NRC were published through the Electric Power Research Institute (EPRI) as EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic,* dated June 2012; henceforth, referred to as the "EPRI guidance document." (Ref. 1) Exelon/LaSalle has utilized this NRC endorsed guidance as the basis for the seismic walkdowns and this report. (Ref. 1)

1.3 PLANT OVERVIEW

The LaSalle County Station consists of two operating boiling water reactor (BWR) generating units. The site is located in the agricultural area of Brookfield Township, LaSalle County, Illinois. It is approximately 55 direct-line miles southwest of Chicago and 20 miles west of Dresden Nuclear Power Station. (Ref. 2 section 1.1)

The station utilizes two single-cycle forced-circulation boiling water reactors, rated at 3546 MWt and designed for 3559 MWt. Both units' containment design employs the BWR Mark II concept of over-under pressure suppression with multiple downcomers connecting the reactor drywell to the water-filled pressure suppression chamber. The NSSS supplier was GE (Nuclear Energy Division). The plant, except for the NSSS, was designed by Sargent & Lundy (S&L) Engineers. (Ref. 2 section 1.1)

Unit 1 was authorized to commence power operation under license No. NPF-11 which was granted on April 17, 1982. Unit 2 was authorized to commence power operation under license No. NPF-18 which was granted on December 16, 1983. (Ref. 18 and 19)

1.4 APPROACH

The EPRI guidance document is used for the LaSalle County Generating Station Unit 1 engineering walkdowns and evaluations described in this report. In accordance with Reference 1, the following topics are addressed in the subsequent sections of this report:

- Seismic Licensing Basis
- Personnel Qualifications
- Selection of SSCs
- Seismic Walkdowns and Area Walk-Bys
- Licensing Basis Evaluations, as applicable
- IPEEE Vulnerabilities Resolution Report
- Peer Review

1.5 CONCLUSION

Seismic walkdowns have been performed at the LaSalle County Generating Station Unit 1 in accordance with the NRC endorsed walkdown methodology. All potentially degraded, nonconforming, or unanalyzed conditions identified as a result of the seismic walkdowns have been entered into the corrective action program.

Evaluations of the identified conditions are complete and documented within the CAP. These evaluations determined the Seismic Walkdowns resulted in no adverse anchorage conditions, no adverse seismic spatial interactions, and no other adverse seismic conditions associated with the items on the SWEL. Similarly, the Area Walk-Bys resulted in no adverse seismic conditions associated with other SSCs located in the vicinity of the SWEL item(s).

The Seismic Walkdowns identified nine (9) minor conditions. Other than these minor conditions, the Seismic Walkdowns identified no degraded, nonconforming, or unanalyzed conditions that required either immediate or follow-on action. No planned or newly identified protection or mitigation features have resulted from the efforts to address the 50.54(f) letter.

Follow-on activities required to complete the efforts to address Enclosure 3 of the 50.54(f) letter include inspection of seven (7) items deferred due to inaccessibility along with supplemental inspections of 18 electrical cabinets. Area Walk-Bys will be completed, as required, during these follow-on activities.

2 Seismic Licensing Basis

2.1 OVERVIEW

This section of the report summarizes the seismic licensing basis for the LaSalle County Station Unit 1 and Unit 2. The safe shutdown earthquake and a summary of the codes, standards, and methods used in the design of Seismic Category I SSCs are presented. This section does not establish or change the seismic licensing basis of the facility and is intended to provide a fundamental understanding of the seismic licensing basis of the facility.

2.2 SAFE SHUTDOWN EARTHQUAKE (SSE)

The safe shutdown earthquake for the LaSalle County Station site is 0.20g horizontal ground acceleration and 0.133g vertical ground acceleration. (Ref. 2 section 3.7)

2.3 DESIGN OF SEISMIC CATEGORY I SSCS

A full description of the Safe Shutdown Earthquake along with the codes, standards, and methods used in the design of the Seismic Category I SSCs for meeting the seismic licensing basis requirements is provided in the following LaSalle County Station UFSAR sections:

- 3.7 Seismic Design
- 3.8 Design of Category I Structures
- 3.9 Mechanical Systems and Components
- 3.10 Seismic Qualification of Seismic Category I Instrumentation and Electrical Equipment

These UFSAR sections should be referred to for a detailed understanding of the seismic licensing basis.

2.3.1 Summary of Seismic Design

Design Response Spectra

The site response spectra which are defined at the free field foundation level for the SSE and the operating basis earthquake (OBE) are presented in UFSAR Subsection 2.5.2 and are shown in UFSAR Figures 2.5-39 and 2.5-40. The maximum horizontal ground acceleration at the free field foundation level, corresponding to above site response spectra, is 20% gravity for SSE and 10% gravity for OBE. Vertical response spectra used are 2/3 of the horizontal response spectra. Earthquake history, site geology, and seismology are discussed in UFSAR Section 2.5. (Ref. 2 section 3.7)

Design Time History

In the design of the station, time-history response analyses are used to determine the seismic environment in which internal equipment systems and components must be designed to function. The site response spectra cannot be used directly as the seismic load in the time-history analysis; rather, equivalent time-history forcing functions are used as the seismic load. (Ref. 2 section 3.7)

Spectrum compatible time history is obtained by modifying an actual earthquake time-history record in such a way that its response spectrum matches closely with the given OBE spectrum. The matching of the response spectrum is done such that the points which are higher are suppressed first. To suppress the response spectrum, the selected time-history motion is passed through a two parameter frequency-suppression filter. The first parameter is a damping parameter that mainly controls the amount of suppression at the given period, and the second parameter controls the band width of suppression. These two parameters are adjusted such that the desired suppression effect is obtained at a given period. After that, raising of response spectrum at required periods is done by adding sine waves of appropriate amplitude and phase lag. UFSAR Figures 3.7-1 and 3.7-2 illustrate the horizontal synthetic time histories in both N-S and E-W directions. These two synthetic time histories are statistically independent. The vertical synthetic time history is taken from the horizontal E-W synthetic time history with a 1/3 overall reduction in acceleration. (Ref. 2 section 3.7)

Modified 1940 El Centro earthquake records for N-S and E-W components are used for these compatible time-history forcing functions. Compatibility is verified by generating response spectra for 2% and 5% damping ratios as shown in UFSAR Figures 3.7-3 through 3.7-6. In generating these spectra, 72 period intervals from 0.02 to 2.0 seconds are considered. The period intervals at which the response spectra are calculated are as follows:

Period Range (sec)	Increment (sec)
0.02 - 0.1	0.005
0.1 - 0.4	0.01
0.4 - 0.5	0.02
0.5 - 1.0	0.05
1.0 - 2.0	0.1

(Ref. 2 section 3.7)

2.3.2 Summary of Codes and Standards

The information presented below has been extracted from the UFSAR Section 3.8. This section summarizes the codes, specifications, standards of practice, and other accepted industry guidelines which are adopted to the extent applicable, in the design and construction of the following. The specification reference(s) associated with each item below are the applicable Codes, standards, and specifications listed in Table 2-1 of this report.

- Concrete Containment – specification reference numbers 1-13, 16-19, 21, 22, 24, 27-29, and 31
- Steel pressure retaining components of the containment – specification reference numbers 12, and 27-29
- Drywell Floor - specification reference numbers 1-10, 16-19, 21, 22, 24, and 27-29

- Reactor Stabilizer Structure - specification reference numbers 12, 16-19, 24, and 27-29
- Reactor Pedestal - specification reference numbers 1-10, 16-19, 21, 22, 24, and 27-29
- Reactor Shield - specification reference numbers 3-5, 8-10, 12, 16- 19, 24, and 27-29
- Platforms, Galleries and Downcomer Bracing - specification reference numbers 12, 16-19, and 24
- Other Seismic Category I Structures - specification reference numbers 1-10, 12, and 14-31

Table 2-1. List of Codes, Standards, and Specifications

UFSAR Table 3.8-2 List of Specifications, Codes, and Standards				
SPECIFICATION REFERENCE NUMBER	SPECIFICATION OR STANDARD DESIGNATION	TITLE	EDITION	REMARKS
1	ACI 318	Building Code Requirements for Reinforced Concrete	1963	
2	ACI 318	Building Code Requirements for Reinforced Concrete	1971	
3	ACI 214	Recommended Practice for Evaluation of Compression Test Results	1965	
4	ACI 301	Specifications for Structural Concrete for Buildings	1972	Exceptions are listed in UFSAR Appendix E
5	ACI 306	Recommended Practice for Cold Weather Concreting	1966	Additions are listed in UFSAR Appendix E
6	ACI 315	Manual of Standard Practice for Detailing Reinforced Concrete Structures	1957	
7	ACI 347	Recommended Practice for Concrete Formwork	1968	

UFSAR Table 3.8-2 List of Specifications, Codes, and Standards				
SPECIFICATION REFERENCE NUMBER	SPECIFICATION OR STANDARD DESIGNATION	TITLE	EDITION	REMARKS
8	ACI 605	Recommended Practice for Hot Weather Concreting	1959	Exceptions are listed in UFSAR Appendix E
9	ACI 211.1	Recommended Practice for Selecting Proportions for Concrete	1970	Normal and Heavyweight
10	ACI-304 -73	Recommended Practice for Measuring, Mixing, and Placing Concrete	1973	
11	ACI-ASCE	Tentative Recommendations for Concrete Members Pre-stressed with Unbonded Tendons (Committee 423)	1969	
12	AISC	Manual of Steel Construction	1969	
13	ANSI B31.1.0	Standard Code for Pressure Piping, Power Piping	1967	
14	ANSI A123.1	Standard Nomenclature for Steel Door and Steel Door Frames	1967	
15	AWS D1.0	Code for Welding in Building Construction	Addenda of March 1965	
16	AWS A3.0	Definitions for Welding and Cutting	1969	
17	AWS A5.1	Mild Steel Arc-Welding Electrodes	1969	
18	AWS A6.1	Recommended Safe Practice for Inert-Gas Metal-Arc Welding	1966	
19	AWS D12.1	Recommended Practice for Welding Reinforcing Steel	1971	

UFSAR Table 3.8-2 List of Specifications, Codes, and Standards				
SPECIFICATION REFERENCE NUMBER	SPECIFICATION OR STANDARD DESIGNATION	TITLE	EDITION	REMARKS
20	CRSI	Manual of Standard Practice	1970	
21	CRSI	Recommended Practice for Placing Reinforcing Bars	1968	
22	AISI	Light Gage Cold-Formed Steel Design Manual	1962	
23	ASTM	Annual Books of ASTM Standards	1972	For applicable ASTM Standards see UFSAR Appendix E
24	ASA B1.1	Unified Inch Screw Threads	1960	
25	ASA B18.2	Square and Hexagonal Bolts and Nuts	1960	
27	ASME	ASME Boiler and Pressure Vessel Code, Section III and Section IX	Summer of 1972 Addenda	
28	ASME	1971 ASME Boiler & Pressure Vessel Code, Material Specifications, Section II	Summer of 1972 Addenda	
29	ASME	ASME Boiler and Pressure Vessel Code, Section XI, "In Service Inspection of Nuclear Reactor Coolant System"	1974 Edition Summer of 1975 Addenda	
30	API Spec No 620	Specification for Welded Steel Storage Tanks	February 1970	
31	Standard Assoc of Australia AS1250	The use of Steel in Structures	1981	

3 Personnel Qualifications

3.1 OVERVIEW

This section of the report identifies the personnel that participated in the NTTF 2.3 Seismic Walkdown efforts. A description of the responsibilities of each Seismic Walkdown participant's role(s) is provided in Section 2 of the EPRI guidance document. (Ref. 1) Resumes provided in Appendix A provide detail on each person's qualifications for his or her role.

3.2 PROJECT PERSONNEL

Table 3-1 below summarizes the names and corresponding roles of personnel who participated in the NTTF 2.3 Seismic Walkdown effort.

Table 3-1. Personnel Roles

Name	Equipment Selection Engineer	Plant Operations	Seismic Walkdown Engineer (SWE)	Licensing Basis Reviewer	IPEEE Reviewer	Peer Reviewer
A. Perez	X					
K. Hull	X					
T.K. Ram						X(1)
D. Carter			X	X		
M. Wodarcyk			X	X		
J. Griffith			X	X		
M. Etre			X	X		
T. Bacon						X
W. Djordjevic						X(2)
T. Dean (Exelon)		X				
Jorge Sanchez (Exelon)				X	X	

Notes:
1. Peer Review Team member for SWEL review only.
2. Peer Review Team Leader.

3.2.1 Stevenson & Associates Personnel

The following provides a synopsis of each individual's background and experiences.

Antonio Perez, P.E.: Mr. Perez is a Senior Engineer III and serves as the General Manager of the S&A Hudson, WI office. He earned his Bachelor of Science degree in Mechanical Engineering at Michigan Technological University and is a licensed Professional Engineer in the states of Wisconsin and Minnesota. Mr. Perez has over 15 years of experience in project management, project engineering, equipment design, and mechanical systems design and has served in the nuclear power industry for over 11 years. He has extensive experience in Program and Design Engineering and has held positions such as MOV Engineer, Responsible Design Engineer, Design Engineering Supervisor and STA Trainee in the nuclear power industry. Mr. Perez has successfully completed the Near-Term Task Force Recommendation 2.3 – Plant Seismic Walkdowns Training Course.

Kim Hull: Mr. Hull is a Senior Engineer III in the S&A Hudson, WI office. He earned his Master of Science degree in Mechanical Engineering at Michigan State University. Mr. Hull has over 30 years of experience in the nuclear power industry and has held positions such as Shift Technical Advisor, Principal Engineer, Senior Instructor, and Mechanical Design Supervisor. He has an extensive background in all aspects of nuclear power plant modifications with a thorough understanding of configuration control/management along with design and licensing basis of nuclear power plants. Mr. Hull has successfully completed the Near-Term Task Force Recommendation 2.3 – Plant Seismic Walkdowns Training Course.

Tribhawan K. Ram, P.E.: Mr. Ram is a Senior Engineer III in the S&A Phoenix, AZ Office. He has over 28 year experience in the nuclear power industry with expertise in plant systems and design engineering. Currently, Mr. Ram is leading the electrical engineering effort in support of Post-Fukushima Seismic Margin Analysis (SMA) for two Taiwan nuclear stations (PWR and BWR). This effort, in support of the plant Safe Shutdown Equipment List (SSEL), consists of relay list development, relay screening (using GERS, SQURTS or other available testing data), and relay chatter analysis. Mr. Ram was involved in resolving USI A-46 relay outliers for several plants (Dresden, Quad Cities, Millstone, Palisades, and Pilgrim). He evaluated dozens of control circuits for relay chattering issues. To replace outliers, Mr. Ram developed and/or supervised the development of modification packages including: replacement relay selection; relay testing specification preparation; and seismic testing facility visits for relay qualification. As a systems manager, Mr. Ram conducted periodic system walkdowns to discover and then pursue resolutions for any design, maintenance or operational issues with equipment. He has developed test plans for circuit breaker and other electrical equipment replacement, including involvement in test plan execution during refueling outages. Mr. Ram has interfaced, with NRC in their biennial Component Design Basis Inspections (CDBI), and with INPO in their biennial evaluations. Mr. Ram has MS degrees in Nuclear and Electrical Engineering from the University of Cincinnati, and an MBA from Bowling Green State University. He is a licensed Professional Engineer (electrical) in Ohio. Mr. Ram has completed a six month training course in BWR systems.

David Carter, P.E., S.E. Mr. Carter is a Senior Engineer III in the S&A Chicago, IL Office. He has a Bachelor of Science degree in civil engineering and has more than 30 years of experience in the nuclear power plant industry. He is a licensed Structural

Engineer in the State of Illinois and is a licensed Professional Engineering in several states. He is a SQUG Qualified Seismic Capability Engineer (SCE) and has completed the NTTF Recommendation 2.3 Training Course (SWE). In addition to his involvement in design and analysis of structures, systems, and components at nuclear power plants, he has performed SQUG walkdowns at various nuclear power plants. He has worked for over ten years as a Seismic Qualification Engineer at another utility performing seismic evaluations of plant equipment, input to procurement documents, and reviewing seismic qualification reports for new plant equipment.

Michael Wodarcyk, E.I.T. Mr. Wodarcyk is a Staff Engineer in the S&A Chicago, IL Office. He has a Master of Science Degree in Civil Engineering and has been working in the nuclear power plant industry for slightly more than one year. He has completed the NTTF Recommendation 2.3 Training Course (SWE). He has been involved in the design and analysis of rigging configurations, piping and pipe supports, and other various structures.

Jim Griffith, P.E. Mr. Griffith is a Senior Engineer III in the S&A Chicago, IL Office. He has a Bachelor of Science degree in civil engineering and has more than 25 years of experience in the nuclear power plant industry. He is a licensed Professional Engineer in the State of Wisconsin. He is a SQUG Qualified Seismic Capability Engineer (SCE) and has completed the NTTF Recommendation 2.3 Training Course (SWE). In addition to his involvement in design and analysis of structures, systems, and components at nuclear power plants, Mr. Griffith has many years of experience working at numerous nuclear power plants in support of construction, design, outage, and walkdown activities including SQUG walkdowns.

Mark Etre: Mr. Etre is a Senior Engineer III in the S&A Boston, MA office. He has managed and led seismic walkdowns and analyses of structures and components. Mr. Etre has more than 20 years of seismic experience serving the nuclear industry. Mr. Etre has participated in numerous USI A-46 and IPEEE projects in response to the requirements of Generic Letters 87-02 and 88-20. Mr. Etre has a Master of Science in Structural Engineering from the Worcester Polytechnic Institute. He has received industry training as a Seismic Capability Engineer (EPRI 5-day SQUG training) and has successfully completed the Near-Term Task Force Recommendation 2.3 – Plant Seismic Walkdowns Training Course.

Todd Bacon: Mr. Bacon is a Senior Consultant in the S&A Boston, MA office. He has over 30 years of experience in evaluations of nuclear systems, structures and components, with specialization in the dynamic analysis and design of piping systems, structures and equipment for seismic, other dynamic, fluid, and wind loads. He has managed various ASME Code related tasks for numerous US and international utilities. Mr. Bacon has been involved with the dynamic analyses of systems associated with the Main Steam and other NSSS systems, as well as many other plant systems. In addition, Mr. Bacon has led the analysis and subsequent regulatory response for a number of issues including GL 96-03 and masonry block wall assessments related to IEB 80-11. He is a licensed Professional Engineer (civil) in the states of California, Ohio, and Georgia. Mr. Bacon has successfully completed the Near-Term Task Force Recommendation 2.3 – Plant Seismic Walkdowns Training Course.

Walter Djordjevic, P.E. Mr. Djordjevic is a Senior Consultant and serves as President of S&A with specialization in the dynamic analysis and design of structures and equipment for seismic, blast, fluid, and wind loads. He has managed and led seismic walkdowns and fragility analyses of structures and components for use in probabilistic risk

assessments. Mr. Djordjevic has 37 years of seismic experience serving the nuclear industry. Mr. Djordjevic performed and managed more than 20 USI A-46 and IPEEE projects in response to the requirements of Generic Letters 87-02 and 88-20. Mr. Djordjevic has a Master of Science in Structural Engineering from the Massachusetts Institute of Technology. He has received industry training as a Seismic Capability Engineer (EPRI SQUG training), EPRI IPEEE Add-on, Seismic Fragility and Seismic Walkdown Engineer (SWE).

3.2.2 Additional Personnel

Exelon plant Operations staff member Thomas Dean, reviewed the SWEL. Mr. Dean is the Manager of Operations Support at LaSalle County Station. He is currently a licensed SRO and has been since 2002. Mr. Dean has worked in the operations department for 12 years and is familiar with all aspects of the station operating procedures.

Various station personnel also provided support to the SWEL preparer in identifying major equipment or system modifications, equipment and systems located in different environments, and equipment and systems that would be accessible for inspection during the plant walkdowns.

Exelon Engineering staff member Mr. Jorge Sanchez performed the IPEEE Vulnerabilities Review based, in part, on the IPEEE submittal along with subsequent correspondence and station records. (Ref. 3) Mr. Sanchez is a Structural Engineer in the Exelon Engineering Department. He has a Bachelor of Science degree in civil engineering and a Master of Science degree in structural engineering. He has worked at LaSalle since 2010. He has successfully completed Seismic Evaluations Training and the Near-Term Task Force Recommendation 2.3 – Plant Seismic Walkdowns Training Course. Mr. Sanchez is a licensed Professional Engineer and Structural Engineer in the State of Illinois.

4 Selection of SSCs

4.1 OVERVIEW

This section of the report describes the process used to select structures, systems, and components, (SSCs) that were included in the Seismic Walkdown Equipment List (SWEL). The actual equipment lists that were developed in this process are found in Appendix B and are as follows:

- Table B-1, Base List 1
- Table B-2, Base List 2
- Table B-3, SWEL 1
- Table B-4, SWEL 2

4.2 SWEL DEVELOPMENT

The selection of SSCs process described in EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic*, dated June 2012, was utilized to develop the SWEL for LaSalle County Generating Station Unit 1. (Ref. 1)

The SWEL is comprised of two groups of items:

- SWEL 1 is a sample of items to safely shut down the reactor and maintain containment integrity
- SWEL 2 is a list of spent fuel pool related items

4.2.1 SWEL 1 – Sample of Required Items for the Five Safety Functions

The process for selecting a sample of SSCs for shutting down the reactor and maintaining containment integrity began with the composite list of Safety Related systems, structures, and components identified in the station master equipment list. This initial data set contained approximately 52, 831 items for LaSalle Unit 1, Unit 2, and common Unit. This data set was then screened based on the following four screens to identify the items to be included on the first Seismic Walkdown Equipment List (SWEL 1):

1. **Screen #1 – Seismic Category I**

   As described in Reference 1, only items that have a defined seismic licensing basis are to be included in SWEL 1. Consistent with the LaSalle County Power Station UFSAR Chapter 3, SSCs identified as Safety-Related are also Seismic Category I. (Ref. 2) As such, all items on the initial data set are included for consideration to be added to SWEL 1.

2. Screen #2 – Equipment or Systems

This screen narrowed the scope of items to include only those that do not regularly undergo inspections to confirm that their configuration is consistent with the plant licensing basis. This screen reduced the data set of any Class I Structures, Containment Penetrations, Class I Piping Systems, cable/conduit raceways and HVAC ductwork. Major pieces of equipment in the Nuclear Steam Supply System (NSSS) located inside the containment were also removed from the data set.

3. Screen #3 – Support for the Five Safety Functions

This screen is intended to narrow the scope of items included on the SWEL 1 to only those associated with maintaining the following five safety functions:

A. Reactor Reactivity Control (RRC)

B. Reactor Coolant Pressure Control (RCPC)

C. Reactor Coolant Inventory Control (RCIC)

D. Decay Heat Removal (DHR)

E. Containment Function (CF)

The first four functions are associated with bringing the reactor to a safe shutdown condition. The fifth function is associated with maintaining containment integrity.

This screen began as an effort to assign safety function(s) to each item in the data set. This was accomplished on a 'system' based effort by utilizing Reference 1 Appendix E: Systems to Support Safety Functions. Reference 1 Appendix E provides guidance to identify systems that support each of the safety functions.

It is noted that items on SWEL 1 with a specific safety function(s) are considered frontline systems. Items with a safety function of 'Auxiliary & Support', 'Electrical Systems', or 'Racks & Panels' may be a frontline or support system. Items with a safety function of 'Auxiliary & Support', 'Electrical Systems', or 'Racks & Panels' support at least one of the five safety functions however, the specific safety function(s) is not indicated as identification of the specific safety function(s) supported is not required by Reference 1.

The resultant equipment list after Screen #3 is defined in the EPRI guidance document as Base List 1 and is included in Appendix B. (Ref. 1)

4. Screen #4 – Sample Considerations

This screen is intended to result in a SWEL 1 that sufficiently represents a broad population of plant Seismic Category I equipment and systems to meet the objectives of the NRC 50.54(f) letter. The following attributes were considered in the selection process for items included on SWEL 1:

A. A variety of types of systems

The system is identified for each item on SWEL 1. The equipment included on SWEL 1 is a representative sample of several systems that perform one or multiple safety functions. Further, the systems represented include both frontline and support systems as listed in Reference 1 Appendix E: Systems to Support Safety Function(s).

B. Major new and replacement equipment

As described in Reference 1, the intent of this screening element is to ensure that equipment that has been modified or was not included as part of the seismic evaluations performed to address the Individual Plant Examination of External Events (IPEEE) program is included on the SWEL 1. However, based on References 3 and 5, seismic evaluations of SSCs were not conducted at the LaSalle County station as part of the IPEEE program. Instead, the licensee relied exclusively on the level III PRA developed to address the IPEEE program. Further, a review of Reference 4 Section 8 revealed that LaSalle specific equipment fragilities were limited to a very small population of equipment and that generic seismic equipment fragilities were relied on for most equipment. This is an important point because it reveals an absence of extensive seismic evaluations of equipment generally necessary to develop equipment specific fragilities.

Because conducting seismic evaluations was not a major element of the IPEEE program at LaSalle, there is no need to identify equipment that has been modified or replaced since the completion of the IPEEE program. However, as a measure to meet the intent of this element, Reference 4, Table 8.2 *LaSalle specific equipment fragilities*, was reviewed and of the 39 items listed at least 12 were added to the SWEL 1. These items are not specifically identified.

C. A variety of types of equipment

The equipment class is identified for each item on SWEL 1. The equipment included on SWEL 1 is a representative sample from each of the classes of equipment listed in Reference 1 Appendix B: Classes of Equipment. Where appropriate, at least one piece of equipment from each class is included on SWEL 1.

Screening #1, #2, and #3 resulted in no equipment in the following classes:

- 11. Chillers.
- 13. Motor Generators.

D. A variety of environments

The location for each item is identified on SWEL 1. The equipment included on SWEL 1 is a representative sample from a variety of environments (locations) in the station.

E. Equipment enhanced due to vulnerabilities identified during the IPEEE program

No vulnerabilities or plant improvements were identified as a result of the IPEEE program. (Ref. 3 and 5)

F. Contribution to risk

In selecting items for SWEL 1 that met the attributes above, some items with similar attributes were selected based on their higher risk-significance. To determine the relative risk-significance, the Risk Achievement Worth (RAW) and Fussell-Vesely importance for a Loss of Off-Site Power (LOOP) scenario from the internal plant PRA were used. Additionally, the list of risk-significant components for the LOOP PRA were compared with the draft SWEL 1 to

confirm that a reasonable sample of risk-significant components (relevant for a seismic event) were included on SWEL 1. (Ref. 8)

4.2.2 SWEL 2 Development – Spent Fuel Pool Related Items

The process for selecting a sample of SSCs associated with the spent fuel pool (SFP) began with a review of the station design and licensing basis documentation for the SFP and the interconnecting SFP cooling system. The following four screens narrowed the scope of SSCs to be included on the second Seismic Walkdown Equipment List (SWEL 2):

1. **Screen #1 - Seismic Category I**

   Only those items identified as Seismic Category I (having defined seismic licensing basis) are to be included on SWEL 2 with exception to the SFP structure. As described in Reference 1, the adequacy of the SFP structure is assessed by analysis as a Seismic Category I structure. Therefore, the SFP structure is assumed to be seismically adequate for the purposes of this program and is not included in the scope of items included on SWEL 2.

   The review of design and licensing basis documentation for the SFP revealed there are SSCs that are Seismic Category I for LaSalle County Generating Station Unit 1. (Ref. 2) UFSAR Table 3.2-1 item XX indicates that the Spent Fuel Pool pumps, piping and valves are Seismic Category II. However, Note (18) of UFSAR Table 3.2-1 states, in part, *piping which provides a flow path from the fuel pool skimmer surge tanks to the RHR system and back to the fuel pool up to and including the isolation valves, which provide pressure boundary for this mode of operation* is Seismic Category I. Based on this Note, the indicated piping and valves were included for further selection of SSC for SWEL 2.

   It is noted the Spent Fuel Pool Emergency Make-Up Pumps, valves, and piping is Category I. However, this system piping terminates with a normally closed valve and capped end that does not communicate directly with the SFP or the SFP cooling system. This equipment was not included for consideration to be added to the SWEL 2.

2. **Screen #2 – Equipment or Systems**

   This screen considers only those items associated with the SFP that are appropriate for an equipment walkdown process. The only equipment identified for consideration to be added to SWEL 2 included piping and manual valves. Only the manual valves are considered appropriate for inclusion to SWEL 2.

3. **Screen #3 – Sample Considerations**

   This screen represents a process that is intended to result in a SWEL 2 that sufficiently represents a broad population of SFP Seismic Category I equipment and systems to meet the objectives of the NRC 50.54(f) letter. (Ref. 1) The following attributes were considered in the development of SWEL 2:

   A. A variety of types of systems

      The system is identified for each item on SWEL 2. The equipment included on SWEL 2 is to be a representative sample of the systems associated with the SFP and its cooling system. The only equipment considered for inclusion to SWEL 2 is within the Spent Fuel Pool Cooling system.

B. Major new and replacement equipment

The equipment included on SWEL 2 includes items that have been modified or replaced over the past several years. Each item on SWEL 2 that is new or replaced is identified. There was no modified or replacement equipment identified.

C. A variety of types of equipment

The equipment class is identified for each item on SWEL 2. The equipment included on SWEL 2 is a representative sample from each of the classes of equipment listed in Reference 1 Appendix B: Classes of Equipment. Where appropriate, at least one piece of equipment from each class is included on SWEL 2. The only equipment for consideration to be included on SWEL 2 is manual valves which are class (00) Other.

D. A variety of environments

The location for each item is identified on SWEL 2. The equipment included on SWEL 2 is a representative sample from a variety of environments (locations) for equipment associated with the SFP and its cooling system. The only equipment considered to be included on the SWEL 2 is located in the Reactor Building.

4. Screen #4 – Rapid Drain-Down

This screen identifies items that could allow the spent fuel pool to drain rapidly. Consistent with Reference 1, the scope of items included in this screen is limited to the hydraulic lines connected to the SFP and the equipment connected to those lines. For the purposes of this program it is assumed the SFP gates are installed and the SFP cooling system is in its normal alignment for power operations. The SFP gates are passive devices that are integral to the SFP. As such, they are considered capable of withstanding a design basis earthquake without failure and do not allow for a rapid drain-down of the SFP.

The SSCs identified in this screen are not limited to Seismic Category I (having defined seismic licensing basis) items, but are limited to those items that could allow rapid drain-down of the SFP. Rapid drain-down is defined as lowering of the water level to the top of the fuel assemblies within 72 hours after the earthquake.

An assessment of the LaSalle County Generating Station Unit 1 spent fuel pools and their cooling systems was performed and found no SFP penetrations below 10 feet above the top of the fuel assemblies. (Ref. 2, 9, 10, 11, 12, 13, 14, 15, 16, & 17) As such, and consistent with Reference 1, there is no potential for rapid drain-down and no items were added to SWEL 2.

It is noted the isolation valve between the RHR system and the spent fuel pool return line is located upstream of the spent fuel pool return line siphon breaks. As such, these valves were not considered to be included on the SWEL 2. (Ref. 9)

Two (2) items were identified to be included in the scope of SWEL 2 for LaSalle County Generating Station Unit 1.

5 Seismic Walkdowns and Area Walk-Bys

5.1 OVERVIEW

Seismic Walkdowns and Area Walk-Bys were conducted by two (2) person teams of trained Seismic Walkdown Engineers (SWEs) in accordance with the EPRI guidance document during the weeks of August 27, 2012, September 3, 2012, September 10, 2012, and September 17, 2012. The Seismic Walkdowns and Area Walk-Bys are discussed in more detail in the following sub-sections.

Consistent with the EPRI guidance document, Section 4: Seismic Walkdowns and Area Walk-Bys, the SWEs used their engineering judgment, based on their experience and training, to identify potentially adverse seismic conditions. Where needed, the engineers were provided the latitude to rely upon new or existing analyses to inform their judgment.

The SWEs conducted the Seismic Walkdowns and Area Walk-Bys together as a team. During the evaluations, the SWEs actively discussed their observations and judgments with each other. The results of the Seismic Walkdowns and Area Walk-Bys reported herein are based on the comprehensive agreement of the SWEs.

5.2 SEISMIC WALKDOWNS

The Seismic Walkdowns focused on the seismic adequacy of the items on the SWEL (SWEL 1 and SWEL 2) as provided in Appendix B of this report. The Seismic Walkdowns also evaluated the potential for nearby SSCs to cause adverse seismic interactions with the SWEL items. The Seismic Walkdowns focused on the following adverse seismic conditions associated with the subject item of equipment:

- Adverse anchorage conditions
- Adverse seismic spatial interactions
- Other adverse seismic conditions

The results of the Seismic Walkdowns have been documented on the Seismic Walkdown Checklist (SWC) provided in the EPRI guidance document, Appendix C. Seismic Walkdowns were performed and a SWC completed for 109 of the 116 total items identified on the LaSalle Unit 1 SWEL. The completed SWCs are provided in Appendix C of this report. Additionally, photos have been included with most SWCs to provide a visual record of the item along with any comments noted on the SWC. Drawings and other plant records are cited in some of the SWCs, but are not included with the SWCs because they are readily retrievable documents through the station's document management system.

Seismic Walkdowns are deferred for the remaining seven (7) items to a unit outage or another time when the equipment is accessible. These items could not be walked down during the 180-day period following the issuance of the 10CFR50.54(f) letter due to their being inaccessible. Inaccessibility of this equipment was either based on the location of

the equipment (environment that posed personnel safety concerns while the unit is operating) or due to the electrical safety hazards posed while the equipment is operating. Appendix E of this report identifies the inaccessible equipment along with the plan for future Seismic Walkdowns.

The following subsections describe the approach followed by the SWEs to identify potentially adverse anchorage conditions, adverse seismic interactions, and other adverse seismic conditions during the Seismic Walkdowns.

5.2.1 Adverse Anchorage Conditions

Guidance for identifying anchorage that could be degraded, non-conforming, or unanalyzed relied on visual inspections of the anchorage and verification of anchorage configuration. Details for these two types of evaluations are provided in the following two subsections.

The evaluation of potentially adverse anchorage conditions described in this subsection applies to the anchorage connections that attach the identified item of equipment to the civil structure on which it is mounted. For example, the welded connections that secure the base of a Motor Control Center (MCC) to the steel embedment in the concrete floor would be evaluated in this subsection. Evaluation of the connections that secure components within the MCC is covered later in the subsection "Other Adverse Seismic Conditions."

Visual Inspections

The purpose of the visual inspections was to identify whether any of the following potentially adverse anchorage conditions were present:

- Bent, broken, missing, or loose hardware
- Corrosion that is more than mild surface oxidation
- Visible cracks in the concrete near the anchors
- Other potentially adverse seismic conditions

Based on the results of the visual inspection, the SWEs judged whether the anchorage was potentially degraded, non-conforming, or unanalyzed. The results of the visual inspection were documented on the SWC, as appropriate. If there was clearly no evidence of degraded, nonconforming, or unanalyzed conditions, then it was indicated on the checklist and a licensing basis evaluation was not necessary. However, if it was not possible to judge whether the anchorage is degraded, nonconforming, or unanalyzed, then the condition was entered into the Corrective Action Program as a potentially adverse seismic condition.

5.2.2 Configuration Verification

In addition to the visual inspections of the anchorage as described above, the configuration of the installed anchorage was verified to be consistent with existing plant documentation for at least 50% of the items on the SWEL.

Line-mounted equipment (e.g., valves mounted on pipelines without separate anchorage) was not evaluated for anchorage adequacy and was not counted in establishing the 50% sample size.

Examples of documentation that was considered to verify that the anchorage installation configurations are consistent with the plant documentation include the following:

- Design drawings
- Seismic qualification reports of analyses or shake table tests
- IPEEE program documentation, as applicable

The Table C-1 of Appendix C indicates the anchorage verification status for components as follows:

N/A: components that are line-mounted and/or are not directly anchored (with separate anchorage) to the civil structure and therefore do not count in the anchorage confirmation total

Y: components that are anchored to the civil structure which were confirmed to be consistent with design drawings and/or other plant documentation

N: components that are anchored to the civil structure for which anchorage drawings were not identified and/or retrieved

See Table 5-1 below for the accounting of the 50% anchorage configuration confirmations, and the individual SWC forms in Appendix C for the specific drawings used for each anchorage verification confirmation.

Table 5-1. Anchorage Configuration Confirmation

SWEL	No. of SWEL Items (A)	N/A Items (B)	Required to Confirm? (A-B)/2	Items Confirmed
Total	116	55	31	42

5.2.3 Adverse Seismic Spatial Interactions

An adverse seismic spatial interaction is the physical interaction between the SWEL item and a nearby SSC caused by relative motion between the two during an earthquake. An inspection was performed in the area adjacent to and surrounding the SWEL item to identify any seismic interaction conditions that could adversely affect the capability of that SWEL item to perform its intended safety-related functions.

The three types of seismic spatial interaction effects that were considered are as follows:

- Proximity
- Failure and falling of SSCs (Seismic II over I)
- Flexibility of attached lines and cables

Detailed guidance for evaluating each of these types of seismic spatial interactions is described in the EPRI guidance document, Appendix D: Seismic Spatial Interaction.

The Seismic Walkdown Engineers exercised their judgment to identify seismic interaction hazards. Section 5.2.5 provides a summary of issues identified during the Seismic Walkdowns.

5.2.4 *Other Adverse Seismic Conditions*

In addition to adverse anchorage conditions and adverse seismic interactions, described above, other potentially adverse seismic conditions that could challenge the seismic adequacy of a SWEL item could have been present. Examples of the types of conditions that could pose potentially adverse seismic conditions include the following:

- Degraded conditions
- Loose or missing fasteners that secure internal or external components to equipment
- Large, heavy components mounted on a cabinet that are not typically included by the original equipment manufacturer
- Cabinet doors or panels that are not latched or fastened
- Other adverse conditions

Any identified other adverse seismic conditions are documented on the items' SWC, as applicable.

5.2.5 *Conditions Identification during Seismic Walkdowns*

Table 5-2 provides a summary of the conditions identified during the equipment Seismic Walkdowns. The equipment Seismic Walkdowns resulted in a total of four (4) conditions identified which were entered into the station's CAP. The conditions were assessed and it was concluded that the conditions would not prevent the associated equipment from performing its safety-related function(s). The conditions identified by the SWEs during the equipment Seismic Walkdowns were concluded to not be adverse seismic conditions.

5.3 AREA WALK-BYS

The purpose of the Area Walk-Bys is to identify potentially adverse seismic conditions associated with other SSCs located in the vicinity of the SWEL items. Vicinity is generally defined as the room containing the SWEL item. If the room is very large (e.g., Turbine Hall), then the vicinity is identified based on judgment, e.g., on the order of about 35 feet from the SWEL item. This vicinity is described on the Area Walk-By Checklist (AWC), shown in Appendix D of this report. A total of 44 AWCs were completed for LaSalle Unit 1. It is noted that additional AWCs will be completed as deferred and supplemental inspections are completed.

The key examination factors that were considered during Area Walk-Bys include the following:

- Anchorage conditions (if visible without opening equipment)
- Significantly degraded equipment in the area
- A visual assessment (from the floor) of cable/conduit raceways and HVAC ducting (e.g., condition of supports or fill conditions of cable trays)
- Potentially adverse seismic interactions including those that could cause flooding, spray, and fires in the area

- Other housekeeping items that could cause adverse seismic interaction (including temporary installations and equipment storage)
- Scaffold construction was inspected to meet Exelon Procedure NES-MS-04.1 Seismic Prequalified Scaffolds
- Seismic housekeeping was examined to meet station procedure LAP-100-56, Equipment / Parts Storage in Plant Areas Containing Safety-Related Equipment

The Area Walk-Bys are intended to identify adverse seismic conditions that are readily identified by visual inspection, without necessarily stopping to open cabinets or taking an extended look. Therefore, the Area Walk-By took significantly less time than it took to conduct the Seismic Walkdowns described above for a SWEL item. If a potentially adverse seismic condition was identified during the Area Walk-By, then additional time was taken, as necessary, to evaluate adequately whether there was an adverse condition and to document any findings.

The results of the Area Walk-Bys are documented on the AWCs included in Appendix D of this report. A separate AWC was filled out for each area inspected. A single AWC was completed for areas where more than one SWEL item was located.

Additional details for evaluating the potential for adverse seismic interactions that could cause flooding, spray, or fire in the area are provided in the following two subsections.

Seismically-Induced Flooding/Spray Interactions

Seismically-induced flooding/spray interactions are the effect of possible ruptures of vessels or piping systems that could spray, flood or cascade water into the area where SWEL items are located. This type of seismic interaction was considered during the IPEEE program. Those prior evaluations were considered, as applicable, as information for the Area Walk-Bys.

One area of particular concern to the industry is threaded fire protection piping with long unsupported spans. If adequate seismic supports are present or there are isolation valves near the tanks or charging sources, flooding may not be a concern. Numerous failures have been observed in past earthquakes resulting from sprinkler head impact. Less frequent but commonly observed failures have occurred due to flexible headers and stiff branch pipes, non-ductile mechanical couplings, seismic anchor motion and failed supports.

Examples where seismically-induced flooding/spray interactions could occur include the following:

- Fire protection piping with inadequate clearance around fusible-link sprinkler heads
- Non-ductile mechanical and threaded piping couplings can fail and lead to flooding or spray of equipment
- Long, unsupported spans of threaded fire protection piping
- Flexible headers with stiffly supported branch lines
- Non-Seismic Category I tanks

The SWEs exercised their judgment to identify only those seismically-induced interactions that could lead to flooding or spray.

Seismically-Induced Fire Interactions

Seismically-induced fire interactions can occur when equipment or systems containing hazardous/flammable material fail or rupture. This type of seismic interaction was considered during the IPEEE program. Those prior evaluations were considered, as applicable, as information for the Area Walk-Bys.

Examples where seismically-induced fire interactions could occur include the following:

- Hazardous/flammable material stored in inadequately anchored drums, inadequately anchored shelves, or unlocked cabinets
- Natural gas lines and their attachment to equipment or buildings
- Bottles containing acetylene or similar flammable chemicals
- Hydrogen lines and bottles

Another example where seismically-induced fire interaction could occur is when there is relative motion between a high voltage item of equipment (e.g., 4160 volt transformer) and an adjacent support structure when they have different foundations. This relative motion can cause high voltage busbars, which pass between the two, to short out against the grounded bus duct surrounding the busbars and cause a fire.

The Seismic Walkdown Engineers exercised their judgment to identify only those seismically-induced interactions that could lead to fires.

5.3.1 Conditions Identification during Area Walk-bys

Table 5-3 at the end of this section provides a summary of the conditions identified during the Area Walk-Bys. Six (6) conditions were identified during the Area Walk-Bys and entered into the station CAP. No potentially adverse seismic conditions were identified that resulted in a seismic licensing basis evaluation. No seismically-induced flooding or spray interactions were identified during the Area Walk-Bys. No seismically-induced fire interactions were identified during the Area Walk-Bys.

5.4 SUPPLEMENTAL INFORMATION ON ELECTRICAL CABINET INSPECTIONS

Following the completion of the online seismic walkdowns, the industry was made aware that the NRC staff had clarified a position on opening electrical cabinets to inspect for other adverse seismic conditions. The purpose for opening these cabinets is to inspect for evidence of:

- internal components not being adequately secured,
- whether fasteners securing adjacent cabinets together are in place, and
- other adverse seismic conditions.

Appendix E of this report includes Table E-2 which identifies components in the specified equipment classes that would be considered as electrical cabinets:

1. Motor Control Centers and Wall-Mounted Contactors
2. Low Voltage Switchgear and Breaker Panels
3. Medium Voltage, Metal-Clad Switchgear

4. Transformers
14. Distribution Panels and Automatic Transfer Switches
16. Battery Chargers and Inverters
20. Instrumentation and Control Panels

Components that are identified on Table E-1 (inaccessible and deferred components) are not listed on Table E-2 to avoid redundancy. Table E-2 indicates internal accessibility of each cabinet. Cabinets that have been identified as requiring these supplemental internal inspections are those with doors or panels with latches or thumbscrews and can be readily opened during normal maintenance activities. Also provided for each cabinet is a proposed milestone schedule for performing these internal inspections and the associated station tracking number (IR number).

The Seismic Walkdown Checklists (SWC) for the components identified in Table E-2 that can be opened for internal inspections will be revised at the time of the supplemental walkdown to indicate the results of these internal inspections.

Table 5-2. Conditions Identified during Seismic Walkdowns

Item ID	Description of Issue	Action Request ID (IR)	Actions Complete (Yes/No, See Notes 1 & 2)
1C11-D001001, 1C11-D001089, 1C11-D001093, 1C11-D001182, 1C11-D2659-125, 1C11-D2659-126, 1C11-D2659-127, 1C11-D3003-125, 1C11-D3003-126, 1C11-D3003-127, 1C11-D3403-125, 1C11-D3403-126, 1C11-D3403-127, 1C11-D4259-125, 1C11-D4259-126, 1C11-D4259-127	During the performance of Fukushima Seismic Walkdowns on Unit One, it was noted that the S-hooks associated with the chains holding fluorescent lighting fixtures were not completely crimped closed. Two of the areas noted were in the vicinity of the Unit 1 North and South Hydraulic Control Unit (HCU) banks in the Reactor Building (761' Elevation). It should be noted that the S-hooks are closed enough such that they would not allow the fixture to become disconnected during a seismic event; therefore, this is not a seismic issue per Engineering. However, these S-hooks should be completely crimped closed as per normal maintenance standards.	1406922	No
1E12-N007B, 1E12-N015B	Rack 1H22-P021 is in contact with existing pipe support RH11-1412G auxiliary steel. Both the rack frame member and the pipe support cantilevered member are relatively flexible at the point of contact. The instruments on the rack are mounted away from the point of contact and therefore any impact energy imparted to the rack during a seismic event will significantly dissipate before reaching the instruments. Margin between the horizontal seismic accelerations experienced by the rack during seismic qualification testing and the peak horizontal seismic accelerations expected during a design-basis sesmic event (per LaSalle Seismic Response Spectra) is large. Contact judged to be acceptable.	1411614	Yes
1E12-F051B	Hairline crack on face of instrument pressure gauge for the valve will not affect functionality of valve per Engineering.	1412094	Yes

Item ID	Description of Issue	Action Request ID (IR)	Actions Complete (Yes/No, See Notes 1 & 2)
1VY05C	During the performance of Fukushima Seismic Walkdowns in the Unit 1 Diesel Generator Building, El. 736 ft., it was noted that a small portion of the grout under the base plate of 1VY05C "RHR ECCS Equipment Cooling Fan" is dried out. The grout provides moisture protection for the anchors and acts to transfer the equipment load to the floor slab through bearing. The small amount of grout missing does not adversely affect the overall functionality of the grout installation and the anchor's two nuts (one above the base plate and one below) serve to hold the whole assembly in place. Therefore, per Engineering, this is not a seismic concern.	1419071	No

Notes:
1) "Yes" indicates that any corrective actions resulting from the issue are complete.
2) "No" indicates that any corrective actions resulting from the issue are NOT complete. Actions are tracked by the IR number in the station Corrective Action Program.

Table 5-3. Conditions Identified during Area Walk-Bys

Item ID (AWC-U1-)	Description of Issue	Action Request ID (IR)	Actions Complete (Yes/No, See Notes 1 & 2)
1-05, 1-06, 3-23	During the performance of Fukushima Seismic Walkdowns on Unit One, it was noted that the S-hooks associated with the chains holding fluorescent lighting fixtures were not completely crimped closed. The areas noted were the Unit One Diesel Generator Penthouse, as well as the Unit One Hydraulic Control Units (HCUs) in the Reactor Building (Elevation 761'). It should be noted that the S-hooks are closed enough such that they would not allow the fixture to become disconnected during a seismic event; therefore, this is not a seismic issue per Engineering. However, these S-hooks should be completely crimped closed as per normal maintenance standards.	1406922	No
3-02	During the performance of Fukushima Seismic Walkdowns in the Unit One Reactor Building, it was noted that a floor plug located on the 786' Elevation (A &10) needed to be resealed. Sealant is missing between the south plug and the center plug. Per Engineering and LAP-300-44, Rev. 20, "Floor Plug Removal and Installation", this is not a seismic, flooding, or EQ issue with the sealant missing. It was verified with the Fire Marshall that this floor plug has no fire rating; therefore it is not a fire protection issue. This is a housekeeping issue only.	1410959	Yes
3-14	During the performance of Fukushima Walkdowns in the Unit One Reactor Building, it was noted that there was a pipe clamp that was not installed on a short run of tube spanning between valves 1B33-N018B-RR and 1B33-N018B-UDV on RHR Instrument Panel 1H22-P021. Per Engineering, this is not a seismic issue due to the fact the tube is relatively flexible and has a short unsupported span between the aforementioned valves. Therefore, functionality of the tube would not be affected during a seismic event.	1412069	No

Item ID (AWC-U1-)	Description of Issue	Action Request ID (IR)	Actions Complete (Yes/No, See Notes 1 & 2)
4-01	During the performance of Fukushima Seismic Walkdowns in the Unit One Reactor Building, it was noted that 1B33-S001B "1B Reactor Recirculation Pump Low Frequency Motor Generator Set" motor termination junction box had a loose bolt. The loose bolt is located on the north end, west side of the box. The loose bolt is one of several bolts that attach the cover plate to the junction box. The loose bolt has no significant effect on the junction box integrity, therefore per Engineering this is not a seismic issue.	1414865	Yes
4-03	During the performance of Fukushima Seismic Walkdowns in the Unit One Reactor Building, it was noted that on two back panel doors the lower bolts on 1AP61E "480V MCC 133-1" were not engaging on the lower portion of the doors. The two doors are the second and fourth back panel doors coming from the north. The bolts were tightened by Operations but are not holding properly. The top bolt and the middle bolt on each of the above mentioned doors are secured properly, therefore the doors are closed and secure. Per Engineering, this is not a seismic issue due to the fact that the doors are adequately secured in their as-found condition and will not interact adversely with MCC 1AP61E during a seismic event.	1414894	Yes
3-14	During the performance of Fukushima Seismic Walkdowns in Unit 1, the Unit 1 Main Control Room received an unexpected alarm for Reactor Building South Water Tight Door Open on 1PM06J. Door 5, RHR Pumps B & C Pump Room to Basement Area Unit 1 was verified closed. All water tight door seals and room penetration seals were verified operable and showed no signs of degradation, damage, or obstruction. The water tight door met all requirements of LOP-PF-01 and TRM 3.5.a for operability at all times. The alarm limit switch / door switch for Door 5 appears degraded and it was not entirely made up when the Main Control Room alarm was received. This is not a seismic issue.	1411647	No

Notes:
1) "Yes" indicates that any corrective actions resulting from the issue are complete.
2) "No" indicates that any corrective actions resulting from the issue are NOT complete. Actions are tracked by the IR number in the station Corrective Action Program.

6 Licensing Basis Evaluations

The EPRI guidance document, Section 5: Seismic Licensing Basis Evaluation provides a detailed process to perform and document seismic licensing basis evaluations of SSCs identified when potentially adverse seismic conditions are identified. The process provides a means to identify, evaluate and document how the identified potentially adverse seismic condition meets a station's seismic licensing basis without entering the condition into a station's Corrective Action Program (CAP). In lieu of this process, Exelon/LaSalle utilized the existing processes and procedures (Site CAP Expectations) to identify, evaluate and document conditions identified during the Seismic Walkdowns.

In accordance with Exelon/LaSalle processes and procedures, all questionable conditions identified by the SWEs during the walkdowns were entered into the station CAP to be further evaluated and addressed as required. The SWEs provided input to support the identification and evaluation (including seismic licensing basis evaluations, as required) of the potentially adverse seismic conditions entered into the CAP. The station corrective action program is a more robust process than that provided in the EPRI guidance document; in part, ensuring each condition is properly evaluated for conformance with design and licensing bases and corrected as required.

Conditions identified during the walkdowns were documented on the SWCs, AWCs, and entered into the CAP. For those conditions that required, seismic licensing basis evaluations were completed and documented within the IR. Tables 5-2 and 5-3 in the report provide the IR, a summary of the condition, and the action completion status.

7 IPEEE Vulnerabilities Resolution Report

A review of the LaSalle County Nuclear Power Station Individual Plant Examination of External Events (IPEEE) Submittal along with the NRC Staff Evaluation Report of the IPEEE found that no vulnerabilities were identified and no plant improvements resulted from the IPEEE program. (Ref. 3 and 5)

8 Peer Review

A peer review team consisting of at least two individuals was assembled and peer reviews were performed in accordance with Section 6: Peer Reviews of the EPRI guidance document. The Peer Review process included the following activities:

- Review of the selection of SSCs included on the SWEL
- Review of a sample of the checklists prepared for the Seismic Walkdowns and Area Walk-Bys
- Review of Licensing basis evaluations, as applicable
- Review of the decisions for entering the potentially adverse conditions into the CAP process
- Review of the submittal report
- Provide a summary report of the peer review process in the submittal report

The peer reviews were performed independently from this report and the summary Peer Review Report is provided in Appendix F of this report.

9 References

Reference drawings related to SWEL items are provided in the Seismic Walkdown Checklists and if applicable, in the Area-Walkdown Checklists.

1. EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic*, dated June 2012

2. LaSalle County Power Station Updated Final Safety Analysis Report (UFSAR), Revision 19, April 2012

3. Nuclear Regulatory Commission letter to Mr. Oliver D. Kingsley, Commonwealth Edison Company, dated December 8, 2000, Subject: LaSalle County Station, Units 1 and 2 NRC Staff evaluation of the Individual Plant Examination of External Events (IPEEE) Submittal (TAC NOS. M83634 And M83635)

4. NUREG/CR-4832, Analysis of the LaSalle Unit 2 Nuclear Power Plant: Risk Methods Integration and Evaluation Program (RMIEP), Vol. 8

5. Commonwealth Edison Letter from Gary G. Benes to U.S. Nuclear Regulatory Commission, dated December 12, 1994, Subject: LaSalle County Nuclear Power Station, Individual Plant Examination and Individual Plant Examination (External Events) Submittal, NRC Dockets 50-373 and 50-374

6. NRC (E Leeds and M Johnson) Letter to All Power Reactor Licensees et al., "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendation 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," Enclosure 2.3, "Recommendation 2.3: Seismic."

7. "Recommendations for Enhancing Reactor Safety in the 21st Century: The Near-term Task Force Review of Insights from the Fukushima Dai-ichi Accident," ADAMS Accession No. ML111861807, July 12, 2011

8. Internal RM Document LS-MISC-16, Rev. 0, SWEL Risk Importance Input

9. Drawing M-98, Sheet 1 Rev. AO, P&ID Fuel Pool Cooing Filter & Demineralizing System

10. Drawing M-98, Sheet 2 Rev. X, P&ID Fuel Pool Cooing Filter & Demineralizing System

11. Drawing M-98, Sheet 3 Rev. K, P&ID Fuel Pool Cooing Filter & Demineralizing System

12. Drawing M-98, Sheet 4 Rev. N, P&ID Fuel Pool Cooing Filter & Demineralizing System

13. Drawing M-87, Sheet 1 Rev. BD, P&ID Core Standby Cooling System Equipment Cooling Water System

14. Drawing M-87, Sheet 2 Rev. AR, P&ID Core Standby Cooling System Equipment Cooling Water System

15. Drawing M-87, Sheet 3 Rev. O, P&ID Core Standby Cooling System Equipment Cooling Water System

16. Drawing M-770, Sheet 9 Rev. G, Substructure Piping Unit 1

17. Drawing M-770, Sheet 10 Rev. F, Substructure Piping Unit 1

18. Exelon Generation Company, LLC, Docket No. 50-373, LaSalle County Station, Unit 1, Facility Operating License, License No. NPF-11

19. Exelon Generation Company, LLC, Docket No. 50-374, LaSalle County Station, Unit 2, Facility Operating License, License No. NPF-18

A

Project Personnel Resumes and SWE Certificates

Resumes and certificates (where applicable) for the following people are found in Appendix A:

A. Perez, Equipment Selection Engineer A-2

K. Hull, Equipment Selection Engineer A-6

J. Griffith, SWE, Licensing Basis Reviewer..... A-9

D. Carter, SWE, Licensing Basis Reviewer..... A-13

M. Etre, SWE, Licensing Basis Reviewer A-16

M. Wodarcyk, SWE, Licensing Basis Reviewer..... A-19

T. Ram, SWEL Peer Reviewer A-21

T. Bacon, Peer Reviewer A-23

W. Djordjevic, Peer Review Team Leader A-28

Jorge Sanchez (Exelon), Licensing Basis Reviewer, IPEEE Reviewer..... A-32

Stevenson & Associates

Antonio J. Perez, P.E.

SUMMARY

Mr. Perez has over 15 years of experience in project management, project engineering, equipment design, and mechanical systems layout for nuclear and industrial facilities.

EDUCATION

B.S. – Mechanical Engineering
Michigan Technological University, Houghton, MI
Magna cum Laude

LICENSES

Professional Engineer, Wisconsin: September 2002
Minnesota: December 2010

PROFESSIONAL EXPERIENCE

Stevenson & Associates, Green Bay, WI

General Manager October 2010 – Present

- Responsible for interfacing with clients with a focus on continuously improving relationships.
- Responsible for managing staff resources to meet or exceed clients' needs.
- Responsible for recruiting and hiring staff necessary to meet resource requirements while effectively increasing capacity.
- Responsible for providing Engineering Consultation services to clients.

Project Manager March 2007 – October 2010

- Performing Project Management tasks including development of project plans, identification of resource needs, estimating task durations, developing project schedules, and monitoring budgets.
- Lead design team efforts at the Kewaunee Power Station on multiple projects that include two separate Auxiliary Feedwater flow control modifications, Auxiliary Feedwater flow monitoring instrumentation modifications, and Auxiliary Building roof modifications.
- Supported the Calculation Reconstitution and Improvement Project at the Prairie Island Nuclear Generating Plant by mapping calculations associated with the RHR system.

Dominion Energy Kewaunee (formerly Nuclear Management Company 2001 - 2005)
Kewaunee Power Station, Kewaunee, WI

Shift Technical Advisor (trainee) January 2006 – March 2007

- Trainee in a Senior Reactor Operator Certificate training program.

Stevenson & Associates

Antonio J. Perez, P.E.

Engineering Supervisor – ME/CE/SE Design May 2004 – January 2006

- Supervised a staff of 12 to 15 engineers (mechanical, civil, and structural design) who were charged with developing design changes, maintaining design and licensing basis documentation and supporting maintenance.
- Integrated the civil/structural engineering group and the mechanical engineering group into a cohesive unit that resulted in gained efficiency and a net reduction of one full time equivalent engineer.
- Substantially increased the quality of engineering products developed and published by the ME/CE/SE Design Engineering group through coaching and feedback as a result of increased supervisory oversight of engineering products.
- Developed a work management system for the group that provided a means for prioritizing activities, estimating the level of effort, and scheduling of activities. This system allowed for an increased understanding of workload and became an invaluable tool for prioritizing work and managing resources.
- Increased communications within the group by holding daily 15 minute meetings where station messages were delivered and where the group's resources were assessed and redirected as necessary to meet commitments. This resulted in an increase in morale and an increase in commitments met.
- Increased communications with other departments by establishing a central point of contact for the group and by assuring that the ME/CE/SE Design Engineering group was represented at Planning and Scheduling meetings.

Motor Operated Valve Engineer

June 2001 – May 2004

- Established a project plan and led the implementation effort that re-organized the Motor-Operated Valve Program at KPS. This effort consisted of developing a Program Manual, developing controlled calculations, performing Design Basis Reviews, and compiling and/or establishing plant positions on known industry issues. The result of this effort was a reduction of full time equivalent engineers, from 3 to 1, required to maintain the Program.
- Performed and reviewed MOV safety related calculations including Minimum Required Stem Thrust, Weak Link Analysis, and Available Margin.
- Assisted in MOV testing by providing engineering support to maintenance personnel.

DISTRIBUTION PLANNING, INC., Grandville, MI

Systems Mechanical Engineer 2000 – 2001

- Integrated mechanical systems and designed equipment for material handling systems.
- Procured equipment and coordinated delivery schedules with vendors.

Stevenson & Associates

Antonio J. Perez, P.E.

SMS SANDMOLD SYSTEMS, INC., Newaygo, MI
Project Engineer /Manager 1998 – 2000

- Led multi-discipline project design teams for several projects that ranged in size from a few thousand dollars up to $2.2 million.
- Coordinated efforts with engineering, manufacturing, and installation groups to establish and maintain project schedules that met or exceeded the client's expectations.
- Procured equipment and coordinated delivery schedules with vendors.
- Acted as the company's liaison with clients to work through issues that arose during projects. Provided project status updates to clients and management.
- Designed equipment such as sand storage bins – up to 540-ton live load capacity, bucket elevators, belt conveyors, screw conveyors, and mixers. Most of this equipment was for handling of bulk solids (foundry sand).
- Analyzed and designed structural support members for various types of equipment such as vibratory conveyors, mixers, and conveyors. Designed access structures such as stair towers, service platforms and catwalks.
- Calculated foundation loads and point loads of equipment support points.

LIFT-TECH INTERNATIONAL, Muskegon, MI
Project Engineer 1997 – 1998

- Performed engineering analyses, wrote critiques, and recommended design modifications of structural members for the purpose of upgrading bridge cranes and hoists.
- Implemented engineering design changes to enhance product development.

Certificate of Completion

Tony Perez

Successfully Completed

Training on Near Term Task Force
Recommendation 2.3 – Plant Seismic Walkdowns

Bruce M. Lory (16 PDH)
Bruce M. Lory - Instructor
NTTF 2.3 Seismic Walkdown Course

Date: 06/26/12

KIM L. HULL

BACKGROUND SUMMARY

Accomplished **Lead Engineer/ Project Manager** with significant experience in commercial nuclear power industry. Demonstrated ability to lead and contribute on cross-functional project teams. Possess strong analytical, problem resolution, collaboration, and communication skills when interacting with diverse audiences including regulatory inspectors, internal inspectors, management, and employees. Respected trainer with ability to develop and present information and measure effectiveness through evaluation techniques. Strengths include:

Project Management	Design Modifications	Plant Operational Support
Procurement	Management/Leadership	Regulatory Compliance
Training/Coaching	Auditing	Inspections

KEY ACCOMPLISHMENTS

- Served as KNPP Lead Engineer/ Project Supervisor for approximately 125 plant design changes.
- Experienced in all aspects of nuclear power plant modification packages including development of calculations, design, engineering, and procurement specifications.
- Thorough understanding of configuration control, management, and preparation of 10CFR50.59 analyses.
- Participated in several regulatory and industry audits, including CDBI and INPO assessments.
- Experienced as a Technical Specialist performing NUPIC Audits.
- Well-developed communication skills for preparing technical presentations including lesson plans, project reports, and meetings in support of regulatory activities and inspections.
- Qualified Shift Technical Advisor for KNPP Operations Group (1980s).

PROFESSIONAL EXPERIENCE

STEVENSON & ASSOCIATES – Project Manager **2010 - Current**
National consulting engineering firm specializing in civil, structural and mechanical engineering for power, industrial and advanced technology facilities.

Project Manager
- Development of plant specific Seismic Walkdown Equipment Lists for multiple Units in response to NRC 50.54(f) requirements regarding Recommendation 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," Enclosure 2.3, "Recommendation 2.3: Seismic."
- Onsite at Kewaunee Power Station Consultant support to resolve Q-list Open Items
- On-site at Kewaunee Power Station Consultant support for Auxiliary Feedwater Flow Control Modification including preparation and review of design documentation.

WISCONSIN PUBLIC SERVICE RESOURCES / Nuclear Management Company
DOMINION ENERGY - Kewaunee, WI **1982 to 2010**

Senior Instructor (Maintenance) (2009 - 2010)
- Developed lesson plans and taught Basic Systems and Continuing Training Topics for Engineering and Technical Support training program.

Engineer III/Principal Engineer (2004 - 2009)
- Responsible for modifications and emergent issues including Steam Exclusion Boundaries, Fuel Transfer Carriage, Frazil Ice development on the KPS Circulating Water Intake, and NRC 96-06 Two Phase flow.
- Member of Dominion Fleet Calculation Quality Review Team and Mentor for Calculation training.
- Outage nightshift Lead Mechanical Design Engineer/Back-up Supervisor.
- KPS Engineering representative on the Independent Review Team developed to address CDBI

inspection findings. Assigned to review all calculations, modification packages, 10CFR 50.59 screenings, evaluations, and procurement packages.
- Technical Instructor for Administrative Process training for new engineers.

Mechanical Design Supervisor (2002 - 2004)
- Supervised nine engineers, analysts, and technicians assigned to the KNPP Mechanical Design Group.
- Provided Mechanical Design Oversight for all vendor activities impacting KNPP Mechanical Design Bases.
- Provided support for emergent plant issues, NRC Inspections, and Physical Change Packages.
- Subject Matter Expert Instructor for 10CFR 50.59 process training for new engineers.

Principal Engineer (Analytical Group SGR Project) (1998 - 2002)
- Contract Manager for Steam Generator Replacement (SGR).
- Responsible for coordination of SGE design, fabrication and installation contracts.
- Provided outage schedule development, coordination, and work process integration between Bechtel and KNPP.
- Coordinated contractor mobilization, badging, and plant specific training.
- Technical Specialist for Quality Assurance audits of vendors.
- SGR Shift Manager for night shift
- Responsible Engineer for SGR related Physical Change Packages.
- Responsible for SGR budget development up to 1998.
- Prepared, reviewed, and awarded Bechtel Installation contract.
- Participated in review and award of Ansaldo Fabrication contract.
- Served on team to review and award Westinghouse Design contract.
- Selected to work at Arkansas Nuclear One for their steam generator installation.

Senior Engineer (Analytical Group) (1994–1998)
- Responsible Engineer for Physical Change Packages.
- Member KNPP Engineering Reorganization Team.
- Recognized Technical Expert for KNPP systems.

Senior Project Supervisor (1992–1994)
- Provided project management and engineering services for KNPP DCR packages.
- Supervisor of KNPP NPM Project Attendants responsible for modification package organization and close out.

Nuclear Services Supervisor (1991–1992)
- Supervised initial Steam Generator replacement project effort.
- Provided specification development for services and major plant components.

Prior to 1992 – Held engineering positions from Associate Engineer to Nuclear Design Engineering Supervisor.

EDUCATION

Masters Program Coursework - Mechanical Engineering; Michigan State University - E. Lansing, MI
B.S. - Mechanical Engineering - Michigan State University - E. Lansing, MI
B.A. - Biology - Albion College - Albion, MI

Certificate of Completion

Kim Hull

Successfully Completed

Training on Near Term Task Force
Recommendation 2.3 – Plant Seismic Walkdowns

Bruce M. Low (16 PDH)
Bruce M. Low - Instructor
NTTF 2.3 Seismic Walkdown Course

Date: 06/26/12

STEVENSON & ASSOCIATES

JAMES D. GRIFFITH

QUALIFICATIONS

Knowledgeable professional with over 23 years of diverse experience in structural engineering. Thorough, results-oriented problem solver with excellent communication skills. Works well independently or as part of a team. Highly skilled in all project phases from design through construction and specializes in field problem resolution.

PROFESSIONAL EXPERIENCE

Project Engineer (Stevenson & Associates, 2000 to present)

Responsible for all aspects of civil structural design. Also provides interface between clients, vendors, constructors and Stevenson & Associates.

Decommissioning Design Engineer (ComEd, 1998 to 2000)

Responsible for structural design work during conversion from generating to storage facility. Gathered design information during conceptual field walkdowns and prepared design calculations and drawings. Provided field support during construction.

- Designed all component supports and concrete foundations for various new indoor equipment.
- Managed construction during installation of new roof-mounted HVAC system.
- Designed structural steel support framing and access gallery for new outdoor cooling towers.

Maintenance Engineer (ComEd, 1995 to 1998)

Responsible for the design of structural repairs to station equipment and facilities. Interfaced with maintenance and construction personnel and performed evaluations of rigging, lead shielding, and scaffolding. Investigated and developed solutions for structural problems in the field and provided field support during installation of modifications.

- Designed and supervised field installation of heavy-duty rigging apparatus for replacement of large overhead crane motor.
- Performed conceptual design and supervised field construction of 60 foot high scaffold work platform for valve replacement.
- Prepared and reviewed calculations to justify structural acceptability of station equipment during successful completion of Seismic Qualification Utility Group (SQUG) evaluation program.
- Acted as engineering liaison to other station departments (Maintenance, Operations, Radiation Protection, etc) to resolve emergent problems regarding:
    - Rigging for lifting various plant equipment
    - Placement and support of temporary lead shielding
    - Storage of equipment in safety related seismic areas of the plant
    - Structural repairs and improvements to plant buildings and equipment

Structural Engineer (Sargent and Lundy, 1983 to 1995)

Responsible for design of structural modifications to various components of power generating facilities. Prepared and reviewed design calculations and drawings

- Designed numerous modifications to existing structural steel framing members and end connections.

- Supported field installation of modifications and provided solutions to problems encountered in the field.
- Designed and monitored field installation of new access galleries for various pieces of equipment.

EDUCATION

B.S., Civil and Environmental Engineering, University of Wisconsin, Madison, Wisconsin

Continuing Education

"Concrete Evaluation and Repair Seminar", Portland Cement Association, Skokie, Illinois, 1996

"STAAD III Program Training", Sargent and Lundy Engineers, Chicago, Illinois, 1995

"Piping Design, Analysis and AUTOPIPE Training"
Vectra Technologies, Inc., Zion, Illinois, 1995

"SQUG Walkdown Screening and Seismic Evaluation Training Course",
Seismic Qualification Utility Group through ComEd, Downers Grove, Illinois, 1994

PROFESSIONAL REGISTRATIONS

Licensed Professional Engineer in State of Wisconsin

Certificate of Completion

Jim Griffith

Successfully Completed

Training on Near Term Task Force Recommendation 2.3 – Plant Seismic Walkdowns

Bruce M. Lory (16 PDH)
Bruce M. Lory - Instructor
NTTF 2.3 Seismic Walkdown Course

Date: 06/26/12

SQUG

Certificate of Achievement

This is to Certify that

Jim Griffith

has Completed the SQUG Walkdown Screening and Seismic Evaluation Training Course

Aug 2-4 & 10-11, 1994
Date of Course

Paul C. Smith
SQUG Representative

Bruce M. Long
Training Course Administrator

Stevenson & Associates

DAVID N. CARTER

PROFESSIONAL EXPERIENCE

April, 1998-Present **Wisconsin Electric, Point Beach Nuclear Plant** (On loan from Stevenson & Associates)

Point Beach Nuclear Plant is located in Wisconsin between Milwaukee and Green Bay on Lake Michigan. Worked as Seismic Qualification Engineer responsible for performing seismic evaluations of plant equipment as well as providing input to procurement documents and reviewing seismic qualification reports for new plant equipment. Also worked as Design Engineer preparing and managing various plant modifications. Modifications included reinforcement of RWST anchorage, new HELB barriers and vent paths, new firewall, platform and foundation modifications. The modification preparations included preparing design change documents, 50.59 safety evaluations and calculations as well as assisting in resolution of installation problems.

December, 1997-April, 1998 **Stevenson & Associates**

Stevenson & Associates is a consulting engineering firm. Work includes design and analysis of building structures and components.

April, 1995-December, 1997 **ComEd, Zion Station**

Zion Station is a nuclear power plant that is owned and operated by ComEd, an electric utility serving northern Illinois. Member of design engineering group as a Senior Structural Engineer. Work included the scoping, cost estimating, design and preparation of design documents for various plant modifications. Prepared 50.59 safety evaluations for various plant modifications. Member of the Zion Seismic Review Team that implemented the SQUG program. Performed SQUG walkdowns and assessments. Proposed and implemented upgrades to SQUG outliers. Attended and completed the SQUG SCE Training.

April, 1984-April, 1995 **Sargent & Lundy Engineers**

Sargent & Lundy is a consulting engineering firm that specializes in the design and modification of power plants. Work included the design and analysis of building structures and support components on fossil and nuclear power plants. Assignment highlights include the following:

- Member of modification design project team at Zion Station.
- Member of Zion project team in Sargent and Lundy Chicago office for approximately two years. Worked on various modifications for Zion Station as a Senior Engineer in the Structural Engineering Division. Design activities included preparation, review or approval of design calculations, design documents such as engineering change notices and design criteria documents. Supervised up to four other engineers.
- Member of a design team working on the design of two new nuclear units located in Korea (Yonggwang 3&4). The design was done in the offices of Korea Power Engineering Corporation located in Seoul, Korea. Responsibilities included the design of the structural steel for the turbine building. The assignment involved working with and providing guidance for engineers from the Korean engineering company. The work also involved the preparation of design procedures, procurement specifications, and design calculations as well as the review of design drawings and shop drawings. The length of this assignment was approximately four years.

- Member of a group of engineers that worked on a weld evaluation program at Watts Bar Nuclear Power Station. The assignment included the evaluation of various weld discrepancies on structural steel connections and component supports. This assignment lasted one year.

- Member of various project teams which worked on the design of modifications for fossil and nuclear power plants. Projects include Dresden, Quad Cities, Byron, Braidwood Stations (Commonwealth Edison Co.), and Parish Station (Houston Lighting and Power). Work included the assessment of masonry walls, design of component supports, design of hot air ducts, evaluation of structural steel framing for final loads and preparation of study and design reports. Responsibilities also included the preparation and review of design documents, letters, supervising other engineers, and meeting with clients.

September, 1980-March 1984 **American Bridge Division - United States Steel Corp.**

American Bridge was a consulting engineering firm whose main client was U.S. Steel. They specialized in the design and modification of steel mill buildings. Assignments included the following:

- Design of various modifications to blast furnaces.

- Member of group of engineers whose function was to inspect existing mill buildings, prepare a report of findings and recommend repairs. Included in this assignment was the preparation of design drawings showing the recommended repairs. This assignment lasted approximately one year.

- Loaned to Sargent and Lundy Engineers to assist in the design of component supports and the final load evaluation on Byron Nuclear Power Station. This assignment totaled approximately 16 months.

EDUCATION

Syracuse University, L. C. Smith College of Engineering; Bachelor of Science Degree in Civil Engineering. Graduated Cum Laude.

PROFESSIONAL AFFILIATIONS

Licensed Professional Engineer in State of Minnesota
Licensed Structural Engineer in State of Illinois
Licensed Professional Engineer in State of Wisconsin

Certificate of Completion

Dave Carter

Successfully Completed

Training on Near Term Task Force Recommendation 2.3 – Plant Seismic Walkdowns

Bruce M. Lory (16 PDH)

Bruce M. Lory - Instructor
NTTF 2.3 Seismic Walkdown Course

Date: 06/26/12

Mark S. Etre

EDUCATION:

MBA, Rensselaer Polytechnic Institute - Hartford Graduate Center, Hartford, CT
MS, Mechanical Engineering, Rensselaer Polytechnic Institute - Hartford Graduate Center, Hartford, CT
BS, Civil Engineering – Worcester Polytechnic Institute, Worcester, MA

PROFESSIONAL HISTORY:

Stevenson & Associates, Inc., Woburn Massachusetts, Project Manager, 2009 - Present.
Pratt & Whitney Power Systems, East Hartford, CT, Project Manager, 2000 - 2009.
Northeast Utilities, Millstone, Waterford, CT, Engineering Supervisor, 1981 - 2000.
Pratt & Whitney Aircraft, East Hartford, CT, Analytical Engineer, 1978 - 1981.

PROFESSIONAL EXPERIENCE:

Mr. Etre is a result oriented Manager with extensive experience working on the design basis reconstruction, evaluation and construction of nuclear power plants and assessment of components. Significant accomplishments in the areas of licensing; engineering reviews, welding evaluations, quality program evaluation and implementation, project coordination, and ASME interpretation and training. He has testified as a witness before regulatory groups on topics such as design basis criteria, engineering analysis, fabrication techniques, material and welding applications, material control, and construction practices. Known for and have demonstrated skills and capabilities in:

Managing Resources	Safety Analysis
Erosion-corrosion criteria	Project Management
ASME Section III, IX, XI, B31.1	NRC GL 89-13
High Energy Line Break	Seismic Assessments

RESPONSIBILITIES AND ACCOMPLISHMENTS

Stevenson & Associates, Woburn, MA

Director of Projects **2009 - Present**

Advises leadership and/or office managers at the highest levels about the project portfolio, status and resource planning for delivering strategic business Initiatives. Plans, directs, and ensures the successful management of designed business solutions utilizing the complete resources of the staff and assigned project management teams. Provides technical assistance in identifying, evaluating and developing methods and procedures that are efficient, effective and meet good business practice. Maintains communication with upper management both within and across organizations to ensure smooth running of all projects undertaken by team. Responsible for leading in a mature and organization-focused manner, providing help where necessary to project a professional image. Has expert experience in Project/Program Management and able to lead in the coaching and mentoring of team members to help them achieve individual expectations and deliverables. Assesses resource loads and makes appropriate individual assignments.

Pratt & Whitney Power Systems, Windsor, CT

Project Manager **2000 - 2009**

Responsible for the organization of proposal teams and the Project management function of a $56 million power plant. Coordinated the priorities of management and personnel to ensure goals.

Ensured customer satisfaction while maintaining high quality and controlling costs.
Managed the Engineering function of the design, analysis and manufacturing of rotating and static structures.
Demonstrated versatility, coordinated diverse activities, i.e., proposals, projects on through to job implementation.
Routinely oversee multiple proposals and projects.
Created and negotiated realistic proposals and schedules that satisfied customer requirements and resulted in accurate outcomes on time and within financial targets.

Northeast Utilities, Millstone, Waterford, CT

Manager, Engineering Backlog **1999 - 2000**
Responsible for the Design Basis Reconstruction.

Managed turnaround of the Design Basis Reconstruction that resulted in a 30% increase in production.
Implemented a process to prioritize projects and other initiatives, which resulted in a 90% reduction in our design and calculations basis backlog while ensuring the documentation was current.
Created and negotiated realistic budgets and schedules, which satisfied NRC regulatory requirements and resulted in on-time completion within budget constraints.
Maintained a bottom line focus in scheduling and budgeting that allowed for the completion of backlog ahead of schedule.
Eliminated projects that had limited added value to the bottom-line performance.

Engineering Supervisor ***1992 - 1999***
Managed the Mechanical/Civil engineering function at Millstone Unit 3 with a professional staff of 15. Coordinated the priorities of management and personnel to ensure goals.

Ensured customer satisfaction while maintaining high quality and controlling costs.
Demonstrated versatility, coordinated diverse activities, i.e., construction, purchasing on through to job completion. Routinely oversaw multiple projects.
Managed the implementation of NRC GL 89-13, Erosion-corrosion assessments, Reg Guide 1.97 and USI A-46.

Senior Engineer ***1981 - 1992***
Various engineering assignments designed to enhance performance throughout manufacturing and power generation facilities.

Demonstrated track record for translating technical knowledge and leadership to bottom line results.
Reviewed and approved engineering documents such as calculations, specifications and drawings for adherence to regulatory and code requirements. This included design, analysis, fabrication, and erection of pressure vessels and piping components at several nuclear power plants.

Pratt & Whitney, East Hartford, CT ***1978 - 1981***

Analytical Engineer
Responsible for evaluation and improving jet engine designs.

Performed Critical Speed and Forced Response Analysis.
Conducted test demonstrations to ensure design compliance.

Certificate of Completion

Mark Etre

Successfully Completed

Training on Near Term Task Force
Recommendation 2.3 – Plant Seismic Walkdowns

Bruce M. Lory

Bruce M. Lory - Instructor
NTTF 2.3 Seismic Walkdown Course

Date: 06/26/12

MICHAEL WODARCYK

EMPLOYMENT

Stevenson & Associates, Glenview, Illinois
Staff Engineer June 2011 – present
- Analysis and design of nuclear power plant structures and other assorted structures. On-site engineering at plants during outage maintenance periods.

ESCA Consultants, Urbana, Illinois
Design Engineer September 2010 – June 2011
- Structural design and hydraulic modeling of bridges for the Illinois Department of Transportation, Canadian National Railway, BNSF Railway, and others. Inspection of the production of precast structural elements for CN.

Evans, Mechwart, Hambleton, & Tilton, Columbus, Ohio
Intern May 2007 – August 2007, May 2008 – August 2008
- Assisted in the design and drafting of site, stormwater, and utility plans for various projects using AutoCAD, including the headquarters tower and garage for Grange Insurance in downtown Columbus.

D.E. Huddleston General Contractors, Columbus, Ohio
Laborer May 2006 – August 2006
- Constructed footing foundations and performed other miscellaneous tasks for two elementary schools under construction in the Columbus City Schools district.

EDUCATION

University of Illinois, Urbana-Champaign — Urbana-Champaign, Illinois
Master of Science, Civil Engineering — August 2010
Structural Engineering Concentration
GPA: 3.66 (of 4.0)

University of Notre Dame — Notre Dame, Indiana
Bachelor of Science, Civil Engineering — May 2009
GPA: 3.47 (of 4.0)

- *Undergraduate Research,* January 2009 – August 2009
  Studied the effects that different structural systems have on the harmonic damping of a high-rise structure. Modeled a case study high-rise building using SAP2000.

- *Big Beam Contest,* August 2008 – February 2009
  Led a team of four students that designed, built, and tested Notre Dame's entry for the Precast/Prestressed Concrete Institute's Big Beam reinforced-concrete beam contest, with all design considerations based upon ACI 318-08 and PCI 6th ed. codes and specifications. This design won 2nd place in the contest's Zone 4 (Midwest).

CERTIFICATIONS

Engineer-in-Training — April 2009
First Aid — August 2008

ORGANIZATIONS

American Concrete Institute
American Society of Civil Engineers

Certificate of Completion

Mike Wodarcyk

Successfully Completed

Training on Near Term Task Force
Recommendation 2.3 – Plant Seismic Walkdowns

Bruce M. Lory

Bruce M. Lory - Instructor
NTTF 2.3 Seismic Walkdown Course

Date: 06/26/12

Tribhawan Ram

EDUCATION:

B.S. - Electrical Engineering, Punjab University, India, 1972
M.S. - Electrical Engineering, University of Cincinnati, 1977
M.S. - Nuclear Engineering, University of Cincinnati, 1982
M.B.A. - Bowling Green State University, 1996

PROFESSIONAL REGISTRATION:

State of Ohio

PROFESSIONAL HISTORY:

Stevenson & Associates, Inc., Senior Engineer, 2011 - present
Public Service Electric & Gas Co., Senior Plant Systems Engineer, Hancock Bridge, NJ, 2007 - 2011
Entergy Corporation, Plymouth, Massachusetts, Senior Design Engineer, 2002-2007
Various Companies, Contract Consulting Project Engineer, 1996 – 2002
Public Service Electric & Gas Co., Senior Staff Engineer, Hancock Bridge, NJ, 1983-1990
Toledo Edison Co., Toledo, Ohio, Senior Assistant Engineer, Associate Engineer, 1978-1983

PROFESSIONAL EXPERIENCE:

- Electrical and Controls Design Engineering
- Plant Systems Engineering
- Transformer and Relay(s) Spec Developer
- Plant Modification Engineering
- Systems and Component Test Engineering
- Factory Testing Witness
- 6 Month BWR Systems Engineering Training
- ETAP Trained
- Arc Flash IEEE 1584 Trained

Mr. Ram has over 28 years of electrical project, design and systems engineering experience in US nuclear plants. As part of the Seismic Margin Analysis (SMA) team, in 2012, Mr. Ram is leading the electrical engineering EPRI methodology effort to perform Post-Fukushima relay list development and evaluation to support Safe Shutdown Equipment List (SSEL), including relay functional screening and chatter analysis, for Taiwan nuclear plants (both PWR and BWR). In this effort, he is preparing the final reports including recommendations to replace any bad actor relays. Mr. Ram is preparing proposals to replace these bad actors including modification package development for field replacement of these relays. He has prepared proposals to lead similar forthcoming relay evaluation efforts for several Westinghouse plants in the USA. Mr. Ram has either prepared or peer reviewed the Seismic Walkdown Equipment Lists (SWEL 1 & 2) for several Exelon Plants.

As a senior plant systems engineer, Mr. Ram has: 1. Developed several test plans for modification packages for the replacement of low and medium voltage circuit breakers (ABB K-Line to Square D Masterpact; GE Magneblast to Wyle Siemens) and for the replacement of the entire Pressurizer Heater Bus switchgear; 2. Personally been involved in execution of these test plans during refueling outages; 3. Witnessed factory testing of Pressurizer Heater Bus Switchgear; 4. Interfaced with NRC in their biennial Component Design Basis Inspections (CDBI); Interfaced with INPO in their biennial evaluations; 5. Developed and executed Performance Centered Maintenance (PCM) strategies for Motor Control Centers (MCCs) and low and medium voltage circuit breakers and switchgear; 6. Developed and executed margin improvement strategies for pressurizer heater busses, for twin units, through obtaining funds and then equipment replacement; 7. Developed refueling outage scoping for low and medium voltage circuit breakers and MCCs through working with outage group, maintenance, operations, and work MGMT; 8. Resolved breaker grease hardening issue for ABB K-Line breakers, over a two year period, through working with maintenance and work MGMT in implementing accelerated overhauls with better grease; 9. Trained operations and engineering personnel in the Engaging People and Behavior Change process, as part of a case study team and; 10. Resolved day to day operations and maintenance issues with systems of responsibility (low and medium voltage systems)

Mr. Ram has regularly participated in the EPRI annual circuit breaker user group conferences; at the 2011 meeting, he made a presentation on circuit breaker as found testing vis-à-vis protection of equipment, cables, and containment penetrations, and selective coordination preservation.

As a Senior Design Engineer, Mr. Ram has: 1. Developed specifications and procured 345/4.16/4.16 kV and 23/4.16/4.16 kV transformers (ranging up to $1.25 million); 2. Prepared a modification package to install the 23 kV/4.16 kV/4.16 kV transformer, including leading the project team to get this transformer successfully installed, tested, and placed in service; 3. Developed ETAP scenarios and performed load flow studies to successfully support the 2006 INPO evaluation; 4. Performed arc flash calculations per IEEE 1584 methodology for 4 kV, 480V Load Centers, and MCCs, enabling a justification of reduced arc flash rated clothing, thereby allowing conversion of OUTAGE PMs into ONLINE PMs and; 5. Performed single point system vulnerability analysis.

As a Consulting Lead Project Engineer, Mr. Ram was heavily involved in resolution of the USI A-46 for several plants. He performed an extensive review of dozens of control circuits for relay chattering issues. To replace bad relay actors, Mr. Ram developed and/or supervised the development of many modification packages including: selection of replacement relays (both protective and auxiliary); preparation of relay testing specification with civil engineering input; working with and visiting seismic testing facilities for relay qualification and; developing pre and post installation instructions including test procedures. He worked closely with teams consisting of maintenance, operations, and work MGMT during the development and implementation of these projects. Besides the A-46 issue, Mr. Ram first developed and then was personally involved in the implementation of modification packages consisting of Cable, Conduit, Circuit Breaker and motor starter (contactor) replacements.

The following provides a list of USI A-46 resolution projects:

Northeast Utilities – Millstone Station
Consumers Power Co. - Palisades Nuclear Station
Boston Edison Co. - Pilgrim Nuclear Power Station
Commonwealth Edison Company- Dresden Station, Quad Cities Station

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Todd A Bacon

Education

1976 – 1980	University of Illinois – Urbana-Champaign Bachelor of Science – Civil Engineering

Registration / Certification

Professional Engineer: California License No. C-0336104 (Civil), Georgia License. No. 015562, Ohio License No. E-57497

Professional History

2012 – Present	Stevenson & Associates, Charlotte, North Carolina, Senior Consultant and General Manager, Charlotte, NC Office
1980 – 2012	AREVA Inc., Charlotte, NC, Engineering Manager

Professional Experience

Mr. Bacon has thirty years of experience in the design and modification of mechanical and structural systems. His responsibilities as an Engineering Manager have included work from the conceptual design through to the installation support phases of projects. Mr. Bacon has served as Project Engineer and Project Manager for numerous work scope efforts, including coordination of personnel in multiple locations. The efforts have also included significant client and/or regulatory interface, as required. These activities have also included responsibility for budgets, schedules and the technical accuracy of work performed. In addition, he has extensive experience in proposal and report development, as well as personnel training activities.

Mr. Bacon has thirty years of experience in the design and modification of mechanical and structural systems. His responsibilities as an Engineering Manager have included work from the conceptual design through to the installation support phases of projects. Mr. Bacon has served as Project Engineer and Project Manager for numerous work scope efforts, including coordination of personnel in multiple locations. The efforts have also included significant client and/or regulatory interface, as required. These activities have also included responsibility for budgets, schedules and the technical accuracy of work performed. In addition, he has extensive experience in proposal and report development, as well as personnel training activities.

Mr. Bacon's work has involved extensive use of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, including various piping system related committees. These have included the design group for the HDPE buried pipe group of Section III, and the Flaw Analysis group of Section XI. Other Code experience includes the American Institute of Steel Construction (AISC), American Concrete

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Institute (ACI), and ASME (ANSI) B31.1 and B31.3 codes. He serves on the AREVA College of Experts in the areas of structural and dynamic analysis and is also fluent in using numerous piping and finite element computer programs, as well as in typical frame analysis programs.

Engineering Manager, Civil and Layout Department
AREVA NP Inc.

Mr. Bacon served as an Engineering Manager in the Civil and Layout Department in Charlotte, North Carolina. In this role he was responsible for the efforts involving work on the 3D model for an AREVA US EPR plant being designed for the Calvert Cliffs site in Maryland. His areas of responsibility also included the balance of plant piping system design efforts for the plant. In this role, he was involved with interfaces with numerous groups utilizing the 3D model information, as well as consortium partner Bechtel Power, and AREVA offices throughout the US and Europe who served as subcontractors for various portions of the overall project scope of work. This included coordinating the efforts of approximately fifty individuals for these efforts involving technical resolution of issues, manpower planning, personnel issues, and development of the group.

In addition to the managerial responsibilities, he was a member of the AREVA College of Experts in the area of mechanics and fluid mechanics. This group was comprised of approximately one percent of the company worldwide which served as the technical leaders for the company, sharing best practices and knowledge throughout the global organization.

In addition to the New Plants activities in the US, Mr. Bacon supported efforts involving current activities for the International Thermonuclear Experimental Reactor (ITER) effort in which AREVA had the responsibility for the Cooling System involving the piping system evaluations and development of Technical Guides and impact to the building resulting from the piping system.

He previously served as an Engineering Manager in the Structural and Engineering Mechanics Group, working on projects involving operating plants. As a Project Engineer and Manager, he helds responsibility for leading project teams in technical areas, as well as in budget and schedule item tracking functions.

Examples of typical projects include the following:

Mixed Oxide (MOX) Fuel Fabrication Facility, Savannah River Site - Conducted third party review of overall project identifying ways to achieve efficiencies and improve production rates for the building design and construction effort. This resulted in numerous recommendations for the site to improve production in the areas of scheduling, group interfacing (engineering disciplines, construction, etc.), procedural development as well as improvements through procedural revisions. This also included performing as the lead engineer on projects for the facility involving development of procedures for field routing of small bore piping systems, as well as conduit runs.

ECCS Debris Blockage Issue, Tokyo Electric Power Company (TEPCO) – Established contact and led proposal efforts to obtain contracts for ECCS suction strainer replacements for first plant performing this

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scope in Japan. Subsequently won contracts for two additional TEPCO units as well, resulting in $ 8M in revenue for AREVA. This work involved extensive interface and oversight of the strainer hardware vendor during the design, fabrication and construction phases of the projects.

ASME BPVC Work, Various Facilities - Served in positions of increasing responsibility performing and reviewing ASME Boiler and Pressure Vessel Code work in the Structural and Engineering Mechanics Group. Work included Class 1 analyses of flued heads, mechanical equipment evaluations and numerous piping system analyses.

ECCS Debris Blockage Issue, involving numerous US BWR clients - Served in various roles including Project Engineer, Project Manager, and Technical Consultant. Had a significant amount of involvement with this issue including involvement with the BWR Owner's Group for this issue spanning numerous years.

GL 96-06 Operability and Design Basis Resolution, Oconee Nuclear Station, Duke Power - Served as the Project Engineer for the Operability Evaluation for the Oconee Nuclear Station in an effort to show all three units operable under the additional loadings resulting from the USNRC Generic Letter. This assessment included evaluation of the LPSW system, including piping, supports, equipment nozzles, as well as structural platforms and associated components. In addition, operability guidelines were developed for Oconee during this effort.

Reactor Cavity Drain Line Modifications, Palisades Nuclear Power Plant, Consumers Power - Project Manager for the Reactor Cavity Drain Line modifications and letdown piping support modifications at the Palisades Plant. Work scopes included both engineering functions and the generation of modification package paperwork.

NRC Bulletin 79-14 Large-Bore Piping Project Evaluation, D. C. Cook Nuclear Power Plant, Indiana/Michigan Power - Work included serving as Project Engineer to evaluate the adequacy of D.C. Cook's NRC Bulletin 79-14 Large-Bore Piping Project. The work scope involved supervising a project team performing piping and piping support evaluations. Conclusions drawn from this study have enabled the client to realize significant cost savings during recent maintenance outages through discrepancy trending and margin assessment studies.

Reactor Pressure Vessel Bottom Head Drain Line Unplugging Project, Dresden Nuclear Generating Station Units 2 & 3, Commonwealth Edison. Included serving as Project Engineer responsible for unplugging reactor pressure vessel bottom head drain lines for Dresden Units 2 and 3. This project was successfully completed within schedule and budget constraints, and also was part of the Unit 2 critical path outage work.

HPCI System Sparger Modification, Quad Cities Nuclear Generating Station, ComEd - Served as the Structural and Engineering Mechanics Project Engineer and Manager for Quad Cities Unit 1 and 2 high pressure coolant injection (HPCI) system modification, which resulted in the addition of a sparger assembly inside the torus. The project also included the addition of platforms to provide accessibility for personnel performing maintenance activities at both units.

Hardened Wetwell Vent Project Third Party Reviews, Dresden and Quad Cities Nuclear Generating

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Stations, ComEd - Led the third party reviews of the hardened wetwell vent projects for the Dresden and Quad Cities stations. These projects involved the evaluation of existing, as well as new, piping and auxiliary steel. Design codes used for the mechanical work included ASME Section III, Subsections NC, ND, NE and NF, as well as AISC and Uniform Building Code (UBC) standards for the structural evaluations.

Structural Projects, Various Facilities - Past projects have included extensive structural experience, such as the Hope Creek Nuclear Generating Station's drywell inner water seal plate analysis, and also Mark I piping and pipe support evaluations. Previous work also included extensive experience working on various mechanical and structural design projects.

Licensing and Special Projects, Comanche Peak Steam Electric Station, TU Electric - Involved in licensing and special studies projects for the Comanche Peak Station.

SSFI Audit Responses, ComEd - Participated in responding to concerns raised during safety system functional inspection (SSFI) audits.

Project Summary Reports and Operability Guidelines, ComEd and AEPSC - Wrote numerous project summary reports and operability guidelines for Commonwealth Edison (ComEd) and American Electric Power Company (AEPC).

Piping, Piping Support and HVAC Modifications, Various Facilities - Served as Project Engineer for piping, piping support and HVAC modification work for various nuclear plants, including Dresden Units 2 and 3, Quad Cities Units 1 and 2, D. C. Cook Units 1 and 2, and Duane Arnold. Project Engineer responsibilities included coordinating schedule and budget issues, as well as addressing technical questions as they arose.

Control Rod Drive Frame Analysis, Browns Ferry Nuclear Power Plant, Tennessee Valley Authority (TVA) - Involved in the analysis of the control rod drive frames for the Browns Ferry Plant.

Certificate of Completion

Todd Bacon

Successfully Completed

Training on Near Term Task Force Recommendation 2.3 – Plant Seismic Walkdowns

Bruce M. Lory (16 PDH)
Bruce M. Lory - Instructor
NTTF 2.3 Seismic Walkdown Course

Date: 06/26/12

Walter Djordjevic

EDUCATION:

B.S. - Civil Engineering, University of Wisconsin at Madison, 1974
M.S. - Structural Engineering, Massachusetts Institute of Technology, 1976

PROFESSIONAL REGISTRATION:

State of California, State of Wisconsin, Commonwealth of Massachusetts, State of Michigan, State of Arizona, State of Missouri

PROFESSIONAL HISTORY:

Stevenson & Associates, Inc., President 1996 - present; Vice President and General Manager of the Boston area office, 1983 - 1995
URS/John A. Blume & Associates, Engineers, Boston, Massachusetts, General Manager, 1980 - 1983; San Francisco, California, Supervisory Engineer, 1979 - 1980
Impell Corporation, San Francisco, California, Senior Engineer, 1976 - 1979
Stone & Webster Engineering Corporation, Boston, Massachusetts, Engineer, 1974 - 1976

PROFESSIONAL EXPERIENCE:

- Structural Engineering
- Structural Dynamics
- Seismic Engineering
- Construction
- Vibration Engineering
- Expert Witness
- Committee Chairman

Mr. Djordjevic founded the Stevenson & Associates Boston area office in 1983 and serves as President and General Manager. Mr. Djordjevic is expert in the field of structural engineering – more specifically, in the areas of structural vulnerabilities to the effects of seismic and other extreme loading phenomena. As a structural dynamicist, Mr. Djordjevic also heads the Vibration Engineering Consultants corporate subsidiary of Stevenson & Associates for which he has overseen numerous designs of vibration sensitive microelectronics facilities for such clients as IBM, Intel, Motorola and Toshiba. He has personally been involved in such projects as resolving vibration problems due to construction activities for the Central Artery Project (Big Dig) in Boston for which he was retained by Massport. Finally, Mr. Djordjevic has been personally retained as an Expert Witness a number of times relating to cases involving construction, structural and mechanical issues.

He has performed over a thousand hours of onsite seismic and other natural phenomena (including tornados, hurricanes, fire, and flooding) inspection walkdowns to assess structural soundness and vulnerabilities. He has inspected microelectronics fabrication facilities, power facilities, and hazardous material government and military reservations. He is one of the most experienced seismic walkdown

inspection screening and verification engineers having personally participated in seismic walkdowns at over 50 U.S. nuclear units.

In recent years, he has concentrated on screening inspection walkdowns and assessments for resolution of the USI A-46 and seismic IPEEE issues, on numerous facilities. The following provides a partial list of recent projects:

American Electric Power - D.C. Cook Station
Boston Edison Co. - Pilgrim Nuclear Power Station (SPRA)
Commonwealth Edison Company- Braidwood Station[PM], Byron Station[PM], Dresden Station[PM], Quad Cities Station[PM]
Consumers Power Co. - Palisades Nuclear Station[PM]
Entergy - Arkansas Nuclear One
Florida Power & Light - Turkey Point Station
New York Power Authority - James A. Fitzpatrick Nuclear Power Plant
Niagara Mohawk Power Corporation - Nine Mile Point Station[PM]
Northern States Power Co. - Monticello Nuclear Generating Plant
Northern States Power Co. - Prairie Island Nuclear Generating Plant
Omaha Public Power District – Fort Calhoun Station (SPRA)
Public Service Electric & Gas - Salem Nuclear Station
Rochester Gas & Electric - R.E. Ginna Station
Wisconsin Electric - Point Beach Nuclear Station[PM] (SPRA)
Wisconsin Public Service - Kewaunee Nuclear Power Plant[PM] (SPRA)
[PM] Indicates projects where Mr. Djordjevic served as Project Manager
Hanford Reservation
Savannah River Plant Reservation
Rocky Flats Reservation
Tooele US Army Depot
Anniston US Army Reservation
Umatilla US Army Reservation
Newport US Army Reservation
Aberdeen US Army Reservation

He is a member of the IEEE 344 Standards Committee, Chairman of the ASCE Working Group for Seismic Evaluation of Electrical Raceways, and Chairman of the IES Committee for Microelectronics Cleanroom Vibrations

Representative projects include overseeing the SEP shake-table testing of electrical raceways, in-situ testing of control panels and instrumentation racks at various nuclear facilities, equipment anchorage walkdowns and evaluations at various nuclear facilities. He is the principal author of the *CERTIVALVE* software package to evaluate nuclear service valves, and contributing author in the development of the *ANCHOR* and *EDASP* software packages commercially distributed by S&A.

Mr. Djordjevic is expert in the area of seismic fragility analysis and dynamic qualification of electrical and mechanical equipment. He has participated in and managed over twenty major projects involving the evaluation and qualification of vibration sensitive equipment and seismic hardening of equipment. As demonstrated by his committee work and publications, Mr. Djordjevic has participated in and contributed steadily to the development of equipment qualification and vibration hardening methodology.

PROFESSIONAL GROUPS

Member, Institute of Electrical and Electronics Engineers, Nuclear Power Engineering Committee Working Group SC 2.5 (IEEE-344)

Chairman, American Society of Civil Engineers Nuclear Structures and Materials Committee, Working Group for the Analysis and Design of Electrical Cable Support Systems

Member, American Society of Mechanical Engineers Operation, Application, and Components Committee on Valves, Working Group SC-5

Chairman. Institute of Environmental Sciences, Working Group foe Standardization of Reporting and Measuring Cleanroom Vibrations

PARTIAL LIST OF PUBLICATIONS

1979 ASME PVP Conference, San Francisco, California, "Multi-Degree-of-Freedom Analysis of Power Actuated Valves", Paper No. 79-PVP-106.

1983 ASME PVP Conference, Portland, Oregon, "A Computer Code for Seismic Qualification of Nuclear Service Valves", Paper No. 83-PVP-81.

1983 ASME PVP Conference, Portland, Oregon, "Qualification of Electrical and Mechanical Equipment at Rocky Flats Reservation Using Prototype Analysis".

1984 ANS Conference, "Qualification of Class 1E Devices Using In-Situ Testing and Analysis."

1986 Testing of Lithography Components for Vibration Sensitivity, Microelectronics, Cahners Publishing

1990 Nuclear Power Plant Piping and Equipment Conference, "Development of Generic Amplification Factors for Benchboard and Relay Cabinet Assemblies", Paper No. 106, Structures and Components Symposium, held by North Carolina State University

1991 Electric Power Research Institute, "Development of In-Cabinet Response Spectra for Benchboards and Vertical Panels," EPRI Report NP-7146

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Certificate of Completion

Walter Djordjevic

Successfully Completed

Training on Near Term Task Force Recommendation 2.3 – Plant Seismic Walkdowns

Bruce M. Lory (16 PDH)
Bruce M. Lory - Instructor
NTTF 2.3 Seismic Walkdown Course

Date: 06/26/12

Exelon.

JORGE L. SANCHEZ, S.E., P.E.

EXPERIENCE SUMMARY

Exelon Nuclear, LaSalle, IL 2010-present
Civil/Structural Engineer

- Responsible Engineer for numerous structural related modifications and projects including Reactor Building Upgrades to support Dry Cask Storage and Low Level Waste.
- Responsible Engineer for the Structures Monitoring Program.
- Structural/Seismic Engineering representative for the Fukushima Seismic Walkdown Project.
- Qualifications in Configuration Change Responsible Engineer, Engineering Reviewer, Calculations, and General Structural Activities
- General Seismic walkdown and scaffolding-qualification expert.

Chamlin & Associates, Peru, IL 2000-2010
Structural Engineer, Professional Engineer

- Responsible for a wide range of projects in all aspects and phases of design from proposal through final construction for industrial, commercial, institutional, municipal and state clients.
- Experience includes the design and construction of structures of all types and materials including bridge and building foundations, wall framing, roof systems with steel, reinforced concrete, prestressed/precast concrete, masonry and timber as part of new construction and expansion to existing structures.
- Design equipment-specific supports under static and dynamic loading scenarios. This experience includes overhead crane bay hoists, elevated walkways and equipment access platforms, shoring and temporary soil retention systems, above and under ground storage tanks and foundations, pipe rack supports, complete fall-protection system framing, temporary rigging and shoring for critical lifts using mobile cranes.
- Further experience includes temporary rigging for major electrical transformer replacement projects.
- Investigate and analyze structural load capacity of existing structures, provide retrofit and remedial measure recommendations for substandard structures, and conduct root-cause failure determination investigations.

Illinois Department of Transportation, Ottawa, IL 1998-2000
Resident Engineer

- Responsible for the construction oversight of various roadway improvements and bridge construction projects.
- Specific responsibilities included construction layout, material testing and documentation and contractor coordination and oversight.

Exelon.

Duke Engineering and Services, Naperville, IL 1997-1998
Design Engineer

- Responsible for piping analysis and support design for multiple systems at LaSalle and Dresden power plant stations.
- All structural computations were prepared in accordance with NRC permit regulations and included static and dynamic loadings scenarios.
- Participated as part of design and analysis team for the ECCS strainer replacement projects.
- Prepared computations to support qualifying existing structural components for proposed loadings from instrumentation components or additional piping.

EDUCATION

University of Illinois, Champaign - Urbana, IL – Bachelor of Science in Civil Engineering, 1995
University of Illinois, Champaign - Urbana, IL – Master of Science in Structural Engineering, 1997

QUALIFICATIONS AND TRAINING

Registered Professional Engineer / Illinois - 2002
Registered Structural Engineer / Illinois - 2004

ACTIVITIES

ASCE Member, Society of Hispanic Professional Engineers (SHPE)
North American Young Generation in Nuclear (NA-YGN)
Chi Epsilon Civil Engineering Honor Society
American Society of Civil Engineers
Illinois Society of Professional Engineers

EPRI | ELECTRIC POWER RESEARCH INSTITUTE

Certificate of Completion

Jorge Sanchez

Training on Near Term Task Force Recommendation 2.3 - Plant Seismic Walkdowns

June 27, 2012
Date

R.P. Kassawara
Robert K. Kassawara
EPRI Manager,
Structural Reliability & Integrity

B

Equipment Lists

Appendix B contains the equipment lists that were developed during SWEL development. Note that because no Rapid Drain-Down items existed for LaSalle County Generating Station Unit 1, there is no Rapid Drain-Down Equipment List.

The following contents are found in Appendix B:

SWEL Approval Signature Page..... B-2

Table B-1a. Base List 1a - Items Exclusive to Unit 1..... B-3

Table B-1b. Base List 1b - Items Common to Units 1 and 2..... B-59

Table B-2. Base List 2 ..... B-76

Table B-3. SWEL 1 ..... B-77

Table B-4. SWEL 2 ..... B-82

Stevenson & Associates

Seismic Walkdown Interim Report, Rev.2
In Response to NTTF Recommendation 2.3: Seismic

LaSalle County Generating Station - Unit 1

Tony Perez	09/12/2012
Equipment Selection Preparer	date
Kim L. Hull	09/12/2012
Equipment Selection Reviewer	date
Station Operations Staff Member Refer to Attachment 3 for synopsis of Station Operations role and responsibility.	9/13/12 date

Table B-1a. Items Exclusive to Unit 1

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1AP01E	6.9KV SWGR 151	AP	AB	12 N	710
1AP02E	6.9KV SWGR 152	AP	AB	12 N	731
1AP03E	4160V SWGR 141X	AP	AB	10 N	710
1AP05E	4160V SWGR 142X	AP	AB	10 N	731
1AP06E	DIV II 4160V SWGR 142Y	AP	AB	10 N	731
1AP06E-9	TRANSFORMER, 136X	AP	AB	10 L	731
1AP09E	6.9KV SWGR 152-1	AP	RB	10 C	820
1AP11E	480V SWGR 131X	AP	AB	10 R	815
1AP12E	480V SWGR 131Y	AP	TB	01 V	731
1AP13E	480V SWGR 132X	AP	AB	11 L	786
1AP15E	480V SWGR 133	AP	RB	13 C	786
1AP19E	DIV I 480V SWGR 135X	AP	AB	10 L	710
1AP19E-102B	TRANSFORMER, 135X	AP	AB	10L	710
1AP20E	DIV I 480V SWGR 135Y	AP	AB	10 L	710
1AP21E	DIV II 480V SWGR 136X	AP	AB	10 L	731
1AP22E	DIV II 480V SWGR 136Y	AP	AB	11 L	731
1AP22E-402B	TRANSFORMER, 136Y	AP			
1AP23E	480V SWGR 137X	AP	AB	07 N	794
1AP24E	480V SWGR 137Y	AP	AB	11 N	794
1AP25E	480V SWGR 138	AP	AB	15 N	815
1AP31E	480V SWGR 133A	AP	AB	12 L	786
1AP33E	480V SWGR 134A	AP	AB	12 L	786
1AP44E	480V MCC 132B-1	AP	AB	12 N	710
1AP50E	480 VAC MCC 133A-1	AP	AB	11 N	786
1AP56E	480V MCC 131X-1	AP	AB	11 R	815
1AP58E	480V MCC 132X-1	AP	AB	10 L	815
1AP61E	480V MCC 133-1	AP	RB	14 A	786
1AP62E	480V MCC 133-2	AP	RB	15 E	740
1AP63E	480V POWER PANEL 133-3	AP	RB	15 H	843
1AP64E	480V MCC 134X-1	AP	RB	11 C	786
1AP65E	480V MCC 134X-2	AP	RB	10:00 AM	740
1AP69E	480V POWER PANEL 134Y-3	AP	RB	09 C	843
1AP70E	480V POWER PANEL 134Y-4	AP	RB	11 C	786
1AP71E	DIV I 480V MCC 135X-1	AP	RB	14 A	761
1AP72E-D2	480-120/208V DISTRIBUTION TRANSFORMER	AP			
1AP73E	DIV I 480V MCC 135X-3	AP	AB	11 L	710
1AP73E-E2	480-120/208V DISTRIBUTION TRANSFORMER	AP			
1AP75E	DIV I 480V MCC 135Y-1	AP	RB	15 D	740
1AP75E-A5	TRANSFORMER, 135Y	AP			
1AP78E	DIV II 480V MCC 136X-1	AP	RB	12 C	820
1AP79E	DIV III 480V MCC 143-1	AP	AB	10 L	687
1AP79E-1A	SYSTEM AUX TRANSFORMER 142	AP			
1AP80E	DIV II 480V MCC 136X-2	AP	AB	10 L	731

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1AP81E	DIV II 480V MCC 136X-3	AP	AB	10 L	731
1AP82E-F6	TRANSFORMER, RAD/CHEM FACILITY	AP			
1AP83E	DIV II 480V MCC 136Y-2	AP	RB	10 J	740
1B21-503A	ACTUATOR, A SJAS PCV	B21			
1B21-503B	ACTUATOR, B SJAE PCV	B21			
1B21-A001A	A INBD MSIV ACCUMULATOR	B21			
1B21-A001B	B INBD MSIV ACCUMULATOR	B21			
1B21-A001C	C INBD MSIV ACCUMULATOR	B21			
1B21-A001D	D INBD MSIV ACCUMULATOR	B21			
1B21-A002A	A OUTBOARD MSIV ACCUMULATOR	B21			
1B21-A002B	B OUTBOARD MSIV ACCUMULATOR	B21			
1B21-A002C	C OUTBOARD MSIV ACCUMULATOR	B21			
1B21-A002D	D OUTBOARD MSIV ACCUMULATOR	B21			
1B21-A003C	SRV 1B21-F013C ADS ACCUMULATOR	B21			
1B21-A003D	SRV 1B21-F013D ADS ACCUMULATOR	B21			
1B21-A003E	SRV 1B21-F013E ADS ACCUMULATOR	B21			
1B21-A003R	SRV 1B21-F013R ADS ACCUMULATOR	B21			
1B21-A003S	SRV 1B21-F013S ADS ACCUMULATOR	B21			
1B21-A003U	SRV 1B21-F013U ADS ACCUMULATOR	B21			
1B21-A003V	SRV 1B21-F013V ADS ACCUMULATOR	B21			
1B21-A004A	SRV 1B21-F013A ACCUMULATOR	B21			
1B21-A004B	SRV 1B21-F013B ACCUMULATOR	B21			
1B21-A004C	SRV 1B21-F013C ACCUMULATOR	B21	DW	-	-
1B21-A004D	SRV 1B21-F013D ACCUMULATOR	B21			
1B21-A004E	SRV 1B21-F013E ACCUMULATOR	B21			
1B21-A004F	SRV 1B21-F013F ACCUMULATOR	B21			
1B21-A004G	SRV 1B21-F013G ACCUMULATOR	B21			
1B21-A004H	SRV 1B21-F013H ACCUMULATOR	B21			
1B21-A004J	SRV 1B21-F013J ACCUMULATOR	B21			
1B21-A004K	SRV 1B21-F013K ACCUMULATOR	B21			
1B21-A004L	SRV 1B21-F013L ACCUMULATOR	B21			
1B21-A004M	SRV 1B21-F013M ACCUMULATOR	B21			
1B21-A004N	SRV 1B21-F013N ACCUMULATOR	B21			
1B21-A004P	SRV 1B21-F013P ACCUMULATOR	B21			
1B21-A004R	SRV 1B21-F013R ACCUMULATOR	B21			
1B21-A004S	SRV 1B21-F013S ACCUMULATOR	B21			
1B21-A004U	SRV 1B21-F013U ACCUMULATOR	B21			
1B21-A004V	SRV 1B21-F013V ACCUMULATOR	B21			
1B21-A005A	ACCUMULATOR, FOR 1B21-F032A, OUTBOARD CHECK	B21			
1B21-A005B	ACCUMULATOR, FOR 1B21-F032B, OUTBOARD CHECK	B21			
1B21-A005P	ACCUMULATOR, MSRV	B21			
1B21-C1V1	VALVE - HYDRAULIC OPERATED	B21			
1B21-C1V2	VALVE - HYDRAULIC OPERATED	B21			
1B21-C1V3	VALVE - HYDRAULIC OPERATED	B21			
1B21-C1V4	VALVE - HYDRAULIC OPERATED	B21			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1B21-C1V5	VALVE - HYDRAULIC OPERATED	B21			
1B21-C1V6	VALVE - HYDRAULIC OPERATED	B21			
1B21-ERDV	CUSTOM VALVE, SOLENOID OPERATOR	B21			
1B21-F013A	D MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013A-C	SRV A - PILOT SOLENOID VALVE 'C'	B21			
1B21-F013B	A MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013B-C	SRV B - PILOT SOLENOID VALVE 'C'	B21			
1B21-F013C	C MAIN STEAM LINE SAFETY RELIEF VALVE	B21	DW	-	783
1B21-F013C-A	SRV C UMF-1 SOLENOID VALVE 'A'	B21	DW	-	777
1B21-F013C-B	SRV C UMF-1 SOLENOID VALVE 'B'	B21			
1B21-F013C-C	SRV C UMF-1 SOLENOID VALVE 'C'	B21			
1B21-F013D	B MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013D-A	SRV D IMF-2 SOLENOID VALVE 'A'	B21			
1B21-F013D-B	SRV D IMF-2 SOLENOID VALVE 'B'	B21			
1B21-F013D-C	SRV D IMF-2 SOLENOID VALVE 'C'	B21			
1B21-F013E	C MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013E-A	SRV E UMF-1 SOLENOID VALVE 'A'	B21			
1B21-F013E-B	SRV E UMF-1 SOLENOID VALVE 'B'	B21			
1B21-F013E-C	SRV E UMF-1 SOLENOID VALVE 'C'	B21			
1B21-F013F	B MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013F-C	SRV F IMF-2 SOLENOID VALVE 'C'	B21			
1B21-F013G	D MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013G-C	SRV G IMF-2 SOLENOID VALVE 'C'	B21			
1B21-F013H	D MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013H-C	SRV H UMF-1 SOLENOID VALVE 'C'	B21			
1B21-F013J	A MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013J-C	SRV J IMF-2 SOLENOID VALVE 'C'	B21			
1B21-F013K	B MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013K-B	SRV K IMF-2 SOLENOID VALVE 'B'	B21			
1B21-F013K-C	SRV K IMF-2 SOLENOID VALVE 'C'	B21			
1B21-F013L	C MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013L-C	SRV L IMF-2 SOLENOID VALVE 'C'	B21			
1B21-F013M	B MAIN STEAM LINE M SAFETY RELIEF VALVE	B21			
1B21-F013M-C	SRV M IMF-2 SOLENOID VALVE 'C'	B21			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1B21-F013N	C MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013N-C	SRV N IMF-2 SOLENOID VALVE 'C'	B21			
1B21-F013P	A MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013P-B	SRV P IMF-2 SOLENOID VALVE 'B'	B21			
1B21-F013P-C	SRV P IMF-2 SOLENOID VALVE 'C'	B21			
1B21-F013R	C MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013R-A	SRV R IMF-2 SOLENOID VALVE 'A'	B21			
1B21-F013R-B	SRV R IMF-2 SOLENOID VALVE 'B'	B21			
1B21-F013R-C	SRV R IMF-2 SOLENOID VALVE 'C'	B21			
1B21-F013S	B MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013S-A	SRV S IMF-2 SOLENOID VALVE 'A'	B21			
1B21-F013S-B	SRV S IMF-2 SOLENOID VALVE 'B'	B21			
1B21-F013S-C	SRV S IMF-2 SOLENOID VALVE 'C'	B21			
1B21-F013U	D MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013U-A	SRV U UMF-1 SOLENOID VALVE 'A'	B21			
1B21-F013U-B	SRV U UMF-1 SOLENOID VALVE 'B'	B21			
1B21-F013U-C	SRV U UMF-1 SOLENOID VALVE 'C'	B21			
1B21-F013V	A MAIN STEAM LINE SAFETY RELIEF VALVE	B21			
1B21-F013V-A	SRV V UMF-1 SOLENOID VALVE 'A'	B21			
1B21-F013V-B	SRV V UMF-1 SOLENOID VALVE 'B'	B21			
1B21-F013V-C	SRV V UMF-1 SOLENOID VALVE 'C'	B21			
1B21-F016	MS INBD ISOL VLVS DRN LINE INBD ISOL STOP	B21	DW	12 G	740
1B21-F019	MAIN STEAM INBD DRN LINE OTBD ISOL VLV	B21	RB	12 J	735
1B21-F022A	A MS INBD ISOL	B21			
1B21-F022A-P2	VALVE, SOLENOID, I/B MSIV	B21			
1B21-F022A-P3	VALVE, SOLENOID, I/B MSIV	B21			
1B21-F022B	B MS INBD ISOL	B21	DW	12 J	735
1B21-F022B-P2	VALVE, SOLENOID, I/B MSIV	B21			
1B21-F022B-P3	VALVE, SOLENOID, I/B MSIV	B21			
1B21-F022C	C MS INBD ISOL	B21	DW	12 J	735
1B21-F022C-P2	VALVE, SOLENOID, I/B MSIV	B21			
1B21-F022C-P3	VALVE, SOLENOID, I/B MSIV	B21			
1B21-F022D	D MS INBD ISOL	B21	DW	12 J	735
1B21-F022D-P2	VALVE, SOLENOID, I/B MSIV	B21			
1B21-F022D-P3	VALVE, SOLENOID, I/B MSIV	B21			
1B21-F028A	A OTBD MAIN STEAM ISOLATION VALVE	B21	RB	12 J	735
1B21-F028A-P2	VALVE, SOLENOID, O/B MSIV	B21			
1B21-F028A-P3	VALVE, SOLENOID, O/B MSIV	B21			
1B21-F028B	B OTBD MAIN STEAM ISOLATION VALVE	B21	RB	12 J	735

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1B21-F028B-P2	VALVE, SOLENOID, O/B MSIV	B21			
1B21-F028B-P3	VALVE, SOLENOID, O/B MSIV	B21			
1B21-F028C	C OTBD MAIN STEAM ISOLATION VALVE	B21	RB	12 J	735
1B21-F028C-P2	VALVE, SOLENOID, O/B MSIV	B21	RB	12J	736
1B21-F028C-P3	VALVE, SOLENOID, O/B MSIV	B21			
1B21-F028D	D OTBD MAIN STEAM ISOLATION VALVE	B21	RB	12 J	735
1B21-F028D-P2	VALVE, SOLENOID, O/B MSIV	B21			
1B21-F028D-P3	VALVE, SOLENOID, O/B MSIV	B21			
1B21-F032A	SOLENOID VALVE	B21			
1B21-F032A-A	ACTUATOR, FW CHECK CYLINDER A	B21			
1B21-F032A-AC	VALVE, A CYL CLOSE FW CHECK	B21			
1B21-F032A-AO	VALVE, A CYL OPEN FW CHECK	B21			
1B21-F032A-B	ACTUATOR, FW CHECK CYLINDER B	B21			
1B21-F032A-BC	VALVE, B CYL CLOSE FW CHECK	B21			
1B21-F032A-BO	VALVE, B CYL OPEN FW CHECK	B21			
1B21-F032B	B FEEDWATER LINE OTBD TESTABLE CHECK VALVE	B21	RB	12 J	735
1B21-F032B-A	ACTUATOR, FW CHECK CYLINDER A	B21			
1B21-F032B-AC	VALVE, A CYL CLOSE FW CHECK	B21			
1B21-F032B-AO	VALVE, A CYL OPEN FW CHECK	B21			
1B21-F032B-B	ACTUATOR, FW CHECK CYLINDER B	B21			
1B21-F032B-BC	VALVE, B CYL CLOSE FW CHECK	B21			
1B21-F032B-BO	VALVE, B CYL OPEN FW CHECK	B21			
1B21-F065A	A FEEDWATER LINE OTBD ISOLATION VALVE	B21	RB	12 J	735
1B21-F067A	A MAIN STEAM OTBD DRAIN LINE ISOL VALVE	B21	RB	12 K	735
1B21-F067B	B MAIN STEAM OTBD DRAIN LINE ISOL VALVE	B21	RB	12 K	735
1B21-F067C	C MAIN STEAM OTBD DRAIN LINE ISOL VALVE	B21	RB	12 K	735
1B21-F067D	D MAIN STEAM OTBD DRAIN LINE ISOL VALVE	B21	RB	12 K	735
1B21-F536C	VLV 1 IN SOL GLOBE	B21			
1B21-F536D	VALVE, GLOBE	B21			
1B21-F536G	VLV 1 IN SOL GLOBE	B21			
1B21-F536H	VLV 1 IN SOL GLOBE	B21			
1B21-F536M	VLV 1 IN SOL GLOBE	B21			
1B21-F536R	VLV 1 IN SOL GLOBE	B21			
1B33-F020	B RX RECIRC LOOP PROCESS SAMPLING OTBD ISOL VALVE	B33	RB	11 B	740
1C11-D001	ASSY - CONTROL UNIT CRD HYDRAULIC	C11			
1C11-D001001	CONTROL UNIT CRD HYDRAULIC 26-59	C11	RB	G-F 9 SOUTH	761
1C11-D001002	CONTROL UNIT CRD HYDRAULIC 22-59	C11			
1C11-D001003	CONTROL UNIT CRD HYDRAULIC 18-59	C11			
1C11-D001004	CONTROL UNIT CRD HYDRAULIC 26-55	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D001005	CONTROL UNIT CRD HYDRAULIC 22-55	C11			
1C11-D001006	CONTROL UNIT CRD HYDRAULIC 18-55	C11			
1C11-D001007	CONTROL UNIT CRD HYDRAULIC 26-51	C11			
1C11-D001008	CONTROL UNIT CRD HYDRAULIC 22-51	C11			
1C11-D001009	CONTROL UNIT CRD HYDRAULIC 18-51	C11			
1C11-D001010	CONTROL UNIT CRD HYDRAULIC 14-51	C11			
1C11-D001011	CONTROL UNIT CRD HYDRAULIC 10-51	C11			
1C11-D001012	CONTROL UNIT CRD HYDRAULIC 14-55	C11			
1C11-D001013	CONTROL UNIT CRD HYDRAULIC 26-47	C11			
1C11-D001014	CONTROL UNIT CRD HYDRAULIC 22-47	C11			
1C11-D001015	CONTROL UNIT CRD HYDRAULIC 18-47	C11			
1C11-D001016	CONTROL UNIT CRD HYDRAULIC 14-47	C11			
1C11-D001017	CONTROL UNIT CRD HYDRAULIC 10-47	C11			
1C11-D001018	CONTROL UNIT CRD HYDRAULIC 06-47	C11			
1C11-D001019	CONTROL UNIT CRD HYDRAULIC 26-43	C11			
1C11-D001020	CONTROL UNIT CRD HYDRAULIC 22-43	C11			
1C11-D001021	CONTROL UNIT CRD HYDRAULIC 18-43	C11			
1C11-D001022	CONTROL UNIT CRD HYDRAULIC 14-43	C11			
1C11-D001023	CONTROL UNIT CRD HYDRAULIC 10-43	C11			
1C11-D001024	CONTROL UNIT CRD HYDRAULIC 06-43	C11			
1C11-D001025	CONTROL UNIT CRD HYDRAULIC 02-43	C11			
1C11-D001026	CONTROL UNIT CRD HYDRAULIC 26-39	C11			
1C11-D001027	CONTROL UNIT CRD HYDRAULIC 22-39	C11			
1C11-D001028	CONTROL UNIT CRD HYDRAULIC 18-39	C11			
1C11-D001029	CONTROL UNIT CRD HYDRAULIC 14-39	C11			
1C11-D001030	CONTROL UNIT CRD HYDRAULIC 10-39	C11			
1C11-D001031	CONTROL UNIT CRD HYDRAULIC 06-39	C11			
1C11-D001032	CONTROL UNIT CRD HYDRAULIC 02-39	C11			
1C11-D001033	CONTROL UNIT CRD HYDRAULIC 26-35	C11			
1C11-D001034	CONTROL UNIT CRD HYDRAULIC 22-35	C11			
1C11-D001035	CONTROL UNIT CRD HYDRAULIC 18-35	C11			
1C11-D001036	CONTROL UNIT CRD HYDRAULIC 14-35	C11			
1C11-D001037	CONTROL UNIT CRD HYDRAULIC 10-35	C11			
1C11-D001038	CONTROL UNIT CRD HYDRAULIC 06-35	C11			
1C11-D001039	CONTROL UNIT CRD HYDRAULIC 02-35	C11			
1C11-D001040	CONTROL UNIT CRD HYDRAULIC 26-31	C11			
1C11-D001041	CONTROL UNIT CRD HYDRAULIC 22-31	C11			
1C11-D001042	CONTROL UNIT CRD HYDRAULIC 18-31	C11			
1C11-D001043	CONTROL UNIT CRD HYDRAULIC 14-31	C11			
1C11-D001044	CONTROL UNIT CRD HYDRAULIC 10-31	C11			
1C11-D001045	CONTROL UNIT CRD HYDRAULIC 06-31	C11			
1C11-D001046	CONTROL UNIT CRD HYDRAULIC 02-31	C11			
1C11-D001047	CONTROL UNIT CRD HYDRAULIC 30-27	C11			
1C11-D001048	CONTROL UNIT CRD HYDRAULIC 26-27	C11			
1C11-D001049	CONTROL UNIT CRD HYDRAULIC 22-27	C11			
1C11-D001050	CONTROL UNIT CRD HYDRAULIC 18-27	C11			
1C11-D001051	CONTROL UNIT CRD HYDRAULIC 14-27	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D001052	CONTROL UNIT CRD HYDRAULIC 10-27	C11			
1C11-D001053	CONTROL UNIT CRD HYDRAULIC 06-27	C11			
1C11-D001054	CONTROL UNIT CRD HYDRAULIC 02-27	C11			
1C11-D001055	CONTROL UNIT CRD HYDRAULIC 30-23	C11			
1C11-D001056	CONTROL UNIT CRD HYDRAULIC 26-23	C11			
1C11-D001057	CONTROL UNIT CRD HYDRAULIC 22-23	C11			
1C11-D001058	CONTROL UNIT CRD HYDRAULIC 18-23	C11			
1C11-D001059	CONTROL UNIT CRD HYDRAULIC 14-23	C11			
1C11-D001060	CONTROL UNIT CRD HYDRAULIC 10-23	C11			
1C11-D001061	CONTROL UNIT CRD HYDRAULIC 06-23	C11			
1C11-D001062	CONTROL UNIT CRD HYDRAULIC 02-23	C11			
1C11-D001063	CONTROL UNIT CRD HYDRAULIC 30-19	C11			
1C11-D001064	CONTROL UNIT CRD HYDRAULIC 26-19	C11			
1C11-D001065	CONTROL UNIT CRD HYDRAULIC 22-19	C11			
1C11-D001066	CONTROL UNIT CRD HYDRAULIC 18-19	C11			
1C11-D001067	CONTROL UNIT CRD HYDRAULIC 14-19	C11			
1C11-D001068	CONTROL UNIT CRD HYDRAULIC 10-19	C11			
1C11-D001069	CONTROL UNIT CRD HYDRAULIC 06-19	C11			
1C11-D001070	CONTROL UNIT CRD HYDRAULIC 02-19	C11			
1C11-D001071	CONTROL UNIT CRD HYDRAULIC 30-15	C11			
1C11-D001072	CONTROL UNIT CRD HYDRAULIC 26-15	C11			
1C11-D001073	CONTROL UNIT CRD HYDRAULIC 22-15	C11			
1C11-D001074	CONTROL UNIT CRD HYDRAULIC 18-15	C11			
1C11-D001075	CONTROL UNIT CRD HYDRAULIC 14-15	C11			
1C11-D001076	CONTROL UNIT CRD HYDRAULIC 10-15	C11			
1C11-D001077	CONTROL UNIT CRD HYDRAULIC 06-15	C11			
1C11-D001078	CONTROL UNIT CRD HYDRAULIC 30-11	C11			
1C11-D001079	CONTROL UNIT CRD HYDRAULIC 26-11	C11			
1C11-D001080	CONTROL UNIT CRD HYDRAULIC 22-11	C11			
1C11-D001081	CONTROL UNIT CRD HYDRAULIC 18-11	C11			
1C11-D001082	CONTROL UNIT CRD HYDRAULIC 14-11	C11			
1C11-D001083	CONTROL UNIT CRD HYDRAULIC 10-11	C11			
1C11-D001084	CONTROL UNIT CRD HYDRAULIC 14-07	C11			
1C11-D001085	CONTROL UNIT CRD HYDRAULIC 30-07	C11			
1C11-D001086	CONTROL UNIT CRD HYDRAULIC 26-07	C11			
1C11-D001087	CONTROL UNIT CRD HYDRAULIC 22-07	C11			
1C11-D001088	CONTROL UNIT CRD HYDRAULIC 18-07	C11			
1C11-D001089	CONTROL UNIT CRD HYDRAULIC 30-03	C11	RB	C-D 9 SOUTH	761
1C11-D001090	CONTROL UNIT CRD HYDRAULIC 26-03	C11			
1C11-D001091	CONTROL UNIT CRD HYDRAULIC 22-03	C11			
1C11-D001092	CONTROL UNIT CRD HYDRAULIC 18-03	C11			
1C11-D001093	CONTROL UNIT CRD HYDRAULIC 42-59	C11	RB	G-F 14.5 NORTH	761
1C11-D001094	CONTROL UNIT CRD HYDRAULIC 38-59	C11			
1C11-D001095	CONTROL UNIT CRD HYDRAULIC 34-59	C11			
1C11-D001096	CONTROL UNIT CRD HYDRAULIC 30-59	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D001097	CONTROL UNIT CRD HYDRAULIC 42-55	C11			
1C11-D001098	CONTROL UNIT CRD HYDRAULIC 38-55	C11			
1C11-D001099	CONTROL UNIT CRD HYDRAULIC 34-55	C11			
1C11-D001100	CONTROL UNIT CRD HYDRAULIC 30-55	C11			
1C11-D001101	HCU 46-55	C11			
1C11-D001102	HCU 50-51	C11			
1C11-D001103	HCU 46-51	C11			
1C11-D001104	HCU 42-51	C11			
1C11-D001106	DELETE - DO NOT USE	C11			
1C11-D001108	CONTROL UNIT CRD HYDRAULIC 54-47	C11			
1C11-D001109	CONTROL UNIT CRD HYDRAULIC 50-47	C11			
1C11-D001110	CONTROL UNIT CRD HYDRAULIC 46-47	C11			
1C11-D001112	HCU 38-47	C11			
1C11-D001114	CONTROL UNIT CRD HYDRAULIC 30-47	C11			
1C11-D001115	CONTROL UNIT CRD HYDRAULIC 58-43	C11			
1C11-D001117	CONTROL UNIT CRD HYDRAULIC 50-43	C11			
1C11-D001118	CONTROL UNIT CRD HYDRAULIC 46-43	C11			
1C11-D001119	CONTROL UNIT CRD HYDRAULIC 42-43	C11			
1C11-D001120	CONTROL UNIT CRD HYDRAULIC 38-43	C11			
1C11-D001121	CONTROL UNIT CRD HYDRAULIC 34-43	C11			
1C11-D001122	CONTROL UNIT CRD HYDRAULIC 30-43	C11			
1C11-D001123	CONTROL UNIT CRD HYDRAULIC 58-39	C11			
1C11-D001124	CONTROL UNIT CRD HYDRAULIC 54-39	C11			
1C11-D001125	CONTROL UNIT CRD HYDRAULIC 50-39	C11			
1C11-D001126	SCRAM INLT VLV	C11			
1C11-D001127	SCRAM OTLT VLV	C11			
1C11-D001128	CONTROL UNIT CRD HYDRAULIC 38-39	C11			
1C11-D001129	CONTROL UNIT CRD HYDRAULIC 34-39	C11			
1C11-D001130	CONTROL UNIT CRD HYDRAULIC 30-39	C11			
1C11-D001131	CONTROL UNIT CRD HYDRAULIC 58-35	C11			
1C11-D001133	CONTROL UNIT CRD HYDRAULIC 50-35	C11			
1C11-D001134	CONTROL UNIT CRD HYDRAULIC 46-35	C11			
1C11-D001135	CONTROL UNIT CRD HYDRAULIC 42-35	C11			
1C11-D001136	CONTROL UNIT CRD HYDRAULIC 38-35	C11			
1C11-D001137	CONTROL UNIT CRD HYDRAULIC 34-35	C11			
1C11-D001138	CONTROL UNIT CRD HYDRAULIC 30-35	C11			
1C11-D001139	CONTROL UNIT CRD HYDRAULIC 58-31	C11			
1C11-D001140	CONTROL UNIT CRD HYDRAULIC 54-31	C11			
1C11-D001141	CONTROL UNIT CRD HYDRAULIC 50-31	C11			
1C11-D001142	CONTROL UNIT CRD HYDRAULIC 46-31	C11			
1C11-D001143	CONTROL UNIT CRD HYDRAULIC 42-31	C11			
1C11-D001144	CONTROL UNIT CRD HYDRAULIC 38-31	C11			
1C11-D001145	CONTROL UNIT CRD HYDRAULIC 34-31	C11			
1C11-D001146	CONTROL UNIT CRD HYDRAULIC 30-31	C11			
1C11-D001147	CONTROL UNIT CRD HYDRAULIC 58-27	C11			
1C11-D001148	CONTROL UNIT CRD HYDRAULIC 54-27	C11			
1C11-D001149	CONTROL UNIT CRD HYDRAULIC 50-27	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D001150	CONTROL UNIT CRD HYDRAULIC 46-27	C11			
1C11-D001151	CONTROL UNIT CRD HYDRAULIC 42-27	C11			
1C11-D001152	CONTROL UNIT CRD HYDRAULIC 38-27	C11			
1C11-D001153	CONTROL UNIT CRD HYDRAULIC 34-27	C11			
1C11-D001154	CONTROL UNIT CRD HYDRAULIC 58-23	C11			
1C11-D001155	CONTROL UNIT CRD HYDRAULIC 54-23	C11			
1C11-D001156	CONTROL UNIT CRD HYDRAULIC 50-23	C11			
1C11-D001157	CONTROL UNIT CRD HYDRAULIC 46-23	C11			
1C11-D001158	CONTROL UNIT CRD HYDRAULIC 42-23	C11			
1C11-D001159	CONTROL UNIT CRD HYDRAULIC 38-23	C11			
1C11-D001160	CONTROL UNIT CRD HYDRAULIC 34-23	C11			
1C11-D001161	CONTROL UNIT CRD HYDRAULIC 58-19	C11			
1C11-D001162	CONTROL UNIT CRD HYDRAULIC 54-19	C11			
1C11-D001163	CONTROL UNIT CRD HYDRAULIC 50-19	C11			
1C11-D001164	CONTROL UNIT CRD HYDRAULIC 46-19	C11			
1C11-D001165	CONTROL UNIT CRD HYDRAULIC 42-19	C11			
1C11-D001166	CONTROL UNIT CRD HYDRAULIC 38-19	C11			
1C11-D001167	CONTROL UNIT CRD HYDRAULIC 34-19	C11			
1C11-D001168	CONTROL UNIT CRD HYDRAULIC 54-15	C11			
1C11-D001169	CONTROL UNIT CRD HYDRAULIC 50-15	C11			
1C11-D001170	CONTROL UNIT CRD HYDRAULIC 46-15	C11			
1C11-D001171	CONTROL UNIT CRD HYDRAULIC 42-15	C11			
1C11-D001172	CONTROL UNIT CRD HYDRAULIC 38-15	C11			
1C11-D001173	CONTROL UNIT CRD HYDRAULIC 34-15	C11			
1C11-D001174	CONTROL UNIT CRD HYDRAULIC 46-07	C11			
1C11-D001175	CONTROL UNIT CRD HYDRAULIC 50-11	C11			
1C11-D001176	CONTROL UNIT CRD HYDRAULIC 46-11	C11			
1C11-D001177	CONTROL UNIT CRD HYDRAULIC 42-11	C11			
1C11-D001178	CONTROL UNIT CRD HYDRAULIC 38-11	C11			
1C11-D001179	CONTROL UNIT CRD HYDRAULIC 34-11	C11			
1C11-D001180	CONTROL UNIT CRD HYDRAULIC 42-03	C11			
1C11-D001181	CONTROL UNIT CRD HYDRAULIC 38-03	C11			
1C11-D001182	CONTROL UNIT CRD HYDRAULIC 34-03	C11	RB	C-D 14.5 NORTH	761
1C11-D001183	CONTROL UNIT CRD HYDRAULIC 42-07	C11			
1C11-D001184	CONTROL UNIT CRD HYDRAULIC 38-07	C11			
1C11-D001185	CONTROL UNIT CRD HYDRAULIC 34-07	C11			
1C11-D0219	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 02-19	C11			
1C11-D0219-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0219-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0219-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0223	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 02-23	C11			
1C11-D0223-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D0223-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0223-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0227	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 02-27	C11			
1C11-D0227-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0227-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0227-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0231	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 02-31	C11			
1C11-D0231-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0231-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0231-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0235	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 02-35	C11			
1C11-D0235-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0235-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0235-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0239	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 02-39	C11			
1C11-D0239-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0239-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0239-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0243	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 02-43	C11			
1C11-D0243-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0243-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0243-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0615	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 06-15	C11			
1C11-D0615-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0615-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0615-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0619	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 06-19	C11			
1C11-D0619-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0619-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0619-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0623	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 06-23	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D0623-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0623-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0623-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0627	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 06-27	C11			
1C11-D0627-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0627-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0627-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0631	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 06-31	C11			
1C11-D0631-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0631-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0631-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0635	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 06-35	C11			
1C11-D0635-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0635-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0635-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0639	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 06-39	C11			
1C11-D0639-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0639-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0639-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0643	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 06-43	C11			
1C11-D0643-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0643-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0643-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D0647	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 06-47	C11			
1C11-D0647-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D0647-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D0647-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1011	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-11	C11			
1C11-D1011-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1011-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1011-127	CRD HCU SCRAM OUTLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D1015	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-15	C11			
1C11-D1015-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1015-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1015-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1019	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-19	C11			
1C11-D1019-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1019-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1019-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1023	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-23	C11			
1C11-D1023-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1023-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1023-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1027	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-27	C11			
1C11-D1027-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1027-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1027-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1031	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-31	C11			
1C11-D1031-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1031-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1031-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1035	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-35	C11			
1C11-D1035-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1035-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1035-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1039	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-39	C11			
1C11-D1039-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1039-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1039-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1043	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-43	C11			
1C11-D1043-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1043-126	CRD HCU SCRAM INLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D1043-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1047	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-47	C11			
1C11-D1047-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1047-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1047-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1051	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 10-51	C11			
1C11-D1051-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1051-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1051-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1407	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-07	C11			
1C11-D1407-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1407-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1407-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1411	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-11	C11			
1C11-D1411-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1411-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1411-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1415	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-15	C11			
1C11-D1415-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1415-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1415-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1419	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-19	C11			
1C11-D1419-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1419-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1419-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1423	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-23	C11			
1C11-D1423-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1423-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1423-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1427	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-27	C11			
1C11-D1427-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D1427-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1427-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1431	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-31	C11			
1C11-D1431-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1431-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1431-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1435	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-35	C11			
1C11-D1435-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1435-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1435-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1439	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-39	C11			
1C11-D1439-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1439-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1439-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1443	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-43	C11			
1C11-D1443-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1443-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1443-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1447	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-47	C11			
1C11-D1447-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1447-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1447-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1451	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-51	C11			
1C11-D1451-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1451-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1451-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1455	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 14-55	C11			
1C11-D1455-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1455-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1455-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1803	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-03	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D1803-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1803-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1803-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1807	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-07	C11			
1C11-D1807-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1807-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1807-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1811	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-11	C11			
1C11-D1811-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1811-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1811-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1815	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-15	C11			
1C11-D1815-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1815-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1815-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1819	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-19	C11			
1C11-D1819-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1819-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1819-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1823	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-23	C11			
1C11-D1823-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1823-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1823-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1827	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-27	C11			
1C11-D1827-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1827-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1827-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1831	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-31	C11			
1C11-D1831-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1831-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1831-127	CRD HCU SCRAM OUTLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D1835	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-35	C11			
1C11-D1835-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1835-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1835-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1839	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-39	C11			
1C11-D1839-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1839-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1839-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1843	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-43	C11			
1C11-D1843-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1843-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1843-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1847	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-47	C11			
1C11-D1847-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1847-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1847-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1851	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-51	C11			
1C11-D1851-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1851-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1851-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1855	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-55	C11			
1C11-D1855-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1855-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1855-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D1859	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 18-59	C11			
1C11-D1859-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D1859-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D1859-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2203	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-03	C11			
1C11-D2203-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2203-126	CRD HCU SCRAM INLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D2203-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2207	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-07	C11			
1C11-D2207-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2207-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2207-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2211	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-11	C11			
1C11-D2211-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2211-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2211-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2215	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-15	C11			
1C11-D2215-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2215-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2215-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2219	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-19	C11			
1C11-D2219-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2219-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2219-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2223	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-23	C11			
1C11-D2223-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2223-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2223-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2227	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-27	C11			
1C11-D2227-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2227-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2227-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2231	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-31	C11			
1C11-D2231-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2231-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2231-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2235	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-35	C11			
1C11-D2235-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D2235-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2235-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2239	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-39	C11			
1C11-D2239-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2239-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2239-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2243	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-43	C11			
1C11-D2243-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2243-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2243-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2247	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-47	C11			
1C11-D2247-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2247-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2247-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2251	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-51	C11			
1C11-D2251-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2251-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2251-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2255	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-55	C11			
1C11-D2255-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2255-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2255-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2259	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 22-59	C11			
1C11-D2259-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2259-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2259-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2603	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-03	C11			
1C11-D2603-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2603-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2603-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2607	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-07	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D2607-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2607-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2607-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2611	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-11	C11			
1C11-D2611-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2611-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2611-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2615	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-15	C11			
1C11-D2615-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2615-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2615-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2619	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-19	C11			
1C11-D2619-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2619-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2619-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2623	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-23	C11			
1C11-D2623-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2623-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2623-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2627	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-27	C11			
1C11-D2627-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2627-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2627-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2631	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-31	C11			
1C11-D2631-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2631-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2631-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2635	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-35	C11			
1C11-D2635-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2635-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2635-127	CRD HCU SCRAM OUTLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D2639	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-39	C11			
1C11-D2639-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2639-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2639-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2643	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-43	C11			
1C11-D2643-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2643-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2643-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2647	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-47	C11			
1C11-D2647-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2647-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2647-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2651	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-51	C11			
1C11-D2651-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2651-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2651-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2655	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-55	C11			
1C11-D2655-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D2655-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D2655-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D2659	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 26-59	C11			
1C11-D2659-125	CRD HCU SCRAM WATER ACCUMULATOR	C11	RB	G-F 9 SOUTH	761
1C11-D2659-126	CRD HCU SCRAM INLET VALVE	C11	RB	G-F 9 SOUTH	761
1C11-D2659-127	CRD HCU SCRAM OUTLET VALVE	C11	RB	G-F 9 SOUTH	761
1C11-D3003	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-03	C11			
1C11-D3003-125	CRD HCU SCRAM WATER ACCUMULATOR	C11	RB	C-D 9 SOUTH	761
1C11-D3003-126	CRD HCU SCRAM INLET VALVE	C11	RB	C-D 9 SOUTH	761
1C11-D3003-127	CRD HCU SCRAM OUTLET VALVE	C11	RB	C-D 9 SOUTH	761

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D3007	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-07	C11			
1C11-D3007-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3007-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3007-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3011	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-11	C11			
1C11-D3011-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3011-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3011-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3015	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-15	C11			
1C11-D3015-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3015-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3015-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3019	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-19	C11			
1C11-D3019-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3019-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3019-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3023	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-23	C11			
1C11-D3023-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3023-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3023-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3027	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-27	C11			
1C11-D3027-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3027-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3027-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3031	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-31	C11			
1C11-D3031-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3031-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3031-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3035	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-35	C11			
1C11-D3035-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3035-126	CRD HCU SCRAM INLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D3035-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3039	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-39	C11			
1C11-D3039-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3039-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3039-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3043	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-43	C11			
1C11-D3043-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3043-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3043-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3047	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-47	C11			
1C11-D3047-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3047-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3047-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3051	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-51	C11			
1C11-D3051-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3051-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3051-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3055	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-55	C11			
1C11-D3055-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3055-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3055-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3059	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 30-59	C11			
1C11-D3059-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3059-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3059-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3403	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-03	C11			
1C11-D3403-125	CRD HCU SCRAM WATER ACCUMULATOR	C11	RB	C-D 14.5 NORTH	761
1C11-D3403-126	CRD HCU SCRAM INLET VALVE	C11	RB	C-D 14.5 NORTH	761
1C11-D3403-127	CRD HCU SCRAM OUTLET VALVE	C11	RB	C-D 14.5 NORTH	761
1C11-D3407	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-07	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D3407-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3407-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3407-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3411	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-11	C11			
1C11-D3411-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3411-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3411-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3415	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-15	C11			
1C11-D3415-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3415-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3415-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3419	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-19	C11			
1C11-D3419-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3419-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3419-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3423	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-23	C11			
1C11-D3423-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3423-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3423-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3427	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-27	C11			
1C11-D3427-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3427-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3427-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3431	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-31	C11			
1C11-D3431-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3431-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3431-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3435	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-35	C11			
1C11-D3435-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3435-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3435-127	CRD HCU SCRAM OUTLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D3439	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-39	C11			
1C11-D3439-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3439-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3439-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3443	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-43	C11			
1C11-D3443-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3443-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3443-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3447	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-47	C11			
1C11-D3447-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3447-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3447-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3451	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-51	C11			
1C11-D3451-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3451-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3451-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3455	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-55	C11			
1C11-D3455-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3455-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3455-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3459	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 34-59	C11			
1C11-D3459-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3459-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3459-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3803	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-03	C11			
1C11-D3803-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3803-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3803-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3807	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-07	C11			
1C11-D3807-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3807-126	CRD HCU SCRAM INLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D3807-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3811	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-11	C11			
1C11-D3811-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3811-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3811-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3815	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-15	C11			
1C11-D3815-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3815-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3815-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3819	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-19	C11			
1C11-D3819-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3819-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3819-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3823	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-23	C11			
1C11-D3823-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3823-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3823-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3827	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-27	C11			
1C11-D3827-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3827-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3827-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3831	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-31	C11			
1C11-D3831-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3831-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3831-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3835	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-35	C11			
1C11-D3835-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3835-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3835-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3839	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-39	C11			
1C11-D3839-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D3839-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3839-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3843	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-43	C11			
1C11-D3843-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3843-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3843-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3847	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-47	C11			
1C11-D3847-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3847-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3847-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3851	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-51	C11			
1C11-D3851-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3851-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3851-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3855	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-55	C11			
1C11-D3855-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3855-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3855-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D3859	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 38-59	C11			
1C11-D3859-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D3859-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D3859-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4203	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-03	C11			
1C11-D4203-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4203-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4203-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4207	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-07	C11			
1C11-D4207-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4207-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4207-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4211	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-11	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D4211-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4211-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4211-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4215	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-15	C11			
1C11-D4215-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4215-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4215-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4219	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-19	C11			
1C11-D4219-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4219-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4219-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4223	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-23	C11			
1C11-D4223-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4223-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4223-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4227	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-27	C11			
1C11-D4227-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4227-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4227-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4231	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-31	C11			
1C11-D4231-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4231-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4231-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4235	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-35	C11			
1C11-D4235-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4235-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4235-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4239	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-39	C11			
1C11-D4239-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4239-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4239-127	CRD HCU SCRAM OUTLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D4243	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-43	C11			
1C11-D4243-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4243-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4243-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4247	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-47	C11			
1C11-D4247-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4247-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4247-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4251	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-51	C11			
1C11-D4251-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4251-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4251-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4255	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-55	C11			
1C11-D4255-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4255-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4255-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4259	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 42-59	C11			
1C11-D4259-125	CRD HCU SCRAM WATER ACCUMULATOR	C11	RB	C-D 14.5 NORTH	761
1C11-D4259-126	CRD HCU SCRAM INLET VALVE	C11	RB	C-D 14.5 NORTH	761
1C11-D4259-127	CRD HCU SCRAM OUTLET VALVE	C11	RB	C-D 14.5 NORTH	761
1C11-D4607	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-07	C11			
1C11-D4607-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4607-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4607-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4611	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-11	C11			
1C11-D4611-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4611-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4611-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4615	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-15	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D4615-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4615-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4615-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4619	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-19	C11			
1C11-D4619-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4619-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4619-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4623	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-23	C11			
1C11-D4623-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4623-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4623-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4627	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-27	C11			
1C11-D4627-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4627-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4627-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4631	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-31	C11			
1C11-D4631-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4631-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4631-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4635	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-35	C11			
1C11-D4635-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4635-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4635-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4639	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-39	C11			
1C11-D4639-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4639-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4639-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4643	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-43	C11			
1C11-D4643-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4643-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4643-127	CRD HCU SCRAM OUTLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D4647	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-47	C11			
1C11-D4647-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4647-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4647-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4651	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-51	C11			
1C11-D4651-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4651-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4651-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D4655	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 46-55	C11			
1C11-D4655-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D4655-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D4655-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5011	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-11	C11			
1C11-D5011-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5011-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5011-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5015	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-15	C11			
1C11-D5015-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5015-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5015-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5019	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-19	C11			
1C11-D5019-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5019-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5019-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5023	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-23	C11			
1C11-D5023-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5023-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5023-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5027	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-27	C11			
1C11-D5027-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5027-126	CRD HCU SCRAM INLET VALVE	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D5027-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5031	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-31	C11			
1C11-D5031-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5031-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5031-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5035	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-35	C11			
1C11-D5035-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5035-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5035-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5039	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-39	C11			
1C11-D5039-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5039-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5039-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5043	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-43	C11			
1C11-D5043-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5043-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5043-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5047	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-47	C11			
1C11-D5047-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5047-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5047-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5051	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 50-51	C11			
1C11-D5051-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5051-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5051-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5415	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 54-15	C11			
1C11-D5415-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5415-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5415-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5419	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 54-19	C11			
1C11-D5419-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D5419-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5419-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5423	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 54-23	C11			
1C11-D5423-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5423-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5423-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5427	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 54-27	C11			
1C11-D5427-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5427-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5427-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5431	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 54-31	C11			
1C11-D5431-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5431-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5431-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5435	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 54-35	C11			
1C11-D5435-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5435-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5435-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5439	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 54-39	C11			
1C11-D5439-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5439-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5439-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5443	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 54-43	C11			
1C11-D5443-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5443-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5443-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5447	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 54-47	C11			
1C11-D5447-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5447-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5447-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5819	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 58-19	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-D5819-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5819-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5819-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5823	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 58-23	C11			
1C11-D5823-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5823-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5823-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5827	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 58-27	C11			
1C11-D5827-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5827-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5827-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5831	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 58-31	C11			
1C11-D5831-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5831-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5831-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5835	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 58-35	C11			
1C11-D5835-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5835-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5835-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5839	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 58-39	C11			
1C11-D5839-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5839-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5839-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-D5843	CONTROL ROD DRIVE HYDRAULIC CONTROL UNIT 58-43	C11			
1C11-D5843-125	CRD HCU SCRAM WATER ACCUMULATOR	C11			
1C11-D5843-126	CRD HCU SCRAM INLET VALVE	C11			
1C11-D5843-127	CRD HCU SCRAM OUTLET VALVE	C11			
1C11-F380	VALVE, SCRAM DISCH VOL VENT	C11			
1C11-F381	VALVE, AIR SCRAM DISCH VOL VENT	C11			
1C11-F388	VALVE, SOLENOID OPERATED SDV VENT VLV	C11			
1C11-F389	VALVE, AIR SCRAM DISCH VOL VENT	C11			
1C11-P002	LOCAL FLOW STATION RACK FOR COND CHAMBER 1B21-D004A	C11			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1C11-P003	LOCAL FLOW STATION RACK FOR COND CHAMBER 1B21-D004B	C11			
1C11-P004	LOCAL FLOW STATION RACK FOR COND CHAMBER 1B21-D004C	C11			
1C11-P005	LOCAL FLOW STATION RACK FOR COND CHAMBER B21-D004D (RVWLIS)	C11			
1C11-P006	LOCAL FLOW STATION RACK FOR COND CHAMBER 1B21-D367	C11			
1C11-P007	LOCAL FLOW STATION RACK FOR COND CHAMBER B21-D368 (RVWLIS)	C11			
1C41-A001	STANDBY LIQUID CONTROL SOLUTION TANK	C41	RB	10 C	820
1C41-C001A	A STANDBY LIQUID CONTROL PUMP	C41	RB	11 C	820
1C41-C001B	B STANDBY LIQUID CONTROL PUMP	C41	RB	11 C	820
1C61-P001	ASSY - PANEL, REMOTE S/D INSTR	C61			
1CM017A	SUP CHBR / DW O2 MONITOR INLET UPSTRM ISOL VALVE	CM			
1CM017B	TRITIUM GRAB SAMPLE STATION INLET UPSTRM ISOL VALVE	CM			
1CM018A	SUP CHBR / DW O2 MONITOR INLET DWNST ISOL VALVE	CM			
1CM018B	TRITIUM GRAB SAMPLE STATION INLET DWNST ISOL VALVE	CM			
1CM019A	SUP CHBR / DW O2 MONITOR OUTLET UPSTRM ISOL VALVE	CM			
1CM019B	TRITIUM GRAB SAMPLE STATION OUTLET UPSTRM ISOL VALVE	CM			
1CM020A	SUP CHBR / DW O2 MONITOR OUTLET DWNST ISOL VALVE	CM			
1CM020B	TRITIUM GRAB SAMPLE STATION OUTLET DWNST ISOL VALVE	CM			
1CM021B	B POST LOCA H2/O2 CNMT MONITOR PANEL DW SAMPLE ISOL VALVE	CM			
1CM022A	A POST LOCA H2/O2 CNMT MONITOR PANEL DW SAMPLE ISOL VALVE	CM			
1CM023B	B POST LOCA H2/O2 CNMT MONITOR PANEL SUP CHBR SAMPLE ISOL VALVE	CM			
1CM024A	A POST LOCA H2/O2 CNMT MONITOR PANEL SUP CHBR SAMPLE ISOL VALVE	CM			
1CM025A	A POST LOCA H2/O2 MONITOR PANEL SUP CHBR RETURN VALVE	CM			
1CM026B	B POST LOCA H2/O2 MONITOR PANEL SUP CHBR RETURN VALVE	CM			
1CM027	PRI CNMT CAM SUP CHBR INLET UPSTRM ISOL VALVE	CM			
1CM028	PRI CNMT CAM SUP CHBR INLET DWNST ISOL VALVE	CM			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1CM029	PRI CNMT CAM DW INLET UPSTRM ISOL VALVE	CM			
1CM030	PRI CNMT CAM DW INLET DWNST ISOL VALVE	CM			
1CM031	PRI CNMT 24 POINT CAM INLET UPSTRM ISOL VALVE	CM			
1CM032	PRI CNMT 24 POINT CAM INLET DWNST ISOL VALVE	CM			
1CM033	PRI CNMT CAM SAMPLE PANEL OUTLET UPSTRM VALVE	CM			
1CM034	PRI CNMT CAM SAMPLE PANEL OUTLET DWNST VALVE	CM			
1CM03PA	A POST LOCA H2/O2 CNMT MONITOR SAMPLE PUMP	CM	RB	11 C	786
1CM03PB	PRI CNMT H2-02 POST LOCA MONITOR PMP	CM	RB	11 B	786
1CM085	U1 CNMT AIR SAMPLE HRSS UPSTRM STOP VALVE	CM			
1CM086	U1 CNMT AIR SAMPLE HRSS DWNST STOP VALVE	CM			
1CM089	U1 CNMT AIR SAMPLE HRSS RETURN UPSTRM STOP VALVE	CM			
1CM090	U1 CNMT AIR SAMPLE HRSS RETURN DWNST STOP VALVE	CM			
1DC001E	250V DC BAT	DC			
1DC003E	250V DC BATTERY CHARGER NO. 1	DC	AB	9J	710
1DC005E	250V MCC	DC	AB	10 L	710
1DC006E	MOTOR CONT CENTER BUS 121Y	DC			
1DC007E	125V DC BATTERY NO. 1A	DC			
1DC009E	125V DC BATTERY CHARGER NO. 1A	DC			
1DC010E	125V DIST PNL	DC			
1DC011E	DISTRIBUTION PNLNO 111Y	DC			
1DC012E	125V DIST PNL	DC			
1DC013E	DISTRIBUTION PNLNO 112Y	DC			
1DC014E	125V DC BATTERY NO. 1B	DC			
1DC017E	BAD RECORD ***USE EQUIPMENT TAG 1DC17E***	DC			
1DC018E	125V BATTERY DIV.3	DC			
1DC019E	125V DC BATTERY CHARGER NO. 1C	DC			
1DC01E	250VDC BATTERY	DC	AB	9J	710
1DC02E	DIV I 250VDC DISTRIBUTION BUS 1	DC	AB	10 L	710
1DC02E-2A	TRIP UNIT - 121X FEED FROM 250V DC BUS #1	DC			
1DC02E-2B	TRIP UNIT - 121Y FEED FROM 250V DC BUS #1	DC			
1DC031E	24V BATTERY	DC			
1DC032E	24V BATTERY	DC			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1DC033E	24V BATTERY	DC			
1DC034E	24V BATTERY	DC			
1DC035E	24V BATTERY CHARGER	DC			
1DC036E	24V BATTERY CHARGER	DC			
1DC037E	24V BATTERY CHARGER	DC			
1DC038E	24V BATTERY CHARGER	DC			
1DC039E	48/24V DIST PNL	DC			
1DC03E	250VDC BATTERY CHARGER	DC			
1DC040E	48/24V DIST PNL	DC			
1DC05E	250VDC MCC 121X	DC	AB	10 L	710
1DC06E	DIV I 250VDC MCC 121Y	DC	RB	14 B	694
1DC06E-1D	TRIP UNIT - UNIT TIE TO 2DC06E (221Y)	DC			
1DC07E	DIV I 125VDC BATTERY	DC			
1DC08E	DIV I 125VDC DISTRIBUTION BUS 1A	DC	AB	12 L	710
1DC08E-3A	TRIP UNIT - 111X FEED FROM 125VDC D-1 BUS 1A	DC			
1DC08E-3B	TRIP UNIT - 111Y FEED FROM 125VDC D-1 BUS 1A	DC			
1DC09E	DIV 1 125VDC BATTERY CHARGER (1AA)	DC			
1DC10E	125VDC DISTRIBUTION PANEL 111X	DC	AB	12 L	710
1DC11E	DIV I 125VDC DISTRIBUTION PANEL 111Y	DC	AB	12 L	710
1DC12E	125VDC DISTRIBUTION PANEL 112X	DC	AB	12 L	731
1DC14E	DIV II 125VDC BATTERY	DC	AB	L-N 12-13	731
1DC15E	DIV II 125VDC DISTRIBUTION BUS 1B	DC	AB	12 L	731
1DC15E-3A	TRIP UNIT - 1DC15E CKT 3A FEED TO 112X (1DC12E)	DC			
1DC15E-3B	TRIP UNIT - 1DC15E CKT 3B FEED TO 112Y (1DC13E)	DC			
1DC16E	125V DC BATTERY CHARGER NO. 1B	DC	AB	L-N 11-12	731
1DC16E	DIV 2 125VDC BATTERY CHARGER (1BB)	DC			
1DC17E	DIV 2 125VDC BATTERY CHARGER (1BA)	DC			
1DC18E	DIV III 125VDC BATTERY	DC			
1DC19E	DIV III 125VDC BATTERY CHARGER	DC			
1DC23E	DIV 1 125VDC BATTERY CHARGER (1AB)	DC			
1DC31E	24 / 48VDC BATTERY 1A	DC	AB	12 N	749
1DC32E	24 / 48VDC BATTERY 1B	DC	AB	12 N	749
1DC33E	24 / 48VDC BATTERY 1C	DC	AB	11 N	749
1DC34E	24 / 48VDC BATTERY 1D	DC	AB	11 N	749
1DC39E	48/24VDC DISTRIBUTION PANEL 1A	DC	AB	10 N	749
1DC40E	48/24VDC DISTRIBUTION PANEL 1B	DC	AB	10 N	749
1DG011	1A DG COOLING WTR STRAINER BACKWASH VALVE	DG	DG	J-H 8-9	674
1DG01A	1A DG COOLER	DG	DG	J 7-8	710
1DG01D	SILENCER, DG ENGINE	DG			
1DG01F	1A DG COOLING WATER STRAINER	DG	DG	J 9	674
1DG01K	1A DIESEL GENERATOR	DG	DG	J 7-8	710
1DG01K-1	FILTER, AIR INTAKE	DG			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1DG01K-A	PUMP, AC TURBO SOAKBACK (B7A)	DG			
1DG01K-B	PUMP, DC TURBO SOAKBACK	DG			
1DG01K-C	PUMP, AC LUBE OIL CIRC (B7)	DG			
1DG01K-D	PUMP, SCAVENGING OIL	DG			
1DG01K-E	FILTER, TURBOCHARGER OIL	DG			
1DG01K-F	FILTER, FUEL ASSEMBLY	DG			
1DG01K-G	PUMP, RIGHT BANK WTR	DG			
1DG01K-H	PUMP, LEFT BANK WTR	DG			
1DG01K-I	PUMP, MAIN LUBE OIL	DG			
1DG01K-J	PUMP, PISTON COOL	DG			
1DG01K-K	PUMP, ENGINE DRIVEN FUEL	DG			
1DG01K-L	PUMP, ELECT MTR DRIVEN FUEL	DG			
1DG01K-M	TRAP, TYPE EXH SCREEN	DG			
1DG01K-N	HEAT EXCHANGER, DG COOLING WTR	DG			
1DG01K-O	DIESEL ENGINE COOLER	DG			
1DG01P	1A DG COOLING WATER PUMP	DG	AB	J	674
1DG01S	1A DG STARTING AIR COMPRESSOR PACKAGE	DG	DG	L-J 7-8	-
1DG01SA	ASSY - DG AIR TANK VESSEL	DG			
1DG01SB	ASSY - DG AIR TANK VESSEL	DG			
1DG02F	FILTER, DG AIR INTAKE SILENCER	DG			
1DG02JA	1A DG A GENERATOR CONTROL PANEL	DG	DG	L 8-9	710
1DG02JB	1A DG B GENERATOR CONTROL PANEL	DG			
1DG034	1A DG COOLER OUTLET HEADER RELIEF VALVE	DG			
1DG035	LPCS PUMP MOTOR COOLER UPSTRM INLET VALVE	DG	RB	14B	694
1DG03J	1A DG ENGINE CONTROL PANEL	DG	DG	L 8-9	710
1DG04J	ASSY - PANEL, TRANSFORMER	DG			
1DG055A	1A DG A STARTING AIR RECEIVER RELIEF VALVE	DG			
1DG055B	1A DG B STARTING AIR RECEIVER RELIEF VALVE	DG			
1DG061A	ASSY - VALVE, 1A D/G BANK A STARTER AIR SUPPLY	DG	DG	L-J 7-8	710
1DG061B	ASSY - VALVE, 1A D/G BANK B STARTER AIR SUPPLY	DG			
1DG062A	1A DG A/C STARTING AIR MOTORS PINION SUPPLY SOLENOID VALVE	DG			
1DG062B	1A DG B/D STARTING AIR MOTORS PINION SUPPLY SOLENOID VALVE	DG			
1DG08TA	1A DG A STARTING AIR RECEIVER	DG			
1DG08TB	1A DG B STARTING AIR RECEIVER	DG			
1DG10TA	1A DG A AUX AIR ACCUMULATOR	DG			
1DG10TB	1A DG B AUX AIR ACCUMULATOR	DG			
1DG15MA	1A DG A STARTING AIR STRAINER	DG			
1DG15MB	1A DG B STARTING AIR STRAINER	DG			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1DG18MA	ASSY - DG AIR COMPRESSOR TANK	DG			
1DG18MB	ASSY - DG AIR COMPRESSOR TANK	DG			
1DG23M	1B DG LUBE OIL SOAK BACK PUMPS DISCHARGE STRAINER	DG			
1DG24M	1B DG LUBE OIL CIRC PUMP DSCH STRAINER	DG			
1DG25M	1A DG LUBE OIL SOAK BACK PUMPS DSCH STRAINER	DG			
1DG26M	1A DG LUBE OIL CIRC PUMP DSCH STRAINER	DG			
1DO001T	DG 1A FUEL STGE TK	DO			
1DO002P	PUMP, DIESEL OILTRANSFER	DO			
1DO002T	DG 1B FUEL STGE TK	DO			
1DO003P	DIESEL FIRE FUELTRANSFER PUMP	DO			
1DO004	D/G 1AFUEL TRAN PMP SO DSCH STOP	DO			
1DO004T	DG 1B DAY TK	DO			
1DO005T	DG 1A DAY TK	DO	DG	J-H 5-7	710
1DO014	VLV 2B DIESEL GEN FUEL OIL XFR SOL VLV	DO			
1DO01P	PUMP, DIESEL OILTRANSFER	DO	AB	6 J	674
1DO01P	1A DG FUEL TRANSFER PUMP	DO	AB	H	674
1DO01T	1A DG FUEL STORAGE TANK	DO			
1DO024	DIESEL FIRE PUMP FUEL TRANSFER PUMP SUCT VALVE	DO			
1DO02P	1B DG OIL FUEL TRANSFER PUMP	DO			
1DO02T	1B DG FUEL STORAGE TANK	DO			
1DO04T	1B DG DAY TANK	DO			
1DO05T	1A DG DAY TANK	DO			
1DO09M	1B DG FUEL TRANSFER PUMP SUCT STRNR	DO			
1DO10M	1A DG FUEL TRANSFER PUMP SUCT STRNR	DO			
1DO24M	Y-TYPE STRNR 150LB.C.S. BODY NO.20S.S.MESH	DO			
1DO25M	1B DG FUEL STORAGE TANK FILL STRNR	DO			
1E12-B001A	A RHR HEAT EXCHANGER	E12			
1E12-B001B	B RHR HEAT EXCHANGER	E12	RB	A-B 9-10	694
1E12-C002A	A RHR PUMP	E12	RB	14 F	673
1E12-C002B	1B RESIDUAL HEAT REMOVAL PMP	E12	RB	C	673
1E12-C002C	1C RESIDUAL HEAT REMOVAL PMP	E12	RB	10 B	673
1E12-C003	B/C RHR WATER LEG PUMP	E12	RB	10:00 AM	673
1E12-C300A	A RHR SERVICE WATER PUMP	E12			
1E12-C300B	B RHR SERVICE WATER PUMP	E12	RB	16B	673
1E12-C300C	C RHR SERVICE WATER PUMP	E12			
1E12-C300D	D RHR SERVICE WATER PUMP	E12			
1E12-D300A	A RHR SERVICE WATER STRAINER	E12			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1E12-D300B	B RHR SERVICE WATER STRAINER	E12	DG	J 9	674
1E12-D301A	STRAINER	E12			
1E12-D301B	STRAINER	E12			
1E12-D301C	STRAINER	E12			
1E12-D314A	CONDENSING CHAMBER	E12			
1E12-D314B	CONDENSING CHAMBER	E12			
1E12-D315A	CONDENSING CHAMBER	E12			
1E12-D315B	CONDENSING CHAMBER	E12			
1E12-D322A	PULSATION DAMPENER	E12			
1E12-D322B	PULSATION DAMPENER	E12			
1E12-D322C	PULSATION DAMPENER	E12			
1E12-D322D	PULSATION DAMPENER	E12			
1E12-D323A	PULSATION DAMPENER	E12			
1E12-D323B	PULSATON DAMPENER	E12			
1E12-D323C	PULSATION DAMPENER	E12			
1E12-D323D	PULSATION DAMPENER	E12			
1E12-F003A	A RHR HX OUTLET VALVE	E12	RB	14 H	694
1E12-F003B	B RHR HX OUTLET VALVE	E12	RB	A-B 9	694
1E12-F004A	A RHR PUMP SUP POOL SUCT ISOL VALVE	E12	RB	13 G	673
1E12-F004B	B RHR PUMP SUP POOL SUCT ISOL VALVE	E12	RB	10 C	673
1E12-F004C	C RHR PUMP SUP POOL SUCT ISOL VALVE	E12			
1E12-F005	RHR SDC SUCT HEADER RELIEF VALVE	E12			
1E12-F006A	A RHR PUMP SDC SUCT VALVE	E12	RB	14 G	673
1E12-F006B	B RHR PUMP SDC SUCT VALVE	E12			
1E12-F008	RHR SDC SUCT HEADER OTBD ISOL VALVE	E12			
1E12-F009	RHR SDC SUCT HEADER INBD ISOL VALVE	E12			
1E12-F011A	A RHR HX STEAM CONDENSING SUP POOL RETURN ISOL VALVE	E12	RB	15 G	694
1E12-F011B	B RHR HX STEAM CONDENSING SUP POOL RETURN ISOL VALVE	E12	RB	-	694
1E12-F016A	A RHR CONTAINMENT SPRAY UPSTRM ISOL VALVE	E12	RB	13 C	761
1E12-F016B	B RHR CONTAINMENT SPRAY UPSTRM ISOL VALVE	E12	RB	11 G	761
1E12-F017A	A RHR CONTAINMENT SPRAY DWNST ISOL VALVE	E12	RB	13 C	777
1E12-F017B	B RHR CONTAINMENT SPRAY DWNST ISOL VALVE	E12	RB	11 G	761
1E12-F021	C RHR PUMP FULL FLOW TEST ISOL VALVE	E12	RB	11 G	761
1E12-F023	A RHR RX HEAD SPRAY OTBD ISOL VALVE	E12	RB	13 H	740

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1E12-F024A	A RHR PUMP FULL FLOW TEST ISOL VALVE	E12	RB	14 H	710
1E12-F024B	B RHR PUMP FULL FLOW TEST ISOL VALVE	E12	RB	C	710
1E12-F025A	A RHR PUMP DSCH RELIEF VALVE	E12			
1E12-F025B	B RHR PUMP DSCH RELIEF VALVE	E12			
1E12-F025C	C RHR PUMP DSCH RELIEF VALVE	E12			
1E12-F026A	A RHR HX STEAM CONDENSING RCIC RETURN VALVE	E12	RB	14 H	694
1E12-F026B	B RHR HX STEAM CONDENSING RCIC RETURN VALVE	E12	RB	10:00 AM	694
1E12-F027A	A RHR SUP CHBR SPRAY ISOL VALVE	E12	RB	14 G	710
1E12-F027B	B RHR SUP CHBR SPRAY ISOL VALVE	E12	RB	10 B	710
1E12-F030	RHR PUMPS DRAIN HEADER RELIEF VALVE	E12			
1E12-F036A	A RHR HX STEAM CONDENSING RCIC RETURN HDR RELIEF VALVE	E12			
1E12-F036B	B RHR HX STEAM CONDENSING RCIC RETURN HDR RELIEF VALVE	E12	RB	-	694
1E12-F040A	A RHR HX BLOWDOWN DWNST ISOL VALVE	E12	RB	13 H	694
1E12-F040B	B RHR HX BLOWDOWN DWNST ISOL VALVE	E12	RB	10:00 AM	694
1E12-F040C	ASSY - VALVE, GLOBE	E12			
1E12-F041A	A RHR LPCI TESTABLE CHECK VALVE	E12	DW	13 D	777
1E12-F041B	B RHR LPCI TESTABLE CHECK VALVE	E12	DW	13 E	777
1E12-F041C	C RHR LPCI TESTABLE CHECK VALVE	E12			
1E12-F042A	A RHR LPCI INJECTION LINE ISOL VALVE	E12			
1E12-F042B	B RHR LPCI INJECTION LINE ISOL VALVE	E12	RB	12 H	761
1E12-F042C	C RHR LPCI INJECTION LINE ISOL VALVE	E12	RB	12 H	761
1E12-F047A	A RHR HX INLET VALVE	E12	RB	14 H	710
1E12-F047B	B RHR HX INLET VALVE	E12			
1E12-F048A	A RHR HX BYPASS VALVE	E12	RB	14 H	710
1E12-F048B	B RHR HX BYPASS VALVE	E12	RB	C	694
1E12-F049A	A RHR HX BLOWDOWN UPSTRM ISOL VALVE	E12	RB	14 H	694
1E12-F049B	B RHR HX BLOWDOWN UPSTRM ISOL VALVE	E12	RB	A	694
1E12-F050A	A RHR SDC RETURN TESTABLE CHECK VALVE	E12	DW	13 F	710
1E12-F050B	B RHR SDC RETURN TESTABLE CHECK VALVE	E12	DW	11 D	740
1E12-F051A	A RHR HX RCIC STEAM INLET PRESS CONT VALVE	E12			
1E12-F051B	B RHR HX RCIC STEAM INLET PRESS CONT VALVE	E12	RB	A-B 8-9	710
1E12-F052A	A RHR HX RCIC STEAM INLET VALVE	E12	RB	14 G	710

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1E12-F052B	B RHR HX RCIC STEAM INLET VALVE	E12	RB	C	710
1E12-F053A	A RHR SDC RETURN ISOL VALVE	E12			
1E12-F053B	B RHR SDC RETURN ISOL VALVE	E12	RB	10 C	740
1E12-F055A	A RHR HX RCIC STEAM INLET HEADER RELIEF VALVE	E12			
1E12-F055B	B RHR HX RCIC STEAM INLET HEADER RELIEF VALVE	E12	RB	-	694
1E12-F060A	A RHR HX OUTLET PROCESS SAMPLE UPSTRM ISOL VALVE	E12			
1E12-F060B	B RHR HX OUTLET PROCESS SAMPLE UPSTRM ISOL VALVE	E12			
1E12-F064A	A RHR PUMP MIN FLOW ISOL VALVE	E12	RB	14 G	673
1E12-F064B	B RHR PUMP MIN FLOW ISOL VALVE	E12	RB	C	673
1E12-F064C	C RHR PUMP MIN FLOW ISOL VALVE	E12	RB	10 B	673
1E12-F065A	A RHR HX STEAM CONDENSING LEVEL CONTROL VALVE	E12			
1E12-F065B	B RHR HX STEAM CONDENSING LEVEL CONTROL VALVE	E12			
1E12-F068A	A RHR HX SERVICE WATER OUTLET VALVE	E12	RB	12.8A	673
1E12-F068B	B RHR HX SERVICE WATER OUTLET VALVE	E12	RB	13 A	673
1E12-F073A	A RHR HX SHELL SIDE DWNST VENT VALVE	E12	RB	14 H	710
1E12-F073B	B RHR HX SHELL SIDE DWNST VENT VALVE	E12	RB	B	710
1E12-F074A	A RHR HX SHELL SIDE UPSTRM VENT VALVE	E12	RB	14 G	710
1E12-F074B	B RHR HX SHELL SIDE UPSTRM VENT VALVE	E12	RB	B	710
1E12-F075A	A RHR HX OUTLET PROCESS SAMPLE DWNST ISOL VALVE	E12			
1E12-F075B	B RHR HX OUTLET PROCESS SAMPLE DWNST ISOL VALVE	E12			
1E12-F087A	A RHR HX RCIC STEAM INLET PCV BYPASS VALVE	E12	RB	14 G	710
1E12-F087B	B RHR HX RCIC STEAM INLET PCV BYPASS VALVE	E12	RB	C	710
1E12-F088A	A RHR PUMP SUCT RELIEF VALVE	E12			
1E12-F088B	B RHR PUMP SUCT RELIEF VALVE	E12			
1E12-F088C	C RHR PUMP SUCT RELIEF VALVE	E12			
1E12-F093	B RHR FUEL POOL EMER MU SUPPLY DWNST VALVE	E12	RB	C	694
1E12-F094	B RHR FUEL POOL EMER MU SUPPLY UPSTRM VALVE	E12	RB	C	694
1E12-F097	B RHR FUEL POOL EMER MAKE UP SUPPLY DRAIN VALVE	E12			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1E12-F099A	A RHR SDC RETURN TESTABLE CHECK BYPASS VALVE	E12	DW	13 D	740
1E12-F099B	B RHR SDC RETURN TESTABLE CHECK BYPASS VALVE	E12	DW	11 E	740
1E12-F311A	A RHR HX SHELL SIDE RELIEF VALVE	E12			
1E12-F311B	B RHR HX SHELL SIDE RELIEF VALVE	E12			
1E12-F312A	U2 H2 RECOMBINER 2HG01A 1A RHR CLG WATER SUPPLY UPSTRM VALVE	E12	RB	14 H	710
1E12-F312B	U1 H2 RECOMBINER 1HG01A 1B RHR CLG WATER SUPPLY VALVE	E12	RB	B	710
1E12-F313A	A RHR HX TUBE SIDE RELIEF VALVE	E12			
1E12-F313B	B RHR HX TUBE SIDE RELIEF VALVE	E12			
1E12-F336A	A RHR SERVICE WATER STRAINER BACKWASH VALVE	E12			
1E12-F336B	B RHR SERVICE WATER STRAINER BACKWASH VALVE	E12			
1E12-F460	RHR SDC SUCT HEADER CNMT PENETRATION RELIEF VALVE	E12			
1E12-FB04A	VALVE, GATE	E12			
1E12-FB04B	VALVE, GATE	E12			
1E12-K300C	1C RHR SW PUMP SHORTING RELAY	E12	AB		731'
1E12-N005A	A RHR HX SERVICE WATER DSCH TEMP ELEMENT	E12			
1E12-N005B	B RHR HX SERVICE WATER DSCH TEMP ELEMENT	E12	RB	B 10	694
1E12-N007A	A RHR HX SERVICE WATER INLET FLOW	E12			
1E12-N007B	B RHR HX SERVICE WATER INLET FLOW	E12	RB	C 9	673
1E12-N015A	A RHR FLOW	E12			
1E12-N015B	B RHR FLOW	E12	RB	C 9	673
1E12-N015C	C RHR FLOW	E12			
1E12-N027A	A RHR HX OUTLET TEMPERATURE ELEMENT	E12			
1E12-N027B	B RHR HX OUTLET TEMPERATURE ELEMENT	E12	RB	A 10	694
1E12-N034A	A RHR PUMP DSCH PRESS	E12			
1E12-N034B	B RHR PUMP DSCH PRESS	E12			
1E12-N034C	C RHR PUMP DSCH PRESS	E12			
1E12-N510	RHR HEAT EXCHANGER 1A EFFLUENT	E12			
1E21A-M1	AMMETER	E21			
1E21-C001	LPCS PUMP	E21	RB	20 A	673
1E21-C002	LPCS WATER LEG PUMP	E21	RB	14 B	673
1E21-D302	SUCTION STRAINER	E21			
1E21-F001	LPCS PUMP SUCT ISOL VALVE	E21	RB	14 B	673
1E21-F005	LPCS INJECTION ISOL VALVE	E21	RB	13 C	761
1E21-F006	LPCS INJECTION TESTABLE CHECK VALVE	E21			
1E21-F011	LPCS PUMP MIN FLOW ISOL VALVE	E21	RB	14 B	673

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1E21-F012	LPCS FULL FLOW TEST BYP	E21	RB	12:00 AM	710
1E21-F018	LPCS PUMP DSCH RELIEF VALVE	E21			
1E21-F031	LPCS PUMP SUCT RELIEF VALVE	E21			
1E21-F333	ASSY - VALVE, CONTROL	E21			
1E21-N003	LPCS PP DISCH FLOW XMITTER	E21	RB	14 A	673
1E22-C001	PMP HI PRESS CORE SPRAY	E22	RB	F	673
1E22-C002	1B DG COOLING WATER PUMP	E22			
1E22-C003	PMP HI PRESS CORE SPRAY WTR LEG	E22	RB	F	673
1E22-D300	1B DG COOLING WATER STRAINER	E22			
1E22-D302	STRAINER, SUCTION	E22			
1E22-D315	FILTER, INTAKE	E22			
1E22-D317A	1B DG A STARTING AIR STRAINER	E22			
1E22-D317B	1B DG B STARTING AIR STRAINER	E22			
1E22-F004	HPCS INJECTION ISOL VALVE	E22	RB	10 C	761
1E22-F010	HPCS DSCH CST UPSTRM FULL FLOW TEST VALVE	E22			
1E22-F011	HPCS DSCH CST DWNST FULL FLOW TEST VALVE	E22			
1E22-F012	HPCS PUMP MIN FLOW ISOL VALVE	E22			
1E22-F014	HPCS PUMP SUCT RELIEF VALVE	E22			
1E22-F015	HPCS PUMP SUP POOL SUCT ISOL VALVE	E22	RB	10 F	673
1E22-F023	HPCS FULL FLOW TEST ISOL VALVE	E22	RB	10 D	694
1E22-F035	HPCS PUMP DSCH RELIEF VALVE	E22			
1E22-F301B	ASSY - PANEL, DG GEN/ENG CONTROL	E22			
1E22-F319	1B DG COOLING WATER STRAINER BACKWASH VALVE	E22			
1E22-F345	1B DG COOLER INLET HEADER RELIEF VALVE	E22			
1E22-F354	ASSY - VALVE, CONTROL	E22			
1E22-F369A	1B DG A STARTING AIR RECEIVER RELIEF VALVE	E22			
1E22-F369B	1B DG B STARTING AIR RECEIVER RELIEF VALVE	E22			
1E22-F370A	1B DG C STARTING AIR RECEIVER RELIEF VALVE	E22			
1E22-F370B	1B DG D STARTING AIR RECEIVER RELIEF VALVE	E22			
1E22-F381A	1B DG A/C STARTING AIR MOTORS SUPPLY CONTROL VALVE	E22			
1E22-F381B	1B DG B/D STARTING AIR MOTORS SUPPLY CONTROL VALVE	E22			
1E22-F382A	1B DG A/C STARTING AIR MOTORS PINION SUPPLY SOLENOID VALVE	E22			
1E22-F382B	1B DG B/D STARTING AIR MOTORS PINION SUPPLY SOLENOID VALVE	E22			
1E22-K001	HPCS DG AMPS	E22			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1E22-M001	1B DG GENERATOR AC VOLTAGE	E22			
1E22-M002	1B DG GENERATOR OUTPUT FREQUENCY	E22			
1E22-M004	METER, WATT, 1E22P301B	E22			
1E22-M005	1B DG GENERATOR AC AMPS	E22			
1E22-M006	4160V SWGR 1AP07E (143) BUS FREQUENCY	E22			
1E22-M007	SWGR 1AP07E (143) VOLTAGE	E22			
1E22-M008	1B DG EXCITER FIELD AMPS	E22			
1E22-M009	1B DG EXCITER FIELD VOLTAGE	E22			
1E22-M010	1B DG SYNCHROSCOPE	E22			
1E22-M012	SAT 1AP91E (TR 142) VOLTAGE	E22			
1E22-M100	1B DG DC BUS VOLTAGE	E22			
1E22-N004	HPCS PUMP DSCH PRESS	E22	RB	9 F	673
1E22-N005	HPCS PUMP DSCH FLOW	E22	RB	9 G	673
1E22-N530	1B DG SOAK BACK LUBE OIL PRESS	E22			
1E22-P301A	1B DG GROUNDING TRANSFORMERS AND BUS 113 DISTRIBUTION PANEL	E22	AB	08 N	710
1E22-P301B	1B DG AUXILIARY CONTROL PANEL	E22			
1E22-S300	1B DG STARTING AIR COMPRESSOR PACKAGE	E22	DG		710
1E32-F001A	ABANDONED IN PLACE	E32	RB	12 J	740
1E32-F001E	ABANDONED IN PLACE	E32	RB	12 J	740
1E32-F001J	C LINE INBD LCS UPSTRM BLEED VLV -OB MSIV ROOM	E32	RB	12 J	740
1E32-F001N	VALVE, MSIV LCS I/B-ABANDONED IN PLACE	E32	RB	12 J	740
1E32-F002A	VALVE, MSIV LCS I-ABANDONED IN PLACE	E32	RB	12 J	740
1E32-F002E	VALVE, MSIV/LCS I/B-ABANDONED IN PLACE	E32	RB	12 J	740
1E32-F002J	VALVE, MSIV LCS I/B-ABANDONED IN PLACE	E32	RB	12 J	740
1E32-F002N	VALVE, MSIV LCS I/B-ABANDONED IN PLACE	E32	RB	12 J	740
1E32-F003A	VALVE, MSIV LCS I/B-ABANDONED IN PLACE	E32	TB	12 L	687
1E32-F003E	VALVE, MSIV LCS I/B-ABANDONED IN PLACE	E32	TB	12 L	687
1E32-F003J	VALVE, MSIV LCS I/B-ABANDONED IN PLACE	E32	TB	12 L	687
1E32-F003N	VALVE, MSIC LCS I/B-ABANDONED IN PLACE	E32	TB	12 L	687
1E32-F006	VALVE, MSIV LCS O/B -BLEEDABANDONED IN PLACE	E32	RB	12 J	740
1E32-F007	VALVE, MSIV LCS O/B BLEED-ABANDONED IN PLACE	E32	RB	12 J	740

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1E32-F008	VALVE, MSIV LCS O/B-ABANDONED IN PLACE	E32	RB	12 J	740
1E32-F009	VALVE, MSIV LCS O/B DEPRESSURIZATION-ABANDONED IN PLACE	E32	RB	12 J	740
1E32-N050	ABANDONED IN PLACE	E32			
1E51-C001	RCIC PUMP	E51	RB	14 A	673
1E51-C003	RCIC WATER LEG PUMP	E51	RB	14 C	694
1E51-D314	DAMPER, PULSATION	E51			
1E51-D315A	DAMPER, PULSATION	E51			
1E51-D315B	DAMPER, PULSATION	E51			
1E51-D319	RCIC TURBINE TRIP / THROTTLE VALVE LEAKOFF DRAIN STRAINER	E51			
1E51-F008	RCIC STEAM SUPPLY OTBD ISOL VALVE	E51	RB	13 C	740
1E51-F010	RCIC PUMP CYCLED CST SUCT VALVE	E51	RB	14 A	694
1E51-F013	RCIC INJECTION OTBD ISOL VALVE	E51	RB	13 G	740
1E51-F015	RCIC LUBE OIL COOLER INLET PRESS CONT VALVE	E51			
1E51-F017	RCIC PUMP SUCT RELIEF VALVE	E51			
1E51-F019	RCIC PUMP MIN FLOW ISOL VALVE	E51	RB	14 B	673
1E51-F022	RCIC FULL FLOW TEST UPSTRM VALVE	E51	RB	14 A	694
1E51-F025	RCIC STEAM SUPPLY DRAIN POT UPSTRM OUTLET VALVE	E51	RB	14 A	673
1E51-F026	RCIC STEAM SUPPLY DRAIN POT DWNST OUTLET VALVE	E51	RB	14 A	673
1E51-F031	RCIC PUMP SUP POOL SUCT ISOL VALVE	E51	RB	13 C	673
1E51-F045	RCIC TURBINE STEAM SUPPLY VALVE	E51	RB	14 B	673
1E51-F046	RCIC TURBINE LUBE OIL COOLER INLET VALVE	E51	RB	14 A	673
1E51-F059	RCIC FULL FLOW TEST DWNST VALVE	E51	RB	14 A	694
1E51-F063	RCIC STEAM SUPPLY INBD ISOL VALVE	E51			
1E51-F064	RCIC STEAM INLET RHR HX SUPPLY ISOL VALVE	E51	RB		740
1E51-F065	VALVE, AIR RI TESTABLE CHK VLV	E51			
1E51-F066	RCIC INJECTION INBD TESTABLE CHECK VALVE	E51	DW		
1E51-F068	RCIC TURBINE EXHAUST ISOL VALVE	E51	RB	13 B	694
1E51-F069	RCIC CNDSR VACUUM PUMP DSCH ISOL VALVE	E51	RB	13 B	694
1E51-F076	RCIC STEAM SUPPLY INBD ISOL BYPASS/WARMUP VALVE	E51			
1E51-F080	RCIC TURBINE EXHAUST VACUUM BKR DWNST ISOL VALVE	E51	RB	14 D	694
1E51-F086	RCIC TURBINE EXHAUST VACUUM BKR UPSTRM ISOL VALVE	E51			
1E51-F387	NEW RCIC VALVE	E51	RB	13 G	740

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1E51-N004	RCIC PUMP DSCH PRESS	E51	RB	14 C	673
1FI-HG022	HYDROGEN RECOMBINER INLET FLOW (FI-1)	HG			
1FI-HG023	HYDROGEN RECOMBINER TOTAL FLOW (FI-2)	HG			
1FT-HG022	A POST LOCA H2 RECOMB INLET FLOW TRANSMITTER	HG			
1FT-HG023	A POST LOCA H2 RECOMB TOTAL FLOW TRANSMITTER	HG			
1G33-F001	RWCU INBD ISOL VLV	G33	DW	11 F	740
1G33-F004	RWCU OTBD ISOL VALVE	G33	RB	13 D	774
1G33-F040	RWCU DSCH HDR STOP OTBD MSIV ROOM	G33	RB	12 J	740
1G33-F100	RWCU SUCT STOP FROM A RECIRC LINE	G33	DW	13 D	740
1H13-P601	ASSY - PANEL, EMERG CORE COOL SYST	H13	MCR	-	-
1H13-P602	ASSY - PANEL, RWCU/RX RECIRC CONTROL	H13	MCR	-	-
1H13-P604	ASSY_-_PANEL, PROCESS RAD MONITOR INSTR	H13	CR	14 J	768
1H13-P610	ASSY_-_PANEL, CONTROL ROD TEST INSTR	H13	CR	12.8L	768
1H13-P614	ASSY_-_PANEL, NSSS TEMP RECORDER	H13	CR	14 J	768
1H13-P624	ASSY_-_PANEL, AREA RAD COMMON MONITOR	H13	CR	15 J	768
1H22-P001	LPCS INSTRUMENT PANEL	H22	RB		673
1H22-P002	REACTOR WATER CLEAN UP INSTRUMENT PANEL	H22	RB		761
1H22-P004	REACTOR VESSEL LEVEL AND PRESSURE PANEL A	H22	RB		761
1H22-P005	REACTOR VESSEL LEVEL AND PRESSURE PANEL C	H22			
1H22-P006	A REACTOR RECIRC PUMP INSTRUMENT PANEL	H22	RB		710
1H22-P007	CRD & RX VESSEL TEMP RECORDR PNL	H22	CR		768
1H22-P009	JET PUMP INSTRUMENT PANEL B	H22	RB		710
1H22-P010	JET PUMP INSTRUMENT PANEL A	H22	RB	14 F	710
1H22-P015	MAIN STEAM FLOW INSTRUMENT PANEL A	H22	RB		710
1H22-P017	RCIC INSTRUMENT PANEL A	H22			
1H22-P018	A RHR INSTRUMENT PANEL	H22	RB		673
1H22-P021	B/C RHR INSTRUMENT PANEL	H22	RB		673
1H22-P022	B REACTOR RECIRC PUMP INSTRUMENT PANEL	H22			
1H22-P024	HPCS INSTRUMENT PANEL	H22	RB		673

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1H22-P025	MAIN STEAM FLOW INSTRUMENT PANEL D	H22	RB		710
1H22-P026	REACTOR VESSEL LEVEL AND PRESSURE PANEL D	H22			
1H22-P027	REACTOR VESSEL LEVEL AND PRESSURE PANEL B	H22			
1H22-P028	1B DG PROTECTION RELAY CABINET	H22			
1H22-P029	RCIC INSTRUMENT PANEL B	H22	RB		673
1H22-P030	ASSY_-_PANEL, SRM/IRM PREAMP ENCLOSURE A-1	H22	RB		740
1H22-P031	ASSY_-_PANEL, SRM/IRM PREAMP ENCLOSURE B-1	H22	RB		740
1H22-P032	ASSY_-_PANEL, SRM/IRM PREAMP ENCLOSURE A-2	H22	RB		740
1H22-P033	ASSY_-_PANEL, SRM/IRM PREAMP ENCLOSURE B-2	H22	RB		740
1H22-P073	ASSY - PANEL, MSIV LEAKAGE CONTROL DIV-1	H22			
1H22-P074	ASSY_-_PANEL, MSIV LEAKAGE CONTROL DIV-2	H22	RB		673
1H22-P075	LOW LOW SET/SAFETY RELIEF VALVE DIV I INSTRUMENT PANEL	H22			
1H22-P076	LOW LOW SET/SAFETY RELIEF VALVE DIV II INSTRUMENT PANEL	H22			
1HG001A	H2 RECOMB 1HG01A U-1 DW SUCT. VLV	HG	RB	11 C	786
1HG001B	H2 RECOMB 1HG01A U-1 DW SUCT VLV	HG	RB	14 E	786
1HG002A	H2 RECOMB 1HG01A U-1 DW SUCT VLV	HG	RB	11 C	786
1HG002B	H2 RECOMB 2HG01A U-1 DW SUCT VLV	HG	RB	14 E	786
1HG003	U-1 SUP POOL RTN ISOL	HG	RB	10 B	761
1HG005A	H2 RECOMB 1HG01A U-1 SUP POOL DIS VLV	HG	RB	11 B	710
1HG005B	H2 RECOMB 2HG01A U-1 SUP POOL DIS VLV	HG	RB	13 B	710
1HG006A	H2 RECOMB 1HG01A U-1 SUP POOL DIS VLV	HG	RB	11 B	710
1HG006B	H2 RECOMB 2HG01A U-1 SUP POOL DIS VLV	HG	RB	13 B	710
1HG009	U-2 SUP POOL RTN ISOL	HG	RB	10 B	761
1HG018	U-2 CLG WTR X-TIE ISOL	HG	RB	10 B	761
1HG01A	ASSY_-_BLOWER, H2 RECOMBINER	HG	RB	10 B	786
1HG025	ASSY - VALVE, GLOBE	HG			
1HG026	ASSY - VALVE, GLOBE	HG			
1HG027	ASSY - VALVE,	HG			
1HGFV1	U-1 H2 RECOMB INLT VLV	HG			
1HGFV2	U-1 H2 RECOMB RECIRC VLV	HG			
1HT02E	ASSY_-_PANEL, HEAT TRACE/HEATER	HT	AB	10 N	731

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1IN001A	DRYWELL INST N2 SUCTION HEADER UPSTRM ISOLATION SOV-DW SUCT UPSTRM ISOL	IN	RB	14 F	740
1IN001B	DRYWELL INST N2 SUCTION HEADER DWNST ISOLATION SOV-DW SUCT DWNST ISOL	IN	RB	14 F	740
1IN017	DW INST N2 REGULATED HDR DRYWELL SUPPLY-DW PNEUMATIC TO DW	IN	RB	14 F	740
1IN02HA	ADS N2 EMERG PRESSURIZATION BOTTLE STORAGE RACK	IN			
1IN02HB	NORTH ADS N2 EMERG PRESSIZATION BOTTLE STORAGE BANK STORAGE RACK	IN			
1IN031	DRYWELL INST N2 TIP INDEXER PURGE VLV	IN			
1IN045	A N2 MANIFOLD RELIEF VALVE	IN			
1IN046	B N2 MANIFOLD RELIEF VALVE	IN			
1IN074	DW INST N2 DRYER PURGE DOWNSTREAM OUTLET VALVE-DW PNEUMATIC DRYER DWNST PURGE OTLT	IN	RB	14 F	740
1IN075	DW INST N2 DRYER PURGE UPSTREAM OUTLET VALVE-DW PNEUMATIC DRYER UPSTRM PURGE OTLT	IN	RB	14 F	740
1IN100	A ADS ACCUM UNREGULATED N2 HEADER DW ISOL VALVE	IN			
1IN101	B ADS ACCUM UNREGULATED N2 HEADER DW ISOL VALVE	IN			
1PA05J	ASSY_-_TRANSDUCER/SENSOR POWER SUPPLY CABINET	PA	AB	14 L	731
1PA08JA	ASSY - PANEL, ANNUNCIATOR VISUAL LOGIC	PA			
1PA12J	HYDROGEN RECOMBINER CONTROL PANEL	PA			
1PA13J	DIV I NSSS AUX RELAY CABINET	PA	AB		731
1PA14J	DIV II NSSS AUX RELAY CABINET	PA	AB		731
1PA17J	STANDBY GAS TREATMENT PANEL	PA			
1PI-DG055A	1A DG LUBE OIL FILTER PRESS	DG			
1PI-DG055B	1A DG LUBE OIL FILTER PRESS	DG			
1PI-DG056	1A DG MAIN LUBE OIL PRESS	DG			
1PI-DG057A	1A DG FUEL OIL PRESS	DG			
1PI-DG057B	1A DG FUEL OIL PRESS	DG			
1PI-DG059	1A DG FUEL OIL PRESS	DG			
1PI-DG060A	1A DG FUEL OIL PRESS	DG			
1PI-DG060B	1A DG FUEL OIL PRESS	DG			
1PI-DG063	1A DG ENGINE COOLING WATER PRESS	DG			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1PI-DG086	1A DG SCAVENGING AIR PRESS	DG			
1PI-DG094	1A DG A AIR RECEIVER	DG	DG	J 7-8	710
1PI-DG095	1A DG B AIR RECEIVER	DG			
1PI-DG098A	1A DG A BANK STARTER AIR SUPPLY	DG			
1PI-DG098B	1A DG B BANK STARTER AIR SUPPLY	DG			
1PI-DG121	1A DG SOAK BACK LUBE OIL	DG			
1PI-DG122	1A DG CRANKCASE PRESS	DG			
1PL17J	STANDBY GAS TREATMENT CONTROL PANEL	PL	RB	12 B	820
1PL24J	ASSY - PANEL, DG ROOM VENT SYST DIV-3	PL			
1PL25J	ASSY - PANEL, DG ROOM VENT SYST DIV-2	PL			
1PL26J	ASSY - PANEL, AUX BLDG MISC VENT	PL	AB	09 L	815
1PL27JA	ASSY - PANEL, REACTOR BLDG VENTILATION DIV-1	PL			
1PL27JB	ASSY - PANEL, REACTOR BUILDING VENTILATION DIV-	PL			
1PL29J	ASSY - PANEL, SWGR HEAT RMVL DIV-1	PL			
1PL30J	ASSY - PANEL, SWGR HEAT RMVL DIV-2	PL			
1PL31J	ASSY - PANEL, M/G SET ROOM VENT	PL			
1PL32J	HPCS PUMP ROOM VENTILATION PANEL	PL			
1PL33J	B/C RHR PUMP ROOM VENTILATION PANEL	PL	DG	-	736
1PL34J	A RHR PUMP ROOM VENTILATION PANEL	PL	RB	13 H	694
1PL35J	LPCS PUMP ROOM VENTILATION PANEL	PL	RB	13 B	694
1PL38JB	ASSY - PANEL, CONDENSER TUBE CLEANING CONTROL	PL			
1PL69J	ASSY - PANEL, BATT ROOM VENT	PL			
1PL73J	ASSY - PANEL, RHR SERV WTR PP A/B ROOM VENT	PL			
1PL74J	ASSY - PANEL, RHR SERV WTR PP C/D ROOM VENT	PL			
1PL76J	ASSY - PANEL, A P/C HYDROGEN/OXYGEN MONITORING	PL			
1PL77J	ASSY_-_PANEL, B P/C HYDROGEN/OXYGEN MONITORING	PL	RB		761
1PL78J	ASSY_-_PANEL, SC/DW OXYGEN MONITORING PANEL	PL	RB	12 B	786
1PL86J	ASSY - PANEL, RX BLDG HEATING	PL			
1PL87J	TURBINE BLDG. HEATING	PL			
1PL99J	RX BUILDING VENTCONS AIR MONITOR	PL	AB	13 L	786
1PLA8J	A PRI CNMT CHILLER 1VP01CA MOTOR STARTER AND AUXILIARY PANEL	PL			
1PLA9J	B PRI CNMT CHILLER 1VP01CB MOTOR STARTER AND AUXILIARY PANEL	PL			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1PLB8J	ASSY - PANEL, CONDENSATE SYST	PL			
1PLD9J	ASSY_-_PANEL, RX BLDG CLOSED COOL WTR	PL	RB	09 B	786
1PLF3J	ASSY - PANEL, H2 RECOMBINER LOCAL	PL			
1PLF5J	ASSY_-_CABINET, S-POOL TEMP MONITORING POWER	PL	RB		761
1PLF6J	ASSY_-_CABINET, S-POOL TEMP MONITORING POWER	PL	RB		761
1PLG1J	ASSY - PANEL, CONT MONIT VLV AUX RELAY DIV-1	PL			
1PLG2J	ASSY - PANEL, CONT MONIT VLV AUX RELAY DIV-2	PL			
1PLH2J	DIV III 125VDC INST PANEL	PL			
1PLH6J	COND BSTR PUMP MIN FLOW CONTROL PANEL	PL			
1PLH8J	AUTOMATIC STRAINER BACKWASH CONTROL PANEL	PL			
1PLH9J	1HG01A STARTER CABINET	PL			
1PM01J	ASSY - PANEL, ELECT CONTROL	PM			
1PM03J	ASSY_-_PANEL, FEEDWATER/CONDENSATE	PM	CR	13 L	768
1PM05J	ASSY - PANEL, HVAC CONSOLE	PM			
1PM06J	ASSY - PANEL, HVAC CONSOLE	PM			
1PM07J	ASSY - PANEL, STANDBY GAS TREATMENT SYST	PM			
1PM13J	ASSY - PANEL, CONTAIN MONITOR/LEAK DETECTION	PM			
1PM16J	ASSY - PANEL, P/C MONITOR/LEAK DETECTION	PM			
1PT-HG023	A POST LOCA H2 RECOMB INLET PRESS TRANSMITTER	HG			
1RE024	DWEDS PUMP SUCT HDR UPSTRM VALVE	RE			
1RE025	DWEDS PUMP SUCT HDR DWNST VALVE	RE			
1RE026	DWEDS RECIRC DWNST VALVE	RE			
1RE029	DWEDS RECIRC UPSTRM VALVE	RE			
1RF012	DWFDS PUMP SUCT HDR UPSTRM VALVE	RF	RB	11 H	710
1RF013	DWFDS PUMP SUCT HDR DWNST VALVE	RF			
1SI-DG028	METER, FREQUENCY 1PM01J A DG	DG			
1SI-DG067	1A DG FREQUENCY METER	DG			
1TE-HG014A	HYDROGEN RECOMBINER GAS INLET (TE-1A)	HG			
1TE-HG014B	HYDROGEN RECOMBINER GAS INLET SPARE(TE1B	HG			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1TE-HG015A	HYDROGEN RECOMBINER BLWR INL GAS (TE-2A)	HG	RB	B 10	786
1TE-HG015B	SPARE TC BLWR INL GAS (TE-2B)	HG			
1TE-HG016A	HYDROGEN RECOMBINER HEATER GAS (TE-4A)	HG			
1TE-HG016B	SPARE TC HEATER GAS (TE-4B)	HG			
1TE-HG017A	HYDROGEN RECOMBINER HTR OUTLT GAS (TE-5A	HG			
1TE-HG017B	SPARE TC HTR GAS OUT (TE-5B)	HG			
1TE-HG018A	HYDROGEN RECOMBINER HEATER WALL (TE-6A)	HG			
1TE-HG018B	SPARE TC HEATER WALL (TE-6B)	HG			
1TE-HG019A	HYDROGEN RECOMBINER REAL CHMBR GAS(TE-7A	HG			
1TE-HG019B	SPARE TC REAC CHMBR GAS(TE-7B	HG			
1TE-HG020A	H2 RECOMB REACTION CHAMB SHELL (TE-8A)	HG			
1TE-HG020B	SPARE TC REACTION CHAMBER SHELL (TE-8B	HG			
1TE-HG021A	HYDROGEN RECOMBINER RETURN GAS(TE-9A)	HG			
1TE-HG021B	SPARE H2 HYDRO RECOMRETURN GAS(TE-9B)	HG			
1TE-VD003	E22S001 ROOM TEMP CONT SENSOR	VD			
1TE-VD005	E22S001 ROOM TEMP IND/ALM	VD			
1TE-VD008	1DG01K ROOM MOD DMPR TEMP CONT	VD			
1TE-VD013	1E22S001 ROOM MOD DMPR TEMP CONT	VD			
1TE-VD015	1B HPCS DG COOLING WTR PP ROOM VENT RTN TEMP ELEMENT	VD			
1TE-VX007	RESISTANCE TEMP DETECTOR	VX			
1TE-VX008	RESISTANCE TEMP DETECTOR	VX			
1TE-VX009	SWGR HEAT RMVL DIV-1 AREA RET AIR TEMP	VX			
1TE-VY023	RHR WS PP A/B T/CONT DMPR	VY			
1TE-VY024	RHR WS PP C/D T/CONT DMPR	VY			
1TI-DG054	1A DG MAIN LUBE OIL TEMP	DG			
1TI-DG058	1A DG FUEL OIL TEMP	DG			
1TI-DG061	DG ENGINE RAW COOLING WTR TEMP	DG			
1TI-DG062	1A DG ENGINE JACKET WATER TEMP	DG			
1TI-VX010	RX BLDG MG SET VENT SYST TEMP/IND	VX			
1TI-VX011	SWGR HEAT RMVL DIV-2 TEMP/IND	VX			
1TI-VX012	SWGR HEAT RMVL DIV-1 TEMP/IND	VX			
1VD01C	FAN, HPCS DG ROOM VENT	VD			
1VD01F	DIESEL GEN ROOM VENT SPLY	VD			
1VD01J	TIME DELAY PANEL	VD	AB		674
1VD01YA	DAMPER,	VD			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1VD01YB	DAMPER,	VD			
1VD02C	ASSY - FAN, HPCS DG FUEL STOR TANK ROOM VENT	VD			
1VD02F	DIESEL GEN ROOM VENT SPLY	VD			
1VD02J	TIME DELAY PANEL	VD	AB		674
1VD02YA	DAMPER	VD			
1VD02YB	DAMPER	VD			
1VD03C	FAN, DG ROOM VENT SUPPLY	VD			
1VD03YA	DAMPER,	VD			
1VD03YAB	DAMPER, DG ROOM VENT	VD			
1VD03YB	DAMPER,	VD			
1VD04C	FAN, DG FUEL STOR TANK ROOM VENT	VD			
1VD04Y	DAMPER, DG ROOM VENT	VD			
1VD05C	ASSY - DIV 3 SWGR ROOM/CSCS PUMP ROOM SUPPLY FAN 1VD05C	VD			
1VD05Y	DAMPER, DG ROOM VENT	VD			
1VD06C	FAN, HPCS SWGR BATT ROOM EXH	VD			
1VD06Y	DAMPER, DG ROOM VENT	VD			
1VD07C	FAN, HPCS DG COOL WTR PP ROOM RETURN	VD			
1VD07Y	DAMPER, DG ROOM VENT	VD			
1VD08Y	DAMPER, DG ROOM VENT	VD			
1VD09YA	DAMPER,	VD			
1VD09YB	DAMPER,	VD			
1VD10YA	DAMPER,	VD			
1VD10YB	DAMPER,	VD			
1VD11YA	DAMPER,	VD			
1VD11YAB	DAMPER, DG ROOM VENT MODUL OPPOSED	VD			
1VD11YB	DAMPER,	VD			
1VD12Y	DAMPER, DG ROOM VENT	VD			
1VD13Y	DAMPER, DG ROOM VENT	VD			
1VD14Y	DAMPER, DG ROOM VENT	VD			
1VD15Y	DAMPER, DG ROOM VENT	VD			
1VD16Y	1A DG FUEL STORAGE TANK ROOM FAN DISCHARGE DAMPER	VD			
1VD17Y	DAMPER, AMERICAN WARMING/VENTILATING	VD			
1VD18Y	DAMPER,	VD			
1VD19Y	DAMPER,	VD			
1VD20Y	DAMPER, DG ROOM VENT	VD			
1VD21Y	DAMPER, DG ROOM VENT ISOL FIRE	VD			
1VD22Y	DAMPER, DG ROOM VENT	VD			
1VD23Y	DAMPER, DG ROOM VENT	VD			
1VD24Y	DAMPER, DG ROOM VENT	VD			
1VD25Y	DAMPER, DG ROOM VENT	VD			
1VD26Y	DAMPER, DG ROOM VENT	VD			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1VD27Y	DAMPER, DG ROOM VENT	VD			
1VD29Y	DAMPER, DG ROOM VENT	VD			
1VD30Y	DAMPER, DG ROOM VENT	VD			
1VD31Y	DAMPER, DG ROOM VENT	VD			
1VD40Y	DAMPER, DG ROOM VENT	VD			
1VD41Y	DAMPER, DG ROOM VENT	VD			
1VD42Y	DAMPER, DG ROOM VENT	VD			
1VD43Y	DAMPER, DG ROOM VENT	VD			
1VD44Y	DAMPER, GD ROOM VENT	VD			
1VG001	SBGT SUCT FROM RX BLDG ATMOSPHERE	VG	RB	11:00 AM	820
1VG003	SBGT TRAIN OTLT DMPR	VG	RB	11:00 AM	820
1VP053A	A DW COOLER OUTLET OTBD ISOL VALVE	VP	RB	12 G	761
1VP053B	B DW COOLER OUTLET OTBD ISOL VALVE	VP	RB	12 G	761
1VP063A	A DW COOLER INLET OTBD ISOL VALVE	VP	RB	12 G	761
1VP063B	B DW COOLER INLET OTBD ISOL VALVE	VP	RB	12 G	761
1VP113A	A DW COOLER INLET INBD ISOL VALVE	VP	DW	11 D	761
1VP113B	B PCCW LOOP SPLY TO DW COOLER INBD ISOL	VP	DW	11 D	761
1VP114A	A PCCW LOOP RTN FROM DW COOLER INBD ISOL	VP	DW	11 D	761
1VP114B	B PCCW LOOP RTN FROM DW COOLER INBD ISOL	VP	DW	11 D	761
1VP197A	A DW COOLER OUTLET RELIEF VALVE	VP			
1VP197B	B DW COOLER OUTLET RELIEF VALVE	VP			
1VP198A	A DW COOLER INLET RELIEF VALVE	VP			
1VP198B	B DW COOLER INLET RELIEF VALVE	VP			
1VQ026	SUP POOL VENT/PURGE FROM RXBLDG UPSTRM ISOL	VQ	RB	11 H	710
1VQ027	SUP POOL VENT/PURGE FROM RXBLDG DWNST ISOL	VQ	RB	11 H	710
1VQ029	DW VENT/PURGE FROM RX BLDG UPSTRM ISOL	VQ	RB	11 H	740
1VQ030	DW VENT/PURGE INLET DWNST ISOL VALVE	VQ	RB	11 H	740
1VQ031	SUP POOL VENT/PURGE OTLT UPSTRM ISOL	VQ	RB	14 E	710
1VQ032	SUP POOL VENT/PURGE OTLT UPSTRM ISOL BYP-20 FT.OVHD	VQ	RB	14 E	710
1VQ034	DW VENT/PURGE OTLT UPSTRM ISOL	VQ	RB	13 G	807
1VQ035	DW VENT/PURGE OTLT UPSTRM ISOL BYP	VQ	RB	13 G	807
1VQ036	DW VENT/PURGE OTLT DWNST ISOL	VQ	RB	13 G	807
1VQ037	PRI CNMT VENT/PURGE TO FILT UNIT UPSTRM ISOL	VQ	AB	13 J	786

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1VQ038	VALVE, SECONDARY CONTAINMENT ISOLATION	VQ			
1VQ040	SUP CHBR VENT/PURGE OUTLET DWNST ISOL VALVE	VQ	RB	14 E	710
1VQ041	VALVE, BUTTERFLY	VQ			
1VQ042	SUP POOL N-2 INRTG LINE ISOL	VQ	RB	11 H	710
1VQ043	SUP POOL N-2 INRTG LINE ISOL	VQ	RB	11 H	710
1VQ047	DW N-2 MU LINE DWNST ISOL	VQ	RB	11 H	740
1VQ048	DW N-2 MU LINE UPSTRM ISOL	VQ	RB	11 H	740
1VQ050	SUP POOL N-2 MU LINE DWNST ISOL	VQ	RB	11 H	710
1VQ051	SUP POOL N-2 MU LINE UPSTRM ISOL	VQ	RB	11 H	710
1VQ068	DW VENT/PURGE OTLT DWNST ISOL BYP	VQ	RB	13 G	807
1VR04YA	DAMPER, VR ISOLATION	VR			
1VR04YB	DAMPER, VR ISOLATION	VR			
1VR05YA	DAMPER, VR ISOLATION	VR			
1VR05YB	DAMPER, VR ISOLATION	VR			
1VR08Y	DAMPER, 30 INCH CHECK	VR			
1VR09Y	DAMPER, 30 INCH CHECK	VR			
1VR10Y	DAMPER, 54 INCH CHECK	VR			
1VR11Y	DAMPER, 42 INCH CHECK	VR			
1VR12Y	DAMPER, 42 INCH CHECK	VR			
1VR13Y	DAMPER, 42 INCH CHECK	VR			
1VR14Y	DAMPER, 42 INCH CHECK	VR			
1VR65YA	DAMPER, RB VENT BALANCING OPPOSED	VR			
1VR65YB	DAMPER, RB VENT BALANCING OPPOSED	VR			
1VR66Y	DAMPER, RB VENT BALANCING OPPOSED	VR			
1VR90Y	DAMPER, HELB IN MAIN STEAM TUNNEL U1 VR EXHAUST PLENUM	VR			
1VR91Y	RB VENT SYS EXCESS FLOW CHECK DAMPER	VR			
1VX01C	FAN, ESS SWGR DIV-1 VENT SUPPLY	VX			
1VX01F	FILT ESS SWITCHGEAR DIV 1 VENT SPLY AIR	VX			
1VX01Y	DAMPER, SWGR HEAT RMVL	VX			
1VX02C	FAN, ESS SWGR DIV-1 BATT ROOM EXH	VX			
1VX02F	FILT ESS SWITCHGEAR DIV 2 VENT SPLY AIR	VX			
1VX02Y	DAMPER,	VX			
1VX03C	FAN, ESS SWGR DIV-1 BATT ROOM EXH	VX			
1VX03F	FILT RX PROT MG SET RM 1 SPLY AIR	VX			
1VX03Y	DAMPER, SWGR HEAT RMVL MODUL OPPOSED	VX			
1VX04C	FAN, ESS SWGR DIV-2 VENT SUPPLY	VX	AB	10 L	731

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1VX04Y	DAMPER, SWGR HEAT RMVL	VX			
1VX05C	FAN, ESS SWGR DIV-2 BATT ROOM EXH	VX	AB	10 L	731
1VX05Y	DAMPER, SWGR HEAT RMVL	VX			
1VX06C	FAN, RX PROT MG SET ROOM 1 BATT ROOM EXH	VX			
1VX06Y	DAMPER, SWGR HEAT RMVL ISOL FIRE	VX			
1VX07C	FAN, RX PROT MG SET ROOM 1 VENT SUPPLY	VX			
1VX07Y	DAMPER,	VX			
1VX08C	FAN, RX PROT MG SET ROOM 1 BATT ROOM EXH	VX			
1VX08Y	DAMPER,	VX			
1VX09Y	DAMPER, SWGR HEAT RMVL	VX			
1VX10Y	DAMPER, SWGR HEAT RMVL	VX			
1VX11Y	DAMPER, SWGR HEAT RMVL	VX			
1VX12Y	DAMPER, SWGR HEAT RMVL	VX			
1VX14Y	DAMPER,	VX			
1VX15Y	DAMPER, SWGR HEAT RMVL	VX			
1VX16Y	DAMPER, SWGR HEAT RMVL	VX			
1VX17Y	DAMPER, SWGR HEAT RMVL	VX			
1VX19YA	DAMPER, DIV-1 HEAT RMVL ACTUATOR	VX			
1VX22Y	DAMPER, SWGR HEAT RMVL	VX			
1VX26Y	DAMPER, DIV-1 SWGR COOL	VX			
1VX30Y	DAMPER, SWGR HEAT RMVL	VX			
1VX31Y	DAMPER, SWGR HEAT RMVL	VX			
1VX32Y	DAMPER, SWGR HEAT RMVL	VX			
1VX33Y	DAMPER, SWGR HEAT RMVL	VX			
1VX34Y	DAMPER, SWGR HEAT RMVL	VX			
1VX35Y	DAMPER, SWGR HEAT RMVL	VX			
1VX36Y	DAMPER, SWGR HEAT RMVL	VX			
1VX37Y	DAMPER, SWGR HEAT RMVL	VX			
1VX38Y	DAMPER, SWGR HEAT RMVL	VX			
1VX39Y	DAMPER, SWGR HEAT RMVL	VX			
1VX41Y	DAMPER, SWGR HEAT RMVL	VX			
1VX42Y	DAMPER, SWGR HEAT RMVL	VX			
1VX43Y	DAMPER, SWGR HEAT RMVL ISOL FIRE	VX			
1VX44Y	DAMPER, SWGR HEAT RMVL	VX			
1VX45Y	DAMPER, SWGR HEAT RMVL	VX			
1VX46Y	DAMPER, SWGR HEAT RMVL	VX			
1VX50Y	DAMPER, SWGR HEAT RMVL	VX			
1VX51Y	DAMPER, SWGR HEAT RMVL	VX			
1VX52Y	DAMPER, SWGR HEAT RMVL	VX			
1VX53Y	DAMPER, SWGR HEAT RMVL	VX			
1VX54Y	DAMPER, SWGR HEAT RMVL	VX			
1VX55Y	DAMPER, SWGR HEAT RMVL	VX			
1VX56Y	DAMPER, SWGR HEAT RMVL	VX			
1VX57Y	DAMPER, SWGR HEAT RMVL	VX			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
1VX58Y	DAMPER, SWGR HEAT RMVL	VX			
1VX59Y	DAMPER, SWGR HEAT RMVL	VX			
1VX60Y	DAMPER, SWGR HEAT RMVL	VX			
1VY01A	A RHR PUMP ROOM COOLER	VY			
1VY01C	ASSY_-_FAN, RHR PUMP A ROOM COOLING	VY	RB	15 E	694
1VY01Y	DAMPER,	VY			
1VY02A	HPCS PUMP ROOM COOLER	VY			
1VY02C	HPCS PUMP ROOM COOLER VENT FAN	VY	RB	8.9 E	694
1VY02Y	DAMPER,	VY			
1VY03A	B / C RHR PUMP ROOM COOLER	VY			
1VY03C	ASSY_-_FAN, RHR PUMP B/C ROOM COOLING FAN	VY	RB	09 D	694
1VY03Y	DIV I CSCS PUMP ROOM VENT EXHAUST DAMPER	VY			
1VY04A	LPCS PUMP ROOM COOLER	VY			
1VY04C	ASSY_-_FAN, LPCS PUMP ROOM COOLING	VY	RB	15 D	694
1VY04Y	DAMPER,	VY			
1VY05C	ASSY - FAN, RHR WS PP A-1B CUBE SUPPLY	VY	DG	7 H	736
1VY05Y	DAMPER,	VY			
1VY06C	ASSY - FAN, RHR WS PP A-1B CUBE SUPPLY	VY	DG	7 H	736
1VY06Y	DAMPER,	VY			
1WR029	DW EQUIP RBCCW SUPPLY OTBD ISOL VALVE	WR	RB	13 B	740
1WR040	DW EQUIP RBCCW RTN OTBD ISOL VALVE	WR	RB	11 C	786
1WR179	RBCCW DW INLET INBD ISOL STOP	WR	DW	12 B	740
1WR180	RBCCW DW OUTELT INBD ISOL STOP	WR	DW	C	786
1WR225	DW EQUIP RBCCW SUPPLY RELIEF VALVE	WR			
1WR226	DW EQUIP RBCCW RETURN RELIEF VALVE	WR			

Table B-1b. Base List 1b - Items Common to Units 1 and 2

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0AE-VC090A	CONT ROOM A/C A CHLOR MON A	VC			
0AE-VC090B	CONT ROOM A/C A CHLOR MON A	VC			
0AP08E	RSH AUX PWR XFMR	AP			
0C11-F002A	VALVE, AO	C11			
0DC04E	BATTERY CHARGER 250 VDC SPARE	DC			
0DC17E	BATTERY CHARGER 125 VDC SPARE	DC			
0DC23E	BATTERY CHARGER 125 VDC SPARE	DC			
0DC36E	BATTERY CHARGER 24/48 VDC	DC			
0DG009	0 DG COOLING WATER STRAINER BACKWASH VALVE	DG			
0DG014	0 DG COOLER INLET HEADER RELIEF VALVE	DG			
0DG01A	0 DG COOLER	DG			
0DG01D	SILENCER, DG ENGINE	DG			
0DG01F	0 DG COOLING WATER STRAINER	DG			
0DG01K	0 DIESEL GENERATOR	DG			
0DG01K-1	FILTER, AIR INTAKE	DG			
0DG01K-A	PUMP, AC TURBO SOAKBACK	DG			
0DG01K-B	PUMP, DC TURBO SOAKBACK	DG			
0DG01K-C	PUMP, AC LUBE OIL CIRC	DG			
0DG01K-D	PUMP, SCAVENGING OIL	DG			
0DG01K-DG01K-EXC	0 DG EXCITER	DG			
0DG01K-E	FILTER, TURBOCHARGER OIL	DG			
0DG01K-F	FILTER, FUEL ASSEMBLY	DG			
0DG01K-G	PUMP, RIGHT BANK WTR	DG			
0DG01K-H	PUMP, LEFT BANK WTR	DG			
0DG01K-I	PUMP, MAIN LUBE OIL	DG			
0DG01K-J	PUMP, PISTON COOL	DG			
0DG01K-K	PUMP, ENGINE DRIVEN FUEL	DG			
0DG01K-L	PUMP, ELECT MTR DRIVEN FUEL	DG			
0DG01K-M	TRAP, TYPE EXH SCREEN	DG			
0DG01K-N	HEAT EXCHANGER, DG COOLING WTR	DG			
0DG01P	0 DG COOLING WATER PUMP	DG	AB	09 G	674
0DG01S	0 DG STARTING AIR COMPRESSOR PACKAGE	DG			
0DG01SA	ASSY - TANK, DG AIR VESSEL	DG			
0DG01SB	ASSY - TANK, DG AIR VESSEL	DG			
0DG029A	0 DG A STARTING AIR RECEIVER RELIEF VALVE	DG			
0DG029B	0 DG B STARTING AIR RECEIVER RELIEF VALVE	DG			
0DG02F	FILTER/SILENCER, DG AIR INTAKE	DG			
0DG02JA	0 DG A GENERATOR CONTROL PANEL	DG			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0DG02JB	0 DG B GENERATOR CONTROL PANEL	DG			
0DG035A	ASSY - VALVE, 0 D/G BANK A STARTER AIR SUPPLY	DG			
0DG035B	ASSY - VALVE, 0 D/G BANK B STARTER AIR SUPPLY	DG			
0DG036A	0 DG A/C STARTING AIR MOTORS PINION SUPPLY SOLENOID VALVE	DG			
0DG036B	0 DG B/D STARTING AIR MOTORS PINION SUPPLY SOLENOID VALVE	DG			
0DG03J	0 DG ENGINE CONTROL PANEL	DG			
0DG049	RELIEF CHECK VALVE	DG			
0DG04J	PANEL, DG TRANSFORMER	DG			
0DG050	0 DG LUBE OIL SOAK BACK PUMPS DSCH RELIEF CHECK VALVE	DG			
0DG08M	SS MESH .255AX 080 TYPE304, 30IN 30OUT	DG			
0DG08TA	0 DG A STARTING AIR RECEIVER	DG			
0DG08TB	0 DG B STARTING AIR RECEIVER	DG			
0DG09K	FILTER, TSC DIESEL GENERATOR ENGINE OIL	DG			
0DG10TA	0 DG A AUXILIARY AIR ACCUMULATOR	DG			
0DG10TB	0 DG B AUXILIARY AIR ACCUMULATOR	DG			
0DG12MA	0 DG A STARTING AIR STRAINER	DG			
0DG12MB	0 DG B STARTING AIR STRAINER	DG			
0DG20MA	ASSY - TANK, DG AIR VESSEL	DG			
0DG20MB	ASSY - TANK, DG AIR VESSEL	DG			
0DG23MA	FILTER, AIR	DG			
0DG23MB	FILTER, AIR	DG			
0DG25M	0 DG LUBE OIL SOAK BACK PUMPS DSCH STRAINER	DG			
0DG26M	0 DG LUBE OIL CIRC PUMP DSCH STRAINER	DG			
0DGT4	TRANSFORMER, 0DG02J PHASE SHIFTING	DG			
0DO001P	ASSY - PUMP, DG FUEL XFER	DO			
0DO001T	ASSY - TANK, O DG FUEL STORAGE	DO			
0DO004	0 DG FUEL OIL XFR PMP MU VLV	DO			
0DO01P	0 DG FUEL TRANSFER PUMP	DO			
0DO01T	0 DG FUEL STORAGE TANK	DO			
0DO02T	0 DG DAY TANK	DO			
0DO03P	PUMP, FP FUEL OIL XFER	DO			
0DO04M	0 DG FUEL TRANSFER PUMP SUCT STRNR	DO			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0DO10M	0 DG FUEL STORAGE TANK FILL STRNR	DO			
0FI-VE027	AEER M/U SUPPLY AIR SY A	VE			
0FI-VE067	AEER EMERG M/U SUPPLY AIR SYST B	VE			
0PA09J	ASSY - PANEL, AUX EQUIP ROOM A/C SYST A	PA			
0PA10J	ASSY - PANEL, AUX EQUIP ROOM A/C SYST B	PA			
0PDS-VC137HM	INSTRUMENT PULSATION DAMPENER	VC			
0PDS-VC137LM	INSTRUMENT PULSATION DAMPENER	VC			
0PDS-VC177HM	INSTRUMENT PULSATION DAMPENER	VC			
0PDS-VC177LM	INSTRUMENT PULSATION DAMPENER	VC			
0PDS-VE106HM	INSTRUMENT PULSATION DAMPENER	VE			
0PDS-VE106LM	INSTRUMENT PULSATION DAMPENER	VE			
0PDS-VE146HM	INSTRUMENT PULSATION DAMPENER	VE			
0PDS-VE146LM	INSTRUMENT PULSATION DAMPENER	VE			
0PI-DG055A	0 DG LUBE OIL FILTER PRESS	DG			
0PI-DG055B	0 DG LUBE OIL FILTER PRESS	DG			
0PI-DG056	0 DG MAIN LUBE OIL PRESS	DG			
0PI-DG057A	0 DG FUEL OIL PRESS	DG			
0PI-DG057B	0 DG FUEL OIL PRESS	DG			
0PI-DG059	0 DG FUEL OIL PRESS	DG			
0PI-DG060A	0 DG FUEL OIL PRESS	DG			
0PI-DG060B	0 DG FUEL OIL PRESS	DG			
0PI-DG063	0 DG ENGINE COOLING WATER PRESS	DG			
0PI-DG080	FUEL D/P	DG			
0PI-DG081	FUEL D/P	DG			
0PI-DG082	FUEL PRESS ENG PP	DG			
0PI-DG083	OIL D/P	DG			
0PI-DG084	OIL D/P	DG			
0PI-DG085	DG MAIN OIL PRESS	DG			
0PI-DG086	0 DG SCAVENGING AIR PRESS	DG			
0PI-DG087	JACKET WTR PRESS	DG			
0PI-DG094	0 DG A AIR RECEIVER	DG			
0PI-DG095	0 DG B AIR RECEIVER	DG			
0PI-DG098A	0 DG A BANK STARTER AIR SUPPLY	DG			
0PI-DG098B	0 DG B BANK STARTER AIR SUPPLY	DG			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0PI-DG121	0 DG SOAK BACK LUBE OIL	DG			
0PI-DG122	0 DG CRANKCASE PRESS	DG			
0PI-DG60A	DG 0 FUEL OIL PRESS	DG			
0PI-DG60B	DG 0 FUEL OIL PRESS	DG			
0PI-DG63	DG ENGINE COOLING WTR PRESS	DG			
0PI-VC133	VC COMPRESSOR A LO SUCTION PRESS	VC			
0PI-VC134	VC COMPRESSOR A LO OIL PRESS	VC			
0PI-VC135	VC COMPRESSOR A HI DISCH PRESS	VC			
0PI-VC173	VC COMPRESSOR B LO SUCTION PRESS	VC			
0PI-VC174	VC COMPRESSOR B LO OIL PRESS	VC			
0PI-VC175	VC COMPRESSOR B HI DISCH PRESS	VC			
0PI-VE102	COMPRESSOR, 0VE04CA LOW SUCTION PRESSURE	VE			
0PI-VE103	COMPRESSOR, 0VE04CA LOW OIL PRESSURE	VE			
0PI-VE104	COMPRESSOR, 0VE04CA HI DISCH PRESSURE	VE			
0PI-VE142	B AEER HVAC REFRIGERATION UNIT LOW SUCT PRESS INDICATOR	VE			
0PI-VE143	B AEER HVAC REFRIGERATION UNIT LOW OIL PRESS INDICATOR	VE			
0PI-VE144	B AEER HVAC REFRIGERATION UNIT HIGH DSCH PRESS INDICATOR	VE			
0PL100J	ASSY - PANEL, 480V. POWER PANEL AT INTAKE STRUCTURE	PL			
0PL14J	ASSY - PANEL, AUX BLDG/LAB HVAC	PL			
0PL14JA	CONTROL PANEL	PL	AB	17 N	815
0PL14JB	CONTROL PANEL	PL	AB	17 N	815
0PL15J	ASSY - PANEL, CR HVAC SYST A	PL			
0PL16J	ASSY - PANEL, CR HVAC SYST B	PL			
0PL17J	ASSY - PANEL, DG VENT FAN	PL			
0PL42J	ASSY - PANEL, AEER HVAC SYST A	PL			
0PL43J	ASSY - PANEL, AEER HVAC SYST B	PL			
0PLB2J	MONITOR, AIR, R/W VENT CONSTANT	PL	TB		710
0PLB5J	ASSY_-_PANEL, RBCCW SYST	PL	RB	9:00 AM	786
0PLB9JA	ASSY - PNL, VC/VE/VG FLTR TRAIN A POWER SUPPLY	PL			
0PLB9JB	ASSY - PANEL, VC/VE/VG FLTR TRAIN B POWER SUPPL	PL			
0PLC9J	ASSY_-_PANEL, HRSS VLV CONTROL	PL	AB	17 L	694

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0PLD1J	ASSY - PANEL, SBGT VENT SAMPLE CONDITIONER	PL			
0PLD2J	ASSY - PANEL, SBGT WIDE RANGE GAS MONITOR	PL			
0PLD3J	ASSY - PANEL, SBGT VENT GAS MONTITOR MICROPRO	PL			
0PLE6J	ASSY - PANEL, STACK WRGM SYST LOCAL CONTROL	PL			
0PLE7J	ASSY - PANEL	PL			
0PLF3J	GENERAL ENGINEERING CORP.	PL			
0PLF4J	GENERAL ENGINEERING CORP.	PL			
0PLF5J	GENERAL ENGINEERING CORP.	PL			
0PLF6J	GENERAL ENGINEERING CORP.	PL			
0PLF9J	SH LOOP GLYCOL PUMP CONTROL PANEL	PL			
0PLHP-1	PANEL, IRSF HTR CONT	PL			
0PM11J	ASSY_-_PANEL, SWITCHYARD CONTROL CONSOLE	PM	AB	15 L	768
0PM14J	ASSY_-_PANEL, RAD MONITORING	PM	AB		768
0PM15J	ASSY_-_PANEL, RAD MONITORING	PM	AB		768
0PS-VC136M	INSTRUMENT PULSATION DAMPENER	VC			
0PS-VC138M	INSTRUMENT PULSATION DAMPENER	VC			
0PS-VC139M	INSTRUMENT PULSATION DAMPENER	VC			
0PS-VC176M	INSTRUMENT PULSATION DAMPENER	VC			
0PS-VC178M	INSTRUMENT PULSATION DAMPENER	VC			
0PS-VC179M	INSTRUMENT PULSATION DAMPENER	VC			
0PS-VE105M	INSTRUMENT PULSATION DAMPENER	VE			
0PS-VE107M	INSTRUMENT PULSATION DAMPENER	VE			
0PS-VE108M	INSTRUMENT PULSATION DAMPENER	VE			
0PS-VE145M	INSTRUMENT PULSATION DAMPENER	VE			
0PS-VE147M	INSTRUMENT PULSATION DAMPENER	VE			
0PS-VE148M	INSTRUMENT PULSATION DAMPENER	VE			
0RG015A	REFRIGERANT LIQUID LINE SOLENOID VALVE FOR 0VC02AA	RG			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0RG015B	REFRIGERANT LIQUID LINE SOLENOID VALVE FOR 0VC02AA	RG			
0RG016A	VALVE,	RG			
0RG016B	VALVE,	RG			
0RG034A	VALVE,REFRIGERANT LIQUID LINE SOLENOID VALVE FOR B VC	RG			
0RG034B	VALVE,REFRIGERANT LIQUID LINE SOLENOID VALVE FOR B VC	RG			
0RG053A	REFRIGERANT LIQUID LINE SOLENOID VALVE FOR 0VE01AA	RG			
0RG053B	REFRIGERANT LIQUID LINE SOLENOID VALVE FOR 0VE01AA	RG			
0RG072A	VALVE, REFRIGERANT LIQUID LINE SOLENOID VALVE FOR B VE	RG			
0RG072B	VALVE, REFRIGERANT LIQUID LINE SOLENOID VALVE FOR B VE	RG			
0RG183	VALVE,	RG			
0RG195A	'A' VE REFRIGERANT SUPPLY TO OIL COOLER SOLENOID VALVE	RG			
0RG195B	'B' VE REFRIGERANT SUPPLY TO OIL COOLER SOLENOID VALVE	RG			
0RG199A	'A' VC REFRIGERANT SUPPLY TO OIL COOLER SOLENOID ISOLATION VALVE	RG			
0RG199B	'B' VC REFRIGERANT SUPPLY TO OIL COOLER SOLENOID ISOLATION VALVE	RG			
0SI-DG028A	DG 0 FREQUENCY METER	DG			
0SI-DG028B	DG 0 FREQUENCY METER	DG			
0SI-DG067	0 DG FREQUENCY METER	DG			
0TE-VC002	CONT RM HVAC ZONE MIX DMPR 16YA TEMP	VC			
0TE-VC003	CONT RM HVAC ZONE MIX DMPR 19YA TEMP	VC			
0TE-VC004	CONT RM HVAC ZONE MIX DMPR 22YA TEMP	VC			
0TE-VC005	CONT RM HVAC ZONE MIX DMPR 25YA TEMP	VC			
0TE-VC006	CONT RM HVAC ZONE MIX DMPR 28YA TEMP	VC			
0TE-VC042	CONT RM HVAC ZONE MIX DMPR 16YB REHTR CONT	VC			
0TE-VC043	CONT RM HVAC ZONE MIX DMPR 19YB TEMP	VC			
0TE-VC044	CONT RM HVAC ZONE MIX DMPR 22YB TEMP ELEMENT	VC			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0TE-VC045	CONT RM HVAC ZONE MIX DMPR 25YB TEMP ELEMENT	VC			
0TE-VC046	CONT RM HVAC ZONE MIX DMPR 28YB TEMP ELEMENT	VC			
0TE-VC105	TRAIN 0VC015A INLET TEMP	VC			
0TE-VC106	TRAIN 0VC01SA OUT TEMP	VC			
0TE-VC145	TRAIN 0VC01SB INLET TEMP	VC			
0TE-VC146	TRAIN 0VC01SB OUTLET TEMP	VC			
0TE-VD003	0DG01K ROOM TEMP CONT MOD MTR	VD			
0TE-VE002	AEER A/C MIX DMPR REHTR CONT	VE			
0TE-VE003	AUX EQUIP RM MIX DAMPER REHEAT CONTROL TEMP ELEMENT (UNIT 1)	VE			
0TE-VE004	AUX EQUIP RM MIX DAMPER REHEAT CONTROL TEMP ELEMENT (UNIT 1)	VE			
0TE-VE033	AEER A/C MIX DMPR REHTR CONT TEMP	VE			
0TE-VE042	AEER A/C RT DET DMPR	VE			
0TE-VE043	AUX EQUIP RM A/C SYS MIX DAMPER REHEAT CONTROL TEMP ELEMENT	VE			
0TE-VE044	B AUX ELEC EQUIP RM MIX DMPR REHEAT CONTROL TEMP ELEMENT	VE			
0TE-VE917	COMPUTER RM TEMP SENSOR	VE			
0TE-VE918	COMPUTER RM TEMP SENSOR	VE			
0TI-DG005A	DG 0DG01K ROOM AREA AIR TEMP	DG			
0TI-DG054	0 DG MAIN LUBE OIL TEMP	DG			
0TI-DG058	0 DG FUEL OIL TEMP	DG			
0TI-DG061	DG ENGINE RAW COOLING WTR TEMP	DG			
0TI-DG062	0 DG ENGINE JACKET WATER TEMP	DG			
0TI-DG064A	0 DG ENGINE COOLING WATER OUTLET TEMP	DG			
0TI-DG092	DG CYLINDER WALL TEMP	DG			
0TI-DG100	DG 0DG01K COOLING WTR TEMP	DG			
0TI-DG101	DG 0DG01K JACKET WTR TEMP IN	DG			
0TI-DG61	DG ENGINE RAW COOLING WTR TEMP	DG			
0TI-DG64A	DG ENGINE COOLING WTR OUT TEMP	DG			
0TI-DG64B	DG ENGINE COOLING WTR IN TEMP	DG			
0TI-DG64C	DG ENGINE COOLING WTR TO OIL COOLR	DG			
0TI-VC103	HEATER IN TEMP TRAIN 0VC01SA	VC			
0TI-VC104	HEATER OUT TEMP TRAIN 0VC01SA	VC			
0TI-VC105	FLTR TRAIN A IN TEMP	VC			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0TI-VC106	FLTR TRAIN A OUT TEMP	VC			
0TI-VC143	HEATER IN TEMP TRAIN 0VC01SB	VC			
0TI-VC144	HEATER OUT TEMP TRAIN 0VC01SB	VC			
0TI-VC145	FLTR TRAIN 0VC01SB IN TEMP	VC			
0TI-VC146	FLTR TRAIN 0VC01SR OUT TEMP	VC			
0TI-VE002	AEER A/C SY MIX DMPR REHTR	VE			
0TI-VE003	AEER A/C SY MIX DMPR REHTR	VE			
0TI-VE004	AEER A/C SY MIX DMPR REHTR	VE			
0TI-VE042	AEER A/C MIX DMPR REHTR CONT	VE			
0TI-VE043	AEER A/C ZONE MIX DMPR REHTR CON	VE			
0TI-VE044	AEER A/C ZONE MIX DMPR REHTR CON	VE			
0TI-VE081	AEER A/C SYST MIX AIR TEMP/IND	VE			
0TI-VE082	AEER A/C SYST MIX AIR TEMP/IND	VE			
0VC005CA	ASSY - POWER PNL	VC			
0VC01CA	ASSY - FAN, CR HVAC SUPPLY 0A	VC	AB	13 N	786
0VC01CB	ASSY - FAN, CR HVAC SUPPLY 0B	VC			
0VC01FA	FILTER, UNIT CR HVAC SUPPLY AIR	VC			
0VC01FB	FILT UNIT CONT ROOM HVAC SPLY AIR	VC	AB	16 N	786
0VC01SA	FILT UNIT CONT RM HVAC EMER MU AIR	VC			
0VC01SB	FILT UNIT CONT RM HVAC EMER MU AIR	VC			
0VC01YA	DAMPER, CR A/C SYST A TORNADO DMPR	VC			
0VC01YB	DAMPER, CR A/C SYST B TORNADO DMPR	VC			
0VC02CA	ASSY - FAN, CR HVAC RETURN 0A	VC			
0VC02CB	ASSY - FAN, CR HVAC RETURN 0B	VC			
0VC02SA	GENERATOR, STEAM CR HVAC ELECTRIC	VC			
0VC02SB	GENERATOR, STEAM CR HVAC ELECTRIC	VC			
0VC02YA	A EMER MU TRAIN INLT	VC			
0VC02YB	B EMER MU TRAIN INLT	VC			
0VC033A	SOLENOID VALVE	VC			
0VC033B	SOLENOID VALVE	VC			
0VC03CA	ASSY - FAN, CR HVAC EMERG M/U AIR 0A	VC	AB	R 18	802
0VC03CB	ASSY - FAN, CR HVAC EMERG M/U AIR 0B	VC			
0VC03YA	A EMER MU TRAIN OTLT	VC			
0VC03YB	B EMER MU TRAIN OTLT	VC			
0VC04CA	ASSY - FAN, CR HVAC AIR COOLED CONDENSER 0A	VC			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0VC04CB	ASSY - FAN, CR HVAC AIR COOLED CONDENSER 0B	VC			
0VC04YA	A CONTROL ROOM HVAC BALANCING DAMPER	VC			
0VC04YB	B CONTROL ROOM HVAC BALANCING DAMPER	VC			
0VC05CA	PANEL, INSTR CONTROL HVAC REFRIGERATION	VC			
0VC05CB	PANEL, INSTR CONTROL HVAC REFRIGERATION	VC			
0VC05TA	RECEIVER R-22 LIQUID	VC	AB	13 N	786
0VC05TB	RECIEVER R-22 LIQUID	VC	AB	16 N	786
0VC05YA	DAMPER, MINIMUM OUTSIDE AIR UPSTREAM	VC			
0VC05YB	B VC/VE MINIMUM OUTSIDE AIR UPSTREAM ISOLATION DAMPER	VC			
0VC06A	A' VC OIL COOLER	VC			
0VC06B	B' VC OIL COOLER	VC			
0VC06C	CONTROL ROOM TOILET EXHAUST FAN	VC			
0VC06YA	A CONTROL ROOM HVAC OUTSIDE AIR BALANCING DAMPER	VC			
0VC06YB	B CONTROL ROOM HVAC OUTSIDE AIR BALANCING DAMPER	VC			
0VC07YA	A CONTROL ROOM HVAC AEER BALANCING DAMPER	VC			
0VC07YB	B CONTROL ROOM HVAC AEER BALANCING DAMPER	VC			
0VC08YA	A CONTROL ROOM HVAC PURGE AIR DWNST ISOL DAMPER	VC			
0VC08YB	B CONTROL ROOM HVAC PURGE AIR DWNST ISOL DAMPER	VC			
0VC093AA	VLV 2 IN SOL GLOBE	VC			
0VC093AB	VLV 2 IN SOL GLOBE	VC			
0VC09YA	A CONTROL ROOM HVAC BALANCING DAMPER	VC			
0VC09YB	B CONTROL ROOM HVAC BALANCING DAMPER	VC			
0VC10YA	A CONTROL ROOM HVAC ISOL DAMPER	VC			
0VC10YB	B CONTROL ROOM HVAC ISOL DAMPER	VC			
0VC11YA	A CHARCOAL FILT INLT	VC			
0VC11YB	B CHARCOAL FILT INLT	VC			
0VC12YA	A CHARCOAL FILT OTLT	VC			
0VC12YB	B CHARCOAL FILT OTLT	VC			
0VC13YA	A CHARCOAL FILT BYP	VC			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0VC13YB	B CHARCOAL FILT BYP	VC			
0VC14YA	A CONTROL ROOM HVAC RETURN FAN DSCH DAMPER	VC			
0VC14YB	B CONTROL ROOM HVAC RETURN FAN DSCH DAMPER	VC			
0VC15YA	A CONTROL ROOM HVAC RETURN FAN SUCT DAMPER	VC			
0VC15YB	B CONTROL ROOM HVAC RETURN FAN SUCT DAMPER	VC			
0VC16YA	DAMPER, CR A/C SYST A MIX	VC			
0VC16YB	DAMPER, CR A/C SYST B MIX	VC			
0VC17YA	A CONTROL ROOM ZONE HEATING COIL 0VC04AA OUTLET DAMPER	VC			
0VC17YB	B CONTROL ROOM ZONE HEATING COIL 0VC04AB OUTLET DAMPER	VC			
0VC18YA	DAMPER, CR A/C SYST	VC			
0VC18YB	DAMPER, CR A/C SYST	VC			
0VC19YA	DAMPER, CR A/C MIX A	VC			
0VC19YB	DAMPER, CR A/C MIX B	VC			
0VC20YA	A CONTROL ROOM ZONE HEATING COIL 0VC05AA OUTLET DAMPER	VC			
0VC20YB	B CONTROL ROOM ZONE HEATING COIL 0VC05AB OUTLET DAMPER	VC			
0VC21YA	DAMPER, CR A/C MIX	VC			
0VC21YB	DAMPER, CONTROL ROOM STOP	VC			
0VC22YA	DAMPER, CR HVAC ZONE MIX	VC			
0VC22YB	DAMPER, CR A/C ZONE MIX	VC			
0VC23YA	A CR SECURITY CENTER ZONE HEATING COIL 0VC06AA OUTLET DAMPER	VC			
0VC23YB	B CR SECURITY CENTER ZONE HEATING COIL 0VC06AB OUTLET DAMPER	VC			
0VC24YA	DAMPER, CR A/C SYST	VC			
0VC24YB	B CR SECURITY CENTER ZONE HEATING COIL 0VC06AB INLET DAMPER	VC			
0VC25YA	DAMPER, CR HVAC ZONE MIX	VC			
0VC25YB	DAMPER, CR A/C SYST ZONE MIX	VC			
0VC26YA	A CABLE SPREADING ROOM ZONE HEATING COIL 0VC07AA OUTLET DAMPER	VC			
0VC26YB	B CABLE SPREADING ROOM ZONE HEATING COIL 0VC07AB OUTLET DAMPER	VC			
0VC27YA	DAMPER, CR A/C SYST	VC			
0VC27YB	DAMPER, CR A/C SYST	VC			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0VC28YA	DAMPER, CR A/C SYST ZONE MIX	VC			
0VC28YB	DAMPER, CR A/C SYST ZONE MIX	VC			
0VC29YA	A CR SECURITY CENTER ZONE HEATING COIL 0VC08AA OUTLET DAMPER	VC			
0VC29YB	B CR SECURITY CENTER ZONE HEATING COIL 0VC08AB OUTLET DAMPER	VC			
0VC30YA	DAMPER, CR A/C SYST	VC			
0VC30YB	DAMPER, CR A/C SYST	VC			
0VC31Y	UNIT 1 CONTROL ROOM HVAC RETURN BALANCING DAMPER	VC			
0VC32Y	UNIT 2 CONTROL ROOM HVAC RETURN BALANCING DAMPER	VC			
0VC34Y	CR MAIN SECURITY CONTROL CENTER HVAC RETURN BALANCING DAMPER	VC			
0VC35Y	CONTROL ROOM EAST AREA HVAC RETURN BALANCING DAMPER	VC			
0VC36Y	CR MAIN SECURITY CONTROL CENTER HVAC RETURN BALANCING DAMPER	VC			
0VC43Y	A CONTROL ROOM HVAC AIR COOLED CONDENSER DSCH CHECK DAMPER	VC			
0VC45Y	B CONTROL ROOM HVAC AIR COOLED CONDENSER DSCH CHECK DAMPER	VC			
0VC46Y	CR MAIN SECURITY CONTROL CENTER HVAC RETURN FIRE DAMPER	VC			
0VC47Y	CR MAIN SECURITY CONTROL CENTER HVAC SUPPLY FIRE DAMPER	VC			
0VC48Y	DAMPER, CONTROL ROOM HVAC	VC			
0VC49Y	CR MAIN SECURITY CONTROL CENTER HVAC RETURN FIRE DAMPER	VC			
0VC50Y	CR MAIN SECURITY CONTROL CENTER HVAC RETURN FIRE DAMPER	VC			
0VC51Y	CR MAIN SECURITY CONTROL CENTER HVAC SUPPLY FIRE DAMPER	VC			
0VC52YA	DAMPER, MIN OUTSIDE AIR ISOLATION	VC			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0VC52YB	B VC/VE MINIMUM OUTSIDE AIR DOWNSTREAM ISOLATION DAMPER	VC			
0VC53YA	A CONTROL ROOM HVAC MAXIMUM OUTSIDE AIR ISOL DAMPER	VC			
0VC53YB	B CONTROL ROOM HVAC MAXIMUM OUTSIDE AIR ISOL DAMPER	VC			
0VC54YA	A CONTROL ROOM HVAC MINIMUM OUTSIDE AIR BALANCING DAMPER	VC			
0VC54YB	B CONTROL ROOM HVAC MINIMUM OUTSIDE AIR BALANCING DAMPER	VC			
0VC55YA	A CONTROL ROOM HVAC MINIMUM OUTSIDE AIR BALANCING DAMPER	VC			
0VC55YB	B CONTROL ROOM HVAC MINIMUM OUTSIDE AIR BALANCING DAMPER	VC			
0VC60Y	DAMPER, CONTROL ROOM HVAC	VC			
0VC61Y	DAMPER, CONTROL ROOM HVAC ISOL FIRE	VC			
0VC62Y	VC SUPPLY TO EAST AREA OF CONTROL ROOM FIRE DAMPER	VC			
0VC63Y	VC RETURN FROM EAST AREA OF CONTROL ROOM FIRE DAMPER	VC			
0VC64Y	DAMPER, CONTROL ROOM HVAC	VC			
0VC65Y	DAMPER, CONTROL ROOM HVAC	VC			
0VC66Y	DAMPER, CONTROL ROOM HVAC	VC			
0VC67Y	DAMPER, CONTROL ROOM HVAC	VC			
0VC68Y	DAMPER, CONTROL ROOM HVAC	VC			
0VC69Y	DAMPER, CONTROL ROOM HVAC	VC			
0VC70YA	DAMPER, CONTROL ROOM HVAC	VC			
0VC70YB	B CONTROL ROOM HVAC GRAVITY DAMPER	VC			
0VC71YA	A VC RETURN FAN SUCTION MAINTENANCE DAMPER	VC			
0VC71YB	B VC RETURN FAN SUCTION MAINTENANCE DAMPER	VC			
0VC72YA	BALANCING DAMPER, MANUAL, HORIZ, OPPOSED BLADE	VC			
0VC72YB	BALANCING DAMPER, MANUAL, HORIZ, OPPOSED BLADE	VC			
0VC73YA	DAMPER	VC			
0VC73YB	DAMPER	VC			
0VD01C	ASSY - FAN, DG ROOM VENT	VD			
0VD01F	DIESEL GEN ROOM VENT SPLY	VD			
0VD01J	TIME DELAY PANEL	VD	AB		674
0VD01YA	DAMPER DG RM VENT	VD			
0VD01YAB	DAMPER, DG ROOM VENT MODUL OPPOSED	VD			
0VD01YB	DAMPER DG RM VENT	VD			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0VD02C	ASSY - FAN, 0 DG FUEL STOR TANK ROOM VENT	VD			
0VD02YA	DAMPER DG RM VENT	VD			
0VD02YAB	DAMPER, DG ROOM VENT	VD			
0VD02YB	DAMPER DG RM VENT	VD			
0VD03YA	DAMPER DG RM VENT	VD			
0VD03YAB	DAMPER, DG ROOM VENT	VD			
0VD03YB	DAMPER DG RM VENT	VD			
0VD04Y	DAMPER, DG ROOM VENT	VD			
0VD05Y	DAMPER, DG ROOM VENT	VD			
0VD06Y	DAMPER, DG ROOM VENT	VD			
0VD07Y	DAMPER, DG ROOM VENT	VD			
0VD08Y	DAMPER, DG ROOM VENT	VD			
0VD28Y	DAMPER, DG ROOM VENT	VD			
0VD40Y	DAMPER, DG ROOM VENT	VD			
0VD41Y	DAMPER, DG ROOM VENT	VD			
0VE015B	BOILER AUX ELECTRIC ROOM COOLING STM	VE			
0VE01AA	COIL AUX ELEC EQUIP RM HVAC SPLY D-X	VE			
0VE01AB	COIL AUX ELEC EQUIP ROOM HVAC	VE			
0VE01CA	ASSY_-_AUX EQUIPMENT ROOM HVAC SUPPLY FAN 0VE01CA	VE	AB		786
0VE01CB	ASSY - FAN, HVAC SUPPLY	VE			
0VE01FA	FILT UNIT AUX ELEC EQUIP RM HVAC SPLY AIR	VE			
0VE01FB	FILT UNIT AUX ELEC EQUIP RM HVAC SPLY AIR	VE			
0VE01SA	GEN AUX EL EQUIP RM HVAC ELEC STM	VE			
0VE01SB	GEN AUX EL EQUIP RM HVAC ELEC STM	VE			
0VE01TA	ASSY - VESSEL, REFRIGERANT RECEIVER	VE			
0VE01TB	ASSY - VESSEL, REFRIGERANT RECEIVER	VE			
0VE01YA	A AEER HVAC SUPPLY BALANCING DAMPER	VE			
0VE01YB	B AEER HVAC SUPPLY BALANCING DAMPER	VE			
0VE02AA	CNDSR COIL AUX EL EQUIP RM AIR COOLED	VE			
0VE02AB	CNDSR COIL AUX EL EQUIP RM AIR COOLED	VE			
0VE02CA	ASSY - FAN, HVAC RETURN AIR	VE			
0VE02CB	ASSY - FAN, HVAC RETURN AIR O/B	VE			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0VE02YA	A AEER HVAC SUPPLY BALANCING DAMPER	VE			
0VE02YB	B AEER HVAC SUPPLY BALANCING DAMPER	VE			
0VE03CA	AUX ELEC EQUIP RM AIR COOLED CONDENSER FAN 0A	VE			
0VE03CB	B AEER HVAC AIR COOLED CNDSR FAN	VE			
0VE03YA	A AEER HVAC MANUAL PURGE AIR CONTROL DAMPER	VE			
0VE03YB	B AEER HVAC MANUAL PURGE AIR CONTROL DAMPER	VE			
0VE04CA	REFRG COMP AUX EL EQUIP RM SPLY SYS	VE			
0VE04CB	B AEER HVAC REFRIGERATION UNIT	VE			
0VE04TA	RECEIVER R-22 LIQUID	VE	AB	13 N	802
0VE04TB	RECEIVER R-22 LIQUID	VE	AB	16 N	802
0VE04YA	A AEER HVAC MANUAL PURGE AIR CONTROL DAMPER	VE			
0VE04YB	B AEER HVAC MANUAL PURGE AIR CONTROL DAMPER	VE			
0VE05YA	A AEER HVAC MAXIMUM OUTSIDE AIR ISOLATION DAMPER	VE			
0VE05YB	B AEER HVAC MAXIMUM OUTSIDE AIR ISOLATION DAMPER	VE			
0VE06A	A' VE OIL COOLER	VE			
0VE06B	B' VE OIL COOLER	VE			
0VE06YA	A AEER HVAC RETURN AIR ISOLATION DAMPER	VE			
0VE06YB	B AEER HVAC RETURN AIR ISOLATION DAMPER	VE			
0VE07YA	DAMPER, HVAC SYST 0V301FA	VE			
0VE07YB	DAMPER, HVAC SYST 0VE01FB	VE			
0VE08YA	DAMPER, HVAC SYST FILTER BYPASS	VE			
0VE08YB	DAMPER, HVAC SYST FILTER BYPASS	VE			
0VE09YA	DAMPER, HVAC SYST 0VE01FA	VE			
0VE09YB	DAMPER, HVAC SYST 0VE01FB	VE			
0VE10YA	DAMPER, A/C SYST ZONE MIXING	VE			
0VE10YB	DAMPER, A/C SYST ZONE MIXING	VE			
0VE11YA	DAMPER, A/C SYST ZONE MIXING	VE			
0VE11YB	DAMPER, A/C SYST ZONE MIXING	VE			
0VE12YA	DAMPER, A/C SYST ZONE MIXING	VE			
0VE12YB	DAMPER, A/C SYST ZONE MIXING	VE			
0VE13YA	A AEER HVAC SUPPLY AIR BALANCING DAMPER	VE			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0VE13YB	B AEER HVAC SUPPLY AIR BALANCING DAMPER	VE			
0VE14YA	A AEER HVAC SUPPLY AIR BALANCING DAMPER	VE			
0VE14YB	B AEER HVAC SUPPLY AIR BALANCING DAMPER	VE			
0VE15YA	A AEER HVAC SUPPLY AIR BALANCING DAMPER	VE			
0VE15YB	DAMPER, AEER ROOM HVAC	VE			
0VE16YA	AUX EQUIP ROOM HVAC SPLY TO COMPUTER ROOM -20' ABOVE FLR	VE			
0VE16YB	AUX EQUIP ROOM HVAC SPLY TO COMPUTER ROOM -20' ABOVE FLR	VE			
0VE17YA	DAMPER, HVAC ISOLATION	VE			
0VE17YB	DAMPER, HVAC ISOLATION	VE			
0VE18YA	DAMPER, HVAC ISOLATION	VE			
0VE18YB	DAMPER, HVAC ISOLATION	VE			
0VE19Y	A AEER HVAC COMPUTER ROOM RETURN BALANCING DAMPER	VE			
0VE22Y	AEER HVAC PROCESS COMPUTER ROOM SUPPLY AIR FIRE DAMPER	VE			
0VE23Y	DAMPER, AEER ROOM HVAC	VE			
0VE24Y	DAMPER, AEER ROOM HVAC	VE			
0VE25Y	AEER HVAC PROCESS COMPUTER ROOM RETURN AIR FIRE DAMPER	VE			
0VE27Y	A AEER HVAC AIR COOLED CONDENSER FAN DISCHARGE DAMPER	VE			
0VE29Y	B AEER HVAC AIR COOLED CONDENSER FAN DISCHARGE DAMPER	VE			
0VE30YA	A AEER HVAC MAXIMUM OUTSIDE AIR ISOLATION DAMPER	VE			
0VE30YB	B AEER HVAC MAXIMUM OUTSIDE AIR ISOLATION DAMPER	VE			
0VE31Y	DAMPER, AEER ROOM HVAC	VE			
0VE32Y	DAMPER, AEER ROOM HVAC	VE			
0VE33Y	AEER HVAC UNIT 1 AIR SUPPLY FIRE DAMPER	VE			
0VE34Y	AEER HVAC UNIT 1 AIR RETURN FIRE DAMPER	VE			
0VE35Y	AEER HVAC UNIT 1 AIR SUPPLY FIRE DAMPER	VE			
0VE36Y	AEER HVAC UNIT 1 AIR RETURN FIRE DAMPER	VE			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0VE37Y	AEER HVAC UNIT 1 AIR SUPPLY FIRE DAMPER	VE			
0VE38Y	AEER HVAC UNIT 1 AIR SUPPLY FIRE DAMPER	VE			
0VE39Y	AEER HVAC UNIT 2 AIR SUPPLY FIRE DAMPER	VE			
0VE40Y	AEER HVAC UNIT 2 AIR RETURN FIRE DAMPER	VE			
0VE41Y	AEER HVAC UNIT 2 AIR SUPPLY FIRE DAMPER	VE			
0VE42Y	AEER HVAC UNIT 2 AIR RETURN FIRE DAMPER	VE			
0VE43Y	DAMPER, AEER ROOM HVAC	VE			
0VE44Y	DAMPER, AEER ROOM HVAC	VE			
0VE45Y	AEER HVAC UNIT 2 AIR RETURN FIRE DAMPER	VE			
0VE46Y	AEER HVAC UNIT 2 AIR SUPPLY FIRE DAMPER	VE			
0VE47Y	DAMPER, AEER ROOM HVAC	VE			
0VE48Y	DAMPER, AEER ROOM HVAC	VE			
0VE49Y	AEER HVAC UNIT 2 AIR SUPPLY FIRE DAMPER	VE			
0VE50Y	AEER HVAC UNIT 2 AIR SUPPLY FIRE DAMPER	VE			
0VE51Y	AEER HVAC UNIT 2 AIR SUPPLY FIRE DAMPER	VE			
0VE52Y	AEER HVAC UNIT 2 AIR SUPPLY FIRE DAMPER	VE			
0VE53Y	AEER HVAC UNIT 2 AIR RETURN FIRE DAMPER	VE			
0VE60Y	AEER HVAC PROCESS COMPUTER ROOM SUPPLY AIR FIRE DAMPER	VE			
0VE61Y	DAMPER, OPPOSED BLADE, HORIZ SHAFT	VE			
0VE66YA	A AEER HVAC RETURN AIR ISOL MAINTENANCE DAMPER	VE			
0VE66YB	B AEER HVAC RETURN AIR ISOL MAINTENANCE DAMPER	VE			
0VE67YA	A AEER HVAC COOLER CNDSR FAN RECIRC DAMPER	VE			
0VE67YB	B AEER HVAC COOLER CNDSR FAN RECIRC DAMPER	VE			
0VE68Y	FIRE DAMPER	VE			
0VE69Y	FIRE DAMPER	VE			
0VE70Y	FIRE DAMPER	VE			
0VE71Y	FIRE DAMPER	VE			
0VE72Y	FIRE DAMPER	VE			

Eq Component Tag	Equipment Name	System Code	Building	Column No	Floor Elev
0VE73Y	FIRE DAMPER	VE			
0VE74Y	FIRE DAMPER	VE			
0VE75Y	FIRE DAMPER	VE			
0VE76Y	FIRE DAMPER	VE			
0VE77Y	FIRE DAMPER	VE			
0VE78Y	UNIT 1 AEER HVAC SUPPLY BALANCING DAMPER	VE			
0VE79Y	UNIT 2 AEER HVAC EXHAUST BALANCING DAMPER	VE			
0VE80YA	DAMPER	VE			
0VE80YB	DAMPER	VE			

Table B-2. Base List 2

Eq Component Tag	Equipment Name	System Code	Building	Room Number	Column No	Floor Elev
1FC01TA	FUEL POOL SKIMMER SURGE TNK 1A	FC	RB		13 D	820
1FC01TB	FUEL POOL SKIMMER SURGE TNK 1B	FC	RB		13 F	820
1FC130	FUEL POOL COOLING DSCH SKIMMER TANK RETURN VALVE	FC				
1FC132	FUEL POOL RHR SUCT SUPPLY HI POINT VENT VALVE	FC				
1FC133	FUEL POOL RHR SUCT SUPPLY HEADER DRAIN VALVE	FC				
1FC138	FUEL POOL SKIMMER SURGE TANKS OUTLET VALVE	FC				
1FC139A	A FUEL POOL COOLING PUMP SUCT VALVE	FC				
1FC139B	B FUEL POOL COOLING PUMP SUCT VALVE	FC				
1FC140	FUEL POOL RHR SUCT SUPPLY VALVE	FC				
1FC141	DRYER SEPARATOR/RX WELL DRN FUEL POOL CLG PMP SUCT HDR RTN CK VLV	FC				
1FC143	FUEL POOL STORAGE INLET RHR RETURN DRAIN VALVE	FC				
1FC144	FUEL POOL STORAGE INLET RHR RETURN VALVE	FC				
1FC147	FUEL POOL SKIMMER SURGE TANK LEVEL INST ROOT VALVE	FC				
1FC155	FUEL POOL STORAGE INLET RHR RETURN HI POINT VENT VALVE	FC				

:SCRIPTION	CLASS	BUILDING	ELEVATION	(Column)	SYSTEM	Licensing Basis?	Safety Function	Replace?	Enl
R HVAC SUPPLY 0A	(10) Air Handlers	AB	786	13 N	VC	Y	Auxiliary & Support		
42X	(03) Medium Voltage Switchgear	AB	731	10 N	AP	Y	Auxiliary & Support		
R, 136X	(04) Transformers	AB	731	10 L	AP	Y	Electrical Systems		
3	(02) Low Voltage Switchgear and Breaker Panels	RB	786	13 C	AP	Y	Auxiliary & Support		
GR 135X	(02) Low Voltage Switchgear and Breaker Panels	AB	710	10 L	AP	Y	Auxiliary & Support		
R, 135X	(04) Transformers	AB	710	10L	AP	Y	Electrical Systems		
GR 136X	(02) Low Voltage Switchgear and Breaker Panels	AB	731	10 L	AP	Y	Auxiliary & Support		
135X-1	(01) Motor Control Centers	RB	761	14 A	AP	Y	Auxiliary & Support		
135X-3	(01) Motor Control Centers	AB	710	11 L	AP	Y	Auxiliary & Support		
C 136X-1	(01) Motor Control Centers	RB	820	12 C	AP	Y	Auxiliary & Support		
C 136X-3	(01) Motor Control Centers	AB	731	10 L	AP	Y	Auxiliary & Support		
3C ACCUMULATOR	(21) Tanks and Heat Exchangers	DW	778	-	B21	Y	RCPC		
1 LINE SAFETY RELIEF	(07) Pneumatic-Operated Valves	DW	783	-	B21	Y	RCPC		
SOLENOID VALVE 'A'	(08) Motor-Operated and Solenoid-Operated Valves	DW	777	-	B21	Y	RCPC		
)L	(07) Pneumatic-Operated Valves	DW	735	12 J	B21	Y	RCPC		
STEAM ISOLATION	(07) Pneumatic-Operated Valves	RB	735	12 J	B21	Y	RCPC		
IOID, O/B MSIV	(08) Motor-Operated and Solenoid-Operated Valves	RB	736	12J	B21	Y	RCPC		
1 OTBD DRAIN LINE	(08) Motor-Operated and Solenoid-Operated Valves	RB	735	12 K	B21	Y	RCPC		
T CRD HYDRAULIC 26-	(00) Other	RB	761	G-F 9 SOUTH	C11	Y	RRC		
T CRD HYDRAULIC 30-	(00) Other	RB	761	C-D 9 SOUTH	C11	Y	RRC		
T CRD HYDRAULIC 42-	(00) Other	RB	761	G-F 14.5 NORTH	C11	Y	RRC		
T CRD HYDRAULIC 34-	(00) Other	RB	761	C-D 14.5 NORTH	C11	Y	RRC		
AM WATER R	(21) Tanks and Heat Exchangers	RB	761	G-F 9 SOUTH	C11	Y	RRC		
AM INLET VALVE	(07) Pneumatic-Operated	RB	761	G-F 9 SOUTH	C11	Y	RRC		

AM WATER R	(21) Tanks and Heat Exchangers	RB	761	C-D 9 SOUTH	C11	Y	RRC		
AM INLET VALVE	(07) Pneumatic-Operated Valves	RB	761	C-D 9 SOUTH	C11	Y	RRC		
AM OUTLET VALVE	(07) Pneumatic-Operated Valves	RB	761	C-D 9 SOUTH	C11	Y	RRC		
AM WATER R	(21) Tanks and Heat Exchangers	RB	761	C-D 14.5 NORTH	C11	Y	RRC		
AM INLET VALVE	(07) Pneumatic-Operated Valves	RB	761	C-D 14.5 NORTH	C11	Y	RRC		
AM OUTLET VALVE	(07) Pneumatic-Operated Valves	RB	761	C-D 14.5 NORTH	C11	Y	RRC		
AM WATER R	(21) Tanks and Heat Exchangers	RB	761	C-D 14.5 NORTH	C11	Y	RRC		
AM INLET VALVE	(07) Pneumatic-Operated Valves	RB	761	C-D 14.5 NORTH	C11	Y	RRC		
AM OUTLET VALVE	(07) Pneumatic-Operated Valves	RB	761	C-D 14.5 NORTH	C11	Y	RRC		
JID CONTROL NK	(21) Tanks and Heat Exchangers	RB	820	10 C	C41	Y	RRC		
QUID CONTROL PUMP	(05) Horizontal Pumps	RB	820	11 C	C41	Y	RRC		
ERY CHARGER NO. 1	(16) Battery Chargers & Inverters	AB	710	9J	DC	Y	Electrical Systems		
	(01) Motor Control Centers	AB	710	10 L	DC	Y	Electrical Systems		
ERY	(15) Battery on Rack	AB	710	9J	DC	Y	Electrical Systems		
DISTRIBUTION BUS 1	(14) Distribution Panels and Automatic Transfer Switches	AB	710	10 L	DC	Y	Electrical Systems		
IBUTION PANEL 112X	(14) Distribution Panels and Automatic Transfer Switches	AB	731	12 L	DC	Y	Electrical Systems		
BATTERY	(15) Battery Racks	AB	731	L-N 12-13	DC	Y	Electrical Systems		
DISTRIBUTION BUS 1B	(14) Distribution Panels and Automatic Transfer Switches	AB	731	12 L	DC	Y	Electrical Systems		
ERY CHARGER NO. 1B	(16) Battery Chargers & Inverters	AB	731	L-N 11-12	DC	Y	Electrical Systems		
IC WTR STRAINER	(08) Motor Operated and								

	(21) Tanks and Heat Exchangers	DG	710	J 7-8	DG	Y	Auxiliary & Support		
IG WATER STRAINER	(00) Other	DG	674	J 9	DG	Y	Auxiliary & Support		
NERATOR	(17) Engine Generators	DG	710	J 7-8	DG	Y	Auxiliary & Support		
IG WATER PUMP	(05) Horizontal Pumps	AB	674	J	DG	Y	Auxiliary & Support		
NG AIR COMPRESSOR	(12) Air Compressors	DG	710	L-J 7-8	DG	Y	Auxiliary & Support		
RATOR CONTROL	(20) Instrument and Control Panels	DG	710	L 8-9	DG	Y	Auxiliary & Support		
OTOR COOLER T VALVE	(08) Motor-Operated and Solenoid-Operated Valves	RB	694	14B	DG	Y	Auxiliary & Support		
CONTROL PANEL	(20) Instrument and Control Panels	DG	710	L 8-9	DG	Y	Auxiliary & Support		
1A D/G BANK A SUPPLY	(07) Pneumatic-Operated Valves	DG	710	L-J 7-8	DG	Y	Auxiliary & Support		
	(21) Tanks and Heat Exchangers	DG	710	J-H 5-7	DO	Y	Auxiliary & Support		
OILTRANSFER	(05) Horizontal Pumps	DG	674	6 J	DO	Y	Auxiliary & Support		
XCHANGER	(21) Tanks and Heat Exchangers	RB	710	A-B 9-10	E12	Y	RCIC/DHR		
HEAT REMOVAL PMP	(06) Vertical Pumps	RB	673	C	E12	Y	RCIC/DHR		
E WATER PUMP	(05) Horizontal Pumps	DG	674	16B	E12	Y	RCIC/DHR		
E WATER STRAINER	(00) Other	DG	674	J 9	E12	Y	RCIC/DHR		
LET VALVE	(08) Motor-Operated and Solenoid-Operated Valves	RB	694	A-B 9	E12	Y	RCIC/DHR		
UP POOL SUCT ISOL	(08) Motor-Operated and Solenoid-Operated Valves	RB	673	10 C	E12	Y	RCIC/DHR		
AM CONDENSING SUP I ISOL VALVE	(08) Motor-Operated and Solenoid-Operated Valves	RB	694	-	E12	Y	RCIC/DHR		
ULL FLOW TEST ISOL	(08) Motor-Operated and Solenoid-Operated Valves	RB	710	C	E12	Y	RCIC/DHR		
AM CONDENSING RCIC RELIEF VALVE	(07) Pneumatic-Operated Valves	RB	694	-	E12	Y	RCIC/DHR		
ASS VALVE	(08) Motor-Operated and Solenoid-Operated Valves	RB	694	C	E12	Y	RCIC/DHR		
STEAM INLET PRESS	(07) Pneumatic-Operated								

) STEAM INLET EF VALVE	(07) Pneumatic-Operated Valves	RB	710	-	E12	Y	RCIC/DHR		
VICE WATER OUTLET	(08) Motor-Operated and Solenoid-Operated Valves	RB	673	12.8A	E12	Y	RCIC/DHR		
VICE WATER OUTLET	(08) Motor-Operated and Solenoid-Operated Valves	RB	673	13 A	E12	Y	RCIC/DHR		
VICE WATER DSCH IT	(19) Temperature Senesors	RB	694	B 10	E12	Y	RCIC/DHR		
VICE WATER INLET	(18) Instrument Racks	RB	673	C 9	E12	Y	RCIC/DHR		
	(18) Instrument Racks	RB	673	C 9	E12	Y	RCIC/DHR		
LET TEMPERATURE	(19) Temperature Senesors	RB	694	A 10	E12	Y	RCIC/DHR		
	(06) Vertical Pumps	RB	673	20 A	E21	Y	RCIC/DHR		
H FLOW XMITTER	(18) Instrument Racks	RB	673	14 A	E21	Y	RCIC/DHR		
CORE SPRAY	(06) Vertical Pumps	RB	673	F	E22	Y	RCIC		
ON ISOL VALVE	(08) Motor-Operated and Solenoid-Operated Valves	RB	761	10 C	E22	Y	RCIC		
UP POOL SUCT ISOL	(08) Motor-Operated and Solenoid-Operated Valves	RB	673	10 F	E22	Y	RCIC		
OW TEST ISOL VALVE	(08) Motor-Operated and Solenoid-Operated Valves	RB	694	10 D	E22	Y	RCIC		
SCH PRESS	(18) Instrument Racks	RB	673	9 F	E22	Y	RCIC		
SCH FLOW	(18) Instrument Racks	RB	673	9 G	E22	Y	RCIC		
	(05) Horizontal Pumps	RB	673	14 A	E51	Y	RCIC		
ON OTBD ISOL VALVE	(08) Motor-Operated and Solenoid-Operated Valves	RB	740	13 G	E51	Y	RCIC		
JP POOL SUCT ISOL	(08) Motor-Operated and Solenoid-Operated Valves	RB	673	13 C	E51	Y	RCIC		
STEAM SUPPLY	(08) Motor-Operated and Solenoid-Operated Valves	RB	673	14 B	E51	Y	RCIC		
SCH PRESS	(18) Instrument Racks	RB	673	14 C	E51	Y	RCIC		
EMERG CORE COOL	(20) Instrument and Control Panels	MCR	768	-	H13	Y	Racks & Panels		
RWCU/RX RECIRC	(20) Instrument and Control Panels	MCR	768	-	H13	Y	Racks & Panels		
HG01A U-1 DW SUCT.	(08) Motor-Operated and Solenoid-Operated Valves	RB	786	11 C	HG	Y	CF		
HG01A U-1 SUP POOL	(08) Motor-Operated and Solenoid-Operated Valves	RB	710	11 B	HG	Y	CF		

ECEIVER	(18) Instrument Racks	DG	710	J 7-8	DG	Y	Auxiliary & Support	
? ROOM VENTILATION	(20) Instrument and Control Panels	RB	694	-	PL	Y	Racks & Panels	
ROOM VENTILATION	(20) Instrument and Control Panels	RB	694	13 H	PL	Y	Racks & Panels	
OOM VENTILATION	(20) Instrument and Control Panels	RB	694	13 B	PL	Y	Racks & Panels	
ECOMBINER BLWR INL	(19) Temperature Senesors	RB	786	B 10	HG	Y	CF	
GE FROM RX BLDG	(07) Pneumatic-Operated Valves	RB	740	11 H	VQ	Y	CF	
GE INLET DWNST ISOL	(07) Pneumatic-Operated Valves	RB	740	11 H	VQ	Y	CF	
NT/PURGE OTLT	(07) Pneumatic-Operated Valves	RB	710	14 E	VQ	Y	CF	
NT/PURGE OTLT BYP-20 FT.OVHD	(08) Motor-Operated and Solenoid-Operated Valves	RB	710	14 E	VQ	Y	CF	
GE OTLT UPSTRM ISOL	(07) Pneumatic-Operated Valves	RB	807	13 G	VQ	Y	CF	
GE OTLT UPSTRM ISOL	(08) Motor-Operated and Solenoid-Operated Valves	RB	807	13 G	VQ	Y	CF	
GE OTLT DWNST ISOL	(07) Pneumatic-Operated Valves	RB	807	13 G	VQ	Y	CF	
NT/PURGE OUTLET VALVE	(07) Pneumatic-Operated Valves	RB	710	14 E	VQ	Y	CF	
GR DIV-2 VENT SUPPLY	(09) Fans	AB	731	10 L	VX	Y	Auxiliary & Support	
GR DIV-2 BATT ROOM	(09) Fans	AB	731	10 L	VX	Y	Auxiliary & Support	
OOM COOLER VENT	(10) Air Handlers	RB	694	8.9 E	VY	Y	Auxiliary & Support	
RHR PUMP B/C ROOM	(10) Air Handlers	RB	694	09 D	VY	Y	Auxiliary & Support	
LPCS PUMP ROOM	(10) Air Handlers	RB	694	15 D	VY	Y	Auxiliary & Support	
HR WS PP A-1B CUBE	(10) Air Handlers	DG	736	7 H	VY	Y	Auxiliary & Support	
HR WS PP A-1B CUBE	(10) Air Handlers	DG	736	7 H	VY	Y	Auxiliary & Support	
CCW SUPPLY OTBD	(08) Motor-Operated and Solenoid-Operated Valves	RB	740	13 B	WR	Y	Auxiliary & Support	

Table B-4. SWEL 2

ID	DESCRIPTION	CLASS	SYSTEM	BUILDING	ELEVATION	LOCATION	Seismic Licensing Basis?	Associated with Rapid Draindown?	Comments
1FC133	FUEL POOL RHR SUCT SUPPLY HEADER DRAIN VALVE	(00) Other	FC	RB	673		Y	N	
1FC140	FUEL POOL RHR SUCT SUPPLY VALVE	(00) Other	FC	RB	807		Y	N	

C

Seismic Walkdown Checklists (SWCs)

Table C-1 provides a description of each item, anchorage verification confirmation, a list of Area Walk-By Checklists associated with each item, comments, and page numbers of each Seismic Walkdown Checklist.