

STEVEN D CAPPS Vice President McGuire Nuclear Station

Duke Energy MG01VP / 12700 Hagers Ferry Rd. Huntersville, NC 28078

**980-875-4805** 980-875-4809 fax Steven.Capps@duke-energy.com

#### SECURITY-SENSITIVE INFORMATION - WITHHOLD UNDER 10 CFR 2.390(d)(1) UPON REMOVAL OF ATTACHMENT 5 OF ENCLOSURES 1 AND 2 THIS LETTER IS UNCONTROLLED

November 26, 2012

10 CFR 50.54(f)

U. S. Nuclear Regulatory Commission ATTN: Document Control Desk 11555 Rockville Pike Rockville, MD 20852

**Subject:** Duke Energy Carolinas, LLC (Duke Energy)

McGuire Nuclear Station (MNS), Units 1 and 2 Docket Nos. 50-369 and 50-370 Renewed License Nos. NPF-9 and NPF-17

Seismic Walkdown Information Requested by NRC Letter, Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident; dated March 12, 2012

Reference:

 NRC Letter, Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident, dated March 12, 2012

- 2. EPRI 1025286, Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic, Final, dated June 2012
- 3. NRC letter, Endorsement of Electric Power Research Institute (EPRI) Draft Report 1025286, "Seismic Walkdown Guidance", dated May 31, 2012

On March 12, 2012, the NRC staff issued Reference 1. Enclosure 3 of Reference 1 contained specific Requested Actions, Requested Information, and Required Responses associated with Recommendation 2.3 for Seismic Walkdowns. In accordance with 10 CFR 50.54, "Conditions of licenses," paragraph (f), addressees were requested to confirm within 120 days their intent to use the NRC-endorsed seismic walkdown procedures, and to submit their final response within 180 days of the NRC's endorsement of the walkdown process. The 180 day response is to include a list of any areas that are unable to be inspected due to inaccessibility, along with a schedule for when the walkdown will be completed.

ADDI

SECURITY-SENSITIVE INFORMATION - WITHHOLD UNDER 10 CFR 2.390(d)(1)<sup>w.duke-energy com</sup> UPON REMOVAL OF ATTACHMENT 5 OF ENCLOSURES 1 AND 2 THIS LETTER IS UNCONTROLLED

#### SECURITY-SENSITIVE INFORMATION - WITHHOLD UNDER 10 CFR 2.390(d)(1) UPON REMOVAL OF ATTACHMENT 5 OF ENCLOSURES 1 AND 2 THIS LETTER IS UNCONTROLLED

United States Nuclear Regulatory Commission November 26, 2012 Page 2

On July 9, 2012, Duke Energy submitted its 120 day response to Enclosure 3 of Reference 1, confirming that the industry guideline, EPRI 1025286 (Reference 2), would be used as the basis for the seismic walkdowns at the McGuire Nuclear Station. EPRI 1025286 was endorsed by NRC letter dated May 31, 2012 (Reference 3).

This submittal comprises the aforementioned 180 day response for MNS. Enclosures 1 and 2 contain the seismic walkdown reports for MNS Units 1 and 2, respectively, addressing the items identified in Section 8 of EPRI 1025286. Enclosures 1 and 2 are provided electronically via CD-ROM and each include six Attachments. Attachment 5 of each of these enclosures contain information that Duke Energy is requesting the NRC to withhold from public disclosure in accordance with the requirements of 10 CFR 2.390(d)(1). In accordance with NRC Regulatory Information Summary 2005-26, an affidavit is not required for security-sensitive information withheld under 10 CFR 2.390(d)(1).

Note that Enclosure 1 discusses MNS Unit 1 components that were not able to be inspected due to inaccessibility. There were no deferred walkdowns for MNS Unit 2. The Unit 1 component listing is provided in Enclosure 1 Table 4-2. The associated component seismic walkdowns and area walk-bys will be completed during the next scheduled Unit 1 refueling outage. A follow-up report addressing the inaccessible components will be provided to the NRC by July 1, 2013.

A list of the new voluntary regulatory commitments contained within this letter is provided as Enclosure 3.

This submittal has been reviewed by licensee management, including the technical staff, regulatory staff, and senior management, in accordance with Duke Energy procedures and processes.

Should you have any questions concerning this letter, or require additional information, please contact Michael K. Leisure at (980) 875-5171.

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 26, 2012.

Respectfully submitted,

Steven D. Capps

Enclosures

#### SECURITY-SENSITIVE INFORMATION - WITHHOLD UNDER 10 CFR 2.390(d)(1) UPON REMOVAL OF ATTACHMENT 5 OF ENCLOSURES 1 AND 2 THIS LETTER IS UNCONTROLLED

United States Nuclear Regulatory Commission November 26, 2012 Page 3

XC:

V. M. McCree, Regional Administrator U.S. Nuclear Regulatory Commission - Region II Marquis One Tower 245 Peachtree Center Avenue NE, Suite 1200 Atlanta, Georgia 30303-1257

Eric J. Leeds, Director, Office of Nuclear Reactor Regulation U.S. Nuclear Regulatory Commission One White Flint North, Mailstop 13-H16M 11555 Rockville Pike Rockville, MD 20852-2738

J. H. Thompson, Project Manager U. S. Nuclear Regulatory Commission One White Flint North, Mailstop 8 G9A 11555 Rockville Pike Rockville, MD 20852-2738

J. Zeiler NRC Senior Resident Inspector McGuire Nuclear Station

Justin Folkwein American Nuclear Insurers 95 Glastonbury Blvd., Suite 300 Glastonbury, CT 06033-4453 United States Nuclear Regulatory Commission November 26, 2012 Enclosure 1

## ENCLOSURE 1

.

## McGuire Nuclear Station Unit 1 Seismic Walkdown Report

#### Executive Summary

The results of the McGuire Unit 1 Fukushima Dai-ichi Near-Term Task Force (NTTF) Recommendation 2.3 Seismic Walkdowns are provided here-in. The walkdowns were performed in accordance with Electric Power Research Institute (EPRI) Report 1025286, Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic (issued June 2012). The performance of the seismic walkdowns is required in response to the Nuclear Regulatory Commission's (NRC) 10CFR50.54(f) letter regarding NTTF Recommendation 2.3: Seismic. The EPRI guidance outlined requirements for personnel qualifications, selection of walkdown components, the conduct of the walkdowns, evaluation of potentially adverse conditions against the plant seismic licensing basis, and reporting requirements. The guidance further provided check lists to document the performance of the seismic walkdowns and walk-bys.

#### 1.0 Seismic Licensing Basis

Site Characteristics:

Major Category I structures are supported on sound rock (UFSAR Sections 3.7.1.4, 3.7.1.5, 3.7.1.6, 3.8.4, 3.8.5, 3.8.5.4.1). Where zones of irregular weathering of bedrock occurred, the weathered material was excavated and fill concrete was used under foundation structures, or piles were driven to suitable rock bearing for Category I structure (UFSAR Section 2.5.1.2).

Response Spectra:

The Safe Shutdown Earthquake (SSE) for McGuire is conservatively specified to have a peak ground acceleration of 0.15g horizontally and 0.10 g vertically. The Operating Basis Earthquake (OBE) is 8/15 of the SSE at all frequencies (UFSAR 2.5.2.6, 2.5.2.11, 3.1, and MCS-1465.00-00-0009, section 3.3).

The ground response spectra curves are enveloped for analysis and design of all Category 1 building foundations on closely joined rock and slightly weathered rock and for all building elevations where the floor slab rests on rock or fill concrete (MCS-1465.00-00-0009, section 3.3).

System, Structure, Component (SSC) Seismic Design:

All structures, systems and components required to shut down and maintain the reactor in a safe and orderly condition or prevent the uncontrolled release of excessive amounts of radioactivity have a seismic classification of Category 1 (UFSAR 3.2.1). The McGuire design complies with Regulatory Guide 1.29 for SSC seismic design requirements.

Seismic Category I SSCs are designed to maintain their functional capability in-the event of a SSE. The seismic design of Category I SSCs is outlined in UFSAR Section 3.2 and Tables 3-1, 3-2, 3-4 & 3-7. Seismic Category I SSCs are also designed to withstand the effects of the Operating Basis Earthquake without loss of capability to perform their safety functions. Applicable seismic design codes and standards include (MCS-1465.00-00-0009, Section 3.2, UFSAR section 3.2 and Tables 3-1 through 3-7):

- 10CFR50, Appendix A, General Design Criteria 2 Design Bases for Protection Against Natural Phenomena
- Duke Class A, B, C piping per ASME Section III, 1971, except for the Nuclear Service Water piping which was designed per ANSIB31.7, Class III (Reference UFSAR Table 3-5)
- Duke Class A, B, C valves per ASME Section III, 1971 (Reference UFSAR Table 3-6)
- Duke Class F valves per ANSI B31.1.0 (1967), Class III (Reference UFSAR Table 3-6)
- Regulatory Guide 1.29, "Seismic Design Classification," Revision 3, September 1978.
- IEEE Standard 344-1971, "Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Station.
- IEEE Standard 344-1975, "Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations.

#### Page 3 of 15

## 2.0 Personnel Qualifications

The personnel involved in the McGuire NTTF Recommendation 2.3 Seismic Walkdown effort satisfactorily met the qualification requirements of EPRI 1025286. The personnel responsibilities and qualifications are outlined in TABLE 2-1 below. Additional Peer Review Team experience is outlined within the Peer Review Report (ATTACHMENT 6).

Personnel	Degree	Years of Experience	Relevant Qualifications	SWE	SWEL Development	CLB Reviews	IPEEE Vulnerability Resolution	Peer Reviews
Mark Eli, P.E. (Ares)	BS/Civil Engineering	32	SQUG <sup>(1)</sup> SWE <sup>(2)(3)</sup>	x				
Charles M. Conselman, P.E. (ARES)	BS/Civil Engineering	28	SWE <sup>(2)(3)</sup>	x				
Bryan Hanna, P.E. (ARES)	BS/Civil Engineering	12	SWE <sup>(2)(3)</sup>	x				
Kevin Rubright (ARES)	BS/Civil Engineering	30	SWE <sup>(2)(3)</sup>	X				
Harpreet Ghuman (ARES)	BS/Civil Engineering	4	SWE <sup>(2)</sup>	x				
Paul Baughman, P.E. (Ares)	BS/Civil Engineering	>40	SQUG <sup>(1)</sup> SWE <sup>(2)</sup>				,	X <sup>(3)</sup>
George Bushnell, P.E. (SHAW)	BS/Mechanical Engineering	>40	SQUG <sup>(1)</sup> SWE <sup>(2)</sup>					х
George Hermann (SHAW)	BS/Mechanical Engineering Technology	17	' SWE <sup>(2)</sup>	x				
Thomas Tonden, P.E. (SHAW)	MS Energy Engineering	>35	SWE (2)	х				
Karen Kuhn (SHAW)	BS/Nuclear Engineering	11	SWE <sup>(2)</sup>	X				
Robert L. Keiser, P.E. (Duke)	BS/Civil Engineering MS/Civil Engineering	>20	SQUG <sup>(1)</sup> SWE <sup>(2)</sup>					x
Breece C. Nesbitt, P.E. (Duke)	BS/Civil Engineering	>40	SWE <sup>(2)</sup>	x				
Mike F. Langel, P.E. (Duke)	BS/Civil Engineering ME/Civil Engineering	>35	SWE <sup>(2)</sup>	x		x		
Charles N. Cunningham, (Duke)	BS/Civil Engineering MS/Civil Engineering	4	SWE <sup>(2)</sup>	x		x		
Harry E. Vanpelt, P.E. (Duke)	BS/Nuclear Engineering, MS/Mechanical Engineering	36			х		×	
Phil A. Thompson (Duke)	N/A	37	SRO <sup>(4)</sup> (25 yrs)		x			
Bryan D. Meyer (Duke)	BS/Mechanical Engineering	>28	SWE <sup>(2)</sup>	X	X	X	X	
Drew Lyerly (Duke)	BS/Civil Engineering	6				X		

	TAE	3LE 2-1		
Walkdown	Personnel	Experience	and	Training

#### NOTES:

- 1) SQUG Seismic Capability Engineers (SCEs) have successfully completed SQUG training.
- 2) Seismic Walkdown Engineers (SWEs) have successfully completed EPRI 1025286 2 day walkdown training course.
- 3) Senior Team Member.
- 4) Prior Senior Reactor Operator (SRO).

#### 3.0 Selection of Equipment for the SWEL-1 and SWEL-2 Lists

The McGuire Unit 1 SWEL-1 and SWEL-2 equipment selection was performed in accordance with the EPRI guidance outlined in EPRI Technical Report #1025286 (Reference MCC-1612.00-00-0001, Rev. 0).

The EPRI SWEL-1 Screening Criteria #1 through #3 are as follows:

- 1) Seismic Category I licensing bases,
- 2) Exclude structures, penetrations, and piping systems
- Equipment must perform safety function (reactor reactivity control, reactor coolant pressure control, reactor coolant inventory control, decay heat removal, containment integrity). The EPRI screening criteria further allows major NSSS equipment inside containment to be excluded.

The original McGuire IPEEE Seismic Walkdown list (MCC-1535.00-00-0004, Rev. 0, Attachment 24) was used as an initial "Base-1 List" of potential SWEL-1 walkdown components. This list includes shared, Unit 1 and Unit 2 components; however, only the shared and Unit 1 components are considered part of the Unit 1 SWEL-1 Base-1 list. Additionally, the IPEEE list included some non-safety/non-seismic equipment, which were not considered to be part of the Unit 1 SWEL-1 Base-1 list. The prior IPEEE list effectively represents the output of EPRI guidance equipment Screening criteria's #1, #2 and #3. The SWEL-1 "Base-1 List" is provided in ATTACHMENT 1.

EPRI Screening criteria #4 was then used to select equipment from this "Base List." EPRI screening criteria #4 requires a representative cross-section of the following sample selection attributes:

- include a variety of systems,
- Include variety of types of equipment,
- Include a variety of equipment environments,
- Include major new/replacement equipment
- Include equipment enhancements implemented in response to prior IPEEE walkdown identified discrepancies

The McGuire Unit 1 SWEL-1 equipment list (ATTACHMENT 2) comprised 99 components in ~22 different systems. Safety and PRA significant systems are well represented within the SWEL-1 equipment selection, such as Auxiliary Feedwater (CA, SA), Emergency Service Water (RN), Essential AC Power (EDG, EPC, EPE), Vital DC Power (EPQ, EPG, EPL), Solid State Protection System (IPE), Residual Heat Removal (ND), Safety-Injection (ND, NI, NV), Closed Cooling Water System (KC), control room ventilation (VC, YC), Main Steam (SM, SV), Reactor Coolant (NC), and containment spray (NS) systems. The systems and components selected for SWEL-1 support the EPRI screen #3 safety functions, which are necessary to achieve safe reactor shutdown, and/or containment isolation.

The SWEL-1 list represented equipment from each of the EPRI guidance equipment classes, with the exception of air compressors and motor-generator sets. McGuire does not have any Seismic Cat I equipment within these two equipment classes. The SWEL-1 lists included equipment located in ~44 different plant areas/rooms locations. The selected equipment locations represent a broad range of equipment environmental conditions (e.g. inside containment, partial outdoor exposure, electrical/mechanical penetration rooms, pipe-chases, control room, etc.). Modified, new, and/or replacement equipment comprised >20% of the SWEL-1 list. Similarly, the SWEL-1 list included some equipment which was enhanced in response to the prior IPEEE walkdown effort.

The SWEL-1 component selection further considered PRA risk significance relative to the external seismic event. The SWEL-1 component list included a broad sampling of components, which were identified to have a significant contribution to core damage frequency (CDF) for the external seismic event.

The McGuire Unit 1 SWEL-2 spent fuel pool equipment list was developed in accordance with the EPRI guidance. Seismic Category I structures, piping, and containment penetrations were specifically excluded by the EPRI guidance. The four screening criteria specified were as follows:

- 1) Seismic Category I licensing bases,
- 2) Spent Fuel Pool (SFP) equipment appropriate for an equipment walkdown process,
- 3) Sample considerations represent broad population of equipment with considered sample selection attributes such as:
  - a. represent a variety of systems,
  - b. major new/replacement equipment,
  - c. variety of equipment types,
  - d. variety of environments

## <u>OR</u>

4) Equipment which could result in rapid drain down of the SFP (includes both seismic and non-seismic components and similar factors outlined in 3) above, as practical).

The SWEL-2 equipment "Base-2 List" (ATTACHMENT 3) was established based on screens #1 and #2 above. Equipment was selected from the Base-2 List based on screening criteria #3 above, and primarily included major equipment such as the spent fuel cooling system pumps, pump motor air handling units, and heat-exchangers.

The SWEL-2 list was further supplemented based on screening criteria #4 above, to include equipment which could result in SFP rapid drain-down, as defined by the EPRI guidance. The SFP mechanical connections were further reviewed to ascertain whether they could present the potential for rapid drain-down of the SFP in-the-event of postulated seismic event. Rapid drain-down is considered to be an uncontrolled and unlimited drain-down due to a postulated leakage from a mechanical piping/component

interface. The EPRI guidance provided a definition for SFP uncontrolled drain-down, which was seismic induced leakage which could drain SFP to within 10' of the top of the fuel within 72 hours. Unlike the prior screening criteria, screen #4 does not exclude non-seismic equipment.

The McGuire Unit 1 & 2 SFP relies on passive design features to limit the amount of inventory which could be inadvertently drained. In general, the mechanical piping interfaces below the SFP normal water level are either equipped with siphon breakers, and/or the pipe elevation does not extend more than 2-4' below normal SFP water level. The McGuire SFP is normally aligned to the fuel transfer canal to support the Safe Shutdown Facility Standby Make-up Pump (SBMUP). The SBMUP is periodically aligned to the spent fuel pool for testing and was considered to be a potential rapid drain-down pathway, thus some of the associated components in the flow-path were included in the SWEL-2 Rapid Drain Down list (ATTACHMENT 3). The SWEL-2 Rapid Drain Down List also included some components which could pose a rapid drain down risk during refueling operations (e.g. reactor cavity seal, refueling canal drains, etc.). The final SWEL-2 list was selected based on a sampling of appropriate equipment types from the Base-2 and Rapid Drain Down Lists. The SWEL-2 list is provided in ATTACHMENT 4 and was comprised of 8 components.

#### 4.0 Seismic Walkdowns and Area Walk-Bys

Duke Energy contracted the Shaw Group / ARES Corporation team to perform the NTTF 2.3 seismic walkdowns at McGuire Nuclear Station. The McGuire Unit 1 walkdown summary report, the component Seismic Walkdown Checklists (SWC), and the Area Walk-By Checklists (AWC) are provided in ATTACHMENT 5.

The Seismic Walkdowns and Area Walk-bys were conducted in accordance with the EPRI guidance outlined in EPRI Technical Report #1025286 (Reference MCC-1612.00-00-0001, Rev. 0). The EPRI guidance Seismic Walkdown Check-lists (SWC)s were completed for each item on the SWEL. The EPRI guidance Area Walk-by Check-lists (AWC)s were also completed for areas/rooms associated with SWEL equipment.

The component seismic walkdown inspections were primarily focused on the identification of potentially degraded component anchorage conditions, and potentially adverse seismic interactions with surrounding SSCs. For the non-line mounted components, the visual inspections assessed whether the anchorage was degraded (e.g. bent, loose, broken, missing, corroded, localized concrete cracks). Additionally for at least 50% of the non-line mounted components, the as-built field anchorage was verified to be consistent with design documentation.

The Area Walk-by inspections were performed for SWEL equipment areas. The area walk-bys assessed whether other surrounding equipment in the area/room (up to ~35' radius around SWEL component or the room containing the SWEL component) had

Page 7 of 15

potentially degraded anchorage, or whether the potential for adverse seismic interactions were present.

If the Seismic Walkdown Engineers (SWEs) determined a potentially adverse seismic condition existed, then the issue was entered into the corrective action program (CAP) to allow further engineering evaluation. The CAP engineering evaluation determined whether the potentially adverse seismic condition was degraded, unanalyzed, or non-conforming to the design and licensing bases

101 Seismic Walkdown Checklists (SWC) were completed for the accessible components listed on the SWEL. This total was comprised of 93 SWEL-1 components (99 total), and 8 SWEL-2 components. For the non-line mounted SWEL equipment, an anchorage as-built verification was completed for 57% of the equipment with anchorage. Additionally, a total of 48 Area Walk-bys Checklists (AWC) were completed for the SWEL-1 scope and 2 AWC were completed for the SWEL-2 scope.

The seismic walkdowns and walk-bys identified 30 "Potentially Adverse Seismic Conditions" which are outlined in TABLE 4-1. Refer to the respective TABLE NOTE(s) for the "CAP Resolution" designation. The potentially adverse seismic conditions were entered into the CAP. Engineering evaluation was performed as warranted for the potentially adverse seismic condition, and in all cases the engineering evaluation concluded that the condition was in conformance with the current licensing bases. In some cases work requests or CAP ACTIONS were initiated as required to resolve minor issues (e.g. loose fastener, add grout, etc.), and/or to enhance field equipment clearances.

Page 8 of 15

#### TABLE 4-1

#### Potentially Adverse Seismic Conditions

Walkdown Item	Potentially Adverse Condition	CAP Disposition (See notes)
1) 1EPQ-BC-EDGA: 1A EDG Battery Charger	Elevated shim height not depicted by drawing.	3
2) 1-EPE-TF-ELXB: Transformer 4.16 KV/600 VAC	The concrete slab adjacent to two vertical supports of the equipment contains cracks.	1
3) 1ETB: 4.16 kV Essential Power Switchgear	<ul> <li>i) Cracks in the concrete floor in the vicinity of bolts for units: 1 ETB-17, 1 ETB-16, 1ETB-13, 1 ETB-11, 1 ETB-6, and 1 ETB-9. HN 3440 anchors (observed) are consistent with MC-1906-04, Rev. 8 and calculations MCC-1535.00-00.0004. However, Phillips Red Anchors are concealed (inaccessible) by the base C-channel by design.</li> <li>ii) Spalling at corner of grout pad at end of unit (1ETB-1). Also grout pad height is in excess of 2" resulting in less than design overlap of angle and channel at this location (1ETB-1, MC-1906-04, Rev. 8).</li> </ul>	i) 1 ii) 1
<ul> <li>4) 1-EPE-TF-ELXA:</li> <li>4.16 kV Essential</li> <li>Power Transformer</li> </ul>	Cracks in concrete floor near 2 of 4 anchor groups. Cracks were within 10 x (anchor diameter) of anchor bolts.	1
5) 1EMXA: 600 VAC Essential MCC	Concrete cracks: Cracks in concrete floor between R6D and R5D. Floor was coated with epoxy; therefore unable to measure crack width. Anchor bolt location was unable to be determined (see above); therefore, unable to determine distance between anchor bolt and crack in concrete floor.	1
6) 1VGTK0062: 1A1 EDG Starting Air Tank	Interaction effect: Relief valve (1VG-33) on top of tank is within 1/2" of cable tray.	1
7) 1VGTK0063: 1A2 EDG Starting Air Tank	Interaction effect: Relief valve 1VG-34 is approximately 1" from cable tray.	1
8) 1KCTK0009: U1 KC Surge Tank	Interaction effect: Bottom of ladders are welded to access platform (independent of tank) and top of ladder is lashed to tank nozzles. Potential for "event caused" flooding.	1
9) 1ND-4B: RHR FWST Suction Isolation	Interactions effect: Cable tray tie rod support hanger is nearly torn off of the tray which reduces support of cantilevered portion of tray carrying actuator cables.	2
10)1CA-56A: MDCAP to 1B SG	Interaction effect: Cable tray feeding 1CAPNAFPB panel has cables resting against valve operator air manifold	1

#### CAP DISPOSITION NOTE(s):

.

1) Field configuration meets Current Licensing Bases (CLB) requirements, and no field work required.

- 2) Field configuration meets CLB requirements; however, work request/work order/ACTION initiated to resolve minor issue, verify unknown condition, or enhance/correct field configuration.
- 3) Field configuration <u>meets</u> CLB requirements; however, design drawing updated to reflect field configuration.
- 4) CLB not met, and required field modification.

Page 9 of 15

#### TABLE 4-1

#### Potentially Adverse Seismic Conditions

Walkdown Item	Potentially Adverse Condition	CAP Disposition (See notes)
11)Room 600, MDCAP Room: AWC for 1CA-56A	Interaction effect: Approximately 3/4" air supply pipe to valve has 3+ elbows and approx. 15' of pipe with no support.	1
12)Room 600, U1 MDCA Pump Room: Area Walk-By for 1CAPNAFPA; 1CAPU0001; and 1WL322B.	<ul> <li>Interaction effect: <ul> <li>i) Valve 1 CA-36AB air connection to (black) air regulator does not have adequate clearance from vertical support member (see photo).</li> <li>ii) Discharge line from floor drain sump tank impinges on valve 1 WL-359 and rests on another line approximately 5 ft. downstream. This line also passes over Unit 1 Aux. shutdown panel.</li> <li>iii) 1-V520 handwheel has inadequate clearance to U1 line. Not significant.</li> <li>iv) Approx. 3" pipe directly over enclosure has threaded connections and is hung with threaded rods. Pipe is touching stanchion (but not attached) directly above cabinet. Pipe may deflect and hit variable.</li> </ul> </li> </ul>	i) 2 ii) 1 iii) 1 iv) 1
13)1EVDA: Vital Panel 125VDC Breaker	Interaction effect: Could not verify whether 1 EVDA and 1 EVKA are bolted together. Based on MCM-1314.01-34, 1EVDA appears to be a discrete enclosure from 1 EVKA. Unclear whether interactions between enclosures was considered in IPEEE review.	2
14)701- Vital Battery Area A: Area Walk- By for 0-EPL-BC- EVCA: 1 EVDA, etc.	Interaction effect: Abandoned eyewash supply pipe is buckled and kinked. It is supported by rod hangers. Pipe is located over various enclosures and equipment throughout vital battery room.	1
15)701- Vital Battery Area B AWC for 0- EPL-BC-EVCB;1 EVDB; EVDB; etc.	Interaction effect: Abandoned eyewash supply pipe is buckled and kinked. It is supported by rod hangers. Pipe is located over various enclosures and equipment throughout vital battery room.	1
16)701- Vital Battery Area C AWC for 0- EPL-BC-EVCC; EVDC, etc.	Interaction effect: Abandoned eyewash supply pipe is buckled and kinked. It is supported by rod hangers. Pipe is located over various enclosures and equipment throughout vital battery room.	1
17)1EVDD: 125VDC Vital Battery Breaker Panel	Interaction effect: Shims were located between block wall and cabinet.	1
18)701- Vital Battery Area D AWC for 1EVDD; 1EPG-BI- EVID, etc.	Interaction effect: Abandoned eyewash supply pipe is buckled and kinked. It is supported by rod hangers. Pipe is located over various enclosures and equipment throughout vital battery room.	1
19)Room 705- Electrical Penetration Room: AWC for 1ETB & 1- EPE-TF-ELXB	Interaction effect: Rigid ducts span between 1 EFE-LX- ELXB and similar units in the room.	1

CAP DISPOSITION NOTE(s):

1) Field configuration meets Current Licensing Bases (CLB) requirements, and no field work required.

2) Field configuration meets CLB requirements; however, work request/work order/ACTION initiated to resolve minor issue, verify unknown condition, or enhance/correct field configuration.

3) Field configuration meets CLB requirements; however, design drawing updated to reflect field configuration.

4) CLB not met, and required field modification.

Page 10 of 15

#### TABLE 4-1

#### Potentially Adverse Seismic Conditions

Walkdown Item	Potentially Adverse Condition	CAP Disposition (See notes)
20)Room 730: AWC for 1NI-178B.	Interaction effect: 1 KC-325 valve actuator within 1/4" of 10" diameter pipe that is suspended in a hanger that is not restrained vertically.	1
21)Room 730: VCT Hallway: AWC for 1NV-141A.	Interaction effect: Directly below 1NV-146 -3 feet, there is a loose piece of pipe and a small tool that could fall during a seismic event.	1
22)Room 730: VCT Hallway: AWC for 1NV-141A.	<ul> <li>Interaction effect:</li> <li>i) Valve actuator, 1NVG-137A, conduit connections are resting on a fixed support.</li> <li>ii) 6" pipe at ceiling has slipped off center of support held by 2 spring cans, one spring can is fully-compressed, other appears loose. Valve 1FW23 is in this line.</li> </ul>	i) 2 ii) 1
23)1KCPU0002: 1A2 KC Pump	Interaction effect: Fire sprinkler line over pump in contact with wire-way to pump motor.	1
24)Room 601, U2 MDCA Pump Room: AWC for 0RN7A	Interaction effect: Sump drain pipe is attached to the ceiling with threaded rod and could displace into pressurized tubing for auxiliary feedwater pump 2CAMR0002/2BETB6	1
25)1NSHX0004: 1B Containment Spray Heat Exchanger	Notched column flanges: Anchors are complete; however, multiple wide flange columns have notches in the flange near base plate.	1
26)1NSHX0003:1A Containment Spray Heat Exchanger	Notched column flanges: Anchors are complete; however, multiple wide flange columns have notches in the flange near base plate.	1
27)Unit 1, Room 926: AWC for 1VC-1A	House-keeping: Trash can was not secured / constrained.	1
28)1NVPU0046: Standby Make-up Pump	Interaction effect: Valve 1NV-937 has contact with pump discharge pipe, which could adversely affect the function of the pump in a seismic event.	1
29)1KFPU0001: 1A KF Pump	Interaction effect: end of valve stem (1KF-2) on pump suction valve is within ~1/8" of a structural (HSS) support.	1
30)Room 816: AWC for 1KFPU0001&2; 1KFHX0003&4; 1VAAH0031	Interaction effect: One end of 4" cable tray that supports a flexible conduit to 1 MRNSV2400 (Fuel Pool Cool Pump Air Cooler B) solenoid was supported/"anchored" by something resembling duct tape (only).	2

#### CAP DISPOSITION NOTE(s):

1) Field configuration meets Current Licensing Bases (CLB) requirements, and no field work required.

- 2) Field configuration <u>meets</u> CLB requirements; however, work request/work order/ACTION initiated to resolve minor issue, verify unknown condition, or enhance/correct field configuration.
- 3) Field configuration <u>meets</u> CLB requirements; however, design drawing updated to reflect field configuration.
- 4) CLB not met, and required field modification.

Additionally, there were 11 SWCs (see Appendix C of Attachment 5) which documented that portions of internal electrical cabinet anchorage was concealed in-part or entirely, and the SWCs were designated to be "unknown." The SWC for 1ETB (4 kV Essential Switchgear) was specified to be "unknown" due to personnel safety concerns, thus this component internal anchorage inspection was deferred (refer to the inaccessible component section below). The remaining 10 SWCs which were designated "unknown" are as follows:

- 6 SWCs were associated with 125 VDC vital battery distribution centers (EVDA, EVDB) and 600 VAC Essential MCCs (1EMXA, 1EMXA-1, 1EMXB, 1EMXB-1) in which portions of anchors were not accessible because they were covered by structural members or the embedded "C"-channel. Some physical equipment demolition would be required to visually access all the anchorage.
- 3 SWCs (EMXE 600 VAC MCC, 1A EDG Battery, 1A CA pump control panel) only
  a portion of the internal anchorage was visible, due to concealment by wires, wireways, or other structure. A significant portion of the cabinet anchorage was visibly
  inspected (16 of 18 bolts for EMXE, 10 of 12 fasteners for 1A EDG battery, 8 of 12
  anchors for the 1A CA Pump Control Panel). The anchors which could not be
  visually inspected are judged to be in acceptable condition based on the
  satisfactory condition of the visually inspected anchorage.
- The SWC for the Turbine Driven Auxiliary Feedwater Pump (TDCAP) control panel the internal anchorage was concealed by a sheet metal shroud. Therefore, it was not included in the 50% anchorage check. This component inspection was limited to the visual of internal cabinet components to ensure they were secure, exterior perimeter inspection of the cabinet concrete, and for local seismic interaction concerns.

This equipment was retained on the SWEL to satisfy various sample selection attributes; however, some physical equipment demolition would be required to visually access all the anchorage. This equipment is located in a dry, mild environment and not exposed to any physical degradation mechanisms. The SWCs and associated inspections are deemed to satisfactorily meet the intent of the published EPRI walkdown guidance. Based on the aggregate results of the seismic walkdowns, there were no significant anchorage deficiencies, nor licensing bases issues identified. Based on the foregoing discussion, no further equipment walkdowns are planned for these components.

#### **INACCESSIBLE COMPONENTS:**

Unit 1 components inaccessible until the next unit shutdown are listed in TABLE 4-2. The scheduled completion dates for component seismic walkdowns and area walk-bys are presented in the table. A SWC for 1ETB was partially completed, and 1ETB will be re-inspected to verify internal anchorage condition and configuration. The AWC was previously completed for 1ETB and will not be re-performed. A follow-up submittal report will be provided by July 1, 2013 for these items.

	Maixdown inspections Defende to Next Neidening Outage									
Unit	Location	Equipment ID	Name	Scheduled Completion						
1	Reactor Bldg.	1NC-32B	Reactor Coolant System Pressurizer PORV							
1	Reactor Bldg.	1NC-34A	Reactor Coolant System Pressurizer PORV							
1	Reactor Bldg.	1NI-430A	N2 Assured Supply to 1NC-34A	2013 Spring						
1	Reactor Bldg.	1NI-431B	N2 Assured Supply to 1NC-32B	Refueling outage						
1	Reactor Bldg.	1ND-1B	RHR Pump Hotleg Suction Isolation							
1	Reactor Bldg.	1ND-2AC	RHR Pump Hotleg Suction Isolation							
1	Auxiliary Bldg.	1ETB	4Kv Essential Switchgear	1						

TABLE 4-2 Walkdown Inspections Deferred to Next Refueling Outage

### 5.0 Licensing Basis Evaluations

As outlined in section 4.0 TABLE 4-1, a total of 30 Potentially Adverse Seismic Conditions (PASC) were identified by the Seismic Walkdowns and the Area walk-by's. The potentially adverse seismic conditions were entered into the CAP. Engineering evaluation was performed as warranted for the potentially adverse seismic condition, and in all cases the engineering evaluation concluded that the condition was in conformance with the current licensing bases. In some cases work requests or CAP ACTIONS were initiated to resolve minor issues (e.g. loose fastener, add grout, etc.), update design documents, and/or to enhance field equipment clearances.

The potential adverse conditions and their individual Problem Investigation process (PIP) tracking numbers are listed in the Unit 1 NTTF 2.3 Seismic Walkdown Report (ATTACHMENT 5).

#### 6.0 IPEEE Vulnerabilities

The McGuire IPEEE NRC submittal of June 1, 1994 (Reference 8) concluded that there were no vulnerabilities from external events. Thus, there were no identified plant changes which would significantly reduce the risk from external events.

Page 13 of 15

Table 3-3 of the IPEEE NRC Submittal identified several enhancements to resolve minor field walkdown issues (References 6, 8, Attachment 3). These enhancements are listed in TABLE 6-1.

Equipment Deficiency Identified	Resolution	Date Resolved			
Unit 1 EDG battery racks were missing spacers.	WO 94050272 & 94050263 installed missing spacers. (NAS WOs# 00326062 & 00326059)	<ul> <li>1EDGA Complete 12/29/94</li> <li>1EDGA Complete 11/21/94</li> </ul>			
Unit 2 Upper Surge Tank anchor bolts missing.	Replaced bolts per WR 93034428.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.			
MCCs were noted to be in contact with each other at a corner (Re. Attach. 1 of Reference 7.3): • 1EMXB and 1EMXB-1 • 2EMXB and 2EMXB-1	MGMM-3870 mechanically fastened the MCCs together to prevent interaction.	<ul> <li>WO # 00316559 complete prior to 10/5/95</li> <li>WO # 00316580 complete prior to 10/4/95</li> </ul>			
Auxiliary Feedwater CST anchor bolts and nuts exhibited corrosion.	WO 94030900 cleaned and re- coated fasteners.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.			
Various movable equipment where noted to be unsecured and could pose a seismic interaction concern.	Guidelines were incorporated within NSD-104 for station house-keeping.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.			
Turbine Driven Auxiliary Feedwater Pump control cabinet in contact with 'CA' piping.	MM-6664/WO 94095550 trimmed panel corner to eliminate contact and resealed cabinet.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.			
KC Heat exchanger saddle bases and concrete curbs require grouting.	MM-4118 eliminated pipe interference and add grout. W/O"s 94064720, 94053337, 94065089, and 94065092	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.			
Grating in contact with steam vent valves in exterior doghouses.	Grating trimmed per WR 93034096 & 93034099.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.			
Arc barrier connections were not secure within main control boards.	WO 94010441 & 94010379 secured the connections.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.			

TABLE 6-1 IPEEE Enhancements

#### 7.0 Peer Review:

Duke Energy (Duke) contracted with the Shaw Group (Shaw) / ARES Corporation (ARES) Team to perform the NTTF 2.3 peer review for the McGuire Nuclear Station (MNS). The Peer Review Report is contained in Attachment 6.

The Peer Review Team consisted of three individuals, all of whom have seismic engineering experience as it applies to nuclear power plants. These individuals participated in the peer review of each of the activities.

The Shaw/ARES methodology conforms to the guidance in Section 6 of EPRI 1025286. The peer review covered the following:

- The selection of the SSCs included on the Seismic Walkdown Equipment List (SWEL).
- A sample of the checklists prepared for the seismic walkdowns and area walk-bys.
- The licensing basis evaluations.
- The decisions for entering the potentially adverse conditions in the CAP process.
- The submittal report.

The peer review process for the SWEL development and the seismic walkdowns consisted of the following:

- Reviewing the activity guidance in EPRI 1025286, the NEI Q&A bulletins, the NEI first-mover reports, and NRC Temporary Instruction 2515/188.
- Conducting an in-process review at the plant site, including interviews with the personnel performing the activity and reviewing in-process documentation.
- Performing an in-plant surveillance (for the walkdown activity) of a seismic walkdown and an area walk-by.
- Providing in-process observations and comments to the personnel performing the activities.
- Conducting a final review of a sample of the completed documentation.

The peer review process for the licensing basis evaluations and the decisions for entering potentially adverse conditions into the CAP consisted of reviewing the overall review process and a sample of the licensing basis reviews. The peer review process for the submittal report consisted of reviewing the draft submittal prepared by McGuire Design Engineering for licensing review. The peer review of the licensing basis evaluations resulted in some open issues; however, those issues were addressed by updating the licensing basis evaluations documented in the CAP.

The conclusion of the peer review is that the MNS NTTF 2.3 seismic walkdown effort has been conducted in accordance with the guidance in EPRI 1025286. Comments made during the in-process review of the SWEL development and the walkdowns have

Page 15 of 15

been addressed satisfactorily. In-process comments on the final walkdown reports, the licensing basis reviews, and the submittal have also been resolved.

### **REFERENCES:**

- 1) MCS-1465.00-00-0009, Rev. 1, Seismic Design Bases Document
- 2) UFSAR Sections 3.1, 3.2.1, 3.8.4, 3.8.5, Tables 3-1 through 3-7
- 3) UFSAR Section 2.5.1.2, 2.5.2 Site Geology
- 4) UFSAR Sections 2.5.2.10, 2.5.2.11 SSE/OBE
- 5) UFSAR Section 3.7 Seismic Design
- 6) MCC-1612.00-00-0001, Rev.1
- 7) EPRI Report 1025286, Dated May 2012, Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force (NTTF) Recommendation 2.3 (ATTACHMENT 1).
- 8) McGuire NRC Response to GL 88-20, Individual Plant Examination of External Events (IPEEE) Submittal, dated June 1, 1994, T.C. McMeekin to NRC.
- 9) SHAW/ARES Summary Report, Seismic Walkdown Report for Duke Energy's McGuire Nuclear Station Unit 1 1457690101-R-M-00001-1, Rev. 1 (November 5, 2012).
- 10) SHAW/ARES Summary Report, Seismic Walkdown Report for Duke Energy's McGuire Nuclear Station Unit 2 1457690101-R-M-00002-1, Rev. 1 (November 5, 2012).
- 11) SHAW/ARES Peer Review Summary Report, "NTTF 2.3 Seismic Peer Review Report McGuire Nuclear Station Units 1 and 2 1457690101-R-M-00003-0.
- 12) MCC-1535.00-00-0003, Rev. 0, Seismic Hazard Curve Sensitivity for the McGuire IPEEE.
- 13) MCC-1535.00-00-0004, Rev. 0, Seismic PRA/IPEEE Back-up Calculation.
- 14) PIP M94-1003, `Equipment Deficiencies Identified During the 1994 IPEEE Seismic Walkdowns.
- 15) MCS-1108.00-00-0002, Rev. 9, "Specification for the Response Spectra and Seismic Displacements for Category I Structure
- 16) July 9, 2012 correspondence to NRC from Ben C. Waldrep, "Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects of Recommendation 2.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident"
- 17) MCS-1108.02-00-0001, Rev. 5, "McGuire Structural Design Specification.

## ATTACHMENTS:

- 1) SWEL-1 Base-1 List
- 2) McGuire Unit 1 SWEL-1
- 3) McGuire Unit 1 SWEL-2 Base-2 List and Rapid Drain Down List
- 4) McGuire Unit 1 SWEL-2
- 5) Seismic Walkdown Summary Report and Checklists
- 6) PEER Review Summary Reports

•

.

# ATTACHMENT 1

# SWEL-1 Base-1 List

## TABLE 2 -

MECHANICAL EQUIPMENT LIST	FC	OR MCG	U	IRE UNIT 1	1	PEEE WALK	D	OWN
('B' train components are shown in parenthes	es	. A detaile	d	walkdown of th	10:	e components	is	not
necessary if the 'B' train configuration is similar	r to	o the 'A' tra	in.	)				
				······				
		Line	-	Included in		Press, bndry,		
CA SYSTEM COMPONENTS	_	Size (In.)		Seismic PRA		integrity only		Non-Safe
	_				_			
AOV 1CA20AB		6	-					
AOV 1CA27A (32B)		4		· ·	_		$\neg$	
AOV 1CA36AB	-	4					-	
AOV 1CA48AB	-	4	-				-	,+ <b>****</b> ***
AOV 1CA52AB	-	4					-	
AOV 1CA56A (44B)		4			-		-	
AOV 1CA60A (408)		4					-	
AOV 1CA64AB		4						
	•							
MOV ICA7AC		8						
MOV 1CA11A (9B)		8			_			<u> </u>
MOV 1CA15A (18B)		6						<u> </u>
MOV 1CA38B		4						
MOV 1CA50B	_	4					_	
MOV 1CA54AC		4	_					·
MOV 1CA58A (46B)	_	4	_		_			
MOV 1CA62A (42B)		4						
MOV 1CA66AC	_	4	_					
MOV 1CA86A (116B)		8	-		_			
			~				_	
TURBINE DRIVEN PUMP I LINCLUDING	_			<u>`</u>			-	
	_		_				_	
TURBINE DRIVEN POWP LUBE OIL HA	_		_					
WOTOR DRIVEN POWP TA (TB)				×				
				PA (A)				
					_			
DIESEL GENERATOR AND SUPPORTING		Line		Included in		Press. bndry.		
COMPONENTS		Size (in.)		Seismic PRA	_	integrity only		Non-Safe
D/G 1A (18)	_		_	x	_	·	-	
							-	
FUEL OIL DAY TANK 1A (1B)				X			1	
FUEL OIL STORAGE TANK 1A (1B)								
FUEL OIL BOOSTER PUMP 1A (1B)					_	Х		
FUEL OIL FUEL TRANSFER FILTERS 1A1, 1A2						X		
(181, 182)	~						7	
FUEL OIL TRANSFER PUMP 1A (1B)								
AIR-OPERATED REGULATING VALVE 1KD9		4						
(1KD29)								

Paget 14

^.

	•								
	DIESEL GENERATOR AND SUPPORTING		Line		Included in		Press. bndry.		
	COMPONENTS (cont.)		Size (in.)		Seismic PRA		integrity only		Non-Safety
	KD D/G COOLING WATER HX 1A (1B)								
	KD INTERCOOLER PUMP 1A (1B)								······································
	KD JACKET WATER PUMP 1A (IB)								
	KD SURGE TANK 1A (1B)			-					
	D/G INTERCOOLER 1A (1B)	$\vdash$				-			<u></u>
									<u> </u>
	MOV 11D108 (113)		4						
	LUBE OIL INTAKE STRAINER 1A (1B)						X		
				-			X	-	
				-			X	-	
							^		······
	VD DIG BLDG VENTILATION SANDOS 1A		(18 10)					-	
	VU U/G DEDG. VENILUATION PANS DOP TA,	ř						-	
			2						
			~ ~			_		-	
		$\vdash$			·				
	SOLENOID VALVE IVG63 (0/)		2			_		_	
	SOLENOID VALVE IVG04 (08)	$\vdash$	<u> </u>					-	
	VG STARTING AIR TANKS TAT, TA2 (181, 182)	Ļ			×				~~~~
	VG INTAKE AIR AFTERCOOLERS AND DRYERS		1. IA2	<u> </u>					<u> </u>
	(181, 182)								
	VG CONTROL AIR VOLUME TANK 1A (1B)						<u></u>	_	
	VG AIR COMPRESSORS 1A1, 1A2 (1B1, 1B2)							_	X
	VG LINE PURIFIERS 1A1, 1A2 (181, 182)					_			
	VG CONTROL AIR FILTER 1A (1B)								
								_	
	VN AIR INTAKE SILENCER 1A (1B)					_			<u>X</u>
ļ	VN AIR EXHAUST SILENCER 1A (1B)								<u> </u>
			L						
	WN D/G SUMP PUMPS 1A2, 1A3 (1B2, 1B3)	L							<u> </u>
		L							- <u> </u>
	ZD VACUUM BLOWER PACKAGE 1A (1B)					_			<u> </u>
	· · · · · · · · · · · · · · · · · · ·	1							
		Γ	Line		Included in		Press. bndry.		• •
	FW SYSTEM COMPONENTS	T	Size (in.)		Seismic PRA		integrity only		Non-Safety
				-					
	MOV IFWIA	Γ	8	Γ					
	MOV IFW27A	1	14						
	MOV 1FW32B	$\square$	8	1-				-	
	MOV IEW33A	$\mathbf{T}$	2			-			
		$\vdash$	2	<del>  -</del>					
			<u>├</u>					-	
	DECLIEUNIC MATED STODACE TANK (CMOT)	$\vdash$	+						
	KEPUELING WATER STURAGE TANK (PVSI)	+							·
		┢╌	<b> </b> -						
_				-					
~		1	<u> </u>	_		-			
	1		J						

TABLE 2 -

Page#15

TABL	Е.	2	-	
------	----	---	---	--

ſ			T	Included in I	Press bodry	
	KC SYSTEM COMPONENTS	Size (in.)	$\vdash$	Seismic PRA	integrity only	Non-Safety
			1			- Horroandry
	AOV 1KC57A (82B)	12	-			
ľ						· · · ·
ľ	MOV 1KC1A (28)	20				
ľ	MOV 1KC3A (18B)	10				
ľ	MOV 1KC50A (53B)	20				
ľ	MOV 1KC51A (54B)	4			x	
	MOV 1KC56A (81B)	16				
ľ	MOV 1KC230A (228B)	8	1-1			
Ì		<u> </u>				
	KC HX 1A (1B)			X	++	
h	KC PUMPS 1A1, 1A2 (181, 182)			X		
	UNIT 1 KC SURGETANK					
	RHR PUMP MECH SEAL HX 1A (18)		<u> </u> '			
ľ			<u> </u>	·		- <del>  .</del>
ł	······································		-			
ŀ						
ŀ		line	[	Included in	Press body	
ł	NC SYSTEM COMPONENTS	Size (in )		Seismic PDA	integrity only	Non-Safety
ł	NO OTOLENI COMI ONELLIO		-	DONITIC FRA		Romodiery
	P7D PORV INC328	3		Y		
				<del>ç l</del>		
				Ŷ		
			$\left  - \right $		╉╼╾╼┝	
	SAFETY DELIEF VLV INCT					
- F	SAFETY DELIEF VLV INC2					
ŀ		<u> </u>	$\vdash$			
ŀ						
		- 3			╺╋╼╴─────┥	
ł						
·						
- }		Ling		Included in	Dross bode	
ł	ND CYCTENA COMPONENTS				Pless. Unury.	
ł	ND SYSTEM COMPONENTS	SIZE (IN.)		Seismic PRA		INON-SOLETY
-						
		8			X #	
	AUV INU34	8		├	X #	
- 1		14	┣	┝	#	
ŀ		14	-	┝──────	X #	
		14	$\vdash$			
	MOV IND3UA (15B)	8				·
	MOV IND32 (17)	2			X	
	MOV 1ND33 (18)	8			<u> </u>	
	MOV IND58A	8	L			
ţ				•		
	# - required to function during cold shutd	own				

Page #16

# TABLE 2 -

	Line	Included in	Press, bndry,	1
ND SYSTEM COMPONENTS (cont.)	Size (in.)	Seismic PRA	integrity only	Non-Safety
		1		
MOV 1ND68A (67B)	2		#	
ND PUMP 1A (1B)		X	#	
ND HX 1A (1B)		X	#	
	<u>                                      </u>			
	Line	Included in	Press. bndry.	
NI SYSTEM COMPONENTS	Size (in.)	Seismic PRA	integrity only	Non-Safety
	┟╌╎──╶┼╴			
	┟─┼──┼─		× –	
	075		<u>↓                                    </u>	
	0.75		÷	
	<u> </u>	╬────┼	$+$ $\frac{1}{2}$ $+$	
	+	╉─────┼	÷	
	0.75		<u>├</u>	
	0.75	++-		
	1 0.75	┥━┈╼┼╸	$-\frac{\hat{\mathbf{y}}}{\hat{\mathbf{y}}}$	
AOV 1N172			Ŷ Ŷ	
AOV 1N179	0.75	╶╁─────┼╸	× ×	
	0.75	·	$\frac{1}{x}$	
AOV 1NI84		+	X	
AOV INI90			X	
AOV INI91	0.75		X	
AOV IN192	0.75		X	1
AOV INI163	0.75		X	
AOV 1NI174 (179)	0.75		X	·
MOV 1NI9A (10B)	4		#	
MOV 1NI54A	10		X #	
MOV INI65B	10		X #	
MOV INI76A	10		#	
MOV INI88B	10		#	
MOV INI100B	8		X	
MOV 1NI103A (135B)	6		X	
MOV 1NI115B (144B)	1.5		X	
MOV 1NI118A (150B)	4		X	
MOV INI121A (152B)	4	┟──────│	X	<u> </u>
	6	Į		
MOV INI147A	2		X	
MOV INII62A	4	.  -	X	·
MOV 1N1173A (178B)	8			ļ
MOV INI1838	12		× –	
MOV INI185A (1848)	18		<u></u>	
	6	┥		·
VIOV INIJJJB		<u> </u>		ļ
💳 🚛 🖕 required to function during cold shut			1	

Page × 17

٠

	Line	Included in	Press. bndry.	
NI SYSTEM COMPONENTS (cont.)	Size (in.)	Seismic PRA	Integrity only	Non-Safet
MOV_1NI334B	6		X	
1NI430A (NITROGEN BACKUP TO PZR PORVS)	0.75	X		
IN431B (NITROGEN BACKUP TO PZR PORVS)	0.75	X		
				_
NIPUMP IA (IB)		X		
(not needed for inventory control for 1' SBLC	DCA)			
COLD LEG ACCUMULATORS		X		
(not needed for 1' SBLOCA)				
• <u> </u>	Line	Included in	Press. bndry,	
NS SYSTEM COMPONENTS	Size (in.)	Seismic PRA	integrity only	Non-Safe
				_
MOV 1NS43A (38B)	8			
•	_			
SPRAY NOZZLES DOWNSTREAM OF 1NS47 (42)				
· · · · · · · · · · · · · · · · · · ·			·	
·				ļ
			·	<u></u>
	Line	Included in	Press. bndry.	-
NV SYSTEM COMPONENTS	Size (in.)	Seismic PRA	Integrity only	Non-Safe
				_ <b>_</b>
AOV INV238	3		×	-
AOV INV241			X	
			·    -	
MOV INV94AC	4		·	
MOV INV95B	4			
	4		×	
MOV INVIA2B	4		X	
MOV_INVISUB	2		<u> </u>	
MOV INVISIA	2		X	+
NOV_INV22TA	8		-l	
MOV_INV222B	8			
MOV INV244A	3			
MOV INV245B	3			
		_	- <u> </u>  -	
CENTRIFUGAL CHARGING PUMP TA (TB)		X	- <u> </u>	
SEAL WATER HX 1		· [ · · · · · · · · · · · · · · · · · ·	X	
SEAL WATER INJECTION FILTER 1A (1B)	-	_ <b>_</b>	X	· · ·
SEAL WATER RETURN FILTER 1			X	
VOLUME CONTROL TANK 1		X	X	
(not needed for inventory control for 1" SBLC	DCA)			
REGENERATIVE HEAT EXCHANGER		X	X	
(not needed for inventory control for 1' SBLC	DCA)			
				-[

TABLE 2 -

Page& 18

05fi

TABLE 2 -

	Line		Included in	Press. bndry.	· · ·
RN SYSTEM COMPONENTS	Ste (in.)		Seismic PRA	integrity only	Non-Safet
·····					
AOV 1RN21A (25B) .	6				
AOV 1RN22A (26B)	6				
AOV 1RN68A (161B)	1.5				
AOV 1RN89A (190B)	20				
AOV 1RN103A (204B)	3?				
AOV 1RN112A (213B)	2				
AOV 1RN114A (215B)	2			X	
AOV 1RN117A (218B)	2				
AOV 1RN126A (227B)	2			X	
AOV IRN130A (231B)	2				
AOV 1RN140A (240B)	4			X	
AOV 1RN166A (170B)	2				
AOV IRN252B	6			X	
AOV IRN277B	6			X	
AOV 1RN442 (445)	4			X	
		_			
	- 42			×	
MOV URNZB	30			X	+
MOV URNJA	36			X	
MOV URN4AC	36			×	
MOV ORN5B	36			X	
MOV 0RN/A (9B)					
MOV DRN IDAC					
MOV ORNITB					
MOV URNIZAC					
MOV ORNIJA		_		<u></u>	
MOV 0RN14A (15B)	· 36			X	
MOV 1RN16A (18B)				X	
MOV 1RN40A	10			X	
MOV 1RN41B (43A)	10				
MOV IRN42A	10				
MOV IRN63B	10		i	X	
MOV IRN64A	10			X	
MOV 1RN69A (162B)	8				
MOV 1RN70A (171B)	8				
MOV 1RN73A (174B)	8			X	
MOV 1RN86A (187B)	20				
MOV 1RN134A (235B)	18			X	
MOV 1RN137A (2388)	18	-		X	
MOV ORN147AC (283AC)	· 36				1
MOV 0RN148AC (284B)	36				
MOV 0RN149A (152B)	36	$\square$			1
MOV 0RN150A (1518)	36			x	
MOV IRN253A				+ <u>x</u>	
MOV IRN276A		$\vdash$		+ <u>-</u> ++-	
MOV IRN279B				Ý Ý	
MOV 1002064 (2078)			·	┼──	+
MOV 1012700 (2770)				<u>├                                    </u>	- <u> </u>

Poge& 19

۱.

ſ	A	B	L	E	2	-
---	---	---	---	---	---	---

	Line	Included in	Press. bndry.	I
RN SYSTEM COMPONENTS (cont.)	Size (in.)	Seismic PRA	integrity only	Non-Safet
MOV 0DN301AC				
NOV ODN2020	24			
	24	++	+	
RN PUMP 1A (1B)		X		
RN STRAINER 1A (1B)				T ····
STANDBY NUCLEAR SERVICE WATER POND		X		
				-
	Line	Included in	Press. bndry.	
SA, SM, SV COMPONENTS	Size (in.)	Seismic PRA	integrity only	Non-Safet
AOV 15A49AB (48AB)	6			
STEAM STOP VALVE TO TOP - 1SA3			╂╾╼╾╾╋	
STEAM CONTROL VALVE TO TOP - 1SA4	3			-
MSIV ISMIAB	34		- <del>    -</del>	
MSIV ISM3AB	34			
MSIV ISM5AB	34		-	
MSIV 1SM7AB	34			
MSI BYPASS VI V ISM9AB	3	╶╉╼╾╌╧╴╼╾╋╸	·	
MSI BYPASS VLV ISMIOAB	3	-f		
MSI BYPASS VLV ISMIIAB	3	++-		
MSI BYPASS VLV 1SM12AB	3			
AOV ISM78	2		×	
AOV ISM83			+	
AOV 1SM84		-{	X	· · · · · · · · · · · · · · · · · · ·
AOV ISM89			+	
AOV 15M90	2	++	Y Y	
AOV 15M95		- <del>}</del>	+	
AOV ISM96		·		
AOV 15M101	. 2		<u>^</u>	
		+	<u>+</u>	
			+	· <del> </del>
SG PORV ISV19AB	6	+ îx	<del>x</del>	
SG SRV ISV2	6		X	
SG SRV 1SV3	6		X·	
SG SRV 1SV4	6		X	
SG SRV 1SV5	6		X	
SG SRV 1SV6	6		X	
SG SRV ISV8	6		X	
SG SRV 1SV9	6	1	X	1

Poge 2 20

060 °

TABLE	2	-	
-------	---	---	--

	-	· · · · · · · · · · · · · · · · · · ·	_		-			
		Line		Included in		Press. bndry.	_	
SA, SM, SV COMPONENTS (cont.)		Size (in.)		Seismic PRA		integrity only		Non-Safety
·							.	
SG SRV 1SV10	Γ	6				X		
SG SRV 1SV11	Γ	6				X		
SG SRV 1SV12	1	6				Х		
SG SRV 1SV14		6			-	X		
SG SPV 1SV15	╋┯┙	6				X		
ISC SEV ISVIA	╈					<u>-</u>		
C CDV 10/17		6					•••	
	+				-		_	
5G 5KV 15V 10	+	0			_		_	
SG SKV ISV2U	+	<u> </u>			-		_	
ISG SRV ISV21	+	<u> </u>	i	· .	_	<u> </u>		
SG SRV 1SV22		0			_	<u> </u>	_	
SG SRV 1SV23	╞	6				X	_	
<u>SG SRV 1SV24</u>	<b>_</b>	6			-	X	_	
~	$\vdash$				_	<b>_</b>		
MOV 1SV25		6				<u> </u>		
MOV ISV26		6				X		
MOV 1SV27	Γ	6				X		
MOV 15V28	Г	. 6				X		
	$\uparrow$						-	
	$\uparrow$						-	
	+	<u> </u>						
	+-	Line	-	Included in	-	Press bodry	-	
	+-	Sho (la)		Solimic PDA		integrity only	-	Non-Safety
VA STSTEIN CONFORMENTS - #	+	5128 (11.)	-	JEDITIC FRA	-	aneginy only	-	THOIL OUTONY
	╂							
AIR-OP DAMPER T-ABF-D-1	┢						-	
AIK-OP DAMPER 1-ABE-D-2	_							
AIR-OP DAMPER 1-ABF-D-3								<u> </u>
AIR-OP DAMPER 1-ABF-D-4A (5A)					_			<u> </u>
AIR-OP DAMPER 1-ABF-D-4B (5B)								<u> </u>
		L						
AUX. BLDG. FILTERED EXHAUST FAN ABFXF-	<u>1A</u>	(18)						X
AUX. BLDG. FILTER UNIT ABFU-1 (2)						X		X
RHR PUMP MOTOR AHU RHR-AHU-1A (1B)	Γ							
	1	[					_	
		1					_	
	T						-	
	1	line		Included In		Press, bndry	-	
VC SYSTEM COMPONENTS - #	+-	Size (in )		Soirmic DDA		integrity only		Non-Sofety
	┨──			JEDITIC FICA	-	aneginy only		THOIL DOILD IN
	+	10	$\left  - \right $	·				
		10					-	
	+	10	<b> </b>					
	<b> </b>	81						
MOV 1VC4B (12B)		18						
	L							
AIR-OP DAMPER CR-OAD-1 (5)								· · · · · · · · · · · · · · · · · · ·
AIR-OP DAMPER CR-OAD-3 (7)	Γ	·····						
AIR-OP DAMPER CRA-OAD-3	1				_		-	
+ - only cursory review of these component	ts 11	anuirad					-1	
- only collocy is new or mese component	1010	-40.60				L }		

Poge& 2/

		Line		Included in	_	Press. bndry.		
VC SYSTEM COMPONENTS (cont.) - #		Size (in.)		Seismic PRA		Integrity only		Non-Safet
AIR-OP DAMPER CRA-OAD-4							_	
		•					_	
MOTOR-OP DAMPER CR-D-1 (2)								
MOTOR-OP DAMPER CR-D-4 (3)					_		_	
MOTOR-OP DAMPER CR-D-5								
MOTOR-OP DAMPER CRA-D-1 (3)				[]	_			
MOTOR-OP DAMPER CRA-D-2 (4)							_	
MOTOR-OP DAMPER CRA-D-5 (6)						<u> </u>		
MOTOR-OP DAMPER CRA-D-11 (7)					_	<u> </u>		
MOTOR-OP DAMPER CRA-D-12 (8)						X		
MOTOR-OP DAMPER CRA-D-13 (9)						X		
MOTOR-OP DAMPER CRA-D-14 (10)						X		
MOTOR-OP DAMPER CRA-D-16 (22)								
MOTOR-OP DAMPER CRA-D-17 (20)								
MOTOR-OP DAMPER CRA-D-19 (18)								
MOTOR-OP DAMPER CRA-D-21 (15)								
MOTOR-OP DAMPER CRA-D-24 (30)					-			
MOTOR-OP DAMPER CRA-D-26 (28)								
MOTOR-OP DAMPER CRA-D-27 (25)	$\top$							
MOTOR-OP DAMPER CRA-D-29 (23)	┢		-			· · ·		
MOTOP-OP DAMPER CRA-D-34 (33)	+	· · · · · · · · · · · · · · · · · · ·						
MOTOP-OP DAMPER CRA-D-35 (36)					-			
MOTOR OF DAMPER SCR.D.1 (2)	+-		_		_	· · · ·	-	
MOTOR-OF DAMPER SOR-D-1 (2)	┢			<u>├───</u>			-	
MOTOR-OP DAMPER SOR-D-5 (4)	╈		_		_		-	
MOTOR-OF DAMPER SCR-D-7 (8)	┼─						-	
WOTOR-OF DAMIFER SOR-D-7 (0)	┼─			<u>                                      </u>	-		-	
	FC		.1	(2)			-	
TDAIN A (B) CONTROL ROOM FILTER PACKAG			_	~			-	
TRAIN A (B) CONTROL ROOM AID HANDUNC			$\overline{17}$	2	_		-	
TRAIN A (B) CONTROL ROOM AIR HANDLING					_		-	
TRAIN A (B) CONTROL ROOM AREA AIR HAN			<u>A</u> -		_		_	
FAN UNIT BR-XF-T (2)	ŀ		Ļ	-			-	
SWICHGEAR ROOM AIR HANDLING UNIT SG	R-A	HU-TA (IB	<u>)</u>					
SWITCHGEAR ROOM AIR HANDLING UNIT SG	R-A	HU-IC (IL	<u>)</u>	<u> </u>	_		_	
SWITCHGEAR ROOM AIR HANDLING UNIT SG	R-A	HU-2A (2B	)		_			
SWITCHGEAR ROOM AIR HANDLING UNIT SG	<u>R-A</u>	HU-2C (2C	<u>»</u>	[				
	$\perp$							
HEATER CRA-H-1	-			· ·		. <u>X</u>		
HEATER CRA-H-2						X		
HEATER CRA-H-3						X		
HEATER CRA-H-4			Γ			X		
HEATER CRA-H-5	Γ					X		
HEATER CRA-H-6 (8)						X		
HEATER CRA-H-7 (9)		<b>†</b>	1	<u> </u>		X		
HEATER CRA-H-11 (10)	+	<u>├</u>	$\vdash$	<u> </u>		X		
HEATER CRA-H-13 (12)	+	<u>├</u>		┟━╍━┼		x		<u> </u>
HEATED CDA-H-15 (1A)	+		┢	<u> </u>				
		L	1	<u>↓</u>	_	<u> </u>	L	ļ

TABLE 2 -

.

Pagel 22

TABLE 2 -

•

	T	Line		Included in	Press, bndry,	
VC SYSTEM COMPONENTS (cont.) - #		Size (in.)		Seismic PRA	integrity only	Non-Safety
HEATER CRA-H-19 (18)					X	
HEATER CRA-H-20 (17)					X	
HEATER CRA-H-21 (16)	[				<u> </u>	
HEATER CRA-H-23 (27)					X	_
HEATER CRA-H-24 (28)					<u> </u>	
HEATER CRA-H-25 (29)					X	· .
HEATER CRA-H-26 (30)					×	
	L			-		
VO EVETELL COMPONENTE L	$\vdash$			Included in	Press. Dndry.	L Non Codet
YC SYSIEM COMPONENTS - #	$\vdash$	SZƏ (IN.)		Seismic PRA		Non-Satery
		1.25		┞─────╋	+	
		1.20			+	
	$\vdash$				+	
3-WAY VALVE 1YC54 (113)		4	_		X	
3-WAY VALVE 1YC76 (135)		5			X .	
3-WAY VALVE 1YC148 (204)		2.5			1	1
3-WAY VALVE 1YC 162 (218)		2.5	-			1
3-WAY VALVE 1YC176 (232)		2.5				
3-WAY VALVE 1YC 190 (246)		2.5				
						1
CONTROL ROOM AREA CHILLED WATER PUMI	PC	RA-P-1 (2)				
CONTROL ROOM AREA CHILLER CRA-C-1 (2)						
COMPRESSION TANK CRA-T-1 (2)						
						<u> </u>
				·		1
						-
			_			
······································						
				-		
	<u> </u>				-	
·				┟┈━───┟┈		
	$\vdash$					
	┣			┟		
				┟		
				<u> </u>		- <del>                                     </del>
	╞			<b> </b>	_ <u> </u>	
	_				_ <b></b>	
If - only cursory review of these component	\$ 16	aquired				

Poge 18 23

## TABLE 3 -

.

MECHANICAL EQUIPMENT LIST	FC	DR MCG	÷U	IRE UNIT 2	2	PEEE WALK	D	OWN
					ŀ			
('B' train components are shown in parenthe	ses	. A detaile	d	walkdown of th	10	e components	s is	not
necessary if the '8' train configuration is simila	<u>ir to</u>	o the 'A' tro	in.	.)	Γ			
		Line		Included in		Press. bndry.		
CA SYSTEM COMPONENTS		Sizə (in.)		Seismic PRA		Integrity only		Non-Sofet
AOV 2CA20AB		6					-	
AOV 2CA27A (32B)		4			1			
AOV 2CA36AB		4			Γ			
AOV 2CA48AB		4					_	
AOV 2CA52AB	Π	4					-	
AOV 2CA56A (44B)		4			-		┢─	
AOV 2CA60A (40B)		4						
AOV 2CA64AB		4						
MOV 2CA7AC	$\left  - \right $	8						
MOV 2CALLA (9B)		8			-			
MOV 2CA15A (18B)	$\vdash$	6					-	
MOV 2CA38B			-		-		-	
MOV 2CA50B	$\vdash$						-	
MOV 2CA54AC		4			-			
	$\vdash$	4	-		-			
MOV 204624 (40B)	$\vdash$							
	┢─┤	4	-		-			
	$\vdash$	- 4	_		┝─		-	
	┝─┦			·				·
	-	- 0			-			
TURBINE DRIVEN PUMP 2 (INCLUDING				X				
CONDENSATE EDUCTOR )				•				······
TURBINE DRIVEN PUMP LUBE OIL HX	$\square$							
MOTOR DRIVEN PUMP 2A (28)				Х	-		-	
WZ SUMP PUMP A (B) FROM GROUNDWATER		AINAGE SI	JŇ	PB (B)	_			
	$\vdash$				-			
					·			
DIESEL GENERATOR AND SUPPORTING		Line		Included in	Ĺ	Press. bndry.		
COMPONENTS	$\square$	Size (in.)		Seismic PRA		integrity only	_	Non-Safet
D/G 2A (2B)	F.		_	X				
								· · · · · · · · · · · · · · · · · · ·
FUEL OIL DAY TANK 2A (2B)				· X			_	
FUEL OIL STORAGE TANK 2A (2B)								
FUEL OIL BOOSTER PUMP 2A (2B)						X		
FUEL OIL FUEL TRANSFER FILTERS 2A1 2A2					┢─	x	_	
(281, 282)					$\vdash$			
FUEL OIL TRANSFER PUMP 2A (2B)	$\vdash$		-		┢─			
		<b> </b>			┝─			
	┼╌	├ <b>─</b> ──			$\vdash$			<u> </u>

Pager 24

•

•

	DIESEL GENERATOR AND SUPPORTING		Line		Included in	_	Press. bndry.		
	COMPONENTS (cont.)		Sze (in.)		Seismic PRA		integrity only		Non-Safety
	· ·								
	AIR-OPERATED REGULATING VALVE 2KD9		4			_			
	(2KD29)							•	
	KD D/G COOLING WATER HX 2A (2B)								
	KD INTERCOOLER PUMP 2A (2B)								
	KD JACKET WATER PUMP 2A (2B)								
	KD SURGE TANK 2A (2B)								•
1	D/G INTERCOOLER 2A (2B)		,	_					
	MOV 2LD108 (113)		4				X		
	LUBE OIL INTAKE STRAINER 2A (2B)						X		
	LUBE OIL FILTER 2A (2B)					_	X	_	
	LUBE OIL COOLER 2A (2B)					_	<u> </u>	_	
		_		_					
	VD D/G BLDG, VENTILATION FANS DSF-2A, 2	<u>'C</u>	(28, 2D)	_					
						_			
	SOLENOID VALVE 2VG01 (65)	_	2					_	
	SOLENOID VALVE 2VG02 (00)		2						
	SOLENOID VALVE 2VG03 (07)		2	_					
	SOLENOID VALVE 2VG04 (00)	_				_			
	VG STARTING AIR TAINS 2AT, 2AZ (2BT, 2BZ)	2	1 202			-			
	(2B1 2B2)	<u>~</u>	1,222						^
	VG CONTROL AIR VOLUME TANK 2A (2B)							-	
	VG AIR COMPRESSORS 2A1 2A2 (2B1 2B2)							-	×
	VG LINE PURIFIERS 2A1, 2A2 (2B1, 2B2)							-	
	VG CONTROL AIR FILTER 2A (2B)					-		-	
1	······································							1	······
i	VN AIR INTAKE SILENCER 2A (2B)					_			X
	VN AIR EXHAUST SILENCER 2A (2B)								X
	WN D/G SUMP PUMPS 2A2, 2A3 (2B2, 2B3)								X
			·						·
	ZD VACUUM BLOWER PACKAGE 2A (2B)					_	· .		<u> </u>
									·····
			- <u>-</u>						
			Lico		Included in		Drore badar		
	ENAL SYSTEMA CONADONIENTS	-					Liptogritu ophi	-	Non Safat
	TVV STSIENT COMPONENTS				JUSITIC FRA				NOIPSOINT
1	MOV 2FW1A		8			_		-1	
	MOV 2FW27A		14					-	
	MOV 2FW32B		8					-	
	MOV 2FW33A	-	2			-	·		
	MOV 2FW49B	-	2						
	REFUELING WATER STORAGE TANK (FWST)		<u>_</u>		X				
		-						-	
ć		-	·			-	í	-	
		<b></b>	· · · · · · · · · · · · · · · · · · ·			_			·

TABLE 3 -

Page 2 25

TABLE	3	-
-------	---	---

		Line	_	included in		Press. Dnary.	
KC SYSIEM COMPONENTS		Size (in.)		Seismic PRA		Integrity only	Non-Safety
AOV 2KC57A (82B)		12					
	1						
MOV 2KC1A (2B)		20					
MOV 2KC3A (18B)		10					
MOV 2KC50A (53B)		20	_				
MOV 2KC51A (54B)		4	-			X	-
MOV 2KC56A (81B)		16				^	
MOV 2KC230A (228B)		8					
		r					
KC PUMPS ZAT, ZAZ (201, 202)				×	_		
UNIT 2 KC SURGETANK					_		
RHR PUMP MECH. SEAL HX 2A (2B)			_				
		Line		Included in		Press. bndry.	
NC SYSTEM COMPONENTS	-	Size (in.)		Seismic PRA		integrity only	Non-Safety
			-			<u> </u>	
P7P PORV 2NC32B		3	-	X	_		
PZR PORV 2NC34A		3		×	_		
FZR FORV ZNCJOB				·			
SAFETY REVER VLV ZNCT		0					
SAFETY REDEP VLV 2NC2		0			_		
SAFETY RELIEF VLV ZNC3		<u> </u>	_				
			_				
MOV 2NC31B		3	_				
MOV 2NC33A		3					
MOV 2NC35B		3					
			-				
					-		
		Line	_	Included in	_	Press, bndry,	
ND SYSTEM COMPONENTS		Stre (in )		Seismic PDA	-	integrity only	Non-Safety
		020 (11.7	-	OCBINE TRA		The gint only	- HOIFOGICITY
AOV 2ND29 (14)					-	- V A	
	-+	0					
AUV 21ND34					_	<u> </u>	
			_				
MOV 2ND IB		14				#	
MOV 2ND2AC		14				X #	
MOV 2ND19A (48)		14					
MOV 2ND30A (15B)		_ 8					
MOV 2ND32 (17)		2	_			X	
MOV 2ND33 (18)		8	-1			X	
MOV 2ND58A		8	-1				
		├ <u></u>	-				
4 required to function during anti-	t day		-	<u> </u>	-		
	IOON	///		L I		l l	L .

Page \$ 26

	Line	_	Included in	Press. bndry.		
ND SYSTEM COMPONENTS (CONT.)	Size (in.)		Seismic PRA	Integrity only		Non-Safety
MOV 2ND68A (67B)	2			+		
ND PUMP 2A (2B)						
ND HX 2A (2B)			X I	-		
	<u>+ +</u>				_	
					-	
NI SYSTEM COMPONENTS	Size (in.)	_	Seismic PRA	integrity only	-	Non-Safet
		-	JOSSIFIC FRA		-	Nonsaler
AOV 2NI50	1			X		
AOV 2NI56	1			X		
AOV 2NI57	0.75			X		
AOV 2NI58	0.75			<u> </u>		
<u>AOV 2NI61</u>	1			X		
AOV 2NI67	1			X		
AOV 2NI68	0.75			X		
AOV 2NI69	0.75	_		X		
AOV 2NI72				X		
AOV 2NI78	1			X		···
AOV 2NI79	0.75			X ·		
AOV 2N180	0.75				_	
AOV 2N184		_		X	_	
AOV 2NI90				X	_	
AOV 2NI91	0.75			X	_	
AOV 2N192	0.75		····	<u> </u>		
AOV 2NI163	0.75	_		<u> </u>	_	
AOV 2NIT/4 (1/9)	0.75			X		
MOV 2NI9A (10B)	4			#		
MOV 2NI54A	10			X #		
MOV 2NI65B	10			X #		
MOV 2N176A	10			#		
MOV 2NI88B	10		· ·	#		
MOV 2NI100B	8			X		
MOV 2NI103A (1358)	.6			X	1	
MOV 2NI115B (144B)	1.5			X		
MOV 2NI118A (150B)	4			X		
MOV 2NI121A (152B)	4			X		
MOV 2NI136B	6			•		
MOV 2NI147A	2			X		
MOV 2NI162A	4			X		
MOV 2NI173A (178B)	8				_	
MOV 2NI183B	12			X		
MOV 2NI185A (184B)	18					
MOV 2NI332A	6				-	
MOV 2N1333B	6					
# - required to function during cold shute	down				-	

Poge 27

TABLE 3 -

		Line		n bet	Press. 1	ondry.	_	
NI SYSTEM COMPONENTS (cont.)		ize (in.)	Seismi	C PRA	_ integril	y only		-Safe
MOV 2NI334B		A	-			,		<u></u>
					<u>+^</u>	·		
2NI430A (NITROGEN BACKUP TO PZR PORVS)		0.75		x				
2NI431B (NITROGEN BACKUP TO PZR PORVS)		0.75		x			-	
NI PUMP 2A (2B)			·	x				
(not needed for inventory control for 1° SBL	.004	<u>N</u>		<u> </u>				
COLD LEG ACCUMULATORS				<u>×                                    </u>				<u></u>
(not needed for 1° SBLOCA)					+			
			+					
		Line	Incluc	ted in	Press. t	ondry.	-	
NS SYSTEM COMPONENTS	S	Szə (in.)	Seismi	C PRA	integrit	y only	Non	-Safe
MOV 2NS43A (38B)		8	-				-	
	L.						<b>_</b>	
SPRAT INULLES DUWINSTREAM OF 2N547 (42)								
				<u>+</u>		<u></u>	_}	
						<u> </u>		
		Line	Incluc	led in	Press, t	ondry.	+	
NV SYSTEM COMPONENTS	s	ize (in.)	Seismi	C PRA	inteart	voniv	Non	Safe
AOV 2NV238		3			X			
AOV 2NV241		3	ļ		X			
101/ 011/0440								
		4						
		4				<u></u>		
		4						
MOV 2NV150B	┝━┠╼	2			+		+	
MOV 2NV151A		$\frac{1}{2}$			+		+	
MOV 2NV221A		8			- ^		+	<u></u>
MOV 2NV222B		8	1		+		-	
MOV 2NV244A		3			-			
MOV 2NV2458		3					-	, ,
CENTRIFUGAL CHARGING PUMP 2A (2B)			)	<				
SEAL WATER HX 2					X		_	
SEAL WATER INJECTION FILTER 2A (2B)					<u> </u>			
SEAL WATER RETURN FILTER 2			·		<u> </u>		_	
VOLUME CONTROL TANK 2			<u> </u>	<u> </u>	<u> </u>		<u> </u>	
(not needed for inventory control for 1° SBL	<u>.0C</u> A	N		<u> </u>			·	
REGENERALIVE HEAT EXCHANGER			$\downarrow$	(	<u> </u>			

TABLE 3 -

Page\$ 28

		Line		cluded in		Press. bndry.		
RN SYSTEM COMPONENTS		Size (in.)	Sei	ismic PRA		integrity only		Non-Sa
	┉┼╌┼							 
AOV 2RN2TA (258)		6	_					
AOV 2RN22A (268)		6						
AOV 2RN68A (161B)	-++	1.5	_					
AOV 2RN89A (190B)		20			_			
AOV 2RN103A (204B)		3?	_					
AOV 2RN112A (213B)		2						
AOV 2RN114A (2158)		2				X		·
AOV 2RN117A (218B)		2						
AOV 2RN126A (227B)		2				X		
AOV 2RN130A (231B)		2	· ·					
AOV 2RN140A (240B)		4				X		
AOV 2RN166A (170B)		2						
AOV 2RN252B		6				X		
AOV 2RN277B .		6				X		
					_			
MOV 2RN1	+	42	_			<u> </u>	L	
		30	_ <u></u>		_	X	L	
		10	<u> </u>			<u> </u>		
MOV 2RN41B (43A)	<b>_</b> <u></u>  _ŀ	10						
MOV 2RN42A	-+-+-	10						
MOV 2RN63B	┙	10	_			X	_	
MOV 2RN64A	_ _	10	_			X		
MOV 2RN69A (162B)		8	_					
MOV 2RN70A (171B)		8 .						
MOV 2RN73A (174B)		8				Х		
MOV 2RN86A (187B)		20					_	
MOV 2RN134A (235B)		18				<u>X</u>		
MOV 2RN137A (238B)		18				X		
MOV 2RN253A		6				Х		
MOV 2RN276A		6	1			Х		
MOV 2RN279B		6				Х		
MOV 2RN296A (297B)		36				X		
MOV 2RN299A		6				X		
	$\square$		_					
RN PUMP 2A (2B)				<u>X</u>				
	╶┼┼				_			
STANDBY NUCLEAR SERVICE WATER POND	╶┼╶┼			- X.				
			-					
		Line	lnc	cluded in	-	Press body		
SA, SM, SV COMPONENTS		Size (in.)	Sei	smic PRA		Integrity only		Non-Sa
AOV 2SA49AB (48AB)		6						
STEAM STOP VALVE TO TOP - 2SA3		3			-			
STEAM CONTROL VALVE TO TOP - 25A4		3	-1		-			
MONY DOMIAR	-	24			-			

TABLE 3 -

Page \$ 29

.
	Line		Included in	Press. bndry.		
SA, SM, SV COMPONENTS (cont.)	Size (in.)		Seismic PRA	Integrity only	_	Non-Safety
MONT OCH 2 AD		$\vdash$				
	34	┝				
	34	┝─	-			
MSIV 2SM/AB		┝─				
MSI BYPASS VLV 2SM9AB	3				_	
MSI BYPASS VLV 2SM10AB	3				_	
MSI BYPASS VLV 2SM11AB	3				-	
MSI BYPASS VLV 25M12AB	3					
A ()// 001470					_	·
AOV 25M/8	<u> </u>			X		
AOV 25M83	2				_	
AOV 25M84	2			×	_	
		$\vdash$		- <del>  </del>		
	4	$\vdash$	┟──────┼			
		$\vdash$	┢━━━┣		-	
					~	
					_	
SG PORV 2SV1AB	6		X	X		
SG PORV 2SV7ABC	6		X	X		
SG PORV 2SV13AB	6		X	X		
SG PORV 2SV19AB	6		X	X		
				_	_	
SG SRV 2SV2	6			X ·	_	
SG SRV 2SV3	6			X	_	
SG SRV 2SV4	6			<u> </u>	_	
SG SRV 2SV5	6			X	_	
SG SRV 2SV6	6			<u> </u>		·
SG SRV 2SV8	<u> </u>			X	_	
				× ×		
		-		×	_	
20 20V 20V11	<u> </u>	L	┝		_	
3G 5KV 25V12	<b>0</b>		<b>  </b> -	X	_	
5G 5KV 25V14				×	_	
SG SRV 25V15	0	_		X	_	
SG SRV 2SV 10				×		
	- <u> </u>			<u> </u>		
SG SRV 25V18	<u> </u>			X	_	
<u>56 5KV 25V2U</u>	<u> </u>			<u> </u>	_	
	0			×		
5G 5KV 25V22				X		
3G 3KV 23V23					_	
3G 3K4 23V24				+ <u> </u>	-	
MOV 2SV25	6			x		
MOV 25V26	6			$\frac{1}{x}$		
MOV 25V27	6			X		·····
MOV 25V28	6			X		
		_				

TABLE 3 -

Paget 30

.

## TABLE 4 -

ELECTRICAL EQUIPMENT LIST F	OR	MCGU	IR	E UNIT	1 IPE	EE WALKD	0	WN
	T						Γ	
	$\perp$					Included in		
AREA TERMINATION CABINETS	$\perp$					Seismic PRA		Non-Sofe
							L	
							1	
· · · ·				、		Included in	L	
AUXILIARY SHUTDOWN PANEL						Seismic PRA		Non-Saf
						X		
· · · · · · · · · · · · · · · · · · ·						}		
				<b>،</b>			Γ	
· · ·						Included in	L	
SUPPORT FOR CA SYSTEM						Seismic PRA		Non-Saf
							Τ.	
160V AC SWITCHGEAR 1ETA (1ETB)						X		
OOV AC MCC 1EMXA (1EMXB) (1EMXB-2)						X		
DOV AC MCC 1EMXA-4						X	T	
DOV AC MCC 1EMXA-5						X	Τ	
25V DC DISTRIBUTION CENTER 1EVDA (1EV	DB)					X		
25V DC PANELBOARD 1EVDA (1EVDB)	Τ					X	Ţ,	
20V AC PANELBOARD 1EVKA (1EVKB) & N	AN	UAL TRAN	ISFE	R SWITCH		X	Τ	
OCAL MOTOR-DRIVEN PUMP CONTROL PA	NE	L				X	Γ	
OCAL TURBINE-DRIVEN PUMP CONTROL PA	ANE	l	Γ			X	T	
SFAS TRAIN A (B) 48V DC POWER SUPPLIES	3	ľ					Γ	1
BATTERY EVCA (EVCB)	Τ						Г	
BATTERY CHARGER EVCA (EVCB)			Π				T	<u> </u>
OC CIRCUIT BREAKER FOR MDP1A (MDP1B)	) Al	JTOSTART						
NVERTER LEVIA (LEVIB)							Γ	
D PUMP RELAY HE							T	
MFW PUMP RELAY BB(A) (BB(B))	T						Τ	
MFW PUMP RELAY R/TT(FPTCA) (R/TT(FPTCB)	))						1	
MFW PUMP RELAY R/TT-1 (FPTCA) (R/TT-1 (FF	गC	B))						
RELAY_R25C(A) (R25C(B))							Т	
RELAY K609A (K609B)	Τ		Γ				Γ	1
RELAY LRAG (LRBG)	Τ						T	
OAD SHED RELAY LSA1 (LSB1)	T		1				T	
EST RELAY ISA2 (ISB2)	Τ						1	1
SFAS SLAVE RELAY KO33A (KO33B)	Τ						T	
SFAS SLAVE RELAY K634A (K634B)	T		1				1	
ESFAS MASTER RELAY K516A (K516B)	T		1		- <u>t</u> -		$\mathbf{T}$	1
ESFAS INPUT RELAY KIIJA (KIIJB)	Τ		1	<u> </u>			1	1
SFAS INPUT RELAY KI14A (K114B)	+	t	1-				+	1
ESFAS INPUT RELAY K121A (K121B)	+	1	f				+-	<u> </u>
ESFAS INPUT RELAY KISOA (KISOB)	+-	<u> </u>	+				+	+
ESEAS INPLIT RELAY K230A (K230B)	+	<u> </u>	+			<u> </u>	+	t
ESEAS INPLIT RELAY K231A (K231B)	┽	+	+				+-	+
ESEAS INDUIT DELAY KOSOA (KOSOB)	+	· · · ·	+			<u> </u>	+-	+
	+	┼	+				+-	

TABLE 4 -

	Γ				T	Included in		1
SUPPORT FOR CA SYSTEM (cont.)	Γ				T	Seismic PRA		Non-Safety
	Γ				T			
ESFAS INPUT RELAY K331A (K331B)	Γ				T			
ESFAS INPUT RELAY K332A (K332B)	Γ				T			
ESFAS INPUT RELAY K333A (K333B)					1			
ESFAS INPUT RELAY K334A (K334B)	<b>[</b>							
ESFAS INPUT RELAY K407A (K407B)	1-						_	
ESFAS INPUT RELAY K408A (K408B)	Γ				1-		_	
ESFAS INPUT RELAY K409A (K409B)					1			
ESFAS INPUT RELAY K410A (K410B)					1-			
ESFAS LOGIC MODULE A317A (A317B)					1		_	
D/G LOAD SEQUENCER (LOAD ACTUATE) REL	AY	2JA(RA8)	(2	JA(RB8))	$\mathbf{T}$			
D/G LOAD SEQUENCER RELAY A3 (B3)	r i		-		┢			
SG A LO-LO WATER LEVEL CHANNEL 1 BIST	AB	E			┢		-	
SG A LO-LO WATER LEVEL CHANNEL 1 LEV	FL	TRANSMITT	FR		┢──			
SG A LO-LO WATER LEVEL CHANNEL 2 BIST	AR	F			+		-1	
SG A LO-LO WATER LEVEL CHANNEL 2 LEV	FI	TRANSMITT	FR					
SG A LO-LO WATER LEVEL CHANNEL 3 BIST	AR	F		r	+			
SG A LO-LO WATER LEVEL CHANNEL 3 LEV	FI	TRANSMITT	FD	L	┢			
SG A LO-LO WATER LEVEL CHANNEL & BIST	AR	F			┼─	·		· · · · ·
SG A LOLO WATER LEVEL CHANNEL & LEV	FI	TPANSMITT	FD	L	+			
SG B LOLO WATER LEVEL CHANNEL 1 BIST	AR	F			┝			
ISG B LOLO WATER LEVEL CHANNEL 1 LEVEL	1		FD		┢		-	
SG B LOLO WATER LEVEL CHANNEL 2 BIST		F			┢		-	
SC B LOLO WATER LEVEL CHANNEL 2 LEVE	-101		-D		╉──		_	
SC B LOLO WATER LEVEL CHANNEL 3 BIST	AR	F		<u> </u>	╋			
SG B LOLO WATER LEVEL CHANNEL 3 LEVE	1	TDA NISMITT	ED		┢─			
SC B LOLO WATER LEVEL CHANNEL & BIST		F			┢		-	
SG B LOLO WATER LEVEL CHANNEL 4 LEVEL	-	TRANSMITT	FD		┢─			
SG C LOLO WATER LEVEL CHANNEL 1 BIST	AR	IF			+		-	
SG C LOLO WATER LEVEL CHANNEL 1 LEV		TDANSMITT	ED	<u>}</u>	┼──			
SG C LOLO WATER LEVEL CHANNEL 2 BIST					┢─		-	
ISC C LOLO WATER LEVEL CHANNEL 2 LEV		TDANSMIT	FD	ļ	╋			
SG C LOLO WATER LEVEL CHANNEL 3 BIST		IF					_	
ISC C LOLO WATER LEVEL CHANNEL 3 LEV		TDANSMITT	FD	L	╋		-	
SG C LOLO WATER LEVEL CHANNEL & BIST			5		┢		-	
SC C LOLO WATER LEVEL CHANNEL 4 LIST		TDANSMIT	ĒD	<u> </u>	<u> </u>		-	
SC D LOLO WATER LEVEL CHANNEL 1 BIST				· · · · · · · · · · · · · · · · · · ·	+		_	
SC D LOLO WATER LEVEL CHANNEL 1 LEV		TDANCAIT	En	L	┢─			
SG D LO-LO WATER LEVEL CHANNEL I LEV			EK	, <u> </u>	┢			
SG D LO-LO WATER LEVEL CHANNEL 2 BIST	AD			L	+		_	
SG D LO-LO WATER LEVEL CHANNEL 2 LEV		TRANSMIT	FK	· · · ·				
ISG D LOLO WATER LEVEL CHANNEL 3 BIST				L	┫			
ISG D LO-LO WATER LEVEL CHANNEL 3 LEV		IRANSMIT	ER		┫			
ISG D LO-LO WATER LEVEL CHANNEL 4 BIST	AB			I				
ISG D LO-LO WATER LEVEL CHANNEL 4 LEV	EL.	IRANSMIT	ER		╇		_	
INSTR. LOOP CONTAINING ICASV/MV0200,	SV	J201, & S\	02	202	<u> </u>			
INSTR. LOOP CONTAINING ICASV/MV0270 (	03	20) & SV02	27	(0321)	$\bot$			
INSTR. LOOP CONTAINING ICALL/P/SV/MLO	520	(0480)						
INSTR. LOOP CONTAINING ICALL/P/SV/MLO	560	(0440)	_					
TINSTR. LOOP CONTAINING ICALL/P/SV/MLO	500	) (0400) –					_	

Poge 32

t.

## TABLE 4 -

	T		Γ		Τ	Included In	Γ	
SUPPORT FOR CA SYSTEM (cont.)	T				T	Seismic PRA		Non-Safety
	7				T			
INSTR. LOOP CONTAINING ICALL/P /SV/MLC	3640	) (0360)			T.			1
INSTR. LOOP CONTAINING ICAFE/PS/FT/P 5	000	(5010), PS	50	01 (5011), & 1	255	002 (5012)		1
INSTR. LOOP CONTAINING ICAPS/PT/P 5020	) (5	030)	Γ	[	Γ	<u> </u>		
INSTR. LOOP CONTAINING ICAFE/PS/FT/P 5	340	P\$5041, I	×55	042, & PS5044	1			
INSTR. LOOP CONTAINING ICAPS/PT/PG/P	5050	)	Γ		Τ			
INSTR. LOOP CONTAINING ICAPS/PT/P 5070	(5	080)			T			
INSTR. LOOP CONTAINING ICAFE/FT/P 5090	(5)	10) & FT5	09	1 (5111)	1			
INSTR. LOOP CONTAINING ICAFE/FT/P 5100	(5)	20) & FT5	10	1 (5121)	1			[
INSTR. LOOP CONTAINING ICAPS/PT/P 5160	T				Γ			
INSTR. LOOP CONTAINING ICFLT/P 5490	T				1			·
INSTR. LOOP CONTAINING ICFLT/P 5500	+		-		t		_	
INSTR. LOOP CONTAINING ICFLT/P 5510	+-				t			
INSTR. LOOP CONTAINING ICFLT/P 5520	+-						_	
INSTR. LOOP CONTAINING ICFLT/P 5530	+		-		1-			
INSTR. LOOP CONTAINING ICELT/P 5540	+-		-		$\uparrow$		_	
INSTR. LOOP CONTAINING ICFLT/P 5550	+		-		┢			
INSTR. LOOP CONTAINING ICFLT/P 5560			-		+			
INSTR. LOOP CONTAINING ICFLT/P 5570	╞─		┝─		+-			
INSTR. LOOP CONTAINING ICFLT/P 5580	+		┢╌		1			
INSTR. LOOP CONTAINING ICFLT/P 5590	╈		-		+			
INSTR. LOOP CONTAINING ICELT/P 5600	╈		-		┟──			
INSTR. LOOP CONTAINING ICFLT/P 6000	┿╌				1-			
INSTR LOOP CONTAINING ICELT/P 4010	+		┝─			i		
INSTR LOOP CONTAINING TOFLY COTO	┢				┢╼			
INSTR LOOP CONTAINING ICFLT/P 4030	+-				<u> </u>			
	+-			· · · · · · · · · · · · · · · · · · ·	<u>}</u>			
· · · · · · · · · · · · · · · · · · ·	+				┢╍╴			
	+				┼─			
· · · · · · · · · · · · · · · · · · ·	+		<u> </u>		-	Included in	_	
SUPPORT FOR DIESEL GENERATORS	+			· · · · · · · · · · · · · · · · · · ·	┢╾	Seismic PRA		Non-Safety
OUT ON TON DEDEC OLIVERY TONG	┥─		È		┢─	JOBILIC TIC		NOFFOREITY
ALAON AC SWITCHGEAR IETA (IETB)	+				┢	Y	-	
ADDV AC LOAD CENTER JELYA (JELYB)	┿		┝─		┢─		_	
600V AC LOAD CENTER JELYC (JELYD)	┼─		$\vdash$				-	
ADV AC LOAD CENTER IELAS (IELAS)						├		
AC LOAD CEIVIER TELLE (TELLE)	+				╞	├	-	
ACOV AC MCC TENNA (TENNA)	┼╴	} <u>-</u> -	┝		╋			
120V AC DANELROARD IDCIA (IDCIR)	╋		$\vdash$	ļ	╀──		-	
120V AC PANELBOARD IDGIA (IDGIB)	╇	<u> </u>			Ł			
125V DC PANELBOARD TEVDA (TEVDD)	+			ļ				
125V DC BAHERY / RACK			┣		$\vdash$	×		
	+-	<u> </u>	-		┢╌	×		ļ
DATEDUATED A (IFROM) AND ON A COM	4-	<u> </u>	┣		┢	X		
BATTERY TEDGA (TEDGB) AND CHARGERS	1_		L		Ļ	×		ļ
BATTERY TEDGA (TEDGB) INPUT & OUTPUT	BR	AKERS	<u> </u>	!	L			
600 / 120V AC TRANSFORMER TO PANELBOA	<u>RD</u>	1DG1A (1	DG	51B)	L			· · · · · · · · · · · · · · · · · · ·
BREAKER DG1A-2 (DG1B-2)		<u> </u>			L			
AUTO RESET RELAY ED(TRA3) (ED(TRB3))	$\perp$							
BLACKOUT RELAY DC(BOA) (DC(BOB))			[		Г			

<sup>Page</sup>∦ 33

TABLE 4 -

	T	1	Γ		T	Included in	T	
SUPPORT FOR DIESEL GENERATORS (cont.)	T	1	$\mathbf{T}$		$\top$	Seismic PRA		Non-Safe
	1	1	1					
BLACKOUT LOGIC RELAY DA(LRA2) (DA(LRB2)	20D						F	
DEFEAT TEST RELAY FB(DTSA) (FB(DTSB))	Ť	<u> </u>			$\top$		$\vdash$	
D/G START RELAY 2TRA(A) (2TRA(B))	$\uparrow$		1		$\uparrow$	j	<u>}                                    </u>	<b> </b>
D/G START RELAY 2TRA1(A) (2TRA1(B))	+		<u>†</u>		1-			
D/G START RELAY 2TRB(A) (2TRB(B))	-	1	┢──		┼╴	······	┢─	
D/G START RELAY 2TRC(A) (2TRC(B))	+	1	1		+-		<u> </u>	
DIESEL STARTING AIR RELAY RVG1(A) (RVG	51(8	3))	┢──					
DIESEL STARTING AIR RELAY RVG2(A) (RVG	-2(P	<u></u>	1-		╋┈		-	
DIESEL STARTING AIR RELAY RVG3(A) (RVG	3(P	<u></u>	<u> </u>		+-			
D/G ALITOSTART RELAY DASP(A) (DASP(B))	Ť	<u>"</u>	-		┢		┢	
OAD SHED DELAY ABUSAIL (ABUSEIL)	+				+		-	{
$1 \bigcirc AD$ SHED DELAY AA( $(SA2)$ ) (AA( $(SB2)$ )	┿				╋		-	
LOAD SHED TIMED DELAY COUSAD (COUSAD)		<u> </u>			+		-	<u> </u>
ICAL TIMED DELAY ENGINAL (EDGINE)	<u>101</u>	<u> </u>	┣		+		<u> </u>	[
LOCIC TIMER RELAT FULLIA) (FULLIB)	+	<u> </u>			+			[
	+			······	╋			<u> </u>
	╋	<u> </u>	<b> </b>		+			<u> </u>
	╉	<u> </u>			╌┼╌			
RELAY SCRIAJ (SCRIBJ)	╋		<u> </u> '	<u> </u>	╡╼	·		
RELAY ARI(A) (ARI(B))	╋	<u> </u>		<u> </u>	╄╌			
RELAY DE IFRA (DE IFRB)			<b> </b>		+			
RELAY ESX(A) (ESX(B))	+-				+			
RELAY ZIRA(A) (ZIRA(B))		ļ	<sup> </sup>				┣	
RELAY FC(IRAT) (FC(IRBT))	╇		<b> </b>		+-		-	
RELAY HRA(AA) (HRB(BB))	+-	<u> </u>			╇			
RELAY RID(A) (RID(B))	+-	ļ	-		┢			
RELAY STATX(A) (STATX(B))	╇	{			┥			
RELAY STA2X(A) (STA2X(B))		<u> </u>						
RELAY SIA4X(A) (SIA4X(B))	+-							
RELAY ISA3 (TSB3)	+-	L			$\vdash$			
RESET RELAY EB(RRA) (EB(RRB))	╌┟╴					ļ	L	
RESTART RELAY FA(RGA) (FA(RGB))	┶	<u> </u>			÷-			
UNDERVOLTAGE RELAY 4CA(A) (4CA(B))	$\bot$	L			+		_	
UNDERVOLTAGE RELAY 4DA(A) (4DA(B))		<u> </u>						
UNDERVOLTAGE RELAY AC(127ZAX) (AC(1)	<u>277</u>	<u>BX))</u>						
UNDERVOLTAGE RELAY AD(127YAX) (AD(1)	27Y	BX))						
UNDERVOLTAGE RELAY AE(127XAX) (AE(12	27XI	BX))						
RESET SWITCH 4CC(A) (4CC(B))	1				Τ			
RESET SWITCH EG135		1	1		1			
SPEED SWITCH SIA1 (SIB1)	T							
SPEED SWITCH SIA2 (SIB2)	T		$\square$		1		-	
INSTR. LOOP CONTAINING 1FDLS5040 & LS50	41	(5050 & 5	051	)	$\uparrow$		-	
INSTR. LOOP CONTAINING 1LDPG/PS5120 & P	551	21/5122/51	23	(5130 & 513)	1/5	132/ 5133)		
INSTR. LOOP CONTAINING ILDPT/PG5360 (53	70	[	Ť		Ť	l	1	
INSTR LOOP CONTAINING IVGPG/PS50/0 &	PC /	PS5050 (50	140	& 5070)	+-		-	<u> </u>
INSTR LOOP CONTAINING IVERCIPSORD (5		<u> (u</u>	$\tilde{r}$	~~~~	+		┢╌	<u> </u>
INSTR LOOP CONTAINING IVEPC/PS5120 &		PS5122 /5		& 51/21		<u> </u>		}
INSTR LOOP CONTAINING IVER C/PS5130 &		PS5132 (5		& 51521	┢			
	7	T	μ	G 0 102)	+-	}		}
1 · · · · ·			1			1		

Page # 34

······································								
	_					Included in	Г	
SUPPORT FOR FW SYSTEM						Seismic PRA		Non-Safety
							Τ	
INSTR. LOOP CONTAINING 1FWLT/P 5000							T	
INSTR. LOOP CONTAINING 1FWLT/P 5010							Γ	
INSTR. LOOP CONTAINING 1FWLT/P 5020	_				F		F	
		<u> </u>			┢		┼─	
							F	ļ
					╞─		╂—	Ales Cafet
SUPPORT FOR AC STSTEM					┢	Seismic PRA	┢	[INON-SOID]
4160V AC SWITCHGEAR 1ETA (1ETB)						X	Ĺ	
600V AC MCC 1EMXA (1EMXB)						X		
125V DC PANELBOARD 1EVDA (1EVDD)						X		
D/G_ACCELRATED SEQUENCE RELAY 2DB(A)	42)	(2DB(AB2)	)					
D/G AUTO RESET AUXILIARY RELAY CC(TRA	3X)	(CC(TRB3)	())				Γ	
D/G LOAD ACTUATE RELAY 2HA(RA6) (2)	HA	(86))					Γ	
D/G LOAD SEQUENCER RELAY LSA2 (LSB2	<u> </u>							
D/G LOAD SEQUENCER RELAY RAG (RB6)	T				Γ	[	Γ	1
D/G LOADING TRANSIENT ADVANCE TIMER	REL	AY 2AD(AT/	A1)	(2AD(ATB1))			Γ	1
D/G LOADING TRANSIENT ADVANCE TIMER	REL	AY 2BD(ATA	(2)	(2BD(ATB2))			Γ	
D/G LOADING TRANSIENT ADVANCE TIMER	REL	AY 2CD(AT	A3)	(2CD(ATB3))	Γ			1
D/G LOADING TRANSIENT ADVANCE TIMER	REL	AY 2DD(AT	14)	(2DD(ATB4))	Γ		1	1
D/G SEQUENCE TIMER RELAY GA(ST4A) (G	A(S	T4B))	M					1
D/G SEQUENCE TIMER RELAY GB(ST2A) (G	B(ST	'2B))					T	
D/G SEQUENCE TIMER RELAY HB(ST6A) (HI	BISTO	5B))					Γ	
D/G SEQUENCE TIMER RELAY HC(ST5A) (H	CIST	(5B))					1	1
D/G TEST RELAY 2FB(TSA4) (2FB(TSB4))	T				<b> </b>		-	
ESFAS SLAVE RELAY KOIDA (KOIDB)		1						1
TEST RELAY TSA1 (TSB1)							1	f
INSTR. LOOP CONTAINING 1KCPT/P 5490 (55	00)							[
INSTR. LOOP CONTAINING IKCFE/FT/P 5530	554	D)	Π				T	1
INSTR. LOOP CONTAINING IKCFE/FT/FS/SV/P	567	0 (5680)						
	╉	<b> </b>	-				Ļ	<b> </b>
		+					F	<u> </u>
	+	·				Included in	┡	
MAIN CONTROL BOARDS	+-	<u> </u>		·	┝	Seismic PRA	┢	INON-SOTER
						~	L	
	+			! 	┣		┢	
					Ē	Included in		
SUPPORT FOR NC SYSTEM		<u> </u>			┝	Seismic PRA	-	Non-Safety
4160V AC SWITCHGEAR IETA (1ETB)						X	<u> </u> _	
600V AC LOAD CENTER IELXA (IELXB)						X		
600V AC LOAD CENTER IELXC (1ELXD)						X		
DOV AC MCC 1EMXC (1EMXD)						X	Γ	
125V DC PANELBOARD JEVDA (JEVDD)	1	1				X	<b>F</b>	

Poge≯ 35

TABLE 4 -

TABLE 4	-
---------	---

			-				_	
				l	L	Included In		
SUPPORT FOR NC SYSTEM (cont.)						Seismic PRA		Non-Safety
					Ē			
CCELERATED SEQUENCE RELAY 2CB(AA1)	(2	CB(AB1))						
SFAS SLAVE RELAY KOOBA (KOOBB)								
ESG AUXILIARY RELAY BD(ESGAX1) (BD(ESG	SBX	1))	Γ		Γ			
OAD SHED RELAY AB(LSA1) (AB(LSB1))	Т <u> </u>	[						
MAXIMUM SEQUENCE TIMER RELAY BE(LT3A)	(E	E(LT3B))			1		-	I
RELAY 2AB(LRA4) (2AB(LRB4))	T		F		1		-	
RELAY DC(BOA) (DC(BOB))	1				1-			
RELAY DA(LRA2) (DA(LRB2))	-	<u> </u>	┢╼╴		1-			
RELAY FC(TRA1) (FC(TRB1))			┢		†		-	
SEQUENCER LOAD RELAY 2CA(RA)) (2CA(R	311)		┢		$\vdash$			·
EQUENCER LOAD RELAY 2DA(RA2) (2DA(RE	321)	<u> </u>	⊢					
EQUENCER TIMER RELAY JAISTIA) (JAISTI	B1)	[	$\vdash$		<u> </u>			
EST RELAY 2FB(TSA4) (2FB(TSB4))	Ť	1	┢		$\vdash$			
EST RELAY 2GB(ISA5) (2GB(ISB5))	$\uparrow$	[	-		$\vdash$	{	_	
INDERVOLTAGE RELAY CB(127AX) (CB(127	BXI	)	╞					
NSTR. LOOP CONTAINING INCSV0320 & SV	321							<b>]</b>
NSTR. LOOP CONTAINING INCSV0340 & SV	)341	,	-		1-			l
NSTR LOOP CONTAINING INCSV0340 & SVI	1341	, 	-		┢			
	$\tilde{T}$	<u> </u>	-					
	+-				┝			{
	+							
			-		-	Included in	_	
SUDDODT FOD ND SYSTEM	+		-					Non Safah
SUPPORT FOR IND STSTEM					⊢	Seismic PRA	_	Non-Scherk
ILADY AC SWITCHCEAD LETA (LETR)	+					·	_	
100V AC SWITCHGEAR TELA (TELB)							-	
OUV AC MCC TEMIXA (TEMIXET)			-		<u>                                     </u>	<u> </u>		
25V DC DISTRIBUTION CENTER TEVDA (TEVI		<u> </u>				X		
DIG LOAD ACTUATE RELAY ZFAIRAAJ (ZFA	IKB4	·//)					_	<b>_</b>
(ELAY DGISAO (DGISBO)	+-						_	
(ELAY LSAT (LSBT)			<u> </u>					
NSTR. LOOP CONTAINING INDRU/P 5000 (		<u>א מאו א ת</u>	ע/	P/CR5060 (50)	(0)			
NSIR. LOOP CONTAINING INDEE/FS5040 (5	050	)	<b> </b>		ļ			
NSTR. LOOP CONTAINING INDPT/P 5090 (5	080	)	L					
NSTR. LOOP CONTAINING INDFE/FT5250 (5	260	)					_	
······	-							
· · · · · · · · · · · · · · · · · · ·								
						included in		
SUPPORT FOR NI SYSTEM						Selsmic PRA		Non-Safety
			Γ					
1160V AC SWITCHGEAR IETA (1ETB)	$\top$					X	-	
SOOV AC MCC IEMXA	1		$\vdash$			X		
SOOV AC MCC IEMXA-1	+		$\vdash$			X		{
SOOV AC MCC JEMXB-1	+		$\vdash$		H	× –		
125V DC PANELBOARD IEVDA (IEVDD)	╉				$\left  - \right $	X X		
DIG LOAD ACTUATE DELAY 254(DA3) (254	1001	<u>ו</u> אוז	-				_	
DIC LOAD SECHENCED DELAY DAS (DES)							_	
DIC DELAVISAL (ISBL)	+						_	
U/G KELAT WAT (LODI)	1		1.					

•

TABLE	4
-------	---

- 6		T	}			1			
						Include	id in	4	
	SUPPORT FOR NI SYSTEM (cont.)			_		Seismic	PRA		Non-Safety
	D/G TEST RELAY DGTSA6 (DGTSB6)								
	LIMIT SWITCH TO MOV INI147A							Т	
	LIMIT SWITCH TO MOV INI185A (INI184B)			_				1	
	INSTR. LOOP CONTAINING INILT/P 5260							1	
	INSTR LOOP CONTAINING INILT/P 5270	┢╍			·····	+		+	
		⊢						+	
		┢──						-	
				~~				-	
		┢─	·		┢━━━━━┣━			-+	
						Include			
	SUPPORI FOR NV SYSTEM	<b> </b>	·			Seismic	PRA		Non-Safety
		L							
	4160V AC SWITCHGEAR 1ETA (1ETB)					<u>×</u>		_	
	600V AC MCC IEMXA					X		_	
	600V AC MCC IEMXB-1					X			
	600V AC MCC 1EMXB-2					X			
	125V DC PANELBOARD 1EVDA (1EVDD)			·		X		Т	
	D/G AUTO RESET RELAY ED(TRA3) (ED(TRB3)	Î)				1		T	
1	D/G LOAD ACTUATE RELAY 2DA(RA2) (2DA)	RB	2))					1	
	D/G TEST RELAY ISA2 (TSAB)							-+	
	CONTAINMENT HIGH PRESS CHANNEL 2 BISTAL		(ESEAS)	-				╋	
	CONTAINMENT HIGH PDESS CHANNEL 2 TDAN	SNA	TTED (ESEA	S				+	·····
	CONTAINMENT HIGH PRESS. CHANNEL 2 IRAN		(COLVC)	3	┢━╾╍━━┼╼			+	·
	CONTAININENT HIGH PRESS, CHANNEL 3 DISTAI			-				+	
	CONTAINMENT RIGH PRESS. CHANNEL J TRAIN		(ECEAC)	6	<u> -</u>		<u> </u>	-ŀ	<del></del>
	CONTAINMENT HIGH PRESS. CRANNEL 4 DISTAI		(ESFAS)	0	<b> </b> -			-+	
	CONTAINMENT HIGH PRESS, CHANNEL 4 TRAN	<u>5M</u>	TTER (ESFA	(5)			<u> </u>	-+	
	ESFAS INPUT RELAY KISTA (KISTB)	<u> </u>			<b> </b>			4	
	ESFAS INPUT RELAY K133A (K133B)	<b> </b>						┛	·
	ESFAS INPUT RELAY K201A (K201B)	<u> </u>						$\downarrow$	
	ESFAS INPUT RELAY K217A (K271B)							$\bot$	
	ESFAS INPUT RELAY K247A (K247B)								
	ESFAS INPUT RELAY K330A (K330B)								
	ESFAS INPUT RELAY K344A (K344B)							_	
	ESFAS INPUT RELAY K417A (K417B)	Γ						1	
	ESFAS INPUT RELAY K430A (K430B)	<b>—</b>			· ·			1	
	ESFAS INPUT RELAY K444A (K444B)	$\square$		-		-		1	
	ESEAS LOGIC MODULE A210A (A210B)	<del>t –</del>				-		-ł	
	ESEAS LOGIC MODULE A213A (A213B)	+-		-				+	
		┢		_	┟╾╸╴╸╸		ŀ	+	
	ESFAS LOGIC MODULE ASUGA (ASUGB)			-	┝━━━━━┝-			-	
	ESFAS LOGIC MODULE ASISA (ASISB)	┣		_	<u> </u>		[	╾┼	<u> </u>
	ESFAS LOGIC MODULE A4TTA (A4TTB)	Ļ			└──── <u>┤</u> .			_	
	ESFAS LOGIC MODULE A416A (A416B)	┣_		-	L				
i	ESFAS MASTER RELAY K501A (K501B)		ļ						
	ESFAS SLAVE RELAY K603A (K603B)						[		
	ESFAS SLAVE RELAY KOO7A (KOO7B)								
	LOW STEAMLINE PRESSURE CHANNEL 1 BISTABI	E	(ESFAS)					-1	
	LOW STEAMLINE PRESSURE CHANNEL 1 TRANSI	MIT	TER (ESFAS	;}	-			1	
	LOW STEAMLINE PRESSURE CHANNEL 2 BISTARI	E	(ESFAS)	ŕ	<u>├</u> ┣-			-†	
	I OW STEAMI INF PRESSURE CHANNEL 2 TRANS		TED IEGEN	<u>.</u>				-	
	LEVIT ULL'ITERIE I TEQUUE OFFICIALE & INALAD	4111	LUI AL		1	1			

Poge \$37

TABLE 4 -

I,

and the second			-	·····		T		
					1_	Included in	L	
SUPPORT FOR NV SYSTEM (cont.)	-		L		1	Seismic PRA		Non-Safety
LOW STEAMLINE PRESSURE CHANNEL 4 BISTAB	BLE	(ESFAS)			Γ			
LOW STEAMLINE PRESSURE CHANNEL 4 TRANS	MIT	TER (ESFAS	)	1			Γ	
PRESSURIZER LOW PRESSURE CHANNEL 1 BIST	ABL	E (ESFAS)	Γ		1			[]
PRESSURIZER LOW PRESSURE CHANNEL 1 TRAI	NSN	ITTER (ESE	AS	)	$\top$			
PRESSURIZER LOW PRESSURE CHANNEL 2 BIST	ARI	E (ESEAS)		· · · · · · · · · · · · · · · · · · ·	1-			
DDESSI IDIZED LOW DESSI DE CHANNEL 2 TOAL	NISN	NITED (ESE	<u>لـــــ</u>	<u> </u>	┢─			
DESSUDITED LOW PRESSUDE CHANNEL 2 RAI		E IESEAS	<u></u>	/	┼╌		┝╌	
PRESSURIZER LOW PRESSURE CHANNEL 3 DIST	NCL	LITTED (FOF		<u>}</u>	╂			
PRESSURIZER LOVY PRESSURE CHAINNEL STRAI		INVETIDE	40	<u></u>		·	-	
INSTR. LOOP CONTAINING INVFE/FI/55/P 562		INVEI/P 50	21		_			
INSTR. LOOP CONTAINING INVFE/F1/55/P 503		INVEI/P 50	31		_		L	
			_				_	
	_	L	_		L			
			L					
					[	Included in		
PROCESS CONTROL CABINETS	Т	[		]	Γ	Selsmic PRA		Non-Safety
	1		<b>—</b>		1			
	+		-		$\vdash$		-	
**************************************	1				+			
		└─────			+	Included in	-	
SLIPPODT FOD DNI SVSTENA	-					Soismic PDA		Non-Safety
SOFFORT FOR RIV STSTEW	-{	<b> </b>			┢	JENIIC FRA	-	NOIFSCIEIY
4100V AC SWITCHGEAK IETA (TETB)		<u> </u>	<u> </u>		╂	<u> </u>		<b> </b>
OUV AC MCC IEMXA					1	X	_	
600V AC MCC IEMXB-2	_				L_	X		
600V AC MCC 1EMXE		ļ	_			X	_	
600V AC MCC IEMXH						X		
600V AC MCC 1EMXH-1						X		
600V AC MCC 2EMXH						X 1		
125V DC DISTRIBUTION CENTER 1EVDA (1EVI	DD)					. X	_	
D/G LOAD SEQUENCER RELAY 21A(RA7) (21)	A(R	37))						
D/G LOAD SEQUENCER RELAY LSA1 (ISBI)	- <u>İ</u>	Γ			$\vdash$		-	l
D/G LOADING TRANSIENT ADVANCE TIMEP P	FLA	Y 2EDIATA	51	(2ED(ATR5))	+		_	
DIG SEQUENCE TIMED DELAY HA(ST7A) (H	<u>Δ / (°</u>	(78))	ř					
DIG TEST DELAV DEBITSAAL (DEBITSAAL)	<u>70</u>		-		┼─		<u> </u>	[
	<u>_</u>	210 0011	<b></b>	20.0221				<b> </b>
TINSTIC LOUP CONTAINING TRINEG/PSOUL &	371	<u>1210,0211,</u>	<u>12</u>	20.0221			_	
(5010 & 0250, 0251, 0260, 0261)		l	L	ļ	<u> </u>			
INSTR. LOOP CONTAINING IRNPT/PS/P 5020 (	503	0)	L	I				
INSTR. LOOP CONTAINING IRNFE/FT/P 5040 8	<u>k F</u>	5041 (5050	8 (	5051)	1			
INSTR. LOOP CONTAINING 1RNFE/FT/P 5220	(523	0)			1			
INSTR. LOOP CONTAINING IRNFE/FT/P 5360 8	k P	/P 5361 (5	37	0 & 5371)	Г			
	Τ	T	Γ		T			
	1	·	<u> </u>		$\top$			
		<u> </u>			+			
DEACTOR PROTECTION SYSTEM	+-	<u> </u>	$\vdash$	·,	+			Non Safatu
REACION FROIECTION STSTERY			┡		–		-	inon-sciery
DEACTOR THE REALIZED A (T)	+		┣		┣			
REACTOR TRIP BREAKER A (B)	_				1			
REACTOR TRIP BYPASS BREAKER A (B)					1.			
1					1			

Page \$ 38

TABLE	4	-
-------	---	---

					Г	Included in		1
SUPPORT FOR SM. SV SYSTEMS					T	Selsmic PRA		Non-Safet
	_							•
600V AC MCC TEMXA-2				·		X		
600V AC MCC IEMXB-4					ļ	<u> </u>		
INSTR. LOOP CONTAINING 19MSV0010 (0011)	<u>), (C</u>	013) & [[[0	<u>) 10</u>	0,0011				
INSTR. LOOP CONTAINING ISMSV0030 (0031)	<u>, (C</u>	033) & LLO	)3(	0,0031				
INSTR. LOOP CONTAINING ISMSV0050 (0051)	10	053) & LLO	<u>50</u>	0.0051				
INSTR. LOOP CONTAINING 1SMSV0070 (0071)	1(0	073) & LLO	<u>)7C</u>	,0071				
INSTR. LOOP CONTAINING ISMSV/LL/ML0090	(S	<u>V0091)</u>						L
INSTR. LOOP CONTAINING 19MSV/LL/ML0100	<u>(S</u>	<u>voioi)</u>					_	
INSTR. LOOP CONTAINING ISMSV/LL/ML0110	(S	<u>V0111)</u>					_	
INSTR. LOOP CONTAINING 19MSV/LL/ML0120	<u>(S</u>	<u>V0121)</u>		·				
INSTR. LOOP CONTAINING ISMFE/FT/P 5000,	R	CPS, FWCS	(1	E/FT/P 5010, R	CPS	S, FWCS)		
INSTR. LOOP CONTAINING 1SMFE/FT/P 5020,	R	CPS, FWCS	(1	E/FT/P 5030, R	CP:	S, FWCS)		•
INSTR. LOOP CONTAINING ISMFE/FT/P 5040.	R	CPS, FWCS	(	E/FT/P 5050, R	CPS	S, FWCS)		
INSTR. LOOP CONTAINING 1SMFE/FT/P 5060,	R	CPS, FWCS	(	E/FT/P 5070, R	CPS	G, FWCS)		
INSTR. LOOP CONTAINING 1SMPT/P 5080 &	RC	PS						
INSTR. LOOP CONTAINING ISMPT/P 5090 &	RC	PS						
INSTR. LOOP CONTAINING ISMPT/P 5100 &	RC	PS			-			
INSTR. LOOP CONTAINING 1SMPT/P 5110 &	RC	PS	-					
INSTR. LOOP CONTAINING 1SMPT/P 5120 &	RC	PS						· · · · · · · · · · · · · · · · · · ·
INSTR. LOOP CONTAINING 15MPT/P 5130 &	RC	PS						
INSTR. LOOP CONTAINING 1SMPT/P 5140 &	RC	PS	-					
INSTR. LOOP CONTAINING 1SMPT/P 5150 &	RC	PS						·······
INSTR. LOOP CONTAINING ISMPT/P 5160 &	RC	PS			┢──			
INSTR LOOP CONTAINING ISMPT/P 5170 &		PS					-	
INSTR LOOP CONTAINING ISMPT/P 5180 &	RC	PS					-	
INSTR LOOP CONTAINING 1SMPT/P 5190 &	RC	25				··		·
	T		-			·····		·
	╋		┝─				-	
	┼─	[						
	┢					Included in	-	
	+	<u> </u>				Soirmin DDA	_	Non-Safat
SOUD STATE DOOTECTION SYSTEMA	+	<b></b>	-	,		SOSTIC PRA		NOIPSOIDI
SOLD STATE PROTECTION STOLEN	╢		-			·····	-	·
	┢						_	
	┢						•	
		· · · · · · · · · · · · · · · · · · ·						i
		l	ļ			Included in	_	
SUPPORT FOR VA SYSIEM - #	4-		<u> </u>		<b></b>	Seismic PRA	_	Non-Safet
	1	ļ	L		1		_	
POWER SUPPLY FOR VA SYSTEM	╄-		L	· · · · · · · · · · · · · · · · · · ·	L		_	<u> </u>
· · · · · · · · · · · · · · · · · · ·							_	
·····	$\bot$	L	L	L	L			
	_		L		L			
		·				Included in	_	
SUPPORT FOR VC SYSTEM - #					Γ	Seismic PRA		Non-Safet
	1		Γ		T			
600V AC MCC 1EMXH	1		<b>[</b> ]					
	T	1	L		1-		-	
		multipad	+		+		_	

Page¥ 39

TABLE	4	-
-------	---	---

				Included In	Γ	
SUPPORT FOR YC SYSTEM - #			1	 Seismic PRA		Non-Safety
					-	<b>_</b>
4160V AC SWITCHGEAR 1ETA (1ETB)						
4160V AC SWITCHGEAR 2ETA (2ETB)						
600V AC MCC 1EMXG						
600V AC MCC 2EMXG						
600V AC MCC 1EMXH						
600V AC MCC 2EMXH						
120V AC PANELBOARD EKA (EKB)						
120V AC PANELBOARD KXA						
# - only cursory review of these component:	s reaulre	d	1			

TAB	LE	5	-
-----	----	---	---

.

ELECTRICAL EQUIPMENT LIST F	OF	MCGU	IR	E	UNIT	2	IPE	EE WALKD	0	WN
							ŀ			
	+-				<u> </u>		-	Included In	┢	Non Cafed
AREA TERIVIINATION CADINETS		<u> </u>	╋	$\vdash$			+-	SOISTIC PRA	╉─	INON-SOTE
	┿	┝╼┈───	╋				+		┢	
	╉		╋	┼─			+		╋	<u> </u>
	┿	<u> </u>	╋	╂──				Included in	┢╌	
ALIXILLARY SHITTOOWN PANEL		<u> </u>	╈					Solimic PPA	┢	Non-Sofe
AUXILIART SHOLOOWIN FAILL	┿	<u> </u>	┢	┼──				Y	╋	Inorroute
	╋		+	+				<u> </u>	+	<u> </u>
	-[		+						ϯ╴	<u> </u>
	+		$\square$	1-					$\uparrow$	
	╧		┢	1-				Included in	┢	
SUPPORT FOR CA SYSTEM	$\top$		1-	1				Seismic PRA	1-	Non-Safe
	1-	1	$\uparrow$	<u> </u>					t	
4160V AC SWITCHGEAR 2ETA (2ETB)	╈		$\uparrow$	[			$\top$	X	1-	
600V AC MCC 2EMXA (2EMXB) (2EMXB-2)		[	$\top$	1-				X	┢╴	
600V AC MCC 2EMXA-4	$\top$		$\top$	1				X	T	
600V AC MCC 2EMXA-5								X	$\square$	
125V DC DISTRIBUTION CENTER 2EVDA (2EV	D8)							X	T	
125V DC PANELBOARD 2EVDA (2EVDB)	Γ							X	Γ	
120V AC PANELBOARD 2EVKA (2EVKB) & N	AAN	IUAL TRAN	<b>NSFI</b>	ER	SWITC	Н		X	Γ	
LOCAL MOTOR-DRIVEN PUMP CONTROL PA	<b>NE</b>	L						X		
LOCAL TURBINE-DRIVEN PUMP CONTROL PA	ANE	L						X		
ESFAS TRAIN A (B) 48V DC POWER SUPPLIES	3									
BATTERY EVCA (EVCB)			L						[	
BATTERY CHARGER EVCA (EVCB)								<u></u>		
DC CIRCUIT BREAKER FOR MDP2A (MDP2B)	<u>) Al</u>	JTOSTART			<u> </u>					
INVERTER 2EVIA (2EVIB)	_	L	1	ļ					<b> </b>	
TD PUMP RELAY HF	4						$\bot$			
MFW PUMP RELAY BB(A) (BB(B))	L		1	<u> </u>					-	
MFW PUMP RELAY R/IT(FPICA) (R/IT(FPICB)	)	<u> </u>	4_						<b> </b>	
MFW PUMP RELAY R/IT-1 (FPICA) (R/IT-1 (FF	<u>기C</u>	B))	_	ļ				·····	┝	
RELAY R25C(A) (R25C(B))	_	ļ <u> </u>	₋							
RELAY KOUYA (KOUYB)			┢	<u> </u>			┥┥		┢	
RELAY URAS (URBS)		ļ	₋	<b> </b>						
LOAD SHED RELAY LSAT (LSBT)	+		4_						-	
IEST RELAY ISAZ (ISBZ)	┢		╂─	Į					Ļ	<b> </b>
ESFAS SLAVE RELAY KO33A (KO33B)	+			_					L	ļ
ESFAS SLAVE RELAY KOJ4A (KOJ4B)	-	<u> </u>		_			+		┢	
ESTAS MASIEK KELAY KOIOA (KOIOB)	+	<b>├</b>	_	┨			+		╞	
ESPAS INPUT RELAY KIIJA (KIIJB)			_	<b> </b>					┡	
ESTAS INPUT RELAY KITAA (KITAB)			<u> </u>	<u> </u>				·		
ESTAS INPUT RELAY KIZIA (KIZIB)		<b> </b>	1-	┣			+		_	
ESPAS INPUT RELAY KIDUA (KIDUB)			₋	_			+		_	<u> </u>
ESPAS INPUT RELAY K23UA (K23UB)			_	_	<u> </u>	·	- -		_	
ESFAS INPUT RELAY K231A (K231B)	+	ļ	+-	<u> </u>			+			
ESFAS INPUT RELAY K250A (K250B)	+-	<u> </u>	1-	Ļ	······		+		┡	ļ
ESFAS INPUT RELAY K255A (K255B)		ļ	4	<b> </b>		····				ļ
ESFAS INPUT RELAY K331A (K331B)		1	1	1					1	1

PageX 4/

TABLE 5 -

SUPPORT FOR CA SYSTEM (cont.)       Sekmic PRA       Non-Safety         ESFAS INPUT RELAY K332A (K332B)       ESFAS INPUT RELAY K33AA (K333B)       ESFAS INPUT RELAY K33AA (K333B)         ESFAS INPUT RELAY K407A (K407B)       ESFAS INPUT RELAY K407A (K407B)       ESFAS INPUT RELAY K407A (K407B)         ESFAS INPUT RELAY K407A (K407B)       ESFAS INPUT RELAY K407A (K407B)       ESFAS INPUT RELAY K407A (K407B)         ESFAS INPUT RELAY K407A (K407B)       ESFAS INPUT RELAY K407A (K407B)       ESFAS INPUT RELAY K407A (K407B)         ESFAS INPUT RELAY K407A (K407B)       ESFAS INPUT RELAY K407A (K407B)       ESFAS INPUT RELAY K407A (K407B)         D/G LOAD SEQUENCER (LOAD ACTUATE) RELAY 2JA(RA6) (2JA(R68))       D/G LOAD SEQUENCER RELAY AS (63)       ESFAS INPUT RELAY K40A (K407B)         D/G LOAD SEQUENCER RELAY AS (63)       ESFAS INPUT RELAY K40A (K407B)       EVEL CHANNEL 1 BISTABLE       ESFAS INPUT RELAY K40A (K407B)         SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE       ESFAS INPUT RELAY K40A (K407B)       EVEL CHANNEL 2 BISTABLE       ESFAS INPUT RELAY K40A (K407B)         SG A LO-LO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER       ESFAS INPUT RELAY K40A (K407B)       ESFAS INPUT RELAY K40A (K407B)         SG A LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER       ESG A LO-LO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER       ESG B LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG B LO-LO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER       ESG B LO-LO WATER LEVEL CHANNEL 2 LEVEL TRAN
ESFAS INPUT RELAY K332A 0K332B) ESFAS INPUT RELAY K333A 0K338D ESFAS INPUT RELAY K33A 0K338D ESFAS INPUT RELAY K407A 0K407B) ESFAS INPUT RELAY K407A 0K407B ESFAS INPUT RELAY K407A 0K407B ESF
ESFAS INPUT RELAY K332A 0K332B) ESFAS INPUT RELAY K33AA 0K338B) ESFAS INPUT RELAY K407A 0K407B) ESFAS INPUT RELAY K407A 0K407B ESFAS INPUT RELAY K407A 0K407B) ESFAS INPUT RELAY K407A 0K407B ESFAS INPUT RELAY ENTRIFY ESFA I COLO WATER LEVEL CHANNEL 2 ISTABLE ESFA I COLO WATER LEVEL CHANNEL 1 ISTABLE ESFA I COLO WATER LEVEL CHANNEL 2 ISTABLE ESFA
ESFAS INPUT RELAY K333A (K333B)
ESFAS INPUT RELAY K334A (K3345) ESFAS INPUT RELAY K407A (K4078) ESFAS INPUT RELAY ENTRELAY ZJAKRAB) ESFAS INPUT RELAY ENTRELAY ZJAKRAB (ESTABLE ESFAS INPUT RELAY ENTRELAY ESTABLE ESFAS INPUT RELAY ENTRELAY ENTRELAY ENTRELAY ENTRELAY ENTRELAY ESFAS INPUT RELAYE CHANNEL 1 EVEL TRANSMITTER ESFAS INPUT REVEL CHANNEL 2 EVEL TRANSMITTER ESFAS INPUT REVEL CHANNEL 3 ENTRELAY ESFAS INPUT REVEL CHANNEL 3 ENTRELAY ESFAS INPUT REVEL CHANNEL 3 EVEL TRANSMITTER ESFAS INPUT REVEL CHANNEL 1 EVEL TRANSMITTER ESFAS INPUT REVEL CHANNEL 3 EVEL TRANSMITTER ESFAS INPUT REVEL CHANNEL 1 EVEL TRANSMITTER ESFAS INPUT REVEL CHANNEL 1 EVEL TRA
ESFAS INPUT RELAY K407A (0407B) ESFAS INPUT RELAY K408A (0409B) ESFAS INPUT RELAY K408A (0409B) ESFAS INPUT RELAY K410A (0410B) ESFAS INPUT RELAY K410A (0410B)
ESFAS INPUT RELAY K408A 040386 ESFAS INPUT RELAY K409A 040386 ESFAS LOGIC MODULE A317A (A3178) D/G LOAD SEQUENCER (LOAD ACTUATE) RELAY 2JA(RA8) (2JA(R88)) D/G LOAD SEQUENCER RELAY A3 (83) COMULE A317A (A3178) D/G LOAD SEQUENCER RELAY A3 (83) COMULE A317A (A3178) COMULE A317A (A3178) D/G LOAD SEQUENCER RELAY A3 (83) COMULE A317A (A3178) COMULE A1074 (COMULE A 1874ABLE 1000000000000000000000000000000000000
ESFAS       INPUT       RELAY       K409A       (K409B)         ESFAS       INPUT       RELAY       K410A       (K410B)
ESFAS INPUT RELAY KATOA (XATOB)         ESFAS ILOGIC MODULE A3TA (A317B)         D/G LOAD SEQUENCER (LOAD ACTUATE) RELAY 2JA(RAB) (2JA(RBB))         D/G LOAD SEQUENCER RELAY A3 (B3)         SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG A LO-LO WATER LEVEL CHANNEL 2 BISTABLE         SG A LO-LO WATER LEVEL CHANNEL 2 BISTABLE         SG A LO-LO WATER LEVEL CHANNEL 3 BISTABLE         SG A LO-LO WATER LEVEL CHANNEL 3 BISTABLE         SG A LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG A LO-LO WATER LEVEL CHANNEL 3 BISTABLE         SG A LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG A LO-LO WATER LEVEL CHANNEL 4 BISTABLE         SG A LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG A LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG B LO-LO WATER LEVEL CHANNEL 2 BISTABLE         SG B LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG B LO-LO WATER LEVEL CHANNEL 2 BISTABLE         SG B LO-LO WATER LEVEL CHANNEL 3 BISTABLE         SG B LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG B LO-LO WATER LEVEL CHANNEL 4 BISTABLE         SG B LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG B LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG B LO-LO WATER LEVEL CHANNEL 1 BISTABLE      <
ESFAS LOGIC MODULE A317A (A317B) D/G LOAD SEQUENCER (LOAD ACTUATE) RELAY 2JA(RAB) (2JA(RBB)) D/G LOAD SEQUENCER RELAY A3 (83) D/G LOAD SEQUENCER RELAY A3 (83) SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 1 EVEL TRANSMITTER SG A LO-LO WATER LEVEL CHANNEL 2 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 2 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 3 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 3 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 3 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 4 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER SG B LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 3 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 2 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 3 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 4 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 4 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 4 BISTABLE SG C LO-LO WATER LEVEL CHANNEL 3 BISTABLE SG C LO-LO WATER LEVEL CHANNEL 4 BISTABLE SG C LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG D LO-LO WA
D/G LOAD SEQUENCER (LOAD ACTUATE) RELAY 2JA(RA8) (2JA(R88)) D/G LOAD SEQUENCER RELAY A3 (83) D/G LOAD SEQUENCER RELAY A3 (83) SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 2 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 2 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 3 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 4 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG A LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 2 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 3 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 4 BISTABLE SG B LO-LO WATER LEVEL CHANNEL 1 BISTABLE SG C LO-LO WATER LEVEL CHANNEL 3 BISTABLE SG C LO-LO WATER LEVEL CHANNEL
D/G       LOAD       SEQUENCER       RELAY       A3       (B)
SG A LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG A LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG C LOLO W
SG A LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG A LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 1 EVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LOLO WA
36 A LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER         SG A LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG A LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER
3G A LOLO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER         SG A LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG A LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG A LOLO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG A LOLO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 1 BISTABLE
3G A LOLO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER
SG A LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG A LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 1 EVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG B LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG B LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG C LOLO WATER LEVEL CHANNEL 2 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 1 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 3 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 4 BISTABLE         SG C LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LOLO WA
30 A LOCLO WATER LEVEL CHANNEL 4 BISTABLE
35 A LOLO WATER LEVEL CHAINNEL 4 DISTABLE       I         SG A LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER       I         SG B LO-LO WATER LEVEL CHANNEL 1 BISTABLE       I         SG B LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER       I         SG B LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER       I         SG B LO-LO WATER LEVEL CHANNEL 2 BISTABLE       I         SG B LO-LO WATER LEVEL CHANNEL 2 BISTABLE       I         SG B LO-LO WATER LEVEL CHANNEL 3 BISTABLE       I         SG B LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER       I         SG B LO-LO WATER LEVEL CHANNEL 4 BISTABLE       I         SG B LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER       I         SG B LO-LO WATER LEVEL CHANNEL 1 BISTABLE       I         SG C LO-LO WATER LEVEL CHANNEL 1 BISTABLE       I         SG C LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER       I         SG C LO-LO WATER LEVEL CHANNEL 2 BISTABLE       I         SG C LO-LO WATER LEVEL CHANNEL 2 BISTABLE       I         SG C LO-LO WATER LEVEL CHANNEL 3 BISTABLE       I         SG C LO-LO WATER LEVEL CHANNEL 3 BISTABLE       I         SG C LO-LO WATER LEVEL CHANNEL 3 BISTABLE       I         SG C LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER       I         SG C LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER       I
SG A LO-LO WATER LEVEL CHAINIEL 4 LEVEL TRANSMITTER
SG B LOLO WATER LEVEL CHANNEL 1 BISTABLE
SG B LOLO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER
SG B LOLO WATER LEVEL CHANNEL 2 BISTABLE
SG B LO-LO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER
SG B LO-LO WATER LEVEL CHANNEL 3 BISTABLE
SG B LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER
SG B LOLO WATER LEVEL CHANNEL 4 BISTABLE
SG B LOLO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 2 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 3 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 DISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 2 BISTABLE
SG C LO-LO WATER LEVEL CHANNEL 1 BISTABLE
SG C LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 2 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 3 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 DISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 DISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 DISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 DISTABLE
SG C LO-LO WATER LEVEL CHANNEL 2 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 3 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE
SG C LO-LO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 3 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE
SG C LO-LO WATER LEVEL CHANNEL 3 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 4 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE
SG C LO-LO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER         SG C LO-LO WATER LEVEL CHANNEL 4 BISTABLE         SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER
SG C LO-LO WATER LEVEL CHANNEL 4 BISTABLE <sup>o</sup> SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER           SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE           SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE           SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE           SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER           SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER           SG D LO-LO WATER LEVEL CHANNEL 2 BISTABLE
SG C LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 2 BISTABLE
SG D LO-LO WATER LEVEL CHANNEL 1 BISTABLE         SG D LO-LO WATER LEVEL CHANNEL 1 LEVEL TRANSMITTER         SG D LO-LO WATER LEVEL CHANNEL 2 BISTABLE
SG D LO-LO WATER LEVEL CHANNEL I LEVEL TRANSMITTER
SG D LO-LO WATER LEVEL CHANNEL 2 BISTABLE
SG D LO-LO WATER LEVEL CHANNEL 2 LEVEL TRANSMITTER
SG D LO-LO WATER LEVEL CHANNEL 3 BISTABLE
SG D LOLO WATER LEVEL CHANNEL 3 LEVEL TRANSMITTER
SG D LO-LO WATER LEVEL CHANNEL 4 BISTABLE
SG D LO-LO WATER LEVEL CHANNEL 4 LEVEL TRANSMITTER
INSTR. LOOP CONTAINING 2CASV/MV0200, SV0201, & SV0202
INSTR. LOOP CONTAINING 2CASV/MV0270 (0320) & SV0271 (0321)
INSTR. LOOP CONTAINING 2CALL/P /SV/ML0520 (0480)
INSTR. LOOP CONTAINING 2CALL/P/SV/MI.0560 (0440)
NNSTR. LOOP. CONTAINING. 2CALL/P/SV/ML0600 (0400)

Poge \$ 42

TABLE	5 -
-------	-----

	Γ				Γ	Included in		
SUPPORT FOR CA SYSTEM (cont.)	L					Seismic PRA		Non-Safety
	Ţ	L	Ļ					
INSTR. LOOP CONTAINING 2CAFE/PS/FT/P 50	<u>00</u>	(5010), PS	50	<u>01 (5011), &amp; F</u>	<u>255</u>	002 (5012)		
INSTR. LOOP CONTAINING 2CAPS/PT/P 5020	(51	)30)	L	L				
INSTR. LOOP CONTAINING 2CAFE/PS/FT/P 50	40,	P\$5041,	<u>-S</u>	042, & PS5044	<u> </u>			
INSTR. LOOP CONTAINING 2CAPS/PT/PG/P 5	<u>05(</u>	)	L		L		_	
INSTR. LOOP CONTAINING 2CAPS/PT/P 5070	(50	)80)	L	· · · · ·				
INSTR. LOOP CONTAINING 2CAFE/FT/P 5090	(5)	10) & FT5	09	1 (5111)				
INSTR. LOOP CONTAINING 2CAFE/FT/P 5100	<u>(51</u>	20) & FT5	<u>10</u>	1 (5121)	_			
INSTR. LOOP CONTAINING 2CAPS/PT/P 5160	╘		Ļ.		L			
INSTR. LOOP CONTAINING 2CFLT/P 5490	┢				Į			
INSTR. LOOP CONTAINING 2CFLT/P 5500	$\vdash$			ļ	Ļ		_	
INSTR. LOOP CONTAINING 20FLT/P 5510	┶				L			
INSTR. LOOP CONTAINING 20FLT/P 5520	<u> </u>							
INSTR. LOOP CONTAINING 2CFLT/P 5530		·	ļ		1_			
INSTR. LOOP CONTAINING 20FLT/P 5540								
INSTR. LOOP CONTAINING 2CFLT/P 5550	L							
INSTR. LOOP CONTAINING 2CFLT/P 5560		<u> </u>						
NSTR. LOOP CONTAINING 2CFLT/P 5570								
NSTR. LOOP CONTAINING 2CFLT/P 5580								
NSTR. LOOP CONTAINING 2CFLT/P 5590								
INSTR. LOOP CONTAINING 2CFLT/P 5600								
INSTR. LOOP CONTAINING 2CFLT/P 6000								
INSTR. LOOP CONTAINING 2CFLT/P 6010				•				
INSTR. LOOP CONTAINING 2CFLT/P 6020					L	· · · · · · · · · · · · · · · · · · ·		
NSTR. LOOP CONTAINING 2CFLT/P 6030			L		L			
······································								
			_					
· · · · · · · · · · · · · · · · · · ·		·	_		L			
t						Included in		
SUPPORT FOR DIESEL GENERATORS	<b>-</b>		L	ļ	<b> </b>	Seismic PRA		Non-Safet
ALAON AC SWATCHCEAD SETA (SETE)	┢							······
ANNY AC IMAN CENTED 251 YA (251 YR)	┢		-				_	
AC LOAD CENTER ZELAA (ZELAD)	╄							
AOOV AC LOAD CENTER ZELAC (ZELAD)	┢				┝		_	·
ADDV AC LOAD CENTER ZELAE (ZELAF)	┢─	<u> </u>	-	<u> </u>	┢╼			
ADDV AC MICC ZENIXA (ZEIVIAB)	╋─	<u>_</u>	-		┢		_	
	+		-		┝─	÷÷	-	
120V AC PANELBOARD 20G2A (20G2B)	┢				┝	<u> </u>		
125V DC PARELBOARD ZEVDA (ZEVDD)	╓				_			
125V DC BATTERY / RACK	┢				_	×	_	
INVERIER	┿╼			<u> ;</u>	┢	X	_	
DIG CONIKOL PANELS	╋					×		
BATTERY ZEDGA (ZEDGB) AND CHARGERS	1		<b> </b>		<b> </b>	<u> </u>	_	
BATTERY ZEDGA (ZEDGB) INPUT & OUTPUT	RISE	AKERS	L	l	L_		_	
600 / 120V AC TRANSFORMER TO PANELBOA	RD	2DG2A (2	DG	÷2B)	1			
BREAKER DG2A-2 (DG2B-2)	$\perp$		1_		L			
AUTO RESET RELAY ED(TRA3) (ED(TRB3))	$\bot$	L	L	L	L			
BLACKOUT RELAY DC(BOA) (DC(BOB))					L			
BLACKOUT LOGIC RELAY DA(LRA2) (DA(LRB2	D	1	1	]	1			1

TAB	<b>ILE</b>	5	-
-----	------------	---	---

				T-		<u> </u>	Included in	-	1
,	SUPPORT FOR DIESEL GENERATORS (cont.)			$\mathbf{T}$			Seismic PRA	-	Non-Safety
				+					
	DEFEAT TEST RELAY FB(DTSA) (FB(DTSB))								
	D/G START RELAY 2TRA(A) (2TRA(B))			+				-	
	D/G START RELAY 2TRA1(A) (2TRA1(B))			1-				-	
	D/G START RELAY 2TRB(A) (2TRB(B))			┢			·		
	D/G START RELAY 2TRC(A) (2TRC(B))	-			······			-	
	DIESEL STARTING AIR RELAY RVG1(A) (RVG1	(R)	L	╋		<u> </u>		-	
	DIESEL STARTING AIR RELAY RVG2(A) (RVG2	PIR	<u>//</u>	┝		-		-	
	DIESEL STARTING AIR RELAY RVG3(A) (RVG3		<u>,,,</u> 1)	+					
	D/G ALITOSTART RELAY DASP(A) (DASP(B))		ř	┢				-	
	OAD SHED PELAY ABO SALL (ABO SHED)			$\vdash$			├	_	
	(OAD SHED RELAY AA(1SA2) (AA(1SB2)))			╀					
	LOAD SHED TIMED DELAY COUSAD (COUS		L	╂		-		-	
			,	┼─-		-		-	
				┢				-	
		-		╂			┟───╼┟		
				╆╌			<b>├</b>	4	
		$\vdash$		╀─		ļ	┟─────┼	-	
				╂╌╴					
		-		╋		_			
	RELAT DEJFRA (DEJFRD)			+		_			
	$\frac{\text{RELAY ESA(A) (ESA(D))}{\text{DELAY STRA(A) (STRA(D))}}$			+			<u>├</u>		
	RELAY ZIRA(A) (ZIRA(B))			┢					
				+			<u>├</u>	_	
		_		┢				_	
				╞			·	4	
	RELAY STATX(A) (STATX(B))								
	$\frac{\text{RELAY STAZX(A)}}{\text{OFLAY}} = \frac{\text{STAZX(B)}}{\text{OFLAY}} = \frac{\text{STAZX(B)}}{\text{OFLAY}}$		· · ·	┢		_		-	
				+				$\neg$	·
	KELAY ISAS (ISBS)			<b> </b>					
	RESEI RELAY EB(RRA) (EB(RRB))							_	
	RESTART RELAY FAIRGAL (FAIRGBI)			+		-	├	_	
	UNDERVOLIAGE RELAY 4CA(A) (4CA(B))			┢				_	
	UNDERVOLIAGE RELAY 4DA(A) (4DA(B))							_	
	UNDERVOLIAGE RELAY AC(12/ZAX) (AC(12)			+				_	
	UNDERVOLIAGE RELAY AD(12/YAX) (AD(12)	YE	<u>3X))</u>						
	UNDERVOLIAGE RELAY AE(12/XAX) (AE(12)	XE	(X))	$\vdash$			.		
	RESET SWITCH 4CC(A) (4CC(B))			<b> </b>		-		_	
	RESET SWITCH EG135			_		_			
	SPEED SWITCH S2 A2 (S2 B2)			1					
	SPEED SWITCH S2 A2 (S2 B2)		[	L					
	INSTR. LOOP CONTAINING 2FDLS5040 & LS504	1 (	(5050 & 5	605	1)				
	INSTR. LOOP CONTAINING 2LDPG/PS5120 & PS	<u>/ 5</u>	132/ 5133)						
	INSTR. LOOP CONTAINING 2LDPT/PG5360 (5370) INSTR. LOOP CONTAINING 2VGPG/PS5040 & PG/PS5050 (5060 & 5070)								
	INSTR. LOOP CONTAINING 2VGPG/PS5080 (5090)								
	INSTR. LOOP CONTAINING 2VGPG/PS5120 & P	G/	P\$5122 (5	140	8 5142)				
	INSTR. LOOP CONTAINING 2VGPG/PS5130 & P	G/	PS5132 (5	150	0 & 5152)				
				T					
				Τ		$\square$		-	
						_		7	

Page¥ 44

······								
						included in		
SUPPORT FOR FW SYSTEM						Seismic PRA		Non-Safety
INSTR. LOOP CONTAINING 2FWLT/P 5000								
INSTR. LOOP CONTAINING 2FWLT/P 5010	_							
INSTR. LOOP CONTAINING 2FWLT/P 5020								
•								
						Included in		
SUPPORT FOR KC SYSTEM						Seismic PRA		Non-Safety
4160V AC SWITCHGEAR 2ETA (2ETB)						X		
SOOV AC MCC 2EMXA (2EMXB)						X		
125V DC PANELBOARD 2EVDA (2EVDD)			Ι			X		
D/G ACCELRATED SEQUENCE RELAY 2DB(AA2)	)	(2DB(AB2))	J					
D/G AUTO RESET AUXILIARY RELAY CC(TRA3X)	)	(CC(TRB3X))	1					
D/G LOAD ACTUATE RELAY 2HA(RA6) (2HA	(R	Bó)) .	T					
D/G LOAD SEQUENCER RELAY LSA2 (LSB2)			1		_			
D/G LOAD SEQUENCER RELAY RAG (RBG)			1					
D/G LOADING TRANSIENT ADVANCE TIMER RE	LA	Y 2AD(ATAT	i)	(2AD(ATB1))				
D/G LOADING TRANSIENT ADVANCE TIMER RE	LA	Y 2BD(ATA2	)	(28D(ATB2))			-	
D/G LOADING TRANSIENT ADVANCE TIMER RE	V	Y 2CD(ATA:	3)	(2CD(ATB3))				
D/G LOADING TRANSIENT ADVANCE TIMER RE	LA	Y 2DD(ATA4	ŋ	(2DD(ATB4))			-	
D/G SEQUENCE TIMER RELAY GA(ST4A) (GA	(SI	(4B))	T					
D/G SEQUENCE TIMER RELAY GB(ST2A) (GB(	ST:	2B))	1		-			
D/G SEQUENCE TIMER RELAY HB(ST6A) (HB(S	<b>T6</b>	B))	1					
D/G SEQUENCE TIMER RELAY HC(ST5A) (HC(	ST	5B))	1				-	
D/G TEST RELAY 2FB(TSA4) (2FB(TSB4))	_		1					
ESFAS SLAVE RELAY KOIDA (KOIDB)			1					
TEST RELAY TSA1 (TSB1)			T					
NSTR. LOOP CONTAINING 2KCPT/P 5490 (5500)	)		t					
INSTR. LOOP CONTAINING 2KCFE/FT/P 5530 (55	540	))	1					
INSTR. LOOP CONTAINING 2KCFE/FT/FS/SV/P 56	70	(5680)	1		-		-	·
	_		1		<u> </u>		_	
			1	· · · · · · · · · · · · · · · · · · ·	_			
			1			Included in		
MAIN CONTROL BOARDS			1			Seismic PRA		Non-Safety
		<u> </u> -	1			X	-	
		<u> }-</u>	1		-	·····	H	
			1					
		├───	1					
		<u>├</u>	$\dagger$			Included in		
SUPPORT FOR NC SYSTEM			┨		-		-	Non-Safatu
			┦		-	JEBILIC FICA		TADIFSUIDIY
ALAOV AC SWITCHGEAD 2ETA (2ETB)		├─── <b>├</b> ─	┦					
		┟╼┅╍╍╌╍╍┠╸	4					
		┟────	-			<u> </u>		
ANY AC LUAD CENTER ZELAC (ZELAU)		<u>}</u>	-			×	<u> </u>	
			-			<u>Å</u>		
ACCELEDATED SECULINCE OF AV CORGAN	(0)		-			^		
AUGELERATED SEQUENCE RELAY 208(AAT)	(2	CR(VRI)			L			

TABLE 5 -

Page \$ 45

TABLE 5 -

•

	Τ	T	Т		Г	Included in	Γ	[
SUPPORT FOR NC SYSTEM (cont.)	T	1	1		F	Seismic PRA	-	Non-Sateh
	T		Γ		Γ			
ESFAS SLAVE RELAY KOOBA (KOOBB)								
ESG AUXILIARY RELAY BD(ESGAX2) (BD(ES	GBX	(2))			L			
LOAD SHED RELAY AB(LSA2) (AB(LSB2))		<u> </u>						
MAXIMUM SEQUENCE TIMER RELAY BE(LT3A)	<u>) (E</u>	3E(LT3B))			L			
RELAY 2AB(LRA4) (2AB(LRB4))	1		L		L			
RELAY DC(BOA) (DC(BOB))					L		L.	
RELAY DA(LRA2) (DA(LRB2))		ļ			L			
RELAY FC(TRA2) (FC(TRB2))	L	}			L			
SEQUENCER LOAD RELAY 2CA(RA2) (2CA(R	<u>B2))</u>		L		L			
SEQUENCER LOAD RELAY 2DA(RA2) (2DA(R	<u>32))</u>				L			
SEQUENCER TIMER RELAY JA(ST2A) (JA(ST2	<u>:B))</u>				L			
TEST RELAY 2FB(TSA4) (2FB(TSB4))	$\perp$				L			
TEST RELAY 2GB(TSA5) (2GB(TSB5))			1		L		_	
UNDERVOLTAGE RELAY CB(127AX) (CB(127	<u>'BX)</u>	)	<b>_</b>		┢			
INSTR. LOOP CONTAINING 2NC5V0320 & SV	<u>032</u>	1	1		Ļ			
INSTR. LOOP CONTAINING 2NC5V0340 & SV	034	]	<b>_</b>		L			
INSTR. LOOP CONTAINING 2NCSV0360 & SV	<u> 136</u>	<u> </u>	┢	· · · · · · · · · · · · · · · · · · ·	L		_	
					L			
	+	ļ	<b> </b>		┢			
			<b> </b>		$\vdash$		_	
	+-	<b></b>	┢	[	L_	Included in		
SUPPORT FOR NU SYSTEM	+-		┢		<b> </b>	Seismic PRA		NOU-20101
ALAON AC SWATCHCEAD 25TA (25TR)				<u> </u>				
ACOV AC SWICHGEAR ZEIA (ZEID)		·			<u> </u>			
200V AC IVICC ZEIVIXA (ZEIVIXA")								
125V DC DISTRIBUTION CENTER 2EVDA (2EV		4))				·		
DELAY DOTSAL (DOTSBA)		+)) 	┢		┝			
	+		╂		┢──			
	512	1) 8. ONIDE			700			
INSTR. LOOP CONTAINING 2NDRD/F 5000 (	SOF	U) & ZINDI	$\frac{\omega}{\Gamma}$	P /CR3000 (30/	Γ.	·		
INSTR. LOOP CONTAINING 2NDPT/P 5000 (	<u></u>	<u>n</u>	+		–			
INSTR. LOOP CONTAINING 2NDF1/F 3090 (	2200	<u>)</u>	┝		$\vdash$			
INSTR. LOOP CONTAINING 2NDI L/115200 (	700	" 	┢		┝			
	+		┫		-			
		<u> </u>	╀		-			
			+		┢──	Included in		
SUPPORT FOR NI SYSTEM			+	<u> </u>	┝			Non Sofot
JUFFORT FOR NI STSTEM						JEISITIC PRA		Noi Foulei
ALLON AC SUMTCHICEAD OFTA (DETR)	-		+-	[	┢──	·	_	
ADDV AC SWITCHGEAR ZETA (ZETB)	┿	÷	┢		┢	÷		<del>_</del>
		<u> </u>	┝		┝	<u>├</u>		
ACOV AC MCC 2EMART	+	·	┼		┣			
	+-		-		┝	×		
NC LOAD ACTUATE OF AV OF A (2000)		L	┣-		┣	×		
DIG LOAD ACTUALE KELAY ZEARASI (ZEA		<u>3))</u>	┢	ļ	┡			
DIC DELAY IGAD (LEPP)		ł	┢	[	⊢		_	
DIG TET DELAN DOTAL (DOTAL)	╇		ŀ		┡			
D/G IESI RELAY DGTSA6 (DGTSB6)		1	1		1			

Page ¥ 46

TABLE	5	-
-------	---	---

	T	1			Included In	<u> </u>	lJ
SUPPORT FOR NI SYSTEM (cont.)	╈			f	Seismic PRA	┢─	Non-Safety
	+				Depinio TRA		1 VOIT OCTORING
LIMIT SWITCH TO MOV 2NILATA	╋						
LIMIT SWITCH TO MOV 2NU85A (2NU84B)	+						]
INSTR LOOP CONTAINING 2NIT T/P 5260	╋						
	┿		-	-			
INSTR. LOOP CONTAINING ZIVILITE SZTU	╋						
<b> </b>	┢						i
	╇					$\vdash$	
	╄─	<del> </del> -	-			$\vdash$	
	┢			·	Included in		Non Codet
SUPPORT FOR INV STSTEIVI	╉─				Seismic PRA		NON-SOLETY
	┢			-			
4100V AC SWITCHGEAR ZETA (ZETB)	┢				× ×		
OUUV AC MCC 2EMXA	╄			I	<u> </u>		
OUV AC MCC 2EMXB-1	╇				<u> </u>		
OUV AC MCC 2EMXB-2	+	ļ			X	L	
125V DC PANELBOARD 2EVDA (2EVDD)		ļ	_		<u> </u>		
D/G AUTO RESET RELAY ED(TRA3) (ED(TRB3	<u>))</u>	<u> </u>					
D/G LOAD ACTUATE RELAY 2DA(RA2) (2DA	<u>(RB</u>	2))					
D/G TEST RELAY TSA2 (TSAB)	1						
CONTAINMENT HIGH PRESS. CHANNEL 2 BISTA	BLE	(ESFAS)					
CONTAINMENT HIGH PRESS. CHANNEL 2 TRAN	SM	ITTER (ES	FAS)				
CONTAINMENT HIGH PRESS. CHANNEL 3 BISTA	BLE	E (ESFAS)					
CONTAINMENT HIGH PRESS. CHANNEL 3 TRAN	SM	ITTER (ES	FAS)				
CONTAINMENT HIGH PRESS. CHANNEL 4 BISTA	BLE	E (ESFAS)					
CONTAINMENT HIGH PRESS. CHANNEL 4 TRAN	SM	ITTER (ES	FAS)				
ESFAS INPUT RELAY KI3IA (K131B)							
ESFAS INPUT RELAY KI33A (K133B)							
ESFAS INPUT RELAY K201A (K201B)							
ESFAS INPUT RELAY K217A (K271B)	T						
ESFAS INPUT RELAY K247A (K247B)	T					_	
ESFAS INPUT RELAY K330A (K330B)	Τ						
ESFAS INPUT RELAY K344A (K344B)	T	1					
ESFAS INPUT RELAY K417A (K417B)	T						
ESFAS INPUT RELAY K430A (K430B)	$\uparrow$						
ESFAS INPUT RELAY K444A (K444B)	$\uparrow$						
ESFAS LOGIC MODULE A210A (A210B)	+		+-				
ESEAS LOGIC MODULE A213A (A213B)	+-	1					
ESEAS LOGIC MODULE A308A (A308B)	+	1				$\neg \neg$	
ESEAS LOGIC MODILLE A313A (A313B)	+	1					
	+	<u> </u>		-			
ESEAS LOGIC MODULE AAIAA (AAIAB)	+						
ESEAS MASTED DELAY MENTA (MENTA)	+	+		<b> </b>			
ECEAS CLAVE DELAV (1409A (1409D)	╋	<u> </u>	_ <del> </del>	<u>├</u> }			
		+	_	┝╍─────┤		_	
LOFAD SLAVE KELAY KOU/A (KOU/B)	<u> </u>	1		<u>├</u>			
LOW STEAMLINE PRESSURE CHANNEL 1 BISTAB	LE	(ESFAS)					
LOW STEAMLINE PRESSURE CHANNEL 1 TRANS	MIT	TER (ESFA	<u>\S)</u>				
LOW STEAMLINE PRESSURE CHANNEL 2 BISTAB	LE	(ESFAS)					·
LOW STEAMLINE PRESSURE CHANNEL 2 TRANS	MIT	TER (ESF/	AS)				
LOW STEAMLINE PRESSURE CHANNEL 4 BISTAB	LE	(ESFAS)					

Ø21

Paget 47

TABLE 5 -

	T			<u> </u>	T	Included in	<u> </u>	1
SUPPORT FOR NV SYSTEM (cont.)		1			+	Seismic PRA	┢	Non-Safety
	╉─			·····	╋─	00001100 1101	┢──	
OW STEAMLINE PRESSURE CHANNEL & TRANS	LAIT	TED (ESEAS	-		╋	<u> </u>	⊢	
DECUDITED LOW DECUDE CHANNEL 1 DEC	ADL	E (ESPAS)	_		╀╴		┝─	
PRESSURIZER LOW PRESSURE CHAINNEL I DIST		E (ESPAS)	~	ļ	┢		┢	<b></b>
PRESSURIZER LOW PRESSURE CHANNEL I IRAI	NSN	ATTER LESFA	15	]	╇		┡	
PRESSURIZER LOW PRESSURE CHANNEL 2 BIST	ABL	E (ESFAS)		L		ļ		
PRESSURIZER LOW PRESSURE CHANNEL 2 TRAI	<u>NSM</u>	AITTER (ESFA	<u>\S</u>	)	L			
PRESSURIZER LOW PRESSURE CHANNEL 3 BIST	<u>ABL</u>	E (ESFAS)				1		
PRESSURIZER LOW PRESSURE CHANNEL 3 TRAI	<u>NSN</u>	AITTER (ESFA	١S	)				
INSTR. LOOP CONTAINING 2NVFE/FT/SS/P 5620	0&	2NVFT/P 56	21		Т			
INSTR. LOOP CONTAINING 2NVFE/FT/SS/P 563	0&	2NVFT/P 56	31		Т			
	T	1		[	+			
	+	[]	-	· · · · · · · · · · · · · · · · · · ·	+		<b></b>	
	+-				+	Included in		
	┉	<u>├</u> }		·····	┿╍	Seiserie DDA	$\vdash$	Non Cafet
PROCESS CONTROL BUARDS	┿~				┢	Seisinic PRA	<u> </u>	NON-SOLEN
					┶		L	
								l
						Included in	Ĺ	
SUPPORT FOR RN SYSTEM					Г	Seismic PRA		Non-Safet
	1				<b>_</b>			
4160V AC SWITCHGEAR 2ETA (2ETB)					+	X		
ADDV AC MCC 2EMXA	-				+	X		
ADDV AC MCC 2EMXB-2	+	<u>}−−−</u> }			+			
ADDV AC MCC 2EMADE	+-		_	<u>├</u>	┢			
ACTIVICE ZEININE			_		┢		$\vdash$	
COUV AC INCC ZEMICH		<b> </b>			┢	X		
OUUV AC MCC ZEMXH-I						X		
600V AC MCC 2EMXH					-	X		
125V DC DISTRIBUTION CENTER 2EVDA (2EVI	<u>(DC</u>					X		
D/G LOAD SEQUENCER RELAY 2IA(RA7) (21/	<u> 4(R</u>	37))						
D/G LOAD SEQUENCER RELAY LSA2 (LSB2)					Τ			
D/G LOADING TRANSIENT ADVANCE TIMER R	ELA	Y 2ED(ATAS	5)	(2ED(ATB5))				
D/G SEQUENCE TIMER RELAY HA(ST7A) (H.	AIST	(7B)		1	1			
D/G TEST RELAY 2FB(TSA4) (2FB(TSB4))	Ť	T	_					
INSTR LOOP CONTAINING 2PNPG (PS5000 &	dir.	210 0211 0	17	20 0221				
(5010 & 0250, 0251, 0260, 0261)	Ť	1			╀─	· · · · · · · · · · · · · · · · · · ·	$\vdash$	
	502	<u></u>			┢			
INSTR. LOOP CONTAINING 2RNP1/PS/P JU20 (	305	0)	_		╞	ļ		
INSTR. LOOP CONTAINING ZINNE/FI/P 5040 8	(1)	5041 (5050	ð.	5051)	╞			
INSTR. LOOP CONTAINING 2RNFE/FT/P 5220 (	523	<u> </u>		l	L			
INSTR. LOOP CONTAINING 2RNFE/FT/P 5360 8	<u>( P</u>	7P 5361 (53	37	D & 5371)				
	_				1			
	1				1			
	1			1	1	Included in	$\neg$	
REACTOR PROTECTION SYSTEM	+	t			+	Seismic DDA		Non-Safah
	+-	<del>  </del>			┼─	JONING LIVA		
DEACTOD TOID ADEALED A CO		<u>├───</u> ┤			╀─			<u> </u>
KEAUTOR TRIP DIREARER A (D)		┨────┤			+			
REACTOR TRIP BYPASS BREAKER A (B)		<u> </u>			1_			
			_	1	L			
					Γ			
		And the second s						

Page \$ 4-8

.

.

,

TABLE	5	-
-------	---	---

6	and the second	_	·						
		_					Included in		
	· SUPPORT FOR SM, SV SYSTEMS	_					Seismic PRA		Non-Safet
Ì					`		X	•	<u>.</u>
	COV AC MCC ZEMIA-Z						<u> </u>		ļ
ł	DUUV AC MCC 2EMX8-4						X		
1	INSTR. LOOP CONTAINING 25MSVUUTU (UUTT),	(0	013) & 1100						
ł	INSTR. LOOP CONTAINING 25MSV0030 (0031),	(U	<u>033) &amp; 1100</u>	130	0031				
ļ	INSTR. LOOP CONTAINING 25MSV0050 (0051).	0	053) & LLOO	60	,0051				
	INSTR. LOOP CONTAINING 25MSV0070 (0071),	(0	073) & LLOO	70	,0071				
	NSTR. LOOP CONTAINING 2SMSV/LL/ML0090	(S	V0091)	_					
	INSTR. LOOP CONTAINING 2SMSV/LL/ML0100	<u>(S</u>	V0101)						
	INSTR. LOOP CONTAINING 2SMSV/LL/ML0110	<u>(S</u>	V0111)						
	INSTR. LOOP CONTAINING 2SMSV/LL/ML0120	(5	<u>v0121)</u>					_	
	INSTR. LOOP CONTAINING 2SMFE/FT/P 5000,	R	CPS, FWCS	Œ	E/FT/P 5010,	RCP	S, FWCS)		
	NSTR. LOOP CONTAINING 25MFE/FT/P 5020,	R	CPS, FWCS	(F	E/FT/P 5030,	RCP	S, FWCS)		
	NSTR. LOOP CONTAINING 2SMFE/FT/P 5040,	R	CPS, FWCS	(F	E/FT/P 5050,	RCP	S, FWCS)		
	NSTR. LOOP CONTAINING 2SMFE/FT/P 5060.	R	CPS, FWCS	(F	E/FT/P 5070,	RCP	S, FWCS)		
	NSTR. LOOP CONTAINING 2SMPT/P 5080 & R	CI	×s 🛛			T			
	NSTR. LOOP CONTAINING 2SMPT/P 5090 & R	C	rs 🛛			1		_	
ſ	NSTR. LOOP CONTAINING 2SMPT/P 5100 & R	Ċ	≥s			$\top$			
1	INSTR. LOOP CONTAINING 25MPT/P 5110 & R	C	rs 🛛						
Į	INSTR. LOOP CONTAINING 2SMPT/P 5120 & R	C	rs 🛛			_			
Ì	INSTR. LOOP CONTAINING 2SMPT/P 5130 & R	IC.	<u>~</u> S		_				
]	INSTR. LOOP CONTAINING 2SMPT/P 5140 & R	C	PS S						
1	INSTR. LOOP CONTAINING 2SMPT/P 5150 & R	C	PS I		· · · · · · · · · · · · · · · · · · ·				
	INSTR. LOOP CONTAINING 2SMPT/P 5160 & R	C	PS			· -			
	NSTR. LOOP CONTAINING 2SMPT/P 5170 & R	C	PS I						
	NSTR. LOOP CONTAINING 2SMPT/P 5180 & R	C	>s						
ł	NSTR. LOOP CONTAINING 2SMPT/P 5190 & R	C	2S		· · · · · · · · · · · ·			_	
ł				-					
l					· · ·	- -			
ł		-		-					
Ì	· · · · · · · · · · · · · · · · · · ·						Included in		
	SOLID STATE PROTECTION SYSTEM						Seismic PRA		Non-Safet
- {	· · · · · · · · · · · · · · · · · · ·						X		

TABL	ε	6	-
------	---	---	---

CONTAINMENT PERFORMANCE COMPONENT LIST FOR MCGUIRE UNIT 1										
	IF	PEEE WA	LK	DOWN	1					
					┢──			l		
					<b>—</b>		╫───			
CONTAINMENT ISOLATION VALVES		Penetr.		·····	<u>├</u>		Val	ve Pos	tion	
AND PENETRATIONS		No.	-	Valve No.	<u> </u>	Line Size (in.)	Norm	Fail	Acc.	
							1			
UPPER COMPARTMENT PURGE INLET		M367	_	IVPIB		24	С	С	С	
UPPER COMPARTMENT PURGE INLET		M367		IVP2A	Γ	24	С	С	С	
UPPER COMPARTMENT PURGE INLET		M454		IVP3B		24	С	C	С	
UPPER COMPARTMENT PURGE INLET		M454 -	-	IVP4A		24	С	С	С	
LOWER COMPARTMENT PURGE INLET		M357		1VP6B		24	С	С	С	
LOWER COMPARTMENT PURGE INLET		M357		IVP7A		24	C	C	С	
LOWER COMPARTMENT PURGE INLET		M456	_	1VP8B		24	C	C	C	
LOWER COMPARTMENT PURGE INLET		M456		IVP9A		24	C	С	С	
CONTAINMENT PURGE EXHAUST		M368		1VP10A		24	C	<u> </u>	C	
CONTAINMENT PURGE EXHAUST		M368		IVP11B		24	C	<u> </u>	C	
CONTAINMENT PURGE EXHAUST		M455		<u>1VP12A</u>		24	<u> </u>	C	<u> </u>	
CONTAINMENT PURGE EXHAUST		M455		IVP13B		24	<u>C</u>	C	<u> </u>	
CONTAINMENT PURGE		M119	_	1VP15A		24	C	C	C	
CONTAINMENT PURGE		M119	_	1VP16B		24	C	<u> </u>	C	
INCORE INSTR. ROOM PURGE IN		M213		1VP17A		12	C	<u> </u>	<u> </u>	
ICORE INSTR. ROOM PURGE IN		M213	_	1VP18B		12	C	C	C	
ORE INSTR. ROOM PURGE OUT		M138		1VP19A		24	C	C	<u> </u>	
ORE INSTR. ROOM PURGE OUT	L	<u>M138</u>	_	1VP208		24	C	C	<u> </u>	
	<u> </u>	M243			_	6		C	C	
CONTAINMENT AIR RELEASE	<u> </u>	M243	_	1VQ2B		6	C	<u> </u>	C	
		M384	_	IVQ5B		6		C	<u> </u>	
CONTAINMENT AIR ADDITION	_	M384	_	1VQ6A	-	. 6	C	C	<u> </u>	
CONT. VENT UNITS COND. DRAINS TO DRN. TK.		M221.	_	1WL321A		6	0	AI	<u> </u>	
CONT. VENT UNITS COND. DRAINS TO DRN. TK.		M221	_	1WL322B		. 6	0	AI	<u> </u>	
			_				<b>  </b>			
UPPER CONTAINMENT PERSONNEL HATCH	L_	<u>C392</u>								
LOWER CONTAINMENT PERSONNEL HATCH	ļ	<u>C152</u>	_							
							<b>  </b>			
PERSONNEL AIR LOCK INFLATABLE DOOR SEALS	(1)	ICLUDING A	١R	SUPPLY SYSTEM	0		<b></b>			
PERSONNEL AIR LOCK 208 V LINEAR ACTUATOR	<u>0 </u>	OOR LATCH	IES		[	L	<u>  </u>			
	<u> </u>				<u> </u>		∦			
OUV AC MCC IEMXA		└───┤			<b>!</b>		∦			
AC MCC IEMXB			_		<u> </u>		<b> </b>			
125V DC PANELBOARD 1EVDA		ļ			<u> </u>		∦			
125V DC PANELBOARD 1EVDB		ļļ					∦	ļ		
125V DC PANELBOARD 1EVDD		└──── <b>│</b>		 	<u> </u>		∦	L		
IZUV AC PANELBOARD IEKVA		<b>├</b> ──── <b>│</b>			!		¥			
12UV AC PANELBOARD 1EKVD	L				L		╢───			
	ļ						╟			
· · ·		l			ļ		<u> </u>	ł		

Pagez 50

TA	BI	F	6	
10			0	-

			_		-			<b></b>	
(B' train components are shown in parenthese	<u>is.</u> A i	detailed	W	olkdown of the	ie i	components is r	tot		
essary if the 'B' train configuration is similar t	to the	> 'A' train	.)				· ·		1
						· · ·	1		
HYDROGEN MITIGATION SYSTEM						·	∦		<u> </u>
							╫_───		·
	+				┣		╫	<u> </u>	╆
GLOW PLUG IGNITEKS	┟┯┟╴				L	ļ	╢	ļ	<b></b>
							<b>  </b>	ļ	<u> </u>
600V AC MCC TEMXA (TEMXB)						<u> </u>	11		1
TRANSFORMER HMTA (HMTB)									
TRANSFORMER 1EMXA (1EMXB)									
	П							1	
ICE BASKETS & DOORS								<u> </u>	<u>}</u>
	┟╌╌┟╼╴							<u>}</u>	
	$\vdash$								
	┝─┼─			·			╠		<b> </b>
	$\square$	<u> </u>					₽		ļ
•		Line		Included in			<b>  </b>	<u> </u>	
NS SYSTEM		izə (in.)		Seismic PRA					<u> </u>
NS PUMP 1A (1B)				· X					1
NS HX 1A (1B)				·X			1		<u> </u>
									1
ALAOV AC SWITCHCEAR IFTA (IFTR)	┣━┣━			· · · · ·				<u> </u>	<b> </b>
ADDV AC MACC JEMAYA (JEMAYR)			_						}
	┝╍┝╼						ļ		
25V DC PANELBOARD TEVDA (TEVDD)	┣──┣━								
	┝┠								<b> </b>
		ĺ							
·		Line		Included in					
VX SYSTEM	S	ize (in.)		Seismic PRA			[		]
	1.								
AIR-OP DAMPER IRAE-D-5 (-8)									
AID-OD DAMPED 1DAE D-A (O)					_				
			-				<b> </b>	<b> </b>	
AIR-OP DAMPER IRAF-D-7 (-10)	<u> </u>						<b> </b>	ļ	
MOTOR-OP ISOLATION DAMPER_TRAF-D-2 (-4)							ļ		ļ
									L
CONTAINMENT AIR RETURN FAN 1A (1B)				X					
	IT		,						]
600V AC MCC 1EMXA (1EMXB)							1		1
600V AC MCC 1EMXC (1EMXD)									t
1201/ AC PANELBOARD 1EKVA (1EKVD)	┢╌┠╴			· · · · · · · · · · · · · · · · · · ·					<u> </u>
					1.0				}
PREJOUKE TRAINOMITTER TVAPTOOYU (INCL. OSSOC.		uker, ala	m	moquie, & 48 C	<u>к</u>	power suppiy)	<b> </b>	<b> </b>	
(PRESSURE IRANSMITTER TVXP15380 (Incl. OSSOC)	bred	oker, ala	m	module, & 48 c	<u>i</u> ¢	power supply))			
PRESSURE TRANSMITTER 1VXPT5500 (incl. assoc.	bree	aker, ala	rm	module, & 48 c	<u>ic</u>	power supply)			
(PRESSURE TRANSMITTER 1VXPT5490 (incl. assoc.	bred	aker, ala	m	module, & 48 c	ic	power supply))			

TABLE	7	٠
-------	---	---

CONTAINMENT PERFORMANCE COMPONENT LIST FOR MCGUIRE UNIT 2											
	IPEEE WA	LKDOWN									
				#		<u>}</u>					
CONTAINMENT ISOLATION VALVES	Penetr.			Val	ve Pos	ition					
AND PENETRATIONS	No.	Valve No.	Line Size (in.)	Norm	Fail	Acc.					
					L	L					
UPPER COMPARTMENT PURGE INLET	M367	2VP1B	24	C	C	C					
UPPER COMPARTMENT PURGE INLET	M367	2VP2A	24	C	C	<u> </u>					
UPPER COMPARIMENT PURGE INLET	M454	2VP3B	24	C	C	<u> </u>					
UPPER COMPARTMENT PURGE INLET	M454	2VP4A	24	C	C	C					
LOWER COMPARTMENT PURGE INLET	M357	2VP6B	24	∥ <u>c</u>	C	<u> </u>					
LOWER COMPARTMENT PURGE INLET	M357	2VP7A	24	C	C	<u> </u>					
LOWER COMPARTMENT PURGE INLET	M456	2VP8B	24	C	C	<u> </u>					
LOWER COMPARTMENT PURGE INLET	M456	2VP9A	24	<u>∥                                    </u>	C	C					
CONTAINMENT PURGE EXHAUST	M368	2VP10A	24	C	<u> </u>	<u> </u>					
CONTAINMENT PURGE EXHAUST	<u>M368</u>	2VP118	24	C	<u> </u>	<u> </u>					
CONTAINMENT PURGE EXHAUST	M455	2VP12A	24		C	<u> </u>					
	M455	2VP138	24	<u>C</u>	<u> </u>	C					
	M119	2VP15A	24								
CONTAINMENT PURGE	M119	2VP16B	24		<u> </u>	C					
INCORE INSTR. ROOM PURGE IN	M213	2VP17A	12	<u> </u>	C						
CORE INSTR. ROOM PURGE IN	M213	2VP188	12	C	<u> </u>	C					
ORE INSTR. ROOM PURGE OUT	<u>M138</u>	2VP19A	24		C						
ORE INSTR. ROOM PURGE OUT	M138	2VP208	24		<u> </u>						
	M243	2VQ1A	6		C						
	M243	2VQ2B	6		<u> </u>						
	M384	2VQ58	6		<u> </u>	C					
CONTAINMENT AIR ADDITION	M384	2VQ6A	6	C	C	C					
CONT. VENT UNITS COND. DRAINS TO DRN. TK.	M221	2WL321A	6	0	AI	C					
CONT. VENT UNITS COND. DRAINS TO DRN. TK.	M221	2WL322B	6	0	<u>Al ·</u>	<u> </u>					
EQUIPMENTHATCH				(							
UPPER CONTAINMENT PERSONNEL HATCH	<u>C392</u>			╟		<u> </u>					
LOWER CONTAINMENT PERSONNEL HATCH				ļ							
				II							
PERSONNEL AIR LOCK INFLATABLE DOOR SEALS (	INCLUDING A	IR SUPPLY SYSTEM	)	∦		<b> </b>					
PERSONNEL AIR LOCK 208 V LINEAR ACTUATOR	DOORLAICH	ES		<b>  </b>		<b> </b>					
ACOVE ACE MICC. DEMIXA											
ACOV AC MCC 2ENTRA	+	_ <u>}</u> _		<u>}</u>							
DUUV AL MUL ZEMIAB				<u> </u>							
120V DC PAINELBUARD ZEVUA		····		{							
120V DC PAINELBUARD ZEVUB	_ <b>_</b>					<b></b>					
120V DC PANELBOARD 2EVDD				<b>  </b>		<b></b>					
12UV AC PANELBUARD ZERVA			<b> </b>			<u> </u>					
IZUV AU PANELBUARD ZEKVD						<u> </u>					
				∦	ļ	<b> </b>					
		1		l]	1	1					

Page \$ 52

Ø27

TABLE	7	-
-------	---	---

			_						
(B train components are snown in parentheses	<u>s. A</u>	detailed	W	pikdown of the	<u>e (</u>	<u>components is r</u>	tot	L	<u> </u>
cessary if the 'B' train configuration is similar t	<u>o tr</u>	ne 'A' train	.)						
HYDROGEN MITIGATION SYSTEM									
				· · · · · · · · · · · · · · · · · · ·			╢───	<u>+</u>	+
CLOW DUIC ICNITEDS	-+					<u> </u>	╫───	<b> </b>	
GLOW FLOG IGIVITERS	+		_			<u> </u>	ff	<b> </b>	
			L		<u> </u>	ļ	∥		
600V AC MCC 2EMXA (2EMXB)					<u> </u>	<u> </u>		<u> </u>	<u> </u>
TRANSFORMER HMTA (HMTB)							1		1
TRANSFORMER 2EMXA (2EMXB)									1
	-+						#		
			_	·	┣		∦		<u> </u>
							₿	<u> </u>	-}
ICE BASKEIS & DOORS	-+				ļ		<b>  </b>	<u> </u>	ļ
				•	-		1		L
							[		1
	-1	Line		Included in	-		[]		1
NIC SVCTENA		Sho (in )		Soirmic DDA	-		<u>}</u> -		┟╍───
145 51 51 ElVI		SKA (III.)		SEISINIC PRA			₩		·
							ll		
NS PUMP 2A (2B)				<u> </u>			<b>  </b>		.
NS HX 2A (2B)				<u> </u>					
							[]		
4160V AC SWITCHGEAR 2ETA (2ETB)									1
- MOV AC MCC 2EMXA (2EMXB)			-				∦		1
DEV DC PANELBOARD 25VDA (25VDD)							<b>  </b>		<u> </u>
EST DO FAITLEDOARD ZETDA (ZETDD)					—		╢────		┼───
	_						<b> </b>		<b> </b>
			_		L			L	Ļ
							li		
		Line		Included in					
VX SYSTEM		Size (in.)		Seismic PRA		]		· · ·	
AID OD DAMPED 20AE D 6 ( 9)			-		-		<b>  </b> i	<u> </u>	
AIROF DAMPER ZRAF-D-5 (-0)					┣		<u> </u>		<b></b>
			<u> </u>		<u> </u>				ļ
AIR-OP DAMPER 2RAF-D-6 (-9)									
AIR-OP DAMPER 2RAF-D-7 (-10)						\$	<b>  </b> i		
MOTOR-OP ISOLATION DAMPER 2RAF-D-2 (-4)							1		
					-				1
CONTAINMENT ALD DETLIDN FAN 24 (28)				Y		[			
					—		<b>∦</b> -	<u> </u>	
			┣		⊢		ll		
OUV AC MCC 2EMXA (2EMXB)				L			I	ļ	
600V AC MCC 2EMXC (2EMXD)				l					<u> </u>
120V AC PANELBOARD 2EKVA (2EKVD)	T				1		1	[	1
PRESSURE TRANSMITTER 21/XPI5300 (Incl. assoc	br	anker ala	rm	module & 48	J.	nower supply)			+
(DDESSUDE TDANSMITTED 2) VOT6390 (Incl. dasoc.				modulo P. AP		power supply)	l <del> </del>	ļ	+
CERCOURE TRANSIVITTER ZVAPTODOU (IIICI. OSSOC.		EUKET, UIO	nH	1100018, 0( 40 (		power suppryll	∥	Į	{
PRESSURE TRANSMITTER 2VXP15500 (Incl. OSSOC.	Dre	<u>aker, ala</u>	rm	module, & 48	30	power supply)	ll	<b>├</b> ──	<u> </u>
(PRESSURE TRANSMITTER 2VXPT5490 (incl. assoc.	br	eaker, ala	Im	module, & 48 (	JC	power supply))	11		1

Fukushima Near-Term Task Force (NTTF) Recommendation 2.3: NRC Submittal report for Seismic Walk-downs McGuire Unit 1

ł

# ATTACHMENT 2

# McGuire Unit 1 SWEL-1

.

#### McGuire Unit 1 SWEL-1 Equipment Walkdown Scope

#### ATTACHMENT 2 1 of 6

Equipment #	Description	<u>System</u>	<u>Class of</u> Equipment	Building	<u>Elev.</u>	<u>Room #</u>	<u>Column-</u> <u>Grid</u>	Listed on IPEEE List	<u>Major New/</u> Replacement Equipment	Prior IPEEE Discrepancy/ Enhancement	Safety Function
1CAPU0001	1A MDCAP	CA	05-Horizontal Pump	Aux Bldg	716	600/MDCAP Rm		х			NC-Press, DH
1CA-PN-AFPA	MDCAP 1A Control Panel	CA	20-Instrument and Control Panel	Aux Bldg	716	600/MDCAP Rm	CC-61	х			NC-Press, DH
1CA-PN-AFTP	TDCAP Control Panel	ĊA	20-Instrument and Control Panel	Aux Bldg	716	600/TDCA Pump Rm		х			NC-Press, DH
1CAPU0003	TDCAP	CA	05-Horizontal Pump	Aux Bidg	716	600/TDCA Pump Rm		х			NC-Press, DH
1CAHX0003	TDCAP Bearing Oil Cooler	CA	21-Tanks/HtXs	Aux Bldg	716	600/TDCA Pump Rm		х			NC-Press, DH
1CA-56A	MDCAP Flow Control to 1B SG	СА	07-AOV	Aux Bldg	716 +8	600/MDCAP Rm		x			NC-Press, DH
1SA-48ABC	TDCAP steam supply from 1C SG	SA	07-AOV	Inner Doghouse	767+10	inner Doghouse		х			NC-Press, DH
1SA-49AB	TDCAP steam supply from 1B SG	SA	07-AOV	Inner Doghouse	767+11	Inner Doghouse		х			NC-Press, DH
1VGTK0062	1A1 EDG Starting Air Tank	VG	21-Tanks/HtXs	EDG Bidg	736.5	1A EDG Rm		х			Various
1VGTK0063	1A2 EDG Starting Air Tank	VG	21-Tanks/HtXs	EDG Bidg	736.5	1B EDG Rm		х			Various
1VGTK0064	1B1 EDG Starting Air Tank	VG	21-Tanks/HtXs	EDG Bldg	736.5	1A EDG Rm		х			Various
1VGTK0065	1B2 EDG Starting Air Tank	VG	21-Tanks/HtXs	EDG Bldg	736.5	1B EDG Rm		х			Various
1VG-61	EDG Sarting Air Solenoid	VG	08-MOV/SOV	EDG Bidg	736.5	1A EDG Rm		х			Various
1VG-66	EDG Sarting Air Solenoid	νĠ	08-MOV/SOV	EDG Bldg	736.5	1B EDG Rm		x			Various
1B EDG	1B Emergency Diesel Generator Set	EDG	17-Engine Generator	EDG Bldg	736.5	1B EDG Rm		х			Various
1KCTK0009	KC Surge Tank	кс	21-Tanks/HtXs	Aux Bldg	767	9	JJ-57	х			Various
1KCHX0005	1A KC HtX	кс	21-Tanks/HtXs	Aux Bldg	750	KC HtX Area	JJ-56	x			Various
1KCHX0006	1B KC HtX	кс	21-Tanks/HtXs	Aux Bldg	750	KC HtX Area	JJ-56	x		X - missing grout for saddle base and curb	Various
1KCPU0001	1A1 KC Pump	кс	05-Horizontal Pump	Aux Bldg	733	U1 KC Pump Area	GG-55	X			Various

Equipment #	Description	<u>System</u>	<u>Class of</u> Equipment	Building	<u>Elev.</u>	<u>Room #</u>	<u>Column-</u> <u>Grid</u>	Listed on IPEEE List	<u>Major New/</u> Replacement Equipment	Prior IPEEE Discrepancy/ Enhancement	Safety Function
1KCPU0002	1A2 KC Pump	кс	05-Horizontal Pump	Aux Bldg	733	U1 KC Pump Area	GG-56	x			Various
1KC-50A	KC Aux Bldg Non-ESS Return Isol	кс	08-MOV/SOV	Aux Bldg	750	Open General Area	GG-57	x	X - (EC-75450, replace valve)		Various
1KC-53B	Aux Bldg Non-Essential Header Isolation	кс	08-MOV/SOV	Aux Bldg	750	Open General Area	KK-55	x			Various
1NC-32B	NC System Pressurizer PORV	NC	07-AOV	Rx Bldg		Przr Cavity		×			NC-Press, NC Inventory
1NC-34A	NC System Pressurizer PORV	NC	07-AOV	Rx Bldg		Przr Cavity		х			NC-Press, NC Inventory
1NDRD5060	1A ND pump dsch temp	ND	19-Temperature Sensor	Aux Bldg	750+9	732	LL-51				Containment Integrity
1NDRD5120	1B ND HtX dischargeTemperature to NC CL	ND	19-Temperature Sensor	Aux Bldg	750+9	733	LL-51				Containment Integrity
1ND-1B	RHR Pump Hotleg Suction Isolation	ND	08-MOV/SOV	Rx Bidg	745	B-C Lower Containment	Between B & C SG	x			DH
1ND-2AC	RHR Pump Hotleg Suction Isolation	ND	08-MOV/SOV	Rx Bidg	745	B-C VL Fan Rm	B-C VL Fan Rm	X			рн
1ND-4B	RHR FWST Suction Isolation	ND	08-MOV/SOV	Aux Bldg	695	695 Pipechase	FF-53	x			DH, NC Inventory, Reactivity
1ND-15B	ND HtX Discharge X-tie Isol	ND	08-MOV/SOV	Aux Bldg	733+8	733	LL-52	x	X (EC-9997)		DH, NC Inventory, _ Reactivity
1ND-14	ND 1B HtX Discharge Flow Control	ND	07-AOV	Aux Bldg	733+6	733	LL-52	x	X (EC-77860)		DH, NC Inventory, Reactivity
1ND-29	ND 1A HtX Discharge Flow Control	ND	07-AOV	Aux Bldg	733+4	732	LL-52	x	X (EC-77860)		DH, NC Inventory, Reactivity
1NV-222B	UNIT 1 NV PUMP SUCTION FROM FWST ISOL	NI	08-MOV/SOV	Aux Bldg	716+2	603	JJ-52	х			DH, NC Inventory, Reactivity
1NDH20003	1A RHR HtX	ND	21-Tanks/HtXs	Aux Bldg	750	732	LL-52	x			DH, NC Inventory, Reactivity
1NDHX0004	1B RHR HtX	ND	21-Tanks/HtXs	Aux Bldg	750	733	LL-52	x			DH, NC Inventory, Reactivity

.

.

Equipment #	Description	<u>System</u>	<u>Class of</u> Equipment	Building	<u>Elev.</u>	Room#	<u>Column-</u> <u>Grid</u>	Listed on IPEEE List	<u>Major New/</u> <u>Replacement</u> Equipment	Prior IPEEE Discrepancy/ Enhancement	Safety Function
1NDPU0001	1A RHR Pump	ND	06-Vertical Pump	Aux Bldg	695	501	GG-54	x			NC-Press, DH, NC Inventory, Reactivity
1NDPU0002	1B RHR Pump	ND	06-Vertical Pump	Aux Bidg	695	500	FF-54	x			NC-Press, DH, NC Inventory, Reactivity
1NIPU0009	1A Med-Head NI Pump	NI	05-Horizontal Pump	Aux Bldg	716	628	HH-54	x			NC Inventory, Reactivity
1NIPU0010	1B Med-Head NI Pump	NI	05-Horizontal Pump	Aux Bldg	716	- 626	GG-54	x			NC Inventory, Reactivity
1NI-115B	Med-Head NI Pump Minflow Isolation	NI	. 08-MOV/SOV	Aux Bldg	716	628	HH-54	x	X (EC-9996)		DH, NC Inventory, Reactivity
1NI-144B	Med-Head NI Pump Minflow Isolation	NI	08-MOV/SOV	Aux Bldg	716	626	GG-54	х	X (EC-9994)		DH, NC Inventory, Reactivity
1NI-178B	B train ND to Coldleg Isol.	Ni	08-MOV/SOV	Aux Bldg	733+7	730	HH-52	x			NC-Press, DH, NC Inventory, Reactivity
1NI-185A	ND/NS Pump Containment Sump Supply Isol	NI	08-MOV/SOV	Aux Bldg	716	602E / Rathole	FF-53	x			Various
1NI-430A	N2 Assured Supply to 1NC-34A PORV	NI	08-MOV/SOV	Rx Bldg	760	1A CLA Room		X			NC-Press
1NI-431B	N2 Assured Supply to 1NC-32B PORV	· NI	08-MOV/SOV	Rx Bldg	760	1B CLA Room		X			NC-Press
1NSHX0003	1A NS HtX	NS	21-Tanks/HtXs	Aux Bldg	733	732	LL-50	×			Containment Integrity
1NSHX0004	1B NS HtX	NS	21-Tanks/HtXs	Aux Bldg	733	733	LL-50	×			Containment Integrity
1NSPU0001	1A Containment Spray Pump	NS	06-Vertical Pump	Aux Bidg	733	502	GG-54	x			Containment Integrity
1NVTK0011	CVCS Volume Control Tank	NV	21-Tanks/HtXs	Aux Bldg	733	728	KK-50	x			NC Inventory, Reactivity
1NV-141A	Hi-Head NV pump VCT Suction isolation	NV	08-MOV/SOV	Aux Bldg	733	730	JJ-50	х			NC Inventory, Reactivity
1NV-238	Charging flow control	NV	07-AOV	Aux Bldg	716	629	JJ-54	х			NC Inventory, Reactivity
1NVPU00015	1A Hi-Head NV Pump	NV	05-Horizontal Pump	Aux Bldg	716	627	HH-54	X			NC Inventory, Reactivity
1RNPU0007	1A RN STRAINER BACKWASH PUMP	RN	05-Horizontal Pump	Aux Bldg	716	600/RN Strainer Rm	BB-52		X - new (EC102477)		Various

-

Equipment #	Description	<u>System</u>	<u>Class of</u> Equipment	<u>Building</u>	<u>Elev.</u>	<u>Room #</u>	<u>Column-</u> <u>Grid</u>	Listed on IPEEE List	<u>Major New/</u> <u>Replacement</u> <u>Equipment</u>	Prior IPEEE Discrepancy/ Enhancement	Safety Function
1RNPU0008	1B RN STRAINER BACKWASH PUMP	RN	05-Horizontal Pump	Aux Bidg	716	601/RN Strainer Rm	BB-52		X - new (EC102478)		Various
1RNST0001	1A RN Pump Suction Strainer	RN	00-other	Aux Bldg	716	600/RN Strainer Rm	AA-50	x	X -replaced (MD102029, EC 99729)		Various
1RNST0002	1B RN Pump Suction Strainer	RN	00-other	Aux Bldg	716	601/RN Strainer Rm	AA-60	x	X -replaced (MD101864, EC 99729)		Various
1RN-21A	1A RN Strainer Auto Backwash Valve	RN	07-AOV	Aux Bldg	716+4	600/RN Strainer Rm	BB-52	×	X - new valve,actuator controls various ECs		Various
0RN-7Ą	1A/2A RN Pump SNSWP Suction Isol	RN	08-MOV/SOV	Aux Bldg	716+3	601	BB-63	x			Various
0RN-149A	1A/2A RN Essential Header SNSWP Return	RN	08-MOV/SOV	Aux Bldg	716+4	647W /Rathole	FF-59	x			Various
1SM-1AB	Main Steam Isolation Valve 1D SG	SM	07-AOV	Outer Doghouse	807+3	Outer Doghouse	FF-43	x	X -controls upgraded (NSM-12563)		NC pressure, Reactivity
1SM-3AB	Main Steam Isolation Valve 1C SG	SM	07-AOV	Inner Doghouse	767+30	Inner Doghouse	FF-53	x	X -controls upgraded (NSM-12563)		NC pressure, Reactivity
1SV-19	1A SG Main Steam PORV	SM	07-AOV	Outer Doghouse	807+3	Outer Doghouse	FF-43	X			NC pressure, Reactivity
1SV-13	1B SG Main Steam PORV	SM	07-AOV	Inner Doghouse	767+30	Inner Doghouse	FF-53	X		X -grating in contact w/valve	NC pressure, Reactivity
1VC-1A	VC Otsd Air Intake Isol from Unit 1	VC	08-MOV/SOV	Aux Bldg	767	926	BB-50	x			Various
1VI-AC-11	RN Strainer Backwash Assured Air Supply (2RN-21A)	VI	21-Tanks/HtXs	Aux Bldg	733	701C	CC-52		X - new component (EC-101543)		Various
1WĿ-322B	Containment Ventilation Otbrd CIV to VUCDT	WL	08-MOV/SOV	Aux Bldg	716+11	600/MDCAP Rm	CC-52	x			Containment Integrity
0VC-DO-0001 (CR- OAD-1)	Control Room Outside Press Fan Supply	vc	07-AOV	Aux Bidg	767	Control Rm Ventilation Rm	FF-56	x			Various
OVCFL0011 (CR- OAPFT-1)	Control Room Filter Package Fan A	VC	09-Fan	Aux Bldg	767	Control Rm Ventilation Rm	DD-54	x			Various
0YC-CH-0005 (CRA-C-1)	Control Room Area Chiller-1	VC/YC	11-Chiller	Aux Bidg	767	Control Rm Ventilation Rm	FF-56	x	X -controls upgrade (MD500739)		Various
0VCAH0001 (CRA-ÀHU-1)	A' TrainControl Room AHU-1	vc	10-AHU	Aux Bidg	767	Control Rm Ventilation Rm	EE-54	×			Various

.

Equipment #	Description	<u>System</u>	<u>Class of</u> Equipment	<u>Building</u>	Elev.	Room #	<u>Column-</u> <u>Grid</u>	Listed on IPEEE List	<u>Major New/</u> <u>Replacement</u> Equipment	Prior IPEEE Discrepancy/ Enhancement	Safety Function
1EPQ-BC-EDGA	1A EDG Battery Charger (1EPQBCEDGA)	EPQ	16-Battery Charger/Inverter	EDG Bldg	736.5	1A EDG Rm		x	X -replaced (NSM-12482/ EC75135)		Various
1EPQ-BA-EDGA	1A EDG Battery (1EPQBA024)	EPQ	15-Battery Rack	EDG Bldg	736.5	1A EDG Rm		x			Various
1EPQ-BC-EDGB	1B EDG Battery Charger (1EPQBCEDGB)	EPQ	16-Battery Charger/Inverter	EDG Bldg	736.5	1B EDG Rm		x	X -replaced (NSM-12482/ EC75135)		Various
1EPQ-BA-EDGB	1B EDG Battery (1EPQBA024)	EPQ	15-Battery Rack	EDG Bldg	736.5	1B EDG Rm		x		X - missing spacers	Various
1EPE-MX-EMXE	1DG1A 600 VAC MCC (1EMXE)	EDG	01-Motor Control Centers/Wall Mounted Contactors	EDG Bldg	736.5	1A EDG Rm		x			Various
1ETB <sup>,</sup>	4.16 kV Essential Power for	EPC	03-Med Voltage Metal Clad SWGR	Aux Bldg	733	705	AA-50	х			Various
1-EPE-TF-ELXA	1ELX A 4.16 KV/600 VAC Transformer	EPE	04-Transformer	Aux Bldg	750	803	AA-50	x			Various
1-EPE-TF-ELXC	1ELXC 4.16 KV/600 VAC Transformer	EPE	04-Transformer	Aux Bldg	750	803	AA-50	x			Various
1-EPE-TF-ELXB	1ELXB 4.16 KV/600 VAC Transformer	EPE	04-Transformer	Aux Bldg	733	705	AA-50	×			Various
1EMXA	600 VAC Essential MCC	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bldg	750	808	FF-55	×			Various
1EMXA-1	600 VAC Essential MCC	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bldg	750	808	FF-55	x			Various
1EMXB	600 VAC Essential MCC	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bidg	733	722	FF-55	×		X -contact w/adjacent MCC	Various
1EMXB-1	600 VAC Essential MCC	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bldg	733	722	FF-55	×		X -contact w/adjacent MCC	Various

.

#### McGuire Unit 1 SWEL-1 Equipment Walkdown Scope

.

#### ATTACHMENT 2 6 of 6

Equipment #	Description	<u>System</u>	<u>Class of</u> Equipment	<u>Building</u>	<u>Elev.</u>	<u>Room #</u>	<u>Column-</u> <u>Grid</u>	Listed on IPEEE List	<u>Major New/</u> <u>Replacement</u> Equipment	Prior IPEEE Discrepancy/ Enhancement	Safety Function
1-IPE-CA-9010	SSPS Cabinet 'A' Output & Logic cabinet	IPE	18-Instrument Rack	Control Complex	767	Control Rm	CC-54	х			Various
1-IPE-CA-9020	SSPS Cabinet 'B' Output & Logic cabinet	IPE	18-Instrument Rack	Control Complex	767	Control Rm	CC-54	x			Various
1EPG-BI-EVIA	Vital Battery Inverter	EPG	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	х	X - replaced (MG-12522)		Various
1EPG-BI-EVIB	Vital Battery Inverter	EPG	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	x	X - replaced (MG-22522)		Various
1EPG-BI-EVIC	Vital Battery Inverter	EPG	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	x	X - replaced (MG-22522)		Various
1EPG-BI-EVID	Vital Battery Inverter	EPG	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	x	X - replaced (MG-22522)		Various
1EVDA	Vital Panel 125VDC Breaker Panel	EPG	02-Low Voltage SWGR and Breaker Panels	Control Complex	733	701	CC-56	x			Various
1EVDB	Vital Panel 125VDC Breaker Panel	EPG	02-Low Voltage SWGR and Breaker Panels	Control Complex	733	701	CC-56	x			Various
1EVDC	Vital Panel 125VDC Breaker Panel	EPG	02-Low Voltage SWGR and Breaker Panels	Control Complex	733	701	CC-56	х			Various
1EVDD	Vital Panel 125VDC Breaker Panel	EPG	02-Low Voltage SWGR and Breaker Panels	Control Complex	733	701	CC-56	х			Various
EVDA	125VDC Distribution Center	EPL	14-Distribution Panels and Automatic Transfer Switches	Control Complex	733	701	CC-56	x			Various
EVDB	125VDC Distribution Center	EPL	14-Distribution Panels and Automatic Transfer Switches	Control Complex	733	701	CC-56	x			Various
0-EPL-BA-EVCA	Vital Battery	EPL	15-Battery Rack	Control Complex	733	707	CC-56	x	X - replaced (NSM-52483 / EC-64766)		Various
0-EPL-BA-EVCB	Vital Battery	EPL	15-Battery Rack	Control Complex	733	708	CC-56	х	X - replaced (NSM-52484 / EC-65056)		Various
0-EPL-BC-EVCA	Vital Battery Charger	EPL	16-Battery Charger/Inverter	Control Complex	733	701	CC-54	х	X - replaced (NSM-52488 / EC-65972)		Various
0-EPL-BC-EVCB	Vital Battery Charger	EPL	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	х	X - replaced (NSM-52489 / EC-66301)		Various

### Fukushima Near-Term Task Force (NTTF) Recommendation 2.3: NRC Submittal report for Seismic Walk-downs McGuire Unit 1

5

# ATTACHMENT 3 - McGuire Unit 1 SWEL-2 Base-2 List and Rapid Drain Down List

	Unit 1 SWEL-2 "Base List"		•					
Equipment #	Description	<u>System</u>	<u>Class of</u> Equipment	<u>Bldg</u>	<u>Elev.</u>	<u>Room #</u>	<u>Column-</u> Grid	Function
1KFPU0001	1A KF Pump	KF	05-Horizontal Pump	Aux Bidg	750	816	PP-52	SFP Cooling
1KFPU0002	1B KF Pump	KF	05-Horizontal Pump	Aux Bldg	750	816	PP-52	SFP Cooling
1KFHX003	1A KF HtX	KF	21-Tanks/HtXs	Aux Bldg	750	816	PP-52	SFP Cooling
1KFHX004	1B KF HtX	KF	21-Tanks/HtXs	Aux Bldg	750	816	PP-52	SFP Cooling
1VAAH0030	1A KF Pump AHU	VA	10-AHU	Aux Bldg	750	816	PP-52	SFP Cooling
1VAAH0031	1B KF Pump AHU	VA	10-AHU	Aux Bldg	750	816	PP-52	SFP Cooling
1ETA-13	1A KF Pump Breaker	EPC	03-Med Voltage Metal Clad SWGR	Aux Bldg	750	803	AA-50	SFP Cooling
1ETB-13	1B KF Pump Breaker	EPC	03-Med Voltage Metal Clad SWGR	Aux Bldg	733	705	AA-50	SFP Cooling
1RN-140A	A KF Pump Ess AHU Sup Isol	RN	07-AOV	Aux Bldg	750	816	PP-52	SFP Cooling
1EMXA-F3D	1A KF Pump Motor AHU Motor	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bidg	750	808	FF-55	SFP Cooling
1EMXB-4C	1B KF Pump Motor AHU Motor	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bldg	750	722	FF-55	SFP Cooling
1RN-240B	1B KF Pump Ess AHU Sup Isol	RN	07-AOV	Aux Bidg	750	816	PP-52	SFP Cooling
	Unit 1 SWEL-2 "Rapid Draindown List"							
Equipment #	Description	<u>System</u>	<u>Class of</u> Equipment	Bidg	<u>Elev.</u>	<u>Room #</u>	<u>Column-</u> <u>Grid</u>	Function
1NV-842AC	SBMUP Suction Isolation	NV	08-MOV/SOV	Rx Bldg	725	Annulus	273°/61 R	SFP & Refueling Cavity Inventory
1NVAC0048	SBMUP Suction Pulsation Dampener (non-seismic SSC)	NV	00-Other- (pulsation dampener)	Rx Bldg	725	Annulus	320°/61 R	N/A
1NVPU0046	SBMUP (non-seismic SSC)	NV	05-Horizontal Pump	Rx Bldg	725	Annulus	320°/61 R	N/A
1NVAC0049	SBMUP Discharge Pulsation Dampener (non-seismic SSC)	NV	00-Other- (pulsation dampener)	Rx Bidg	725	Annulus	320°/61 R	N/A
1NVFL0047	SBMUP Discharge Filter (non-seismic SSC)	NV	00 - Other	Rx Bldg	725	Annulus	320°/61 R	N/A
1NV-849AC	SBMUP Discharge Isolation	NV	08-MOV/SOV	Rx Bldg	725	Annulus	273°/61 R	N∕A
Reactor Cavity Seal	Refueling Reactor Cavity Seal	FW	00 - Other	Rx Bldg	n/a	n/A	n/a	SFP & Refueling Cavity Inventory
1FW-8, -10, -25, -26, -46, -47, -76, -75	Refuling Cavity Manual Drain Valves	FW	00 - Other	Rx Bldg	n/a	n/A	n/a	SFP & Refueling Cavity Inventory
Fuel Transfer Tube blind flange	Fuel Transfer Tube Blind Flange	KF	00 - Other	Rx Bldg	n/a	n/A	n/a	SFP & Refueling Cavity Inventory
Fuel Transfer Tube Weir Gate	Fuel Transfer Tube Weir Gate	KF	00 - Other	Rx Bldg	n/a	n/A	n/a	SFP & Refueling Cavity Inventory

### Fukushima Near-Term Task Force (NTTF) Recommendation 2.3: NRC Submittal report for Seismic Walk-downs McGuire Unit 1

# ATTACHMENT 4

# McGuire Unit 1 SWEL-2

Equipment #	<u>Description</u>	<u>System</u>	<u>Class of</u> Equipment	<u>Bldg</u>	<u>Elev.</u>	Room #	<u>Column-</u> <u>Grid</u>	<u>Major New/</u> <u>Replacement</u> <u>Equipment</u>	Function
1NV-842AC	SBMUP Suction Isolation	NV	08-MOV/SOV	Rx Bldg	725	Annulus	273°/61 R	X - actuator replacement ( EC-99992)	SFP & Refueling Cavity Inventory
1NVAC0048	SBMUP Suction Pulsation Dampener (non-seismic SSC)	NV	00-Other- (pulsation dampener)	Rx Bldg	725	Annulus	320°/61 R	X - replaced MGMM11916 (EC 37849)	N/A
1NVPU0046	SBMUP (non-seismic SSC)	NV	05-Horizontal Pump	Rx Bldg	725	Annulus	320°/61 R		N/A
1KFPU0001	1A KF Pump	KF	05-Horizontal Pump	Aux Bldg	750	816	PP-52	X - replaced motor EC105550	SFP Cooling
1KFPU0002	1B KF Pump	KF	05-Horizontal Pump	Aux Bldg	750	816	PP-52		SFP Cooling
1KFHX0003	1A KF HtX	KF	21-Tanks/HtXs	Aux Bldg	750	816	PP-52		SFP Cooling
1KFHX0004	1B KF HtX	KF	21-Tanks/HtXs	Aux Bldg	750	816	PP-52		SFP Cooling
1VAAH0031	1B KF Pump AHU	VA	10-AHU	Aux Bldg	750	816	QQ-52		SFP Cooling

.

United States Nuclear Regulatory Commission November 26, 2012 Enclosure 2

÷.,

## ENCLOSURE 2

## McGuire Nuclear Station Unit 2 Seismic Walkdown Report

### Executive Summary

The results of the McGuire Unit 2 Fukushima Dai-ichi Near-Term Task Force (NTTF) Recommendation 2.3 Seismic Walkdowns are provided here-in. The walkdowns were performed in accordance with Electric Power Research Institute (EPRI) Report 1025286, Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic (issued June 2012). The performance of the seismic walkdowns is required in response to the Nuclear Regulatory Commission's (NRC) 10CFR50.54(f) letter regarding NTTF Recommendation 2.3: Seismic. The EPRI guidance outlined requirements for personnel qualifications, selection of walkdown components, the conduct of the walkdowns, evaluation of potentially adverse conditions against the plant seismic licensing basis, and reporting requirements. The guidance further provided check lists to document the performance of the seismic walkdowns and walk-bys.

### 1.0 Seismic Licensing Basis

Site Characteristics:

Major Category I structures are supported on sound rock (UFSAR Sections 3.7.1.4, 3.7.1.5, 3.7.1.6, 3.8.4, 3.8.5, 3.8.5.4.1). Where zones of irregular weathering of bedrock occurred, the weathered material was excavated and fill concrete was used under foundation structures, or piles were driven to suitable rock bearing for Category I structure (UFSAR Section 2.5.1.2).

#### Response Spectra:

The Safe Shutdown Earthquake (SSE) for McGuire is conservatively specified to have a peak ground acceleration of 0.15g horizontally and 0.10 g vertically. The Operating Basis Earthquake (OBE) is 8/15 of the SSE at all frequencies (UFSAR 2.5.2.6, 2.5.2.11, 3.1, and MCS-1465.00-00-0009, section 3.3).

The ground response spectra curves are enveloped for analysis and design of all Category 1 building foundations on closely joined rock and slightly weathered rock and for all building elevations where the floor slab rests on rock or fill concrete (MCS-1465.00-00-0009, section 3.3).

System, Structure, Component (SSC) Seismic Design:

All structures, systems and components required to shut down and maintain the reactor in a safe and orderly condition or prevent the uncontrolled release of excessive amounts of radioactivity have a seismic classification of Category 1 (UFSAR 3.2.1). The McGuire design complies with Regulatory Guide 1.29 for SSC seismic design requirements.

Seismic Category I SSCs are designed to maintain their functional capability in the event of a SSE. The seismic design of Category I SSCs is outlined in UFSAR Section 3.2 and Tables 3-1, 3-2, 3-4 & 3-7. Seismic Category I SSCs are also designed to withstand the effects of the Operating Basis Earthquake without loss of capability to perform their safety functions. Applicable seismic design codes and standards include (MCS-1465.00-00-0009, Section 3.2, UFSAR section 3.2 and Tables 3-1 through 3-7):

- 10CFR50, Appendix A, General Design Criteria 2 Design Bases for Protection Against Natural Phenomena
- Duke Class A, B, C piping per ASME Section III, 1971, except for the Nuclear Service Water piping which was designed per ANSIB31.7, Class III (Reference UFSAR Table 3-5)
- Duke Class A, B, C valves per ASME Section III, 1971 (Reference UFSAR Table 3-6)
- Duke Class F valves per ANSI B31.1.0 (1967), Class III (Reference UFSAR Table 3-6)
- Regulatory Guide 1.29, "Seismic Design Classification," Revision 3, September 1978.
- IEEE Standard 344-1971, "Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Station.
- IEEE Standard 344-1975, "Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations.
#### Fukushima Near-Term Task Force (NTTF) Recommendation 2.3: NRC Submittal report for Seismic Walk-downs McGuire Unit 2

#### 2.0 Personnel Qualifications

The personnel involved in the McGuire NTTF Recommendation 2.3 Seismic Walkdown effort satisfactorily met the qualification requirements of EPRI 1025286. The personnel responsibilities and qualifications are outlined in TABLE 2-1 below. Additional Peer Review Team experience is outlined within the Peer Review Report (ATTACHMENT 6).

· · · ·	Walkdown Personnel Exp	perien	ce and I rail	ning	<u> </u>			
Personnel	Degree	Years of Experience	Relevant Qualifications	SWE	SWEL Development	<b>CLB</b> Reviews	IPEEE Vulnerability Resolution	Peer Reviews
Mark Eli, P.E. (Ares)	BS/Civil Engineering	32	SQUG <sup>(1)</sup> SWE <sup>(2)(3)</sup>	х				
Charles M. Conselman, P.E. (ARES)	BS/Civil Engineering	28	SWE <sup>(2)(3)</sup>	х				
Bryan Hanna, P.E. (ARES)	BS/Civil Engineering	12	SWE (2)(3)	х				
Kevin Rubright (ARES)	BS/Civil Engineering	30	SWE <sup>(2)(3)</sup>	Х				
Harpreet Ghuman (ARES)	BS/Civil Engineering	4	SWE <sup>(2)</sup>	х				
Paul Baughman, P.E. (Ares)	BS/Civil Engineering	>40	SQUG <sup>(1)</sup> SWE <sup>(2)</sup>					X <sup>(3)</sup>
George Bushnell, P.E. (SHAW)	BS/Mechanical Engineering	>40	SQUG <sup>(1)</sup> SWE <sup>(2)</sup>					х
George Hermann (SHAW)	BS/Mechanical Engineering Technology	17	SWE <sup>(2)</sup>	х				
Thomas Tonden, P.E. (SHAW)	MS Energy Engineering	>35	SWE <sup>(2)</sup>	х				
Karen Kuhn (SHAW)	BS/Nuclear Engineering	11	SWE <sup>(2)</sup>	Х	-			
Robert L. Keiser, P.E. (Duke)	BS/Civil Engineering MS/Civil Engineering	>20	SQUG <sup>(1)</sup> SWE <sup>(2)</sup>					х
Breece C. Nesbitt, P.E. (Duke)	BS/Civil Engineering	>40	SWE <sup>(2)</sup>	х				
Mike F. Langel, P.E. (Duke)	BS/Civil Engineering ME/Civil Engineering	>35	SWE <sup>(2)</sup>	х		х		
Charles N. Cunningham (Duke)	BS/Civil Engineering MS/Civil Engineering	4	SWE <sup>(2)</sup>	x		х		
Harry E. Vanpelt, P.E. (Duke)	BS/Nuclear Engineering, MS/Mechanical Engineering	36			х		х	
Phil A. Thompson (Duke)	N/A	37	SRO <sup>(4)</sup> (25 years)		х			
Bryan D. Meyer (Duke)	BS/Mechanical Engineering	>28	SWE <sup>(2)</sup>	х	х	х	х	
Drew Lyerly (Duke)	BS/Civil Engineering	6				X		

TABLE 2-1	
Walkdown Personnel Experience and Training	

NOTES:

1) SQUG Seismic Capability Engineers (SCEs) have successfully completed SQUG training.

 Seismic Walkdown Engineers (SWEs) have successfully completed EPRI 1025286 2 day walkdown training course.

3) Senior Team Member.

4) Prior Senior Reactor Operator (SRO).

#### 3.0 Selection of Equipment for the SWEL-1 and SWEL-2 Lists

The McGuire Unit 2 SWEL-1 and SWEL-2 equipment selection was performed in accordance with the EPRI guidance outlined in EPRI Technical Report #1025286 (Reference MCC-1612.00-00-0001, Rev. 0).

The EPRI SWEL-1 Screening Criteria #1 through #3 are as follows:

- 1) Seismic Category I licensing bases,
- 2) Exclude structures, penetrations, and piping systems
- Equipment must perform safety function (reactor reactivity control, reactor coolant pressure control, reactor coolant inventory control, decay heat removal, containment integrity). The EPRI screening criteria further allows major NSSS equipment inside containment to be excluded.

The original McGuire IPEEE Seismic Walkdown list (MCC-1535.00-00-0004, Rev. 0, Attachment 24) was used as an initial "Base-1 List" of potential SWEL-1 walkdown components. This list includes shared, Unit 1 and Unit 2 components; however, only the shared and Unit 2 components are considered part of the Unit 2 SWEL-1 Base-1 list. Additionally, the IPEEE list included some non-safety/non-seismic equipment, which were not considered to be part of the Unit 2 SWEL-1 Base-1 list. The prior IPEEE list effectively represents the output of EPRI guidance equipment Screening criteria's #1, #2 and #3. The SWEL-1 "Base-1 List" is provided in ATTACHMENT 1.

EPRI Screening criteria #4 was then used to select equipment from this "Base List." EPRI screening criteria #4 requires a representative cross-section of the following sample selection attributes:

- include a variety of systems,
- Include variety of types of equipment,
- Include a variety of equipment environments,
- Include major new/replacement equipment
- Include equipment enhancements implemented in response to prior IPEEE walkdown identified discrepancies

The McGuire Unit 2 SWEL-1 equipment list (ATTACHMENT 2) comprised 99 components in ~22 different systems. Safety and PRA significant systems are well represented within the SWEL-1 equipment selection, such as Auxiliary Feedwater (CA, SA), Emergency Service Water (RN), Essential AC Power (EDG, EPC, EPE), Vital DC Power (EPQ, EPG, EPL), Solid State Protection System (IPE), Residual Heat Removal (ND), Safety-Injection (ND, NI, NV), Closed Cooling Water System (KC), control room ventilation (VC, YC), Main Steam (SM, SV), Reactor Coolant (NC), and containment spray (NS) systems. The systems and components selected for SWEL-1 support the EPRI screen #3 safety functions, which are necessary to achieve safe reactor shutdown, and/or containment isolation.

The SWEL-1 list represented equipment from each of the EPRI guidance equipment classes, with the exception of air compressors and motor-generator sets. McGuire does not have any Seismic Cat I equipment within these two equipment classes. The SWEL-1 lists included equipment located in ~44 different plant areas/rooms locations. The selected equipment locations represent a broad range of equipment environmental conditions (e.g. inside containment, partial outdoor exposure, electrical/mechanical penetration rooms, pipe-chases, control room, etc.). Modified, new, and/or replacement equipment comprised >20% of the SWEL-1 list. Similarly, the SWEL-1 list included some equipment which was enhanced in response to the prior IPEEE walkdown effort.

The SWEL-1 component selection further considered PRA risk significance relative to the external seismic event. The SWEL-1 component list included a broad sampling of components, which were identified to have a significant contribution to core damage frequency (CDF) for the external seismic event.

The McGuire Unit 2 SWEL-2 spent fuel pool equipment list was developed in accordance with the EPRI guidance. Seismic Category I structures, piping, and containment penetrations were specifically excluded by the EPRI guidance. The four screening criteria specified were as follows:

- 1) Seismic Category I licensing bases,
- 2) Spent Fuel Pool (SFP) equipment appropriate for an equipment walkdown process,
- 3) Sample considerations represent broad population of equipment with considered sample selection attributes such as:
  - a. represent a variety of systems,
  - b. major new/replacement equipment,
  - c. variety of equipment types,
  - d. variety of environments

#### <u>OR</u>

 Equipment which could result in rapid drain down of the SFP (includes both seismic and non-seismic components and similar factors outlined in 3) above, as practical).

The SWEL-2 equipment "Base-2 List" (ATTACHMENT 3) was established based on screens #1 and #2 above. Equipment was selected from the Base-2 List based on screening criteria #3 above, and primarily included major equipment such as the spent fuel cooling system pumps, pump motor air handling units, and heat-exchangers.

The SWEL-2 list was further supplemented based on screening criteria #4 above, to include equipment which could result in SFP rapid drain-down, as defined by the EPRI

Page 6 of 15

guidance. The SFP mechanical connections were further reviewed to ascertain whether they could present the potential for rapid drain-down of the SFP in-the-event of postulated seismic event. Rapid drain-down is considered to be an uncontrolled and unlimited drain-down due to a postulated leakage from a mechanical piping/component interface. The EPRI guidance provided a definition for SFP uncontrolled drain-down, which was seismic induced leakage which could drain SFP to within 10' of the top of the fuel within 72 hours. Unlike the prior screening criteria, screen #4 does not exclude non-seismic equipment.

The McGuire Unit 1 & 2 SFP relies on passive design features to limit the amount of inventory which could be inadvertently drained. In general, the mechanical piping interfaces below the SFP normal water level are either equipped with siphon breakers, and/or the pipe elevation does not extend more than 2-4' below normal SFP water level. The McGuire SFP is normally aligned to the fuel transfer canal to support the Safe Shutdown Facility Standby Make-up Pump (SBMUP). The SBMUP is periodically aligned to the spent fuel pool for testing and was considered to be a potential rapid drain-down pathway, thus some of the associated components in the flow-path were included in the SWEL-2 Rapid Drain Down list (ATTACHMENT 3). The SWEL-2 Rapid Drain Down List also included some components which could pose a rapid drain down risk during refueling operations (e.g. reactor cavity seal, refueling canal drains, etc.). The final SWEL-2 list was selected based on a sampling of appropriate equipment types from the Base-2 and Rapid Drain Down Lists. The SWEL-2 list is provided in ATTACHMENT 4 and was comprised of 8 components.

#### 4.0 Seismic Walkdowns and Area Walk-Bys

Duke Energy contracted the Shaw Group / ARES Corporation team to perform the NTTF 2.3 seismic walkdowns at McGuire Nuclear Station. The McGuire Unit 2 walkdown summary report, the component Seismic Walkdown Checklists (SWC), and the Area Walk-By Checklists (AWC) are provided in ATTACHMENT 5.

The Seismic Walkdowns and Area Walk-bys were conducted in accordance with the EPRI guidance outlined in EPRI Technical Report #1025286 (Reference MCC 1612.00-00-0001, Rev. 0). The EPRI guidance Seismic Walkdown Check-lists (SWC)s were completed for each item on the SWEL. The EPRI guidance Area Walkby Check-lists (AWC)s were also completed for areas/rooms associated with SWEL equipment.

The component seismic walkdown inspections were primarily focused on the identification of potentially degraded component anchorage conditions, and potentially adverse seismic interactions with surrounding SSCs. For the non-line mounted components, the visual inspections assessed whether the anchorage was degraded (e.g. bent, loose, broken, missing, corroded, localized concrete cracks). Additionally

Page 7 of 15

for at least 50% of the non-line mounted components, the as-built field anchorage was verified to be consistent with design documentation.

The Area Walk-by inspections were performed for SWEL equipment areas. The area walk-bys assessed whether other surrounding equipment in the area/room (up to ~35' radius around SWEL component or the room containing the SWEL component) had potentially degraded anchorage, or whether the potential for adverse seismic interactions were present.

If the Seismic Walkdown Engineers (SWEs) determined a potentially adverse seismic condition existed, then the issue was entered into the corrective action program (CAP) to allow further engineering evaluation. The CAP engineering evaluation determined whether the potentially adverse seismic condition was degraded, unanalyzed, or non-conforming to the design and licensing bases.

107 Seismic Walkdown Checklists (SWC) were completed for the accessible components listed on the SWEL. This total was comprised of 99 SWEL-1 components and 8 SWEL-2 components. For non-line mounted SWEL equipment, an anchorage as-built verification was completed for 61% of the equipment with anchorage. Additionally, a total of 54 Area Walk-bys Checklists (AWC) were completed for the SWEL-1 scope and 2 AWC were completed for the SWEL-2 scope.

The seismic walkdowns and walk-bys identified 27 "Potentially Adverse Seismic Conditions" which are outlined in TABLE 4-1. Refer to the respective TABLE NOTE(s) for the "CAP Resolution" designation. The potentially adverse seismic conditions were entered into the CAP. Engineering evaluation was performed as warranted for the potentially adverse seismic condition, and in all cases the engineering evaluation concluded that the condition was in conformance with the current licensing bases. In some cases work requests or CAP ACTIONS were initiated as required to resolve minor issues (e.g. loose fastener, add grout, etc.), and/or to enhance field equipment clearances.

Page 8 of 15

#### TABLE 4-1

Potentially Adverse Seismic Conditions

Walkdown Item	Potentially Adverse Condition	CAP Disposition (See notes)
1) 2EPQ-BC-EDGA: 2A EDG Battery Rack	Front Left mounting fastener has ground clip holding washer off mount foot.	2
2) 2EPQ-BC-EDGA: 2A EDG Battery Charger	Shims present under mounts to foundation (multiple metal shims) 1/2" to 7/8".	3
3) 2EPQ-BC-EDGB: 2B EDG Battery Charger	Shims located under enclosure base. Shim thickness $\sim$ 1" at right front and $\sim$ 3/8" at front center.	3
4) B Control Room Ventilation Area: Area Walk-by for OVCFL0012 & OVCD0005	Hardware: The base-plate (floor-mounted) anchor bolt (1 of 4) for an inlet duct brace (~ 45°) above the B Control Room Outside Air Pressure Filter Train had a loose hold down nut.	2
5) 2KCTK0009: KC Surge Tank	Interaction effect: Bottom of ladders are welded to access platform (independent of tank) and top of ladder is lashed to tank nozzles. Potential for "event caused" flooding.	1
6) Room 601. U2 MDCA Pump Room: Area Walk-By for ORN9B; CAPNAFPA; 2CAPU0002; and 2WL322B	Interaction effect: A sump drain pipe (approx. 2-inch dia.) is attached to ceiling with threaded rod and is free to displace into small diameter pressurized tubing associated with the Auxiliary Feedwater Pump 2CAMR0002, BETB6. Small diameter pressurized tubing is located on both sides of sump drain pipe.	1
<li>7) 2 EVDA: Vital Panel 125VDC Breaker Panel</li>	Interaction effect: 2" conduit attached to front top of panel may not have sufficient flexibility due to proximity of Unistrut clamp (approximately 2' from panel).	1
8) 701 - Vital Battery Area A: Area Walk-By for 2EVDA and 2EPG-BI-EVIA.	Interaction effect: Abandoned eyewash supply pipe is buckled and kinked. It is supported by rod hangers. Pipe is located over various enclosures and equipment throughout vital battery room.	1
9) 701- Vital Battery Area B Area Walk-By for 2EVDB and 2EPG-BI-EVIB	Interaction effect: Abandoned eyewash supply pipe is buckled and kinked. It is supported by rod hangers. Pipe is located over various enclosures and equipment throughout vital battery room.	1

#### CAP DISPOSITION NOTE(s):

- 1) Field configuration meets Current Licensing Bases (CLB) requirements, and no field work required.
- 2) Field configuration <u>meets</u> CLB requirements; however, work request/work order/ACTION initiated to resolve minor issue, verify unknown condition, or enhance/correct field configuration.
- 3) Field configuration meets CLB requirements; however, design drawing updated to reflect field configuration.
- 4) CLB not met, and required field modification.

Page 9 of 15

Walkdown Item	Potentially Adverse Condition	CAP Disposition (See notes)
10)701- Vital Battery Area C Area Walk- By for 0-EPL-BC- EVCC; 2EVDC; EVDC; and 2EPG- BI-EVIC.	Interaction effect: Abandoned eyewash supply pipe is buckled and kinked. It is supported by rod hangers. Pipe is located over various enclosures and equipment throughout vital battery room.	. 1
11)EVDD: 125VDC Distribution Center	Interaction effect: Cable is located against sharp edge of channel.	1
12)701- Vital Battery Area D Area Walk- By for 0-EPL-BC- EVCD; 2EVDD; EVDD; and 2EPG- BIEVID.	Interaction effect: Abandoned eyewash supply pipe is buckled and kinked. It is supported by rod hangers. Pipe is located over various enclosures and equipment throughout vital battery room.	1
13)716 - Unit 2 electrical Penetration Room: Area Walk-By for 2-EPE-TF-ELXB, 2-EPE-TF-ELXD.	Interaction effect: The rigid ductwork between equipment 2EPE-TF-ELXB and 2EPETF-ELXD may be subjected to adverse conditions in a seismic event.	1
14)2NSHX0003: 2A Containment Spray Heat Exchanger	Corrosion on upper mounting nuts.	2
15)2ND-14: ND 2B HX Discharge Flow Control	Interaction effect: Valve actuator component support plate abuts rigid mounted wireway (vertical).	1
16)2NDRD5120: ND 2B HX Discharge Temperature to NC CL	Interaction effect: Temperature indicator has been installed adjacent to (abuts) vertical seismic support.	1
17)Room 786, CS HX and RHR HX Room: Area Walk-By for 2NDHX0004;2NSHX 0004; 2ND-14; and 2NDR5120	Saddle supporting approximately 10" pipe (yellow) had potentially significant corrosion (rust).	1
18)Room 786, CS HX and RHR HX Room: Area Walk-By for 2NDHX0004;2NSHX 0004; 2ND-14; and 2NDR5120	Interaction effect: Two, approximately 3" diameter stainless steel pipes span vertically between 25 to 30 feet without a lateral support. Pipe span includes a T- handled valve. Pipe presents no adverse seismic condition to other equipment; however, unable to determine safety significance of pipe.	1

TABLE 4-1 Potentially Adverse Seismic Conditions

- <u>CAP DISPOSITION NOTE(s):</u> 1) Field configuration <u>meets</u> Current Licensing Bases (CLB) requirements, and no field work required.
- 2) Field configuration meets CLB requirements; however, work request/work order/ACTION initiated to resolve minor issue, verify unknown condition, or enhance/correct field configuration.
- 3) Field configuration meets CLB requirements; however, design drawing updated to reflect field configuration.
- 4) CLB not met, and required field modification.

Page 10 of 15

TA	BLE	4-1
----	-----	-----

Potentially Adverse Seismic Conditions

Walkdown Item	Potentially Adverse Condition	CAP Disposition (See notes)
19)2NI-178B: 2B ND to 2C & 2D NC Cold Legs Cont Outside Isolation	Interaction effects: An 8' (approx.) vertical section of cable tray, carrying 2 cables to the valve actuator, is suspended from the ceiling by 2 all-thread rods and there is no lateral support. Accordingly, the end of the tray near the valve actuator easily swings in excess of 1 foot in 2 directions.	1
20)2NI-178B: 2B ND to 2C & 2D NC Cold Legs Cont Outside Isolation	Interaction effect: A yellow cable (appears to be valve actuator power) that comes into the valve actuator from below, and out of a cable tray, is pulled/stretched tight to make the termination tie-in (essentially no slack).	2
21)2NV-142B: Hi-Head NV Pump VCT Suction Isolation	Interaction effect: Pipe (~6") is approximately 3/8" from support on valve that is supported ~4' up.	1
22)2-EPE-TF-ELXA: 2ELXA 4.16 KV/600 VAC Transformer	Concrete floor is cracked near one of the anchor groups.	1
23)2-EPE-TF-ELXC: 2ELXC 4.16KV/600 VAC Transformer	One bolt to the left of the nameplate is slightly bent. Bend results in nut being about1/8" above washer.	1
24)2-EPE-TF-ELXC: 2ELXC 4.16KV/600 VAC Transformer	One anchor location is within vicinity of a crack.	1
25)2ETA: 4.16 kV Essential Power	Three loose fasteners on left back side.	2
26)805 - Electrical Penetration Room: Area Walk-By for 2ETA;2-EPE-TF- ELXA; and 2-EPE- TF-ELXC.	Interaction effect: The rigid ductwork between equipment 2ELXA, 2EPE-LX-ELXE and 2EPE-LX-ELXC may be subjected to adverse conditions in a seismic event.	1
27)Reactor Coolant Pressurizer Cavity: Area Walk-By for 2NC-32B and 2NC- 34B	Interaction effect: 2NC-32B 3/4" dia. air supply tubing is in contact with hydrogen igniter box 2EHMHRTB39. Tubing is also in contact with cable tray rod hangers.	2

CAP DISPOSITION NOTE(s):

- Field configuration <u>meets</u> Current Licensing Bases (CLB) requirements, and no field work required.
   Field configuration <u>meets</u> CLB requirements; however, work request/work order/ACTION initiated
- to resolve minor issue, verify unknown condition, or enhance/correct field configuration.
- 3) Field configuration <u>meets</u> CLB requirements; however, design drawing updated to reflect field configuration.
- 4) CLB not met, and required field modification.

#### Fukushima Near-Term Task Force (NTTF) Recommendation 2.3: NRC Submittal report for Seismic Walk-downs McGuire Unit 2

Page 11 of 15

Additionally, there were 6 SWCs (see Appendix C of Attachment 5) which documented portions of internal electrical cabinet anchorage was concealed in-part or entirely, and the SWCs were designated to be "unknown."

- 4 SWCs were associated with 125 VDC vital battery distribution centers (EVDC) and 600 VAC Essential MCCs (2EMXA, 2EMXB, 2EMXB-1) in which portions of anchors were not accessible because they were covered by structural members or the embedded "C"-channel. Some physical equipment demolition would be required to visually access all the anchorage.
- 2 SWCs (2CAPNAFTP and 2A EDG battery rack) only a portion of the internal anchorage was visible due to concealment by wires, wire-ways, or other structures. A significant portion of the cabinet anchorage was visibly inspected (6 of 8 anchors for TDCAP panel and 10 of 12 for the 2A EDG battery rack). The anchors which could not be visually observed are judged to be in acceptable condition based on the satisfactory condition of the visually inspected anchorage.

This equipment was retained on the SWEL to satisfy various sample selection attributes; however, some physical equipment demolition would be required to visually access all the anchorage. This equipment is located in a dry, mild environment and not exposed to any physical degradation mechanisms. These SWCs and associated inspections are deemed to satisfactorily meet the intent of the published EPRI walkdown guidance. Based on the aggregate results of the seismic walkdowns, there were no significant anchorage deficiencies, nor licensing bases issues identified. Based on the foregoing discussion, no further equipment walkdowns are planned for these components.

#### INACCESSIBLE COMPONENTS:

All Unit 2 SWEL walkdowns were satisfactorily completed, and there were no deferred walkdown inspections.

#### 5.0 Licensing Basis Evaluations

As outlined in section 4.0 TABLE 4-1, a total of 27 potential adverse conditions were identified by the Seismic Walkdowns and the Area walk-by's. The potentially adverse seismic conditions were entered into the CAP. Engineering evaluation was performed as warranted for the potentially adverse seismic condition, and in all cases the engineering evaluation concluded that the condition was in conformance with the current licensing bases. In some cases work requests or CAP ACTIONS were initiated to resolve minor issues (e.g. loose fastener, add grout, etc.), update design documents, and/or to enhance field equipment clearances.

The potential adverse conditions and their individual Problem Investigation Process (PIP) tracking numbers are listed in the Unit 2 NTTF 2.3 Seismic Walkdown Report (ATTACHMENT 5).

#### 6.0 IPEEE Vulnerabilities

The McGuire IPEEE NRC submittal of June 1, 1994 (Reference 8) concluded that there were no vulnerabilities from external events. Thus, there were no identified plant changes which would significantly reduce the risk from external events.

Table 3-3 of the IPEEE NRC Submittal identified several enhancements to resolve minor field walkdown issues (References 6, 8, Attachment 3). These enhancements are listed in TABLE 6-1.

#### Fukushima Near-Term Task Force (NTTF) Recommendation 2.3: NRC Submittal report for Seismic Walk-downs McGuire Unit 2

Page 13 of 15

Equipment Deficiency Identified	Resolution	Date Resolved
Unit 2 EDG battery racks were missing spacers.	WO 94050272 & 94050263 installed missing spacers. (NAS WOs# 00326062 & 00326059)	<ul> <li>EDGA Complete 12/29/94</li> <li>EDGA Complete 11/21/94</li> </ul>
Unit 2 Upper Surge Tank anchor bolts missing.	Replaced bolts per WR 93034428.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.
MCCs were noted to be in contact with each other at a corner (Re. Attach. 1 of Reference 7.3): • 1EMXB and 1EMXB-1 • 2EMXB and 2EMXB-1	MGMM-3870 mechanically fastened the MCCs together to prevent interaction.	<ul> <li>WO # 00316559 complete prior to 10/5/95</li> <li>WO # 00316580 complete prior to 10/4/95</li> </ul>
Auxiliary Feedwater CST anchor bolts and nuts exhibited corrosion.	WO 94030900 cleaned and re- coated fasteners.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.
Various movable equipment where noted to be unsecured and could pose a seismic interaction concern.	Guidelines were incorporated within NSD-104 for station house-keeping.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.
Turbine Driven Auxiliary Feedwater Pump control cabinet in contact with 'CA' piping.	MM-6664/WO 94095550 trimmed panel corner to eliminate contact and resealed cabinet.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.
KC Heat exchanger saddle bases and concrete curbs require grouting.	MM-4118 eliminated pipe interference and add grout. W/O's 94064720, 94053337, 94065089, and 94065092	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.
Grating in contact with steam vent valves in exterior doghouses.	Grating trimmed per WR 93034096 & 93034099.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96.
Arc barrier connections were not secure within main control boards.	WO 94010441 & 94010379 secured the connections.	PIP M94-1003 (Reference 7.4) documented complete prior to 1/25/96

TABLE 6-1 IPEEE Enhancements

#### 7.0 Peer Review:

Duke Energy (Duke) contracted with the Shaw Group (Shaw) / ARES Corporation (ARES) Team to perform the NTTF 2.3 peer review for the McGuire Nuclear Station (MNS). The Peer Review Report is contained in Attachment 6.

The Peer Review Team consisted of three individuals, all of whom have seismic engineering experience as it applies to nuclear power plants. These individuals participated in the peer review of each of the activities.

The Shaw/ARES methodology conforms to the guidance in Section 6 of EPRI 1025286. The peer review covered the following:

• The selection of the SSCs included on the Seismic Walkdown Equipment List (SWEL).

#### Fukushima Near-Term Task Force (NTTF) Recommendation 2.3: NRC Submittal report for Seismic Walk-downs McGuire Unit 2

- A sample of the checklists prepared for the seismic walkdowns and area walk-bys.
- The licensing basis evaluations.
- The decisions for entering the potentially adverse conditions in the CAP process.
- The submittal report.

The peer review process for the SWEL development and the seismic walkdowns consisted of the following:

- Reviewing the activity guidance in EPRI 1025286, the NEI Q&A bulletins, the NEI first-mover reports, and NRC Temporary Instruction 2515/188.
- Conducting an in-process review at the plant site, including interviews with the personnel performing the activity and reviewing in-process documentation.
- Performing an in-plant surveillance (for the walkdown activity) of a seismic walkdown and an area walk-by.
- Providing in-process observations and comments to the personnel performing the activities.
- Conducting a final review of a sample of the completed documentation.

The peer review process for the licensing basis evaluations and the decisions for entering potentially adverse conditions into the CAP consisted of reviewing the overall review process and a sample of the licensing basis reviews. The peer review process for the submittal report consisted of reviewing the draft submittal prepared by McGuire Design Engineering for licensing review. The peer review of the licensing basis evaluations resulted in some open issues; however, those issues were addressed by updating the licensing basis evaluations documented in the CAP.

The conclusion of the peer review is that the MNS NTTF 2.3 seismic walkdown effort has been conducted in accordance with the guidance in EPRI 1025286. Comments made during the in-process review of the SWEL development and the walkdowns have been addressed satisfactorily. In-process comments on the final walkdown reports, the licensing basis reviews, and the submittal have also been resolved.

#### **REFERENCES:**

- 1) MCS-1465.00-00-0009, Rev. 1, Seismic Design Bases Document
- 2) UFSAR Sections 3.1, 3.2.1, 3.8.4, 3.8.5, Tables 3-1 through 3-7
- 3) UFSAR Section 2.5.1.2, 2.5.2 Site Geology
- 4) UFSAR Sections 2.5.2.10, 2.5.2.11 SSE/OBE
- 5) UFSAR Section 3.7 Seismic Design
- 6) MCC-1612.00-00-0001, Rev. 1
- EPRI Report 1025286, Dated May 2012, Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force (NTTF) Recommendation 2.3 (ATTACHMENT 1).
- 8) McGuire NRC Response to GL 88-20, Individual Plant Examination of External Events (IPEEE) Submittal, dated June 1, 1994, T.C. McMeekin to NRC.

Page 15 of 15

- 9) SHAW/ARES Summary Report, Seismic Walkdown Report for Duke Energy's McGuire Nuclear Station Unit 1 1457690101-R-M-00001-1, Rev. 1 (November 5, 2012).
- 10) SHAW/ARES Summary Report, Seismic Walkdown Report for Duke Energy's McGuire Nuclear Station Unit 2 1457690101-R-M-00002-1, Rev. 1 (November 5, 2012).
- 11) SHAW/ARES Peer Review Summary Report, "NTTF 2.3 Seismic Peer Review Report

McGuire Nuclear Station Units 1 and 2 1457690101-R-M-00003-0.

- 12) MCC-1535.00-00-0003, Rev. 0, Seismic Hazard Curve Sensitivity for the McGuire IPEEE.
- 13) MCC-1535.00-00-0004, Rev. 0, Seismic PRA/IPEEE Back-up Calculation.
- 14) PIP M94-1003, `Equipment Deficiencies Identified During the 1994 IPEEE Seismic Walkdowns.
- 15) MCS-1108.00-00-0002, Rev. 9, "Specification for the Response Spectra and Seismic Displacements for Category I Structures.
- 16) July 9, 2012 correspondence to NRC from Ben C. Waldrep, "Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects of Recommendation 2.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident"
- 17) MCS-1108.02-00-0001, Rev. 5, "McGuire Structural Design Specification.

### ATTACHMENTS:

- 1) SWEL-1 Base-1 List
- 2) McGuire Unit 2 SWEL-1
- 3) McGuire Unit 2 SWEL-2 Base-2 List and Rapid Drain Down List
- 4) McGuire Unit 2 SWEL-2
- 5) Seismic Walkdown Summary Report and Checklists
- 6) PEER Review Summary Reports

# ATTACHMENT 1

# SWEL-1 Base-1 List

.

TABLE 2 -

MECHANICAL EQUIPMENT LIST	FC	R MCG	;U	IRE UNIT		PEEE WAL	KD	OWN
					Γ		Τ	
('B' train components are shown in parenthe	ses	. A detalle	d	walkdown of t	he:	e component	is is	ton
necessary if the 'B' train configuration is simile	<u>ar to</u>	o the 'A' tro	<u>nin</u>	.)	_		⊥	
	+						╇	
	-			Included in	┡	Press. bndry.	┢	
CA SYSIEM COMPONENIS		SZO (IN.)	_	Seismic PRA		integrity only	╀	Non-Salety
	┼╌┤		-		-		╞	
	+	0	L	······	<u> </u>		╀	
	+	4		·;	$\vdash$		┼─	<u> </u>
	+-						┝	
	+	4			┝		┢	
	+-		_		┢─		╋	
	+				┢	·	+	
AOV 1CA64AB	+	<u> </u>			╞		+	
	+				┢		+	}
MOV ICATAC	+	8			$\vdash$		+	
MOV 1CA11A (9B)	+	8			┢		+	
MOV 1CA15A (18B)	$\top$	6			┢		+	
MOV 1CA38B	$\square$	4	-				$\top$	····
MOV 1CA50B	$\square$	4					$\top$	
MOV 1CA54AC		4					T	
MOV 1CA58A (46B)	$\square$	4			1-		T	
MOV 1CA62A (42B)	$\square$	4					T	
MOV 1CA66AC	$\square$	4					Γ	
MOV 1CA86A (116B)		8					Γ	
TURBINE DRIVEN PUMP 1 (INCLUDING				X				
CONDENSATE EDUCTOR )			_					
TURBINE DRIVEN PUMP LUBE OIL HX							$\perp$	
MOTOR DRIVEN PUMP 1A (1B)				X	L		┺	
WZ SUMP PUMP A (B) FROM GROUNDWATER		AINAGE SU	JM	IP A (A)	L		┢	
	-		_				╞	
	+				┝		╞	
	+				<b> </b>		╄	
DIESEL GENERATOR AND SUPPORTING	+			Included in	-	Press. Dnary.	╞	Alex Cofet
COMPONENTS	┥╌┤	Size (in.)		Seismic PRA	_	integrity only	╉──	Non-Safety
			_				┿─	
	+		_	×	┣		┥	
	┥─┤			·····	┢		+	<u> </u>
	╉╍╡		_	<u> </u>			╂	
ELEL OIL BOOSTED PUNAD 14 (18)							┢	
FUEL OIL BOUSTER FUMP IA (ID)	+			<u> </u>	┝	└ <u></u>	+	
(181 182)	+				┢	<u> </u>	╂	
	+						–	
FUEL OIL IKANGFER PUIVIP IA (10)	+		-				╋	<u> </u>
AID-OPEDATED DECULATING VALVE 1400					-+		+	
CINDON	+-	4		<b> </b>	┣-		┿	<u> </u>
(IKD29)				l	1		1	}

Paget 14

•		TABLE 2	-			
DIESEL GENERATOR AND SUPPORTING	T	Line	Γ	Included in	Press. bndry.	
COMPONENTS (cont.)		Size (in.)		Seismic PRA	integrity only	Non-Safety
	<u> </u>					
KD D/G COOLING WATER HX 1A (1B)						
KD INTERCOOLER PUMP 1A (1B)						
KD JACKET WATER PUMP IA (IB)	L					
KD SURGE TANK 1A (1B)	L					
D/G INTERCOOLER 1A (1B)	┶	<u> </u>				
	╞		_			
MOV 1LD108 (113)	–	4	-	-	X	
LUBE OIL INTAKE STRAINER TA (TB)	╇		_	[	X	
LUBE OIL FILIER TA (TB)	┢		_		X	
LUBE OIL COOLER TA (TB)	┢				×	
VD D/G BLDG. VENTILATION FANS DSF-1A.		(18, 1D)	-			
	L					
SOLENOID VALVE 1VG61 (65)	┢	2	_			
SOLENOID VALVE IVG62 (66)	┶	2	-			<u></u>
SOLENOID VALVE 1VG63 (67)	┶	2	L	h		
SOLENOID VALVE 1VG64 (68)	+	2		-	<u> </u>	
VG STARTING AIR TANKS 1A1, 1A2 (1B1, 1B2)	Ļ	<u> </u>		X		
VG INTAKE AIR AFTERCOOLERS AND DRYERS	<u>1A</u>	<u>1, 1A2</u>				<u> </u>
(1B1, 1B2)	┢					
VG CONTROL AIR VOLUME TANK 1A (1B)	╇				<u>_ </u>	
VG AIR COMPRESSORS 1A1, 1A2 (1B1, 1B2)	<u> </u>			-		<u> </u>
VG LINE PURIFIERS TAT, TA2 (TB1, TB2)	+					
VG CONTROL AIR FILTER TA (TB)	┢				ᢤ᠊᠊ᢛ᠇ᡔ᠆᠆	- <u> </u>
	╋				┫━━━━━━━╋	
VN AIR EXHAUST SILENCER IA (18)	+					- Â
	+		Η			
WN D/G SUMP PUMPS 1A2, 1A3 (1B2, 1B3)	┼╌				++	X
	1				-	
ZD VACUUM BLOWER PACKAGE 1A (1B)	+					X
	$\top$		_			
	匚					
	+	Line		Included in	Press. bndry.	
FW SYSTEM COMPONENTS	T	Size (in.)		Seismic PRA	integrity only	Non-Safety
MOV IFWIA	+	8		┠┣-		+
MOV IFW27A	+-	14	┝╼		+	-
MOV 1FW32B	+	8			+	
MOV 1FW33A	+	2		┝─────────────────────────────────────	++	+
MOV 1FW49B	t	2	E			
REFUELING WATER STORAGE TANK (FWST)	╀		-	×	·	
	上					
	+-					
	╋	+				
L	┶	<u> </u>	L		<u> </u>	<u> </u>

Page 2/5

.

TABLE	2	•	
-------	---	---	--

		Line		Included in		Press. bndry.		
	KC SYSTEM COMPONENTS	Size (in.)		Seismic PRA		integrity only		Non-Safety
			Γ		-			
	AOV 1KC57A (82B)	12			Т			
Ì					T		Τ	
	MOV 1KC1A (28)	20					T	
	MOV 1KC3A (18B)	10						
	MOV 1KC50A (53B)	20	1		1			
	MOV 1KC51A (54B)	4	T			X		
	MOV 1KC56A (81B)	16	-					
	MOV 1KC230A (228B)	8	-				7	
	KC HX 1A (1B)	1	+	X	1		-†	
	KC PUMPS 1A1, 1A2 (1B1, 1B2)	1	1	X	1		1	
	UNIT 1 KC SURGE TANK	1			-			
	RHR PUMP MECH SEAL HX 1A (18)		╈		-1		1	
		1			-†		1	· · ·
		<u>† −−− †</u>	╈		+		-†	
		1	╈		+		-	
		Line	+	Included in	-	Press, bndry,	1	
	NC SYSTEM COMPONENTS	Size (in.)	-	Seismic PRA	-	integrity only	1	Non-Safety
							-}	
	P70 POPV INC 32B	3	+		-		-	
	PZR PORV INC34A	+ <u>3</u>	+	<u>^</u>	-+		-	
					+		-	
Ì		┼──╴┼	-	····			-	
	SAFETY DEFIEL VIV INCI				-		-†	
	SAFETY DELIEF VIV INC?				-+		-	
	SAFETY DELIFE VLV INC2				┥		-+	
	SALETTREBELVEV INCO	<u> </u>			┥		-+	
	MOV INC318	3		·	ᆉ		-	
ĺ	MOV INC33A	<u>+</u>	-†-		-		-	
	MOV INCOOR		┈┥╴		┥		+	
					┥		-+	
•		+	-+-		-{		-{	
		++	-+-		-		-	·
		Line		Included in	$\dashv$	Prost boder	-+	
			+	Soirmin DDA	-	integrity only		Non-Safety
	IND STSTEIN CONFONEINTS	540 (11.)	+	JOBINIC FRA	$\neg$	Inedity only		Horrsdreiv
					-		-	
					4		-	
	AOV IND34		-		-	<u> </u>		
	14014 111010	+	-+-		4			
		14			-	<del>-</del>		
					_	<u> </u>		
	MOV IND19A (4B)	14	-+		_			
	MOV IND3UA (15B)		$\square$		_		_	
	MOV IND32 (17)	2				<u> </u>		·······
	MOV 1ND33 (18)	8				X		
_	MOV IND58A	8						
ŀ								
	# - required to function during cold shutdo	wn	1					

Page \$ 16

.

•

.

TABLE 2 -

	Line	Included in	Press. bndry.	1
ND SYSTEM COMPONENTS (cont.)	Size (in.)	Seismic PRA	integrity only	Non-Safety
MOV 1ND68A (67B)	2		#	
	<u> </u>			
ND PUMP 1A (1B)		X	#	
ND HX 1A (1B)	<u>   </u>	<u> </u>	#	
	<u>   </u>	·		
······				
	<u> </u>			
	Line	Included in	Press. bndry.	
NI SYSTEM COMPONENTS	5120 (in.)	Seismic PRA		Non-Satety
	<u> </u>			
	╀┼╍╌┼╌┼╴		×	
	075		÷	
	0.75			
	1 0.75		+	
	┼┼─┼─┾	- <u> </u>  -	- <del></del>	-
	0.75	-{	- <del> </del>	
	0.75		+	
	0.75	-	- <del> </del>	
	0.75		Ŷ	
	0.75			
			$-\hat{\mathbf{x}}$	+
AOV INIO	┼╍╶┼╍──┼╸		- <u>x</u> +	
AOV INI91	0.75		× +	
AOV INI92	0.75		$\frac{1}{x}$	
AOV INII63	0.75		X	
AOV 1NI174 (179)	0.75	- [	X	
MOV 1NI9A (10B)	4		#	
MOV INI54A	10		X #	
MOV INI65B	10		X #	
MOV INI76A	10		#	
MOV 1NI88B	10		#	
MOV 1NI1008	8		X	
MOV 1NI103A (135B)	6		X	
MOV 1NI115B (144B)	1.5		X	
MOV 1NI118A (150B)	4	<b>__</b>	X	
MOV 1NI121A (152B)	4		X	1
MOV INII36B	6			
MOV INI147A	2		X	
MOV 1NI162A	4		X	t
MOV 1NI173A (178B)	8			
MOV INI183B	12	1	X	
MOV 1NI185A (184B)	18			
MOV 1NI332A	6			1
MOV 1NI3338	6			1
required to function during cold shute				

Page 4 17

	Τ	Line		Included in	Press. bndry.	T
NI SYSTEM COMPONENTS (cont.)		Size (in.)		Seismic PRA	integrity only	Non-Sofe
	╇					
VIOV INI334B	╇	6			×	
INIA INITROGEN BACKUP TO PZR PORVSI	+	0.75		×		
INIA318 (NITROGEN BACKUP TO PZR PORVS)	+	0.75		x	++	
NIPUMP_1A (1B)				X		
(not needed for inventory control for 1° SB	LO	CA)				
COLD LEG ACCUMULATORS	+	· · ·		X		
(not needed for 1'SBLOCA)	+					
	-					
		Line		Included in	Press. bndry.	
NS SYSTEM COMPONENTS	┢	Size (in.)		Seismic PRA	integrity only	Non-Saf
MOV 1NS43A (38B)	Ē	8				
SPRAY NOZZLES DOWNSTREAM OF 1NS47 (42	<u>}</u>		_			
	Ĺ				· ·	
	L					
	┢	Lino			Dises bades	
NV SYSTEM COMPONENTS	$\Box$	Size (in.)	-	Seismic PRA	Integrity only	Non-Saf
AOV 1NV238	╞	3		·	X	
AOV 1NV241	+	3	-		× +	-
	1		_			
MOV INV94AC		4				
MOV INV95B		4				
MOV INVIAIA		4	_		X	
MOV 1NV142B		4			<u> </u>	
MOV INVISOB		2			<u> </u>	
	+	2			× –	
	+-	× ×		<b></b>	-┠┦-	+
		l 8				
WOV 1002444A	+-	3	_		+	
	+		-			-
CENTRIFUGAL CHARGING PUMP 1A (1B)	L		_	X		
SEAL WATER HX 1	$\vdash$				X	
SEAL WATER INJECTION FILTER 1A (1B)	ـ	ļ			X	· · · · · · · · · · · · · · · · · · ·
	+				<u> </u>	
VOLUME CONIROL TANK T			_	X	<u> </u>	
Inot needed for inventory control for 1" SB	μO				·    -	
KEGENEKAIIVE HEAI EXCHANGER				<u> </u>	<u> </u>	
inor needed for inventory control for 1"SB	μO		_		-	<u> </u>
· · · · · · · · · · · · · · · · · · ·			-			

TABLE 2 -

Page \$ 18

TABLE 2 -

RN SYSTEM COMPONENTS         Sze (in.)         Setemic PRA         Integrity only         Nc           AOV IRN21A (25B)         6	
AOV IRN21A (25B)         6         AOV           AOV IRN22A (26B)         6         AOV           AOV IRN2A (26B)         6         AOV           AOV IRN56A (161B)         1.5         AOV           AOV IRN57A (1908)         20         AOV           AOV IRN10A (2048)         3.7         AOV           AOV IRN112A (213B)         2         X           AOV IRN114A (215B)         2         X           AOV IRN14A (215B)         2         X           AOV IRN14A (215B)         2         X           AOV IRN14A (205B)         4         X           AOV IRN14A (240B)         4         X           AOV IRN16AA (170B)         2         X           AOV IRN16AA (170B)         2         X           AOV IRN222         6         X           AOV IRN42 (445)         4         X           MOV 0RN2B         36         X           MOV 0RN4C         36         X           MOV 0RN4AC         3	n-Safe
AOV IRN21A (25B)         6	
ACV         IRN22A         (260)         6         (1)           AOV         IRN68A         (161B)         1.5         (1)           AOV         IRN68A         (161B)         1.5         (1)           AOV         IRN68A         (161B)         20         (1)           AOV         IRN103A         (20B)         37         (1)           AOV         IRN114A         (213B)         2         (1)           AOV         IRN114A         (213B)         2         (1)           AOV         IRN126A         (221B)         2         (1)           AOV         IRN126A         (221B)         2         (1)           AOV         IRN126A         (22B)         (2)         (2)           AOV         IRN252B         (2)         (1)         (2)           AOV         IRN252B         (2)         (2)         (2)           AOV         IRN277B         (2)         (2)         (2)           MOV         IRN1         (42)         (2)         (2)           MOV         IRN42         (445)         (2)         (2)           MOV ORN3A         (30)         (2)         (2)         (2)	
AOV         IRN89A (190B)         1.5	
AOV IRN103A (204B)         20	
AOV         IRN103A         (2048)         3 ?	
AOV IRN112A (213B)         2         X           AOV IRN114A (215B)         2         X           AOV IRN17A (218B)         2         X           AOV IRN126A (227B)         2         X           AOV IRN130A (231B)         2         X           AOV IRN140A (240B)         4         X           AOV IRN166A (170B)         2         X           AOV IRN252B         6         X           AOV IRN252B         6         X           MOV IRN277B         6         X           MOV ORN2B         36         X           MOV ORN2B         36         X           MOV ORN4AC         36         X           MOV ORN4AC         36         X           MOV ORN1AC         36         X           MOV ORN1A         10         X	
AOV         IRN114A         (2158)         2         X           AOV         IRN117A         (2188)         2         X           AOV         IRN126A         (227B)         2         X           AOV         IRN126A         (227B)         2         X           AOV         IRN126A         (221B)         4         X           AOV         IRN126A         (217B)         2         X           AOV         IRN140A         (240B)         4         X           AOV         IRN1252B         6         X         X           AOV IRN252B         6         X         X         X           AOV IRN277B         6         X         X         X           MOV IRN422 (445)         4         X         X         X           MOV ORN2B         36         X         X         X           MOV ORN3A         36         X         X         X           MOV ORN4AC         36         X         X         X           MOV ORN5B         36         X         X         X           MOV ORN1AA         36         X         X         X           MOV ORN1AA	
AQV IRNI17A (218B)         2         X           AQV IRN126A (227B)         2         X           AQV IRN120A (231B)         2         X           AQV IRN140A (240B)         4         X           AQV IRN166A (170B)         2         X           AQV IRN166A (170B)         2         X           AQV IRN252B         6         X           AQV IRN252B         6         X           AQV IRN442 (445)         4         X           MQV IRN1         42         X           MOV IRN442 (445)         4         X           MOV ORN3A         36         X           MOV ORN3A         36         X           MOV ORN3A         36         X           MOV ORN3A         36         X           MOV ORN4AC         36         X           MOV ORN3A         36         X           MOV ORN1AC         36         X           MOV ORN1AAC         36         X           MOV ORN1AAC         36         X           MOV ORN1AA         36         X           MOV ORN1AAC         36         X           MOV ORN1AAC         36         X	
AOV IRN126A (227B)         2         X           AOV IRN130A (231B)         2	
AOV IRNI30A (231B)         2         X           AOV IRNI40A (240B)         4         X           AOV IRNI40A (240B)         2         X           AOV IRNI252B         6         X           AOV IRN1252B         6         X           AOV IRN1277B         6         X           AOV IRN142 (445)         4         X           MOV IRN1         42         X           MOV ORN2B         36         X           MOV ORNAA         36         X           MOV ORNAC         36         X           MOV ORNIAC         36         X           MOV ORNIAC         36         X           MOV ORNIAC         36         X           MOV ORNIAC         36         X           MOV ORNIAA         10         X           MOV IRNIAB	
AOV IRN140A (240B)         4         X           AOV IRN166A (170B)         2	
AOV IRN166A (170B)       2         AOV IRN2528       6         AOV IRN2578       6         AOV IRN2778       4         AOV IRN442 (445)       4         MOV 0RN28       36         MOV 0RN28       36         MOV 0RN3A       36         MOV 0RN3B       36         MOV 0RN5B       36         MOV 0RN4AC       36         MOV 0RN4AC       36         MOV 0RN5B       36         MOV 0RN10AC       36         MOV 0RN10AC       36         MOV 0RN10AC       36         MOV 0RN10AC       36         MOV 0RN11B       36         MOV 0RN11A       36         MOV 0RN12AC       36         MOV 0RN14A       10         MOV 0RN14A       10         MOV 0RN14A       10         MOV IRN16A (18B)       36         MOV IRN16A (18B)       36         MOV IRN42A       10         MOV IRN42A       10         MOV IRN43B       10         MOV IRN44A       10         MOV IRN44A       10         MOV IRN44A       10         MOV IRN44A       10     <	
AOV         IRN252B         6         X           AOV         IRN4277B         6         X           AOV         IRN42 (445)         4         X           MOV IRN1         42         X         X           MOV 0RN2B         36         X         X           MOV 0RN2B         36         X         X           MOV 0RN3A         36         X         X           MOV 0RN3A         36         X         X           MOV 0RN3A         36         X         X           MOV 0RN4AC         36         X         X           MOV 0RN7A (9B)         36         X         X           MOV 0RN10AC         36         X         X           MOV 0RN10AC         36         X         X           MOV 0RN12A         136         X         X           MOV 0RN14A         15B         36         X         X           MOV IRN4A         10         X	
AOV IRN277B       6       X         AOV IRN442 (445)       4       X         MOV IRN1       42       X         MOV ORN2B       36       X         MOV ORN3A       36       X         MOV ORN3A       36       X         MOV ORN3A       36       X         MOV ORN4AC       36       X         MOV ORN5B       36       X         MOV ORN5B       36       X         MOV ORN5B       36       X         MOV ORN16A       36       X         MOV ORN10AC       36       X         MOV ORN10AC       36       X         MOV ORN12AC       36       X         MOV ORN12AC       36       X         MOV ORN12AC       36       X         MOV ORN12AC       36       X         MOV IRN12AC       36       X         MOV IRN12AC       36       X         MOV IRN12AC       36       X         MOV IRN14A (15B)       36       X         MOV IRN42A       10       X         MOV IRN42A       10       X         MOV IRN44A       10       X         MOV	
AOV IRN442 (445)       4       X         MOV ORN2B       36       X         MOV ORN2B       36       X         MOV ORN3A       36       X         MOV ORN3A       36       X         MOV ORN4C       36       X         MOV ORN4AC       36       X         MOV ORN4AC       36       X         MOV ORN5B       36       X         MOV ORN5B       36       X         MOV ORN1A       36       X         MOV ORN1AC       36       X         MOV ORN10AC       36       X         MOV ORN12AC       36       X         MOV ORN13A       36       X         MOV ORN14A (15B)       36       X         MOV IRN16A (18B)       36       X         MOV IRN40A       10       X         MOV IRN40A       10       X         MOV IRN42A       10       X         MOV IRN63B       10       X         MOV IRN64A       10       X         MOV IRN63A (171B)       8       X         MOV IRN64A (187B)       20       X         MOV IRN134A (235B)       18       X	<u> </u>
MQV 1RN1         42         X           MQV 0RN2B         36         X           MQV 0RN3A         36         X           MQV 0RN4AC         36         X           MQV 0RN4AC         36         X           MQV 0RN4AC         36         X           MQV 0RN4AC         36         X           MQV 0RN5B         36         X           MQV 0RN7A (9B)         36         X           MQV 0RN1AC         36         X           MQV 0RN1AA         36         X           MQV 0RN12AC         36         X           MQV 0RN12AC         36         X           MQV 0RN13A         36         X           MQV 0RN14A (15B)         36         X           MQV 1RN16A (18B)         36         X           MQV 1RN40A         10         X           MQV 1RN41B (43A)         10         X           MQV 1RN42A         10         X           MQV 1RN43A (162B)         8         X           MQV 1RN64A (162B)         8         X           MQV 1RN64A (162B)         8         X           MQV 1RN64A (162B)         8         X           MQ	
MOV ORN2B         36         X           MOV ORN3A         36         X           MOV ORN3A         36         X           MOV ORN3A         36         X           MOV ORN4AC         36         X           MOV ORN5B         36         X           MOV ORN7A (9B)         36         X           MOV ORN7A (9B)         36         X           MOV ORN10AC         36         X           MOV ORN10AC         36         X           MOV ORN12AC         36         X           MOV ORN13A         36         X           MOV ORN13A         36         X           MOV ORN13A         36         X           MOV ORN13A         36         X           MOV ORN14A (15B)         36         X           MOV IRN16A (18B)         36         X           MOV IRN40A         10         X           MOV IRN40A         10         X           MOV IRN41B (43A)         10         X           MOV IRN42A         10         X           MOV IRN42A         10         X           MOV IRN69A (162B)         8         X           MOV IRN73A (174	
MOV ORNIAA         36         X           MOV ORNIAAC         36         X           MOV ORNIAAC         36         X           MOV ORNISB         36         X           MOV ORNIAC         36         X           MOV ORNIAA         36         X           MOV ORNIAA         36         X           MOV ORNIAA         36         X           MOV ORNIAA         36         X           MOV IRNIAA         36         X           MOV IRNIAA         10         X           MOV IRN42A         10         X           MOV IRN63B         10         X           MOV IRN64A         10         X           MOV IRN7A (171B)         8         X           MOV IRN7A (174B)         8         X           MOV IRN134A (235B)         18         X           MOV IRN137A (2388)	
MOV 0RN4AC       36       X         MOV 0RN5B       36       X         MOV 0RN7A (9B)       36       X         MOV 0RN7A (9B)       36       X         MOV 0RN10AC       36       X         MOV 0RN11B       36       X         MOV 0RN12AC       36       X         MOV 0RN12AC       36       X         MOV 0RN13A       36       X         MOV 0RN14A (15B)       36       X         MOV 1RN16A (18B)       36       X         MOV 1RN16A (18B)       36       X         MOV 1RN40A       10       X         MOV 1RN41B (43A)       10       X         MOV 1RN42A       10       X         MOV 1RN43B       10       X         MOV 1RN63B       10       X         MOV 1RN64A       10       X         MOV 1RN70A (171B)       8       X         MOV 1RN73A (174B)       8       X         MOV 1RN134A (235B)       18       X         MOV 1RN137A (238B)       18       X	
MOV DRN5B       36       X         MOV DRN7A (9B)       36       X         MOV DRN10AC       36       X         MOV DRN12AC       36       X         MOV DRN13A       36       X         MOV DRN14A (15B)       36       X         MOV IRN16A (18B)       36       X         MOV IRN16A (18B)       36       X         MOV IRN40A       10       X         MOV IRN41B (43A)       10       X         MOV IRN42A       10       X         MOV IRN42A       10       X         MOV IRN63B       10       X         MOV IRN64A       10       X         MOV IRN64A       10       X         MOV IRN70A (171B)       8       X         MOV IRN73A (174B)       8       X         MOV IRN134A (235B)       18       X         MOV IRN137A (238B)       18       X         MOV ORN147AC (283AC)       36       X	
MOV ORN7A (9B)       36	
MOV DRNIDAC       36       1         MOV DRNIB       36       1         MOV DRNI2AC       36       1         MOV DRNI3A       36       1         MOV DRNI4A (15B)       36       X         MOV DRNI4A (18B)       36       X         MOV IRNI6A (18B)       36       X         MOV IRN40A       10       X         MOV IRN41B (43A)       10       X         MOV IRN42A       10       10         MOV IRN42A       10       X         MOV IRN64A       10       X         MOV IRN73A (174B)       8       1         MOV IRN134A (235B)       18       X         MOV IRN137A (2388)       18       X         MOV IRN137A (2388)       18       X	
MOV 0RN11B       36	
MOV 0RN12AC       36	
MOV 0RN13A       36       X         MOV 0RN14A (15B)       36       X         MOV 1RN16A (18B)       36       X         MOV 1RN40A       10       X         MOV 1RN41B (43A)       10       X         MOV 1RN42A       10       X         MOV 1RN42A       10       X         MOV 1RN63B       10       X         MOV 1RN64A       10       X         MOV 1RN70A (171B)       8          MOV 1RN73A (174B)       8       X         MOV 1RN86A (187B)       20          MOV 1RN134A (235B)       18       X         MOV 1RN137A (2388)       18       X         MOV 0RN147AC (28AC)       36	
MOV 0RN14A (15B)       36       X         MOV 1RN16A (18B)       36       X         MOV 1RN40A       10       X         MOV 1RN40A       10       X         MOV 1RN41B (43A)       10       X         MOV 1RN42A       10       X         MOV 1RN63B       10       X         MOV 1RN64A       8          MOV 1RN70A (171B)       8          MOV 1RN73A (174B)       8       X         MOV 1RN134A (235B)       18       X         MOV 1RN137A (2388)       18       X         MOV 0RN147AC (283AC)       36	
MOV IRN16A (18B)       36       X         MOV IRN40A       10       X         MOV IRN41B (43A)       10       X         MOV IRN42A       10       X         MOV IRN63B       10       X         MOV IRN64A       10       X         MOV IRN64A (182B)       8          MOV IRN73A (174B)       8       X         MOV IRN134A (235B)       18       X         MOV IRN137A (238B)       18       X         MOV ORN147AC (283AC)       36	
MOV IRN40A       10       X         MOV IRN41B (43A)       10       0         MOV IRN42A       10       X         MOV IRN63B       10       X         MOV IRN64A       10       X         MOV IRN70A (171B)       8          MOV IRN73A (174B)       8       X         MOV IRN134A (235B)       18       X         MOV IRN137A (238B)       18       X         MOV ORN147AC (283AC)       36	
MOV IRN41B (43A)       10       10         MOV IRN42A       10       10         MOV IRN63B       10       X         MOV IRN64A       10       X         MOV IRN64A       10       X         MOV IRN64A       10       X         MOV IRN64A       10       X         MOV IRN69A (162B)       8	
MOV 1RN42A       10       X         MOV 1RN63B       10       X         MOV 1RN64A       10       X         MOV 1RN69A (162B)       8	•
MOV 1RN63B       10       X         MOV 1RN64A       10       X         MOV 1RN69A (162B)       8       X         MOV 1RN70A (171B)       8       X         MOV 1RN73A (174B)       8       X         MOV 1RN86A (187B)       20       X         MOV 1RN134A (235B)       18       X         MOV 1RN137A (238B)       18       X	
MOV 1RN64A       10       X         MOV 1RN69A (162B)       8          MOV 1RN70A (171B)       8          MOV 1RN73A (174B)       8       X         MOV 1RN73A (174B)       8       X         MOV 1RN86A (187B)       20          MOV 1RN134A (235B)       18       X         MOV 1RN137A (238B)       18       X         MOV 0RN147AC (283AC)       36	
MOV 1RN69A (162B)       8	
MOV IRN70A (171B)     8       MOV IRN73A (174B)     8       MOV IRN73A (174B)     8       MOV IRN86A (187B)     20       MOV IRN134A (235B)     18       MOV IRN137A (238B)     18       MOV ORN147AC (283AC)     36	
MOV 1RN73A (174B)     B     X       MOV 1RN86A (187B)     20        MOV 1RN134A (235B)     18     X       MOV 1RN137A (238B)     18     X       MOV 0RN147AC (283AC)     36	
MOV 1RN86A (187B)     20       MOV 1RN134A (235B)     18       MOV 1RN137A (238B)     18       MOV 0RN147AC (283AC)     36	
MOV 1RN134A (235B)         18         X           MOV 1RN137A (238B)         18         X           MOV 0RN147AC (283AC)         36         36	
MOV 1RN137A (2388)         18         X           MOV 0RN147AC (283AC)         36	
MOV 0RN147AC (283AC) 36	
MOV 0RN148AC (284B)	
MOV ORN149A (1528) 36	
MOV ORN150A (151B)	
MOV 1RN253A	
MOV 1RN276A	
MOV 1RN279B	
MOV 1RN296A (297B)	
MOV 18N299A	

Page & 19

ŧ.

TABL	E 2	•
------	-----	---

		Line		Included in	Press. bndry.	
RN SYSTEM COMPONENTS (cont.)		Ste (in.)		Seismic PRA	integrity only	Non-Safety
	╞					
MOV ORN301AC		24		.	X	
MOV ORN302B		24			X	
RN PUMP 1A (1B)	┝			X	- <u> -</u>	
RN STRAINER 1A (1B)	+			<u> </u>		
STANDBY NUCLEAR SERVICE WATER POND	$\vdash$			X		
	+-					
	┢		_		Dress hades	
CA CHA CHA COMPONIENTS	┢			Included in	Press. Onory.	Non Codeb
SA, SIVI, SV COMPONENTS	–	_520 (In.)		Seismic Pika		Non-Salen
AOV 1SA49AB (48AB)	L	6	_			_
STEAM STOP VALVE TO TOD - 1943	$\vdash$		-	·		
STEAM CONTROL VALVE TO TOP - 1943	┢	3		<b>├──-</b>		
STEAM CONTROL VALVE TO TDF - 1344	┼─					
MSIV 1SM1AB	$\Box$	34				
MSIV ISM3AB		34				
MSIV 1SM5AB		34				
MSIV ISM7AB		34				
	L				·	
MSI BYPASS VLV_ISM9AB		3				
MSI BYPASS VLV ISMIOAB		3				
MSI BYPASS VLV ISMIIAB		3				
MSI BYPASS VLV ISM12AB	<u> </u>	3				
AOV ISM78	┝	2		└── <b>──</b>		
AOV ISM83	┢	2			^	
AOV ISM84	+	2				
AOV ISM89	┢─	2	•		-+	
ACV ISM90	╆╌	2	-			
AOV ISM95	┢	2			- <del></del> ++	
AOV ISM96		2			×	
AOV ISMIOI	$\vdash$	. 2				
SG PORV_ISVIAB		6		X	X	
SG PORV ISV7AB		6		X	X	
SG PORV ISV13AB		6		X	X	
SG PORV ISV19AB	<u> </u> _	6		X	x	
SC SPV 15V2					+	
SG SRV 15V3	┨					
SC SRV ISVA	+			┝		
SC SPV 1975	┢		<u> </u>		<u> </u>	
SC SPV ISVA	-			-	- <del> </del>	
SC SDV 15V8	┢			┝━━━━━━┣	- <del>   </del>	
				<u>├</u>	+	

Page 20

060 ·

TABLE 2 -	
-----------	--

	1 17			In all all of the l		One is the set	<u> </u>	
	<u></u>	<u>79</u>		included in	÷	Press. Dnary.		
SA, SM, SV COMPONENTS (cont.)	Sze	<u>(in.)</u>		Seismic PRA		integrity only		Non-Safety
						·	_	·
SG SRV ISV10		5			_	X		
SG SRV ISVII		5				X		
SG SRV 1SV12		5				X		
SG SRV 1SV14		5				X		
SG SRV 1SV15		5			7	X		
SG SRV 1SV16		5	_		-	X		
SG SRV 1SV17		5	-			X		
SG SRV 1SV18		5			-	X	-	·····
SG SRV 1SV20		5	-		+	X	-1	
SG SRV ISV21		5			+	<u>^</u>	-	
SG SPV 15V22		<u> </u>				<u>x</u>	-	· · · · · · · · · · · · · · · · · · ·
SC SDV 15V23		<u> </u>	-				-	
SG SPV 1SV24		<u>;                                    </u>	-		-+			
<u>56 0(1 15724</u>		<u> </u>			-		-	
MOV 19V25							-1	
MOV/ 151/26			-			÷		
NOV 15V20		2	~			<del>`````</del>		
		2				<u> </u>		
MOV ISV28		2	_		-	<u> </u>	_	
			_		4			
			_		4		_	
	-		_		_		_	
		10	_	Included in		Press. bndry.		
VA SYSTEM COMPONENTS - #	Size	<u>(in.)</u>	_	Seismic PRA		integrity only	_	Non-Safety
AIR-OP DAMPER 1-ABF-D-1								<u> </u>
AIR-OP DAMPER 1-ABF-D-2								X
AIR-OP DAMPER 1-ABF-D-3								Χ
AIR-OP DAMPER 1-ABF-D-4A (5A)					Τ			X
AIR-OP DAMPER 1-ABF-D-4B (5B)					1		1	X
					1		1	· · · · · · · · · · · · · · · · · · ·
AUX. BLDG. FILTERED EXHAUST FAN ABFXF-1	A (18)				T			X
AUX. BLDG. FILTER UNIT ABFULI (2)					+	X		<u> </u>
RHR PUMP MOTOR AHU RHR-AHU-1A (1B)			-		+		-	
			-		+		-	<u></u>
			-		+		+	
			-		-+		+	
······································		<u>_</u>	-+	looluded in	+	Dross badar	$\rightarrow$	
					+	Press. Dhory.	-	No. Carlat
VC STSIEW COMPONENTS - #	JZe	<u>(In.)</u>	_	Seismic MRA	╺┝		-	Non-Satety
		╦──┤			4			
		<u>o</u>			╇		_	
	_ <u></u>	<u> </u>			$\downarrow$		$\downarrow$	
MOV 1VC3B (11B)		в			┛			
MOV 1VC4B (12B)	1	8	_1					
					T			
AIR-OP DAMPER CR-OAD-1 (5)			T		T		T	
AIR-OP DAMPER CR-OAD-3 (7)	1		1		+		1	······
AIR-OP DAMPER CRA-OAD-3	-1		-†		Ŧ		┉┝	
f - only cursory review of these components	remiire	<del>a</del> +	+		┽		╉	
		<u> </u>						

Poge& 21

	Line	T	Included in		Press, bodry,	-	
VC SYSTEM COMPONENTS (cont.) - #	Size (in	5	Seismic PRA		Integrity only		Non-Safety
· ·		4					
AIR-OP DAMPER CRA-OAD-4							
	1.			-			
MOTOR-OP DAMPER CR-D-1 (2)							
MOTOR-OP DAMPER CR-D-4 (3)			1				
MOTOR-OP DAMPER CR-D-5				_			
MOTOR-OP DAMPER CRA-D-1 (3)		$\top$	1				
MOTOR-OP DAMPER CRA-D-2 (4)			1				
MOTOR-OP DAMPER CRA-D-5 (6)		1		7	X	7	
MOTOR-OP DAMPER CRA-D-11 (7)					X		
MOTOR-OP DAMPER CRA-D-12 (8)		Τ			X	Τ	
MOTOR-OP DAMPER CRA-D-13 (9)				-	X		
MOTOR-OP DAMPER CRA-D-14 (10)				1	X	Т	
MOTOR-OP DAMPER CRA-D-16 (22)							
MOTOR-OP DAMPER CRA-D-17 (20)		Τ		7		Τ	
MOTOR-OP DAMPER CRA-D-19 (18)				1			
MOTOR-OP DAMPER CRA-D-21 (15)						T	
MOTOR-OP DAMPER CRA-D-24 (30)				7		Τ	
MOTOR-OP DAMPER CRA-D-26 (28)				1			
MOTOR-OP DAMPER CRA-D-27 (25)				-1			
MOTOR-OP DAMPER CRA-D-29 (23)							
MOTOR-OP DAMPER CRA-D-34 (33)		1		1			
MOTOR-OP DAMPER CRA-D-35 (36)		T	[]	1		1	
MOTOR-OP DAMPER SGR-D-1 (2)				1	•		
MOTOR-OP DAMPER SGR-D-3 (4)							•
MOTOR-OP DAMPER SGR-D-5 (6)							
MOTOR-OP DAMPER SGR-D-7 (8)				1			
						Τ	
TRAIN A (B) CONTROL ROOM FILTER PACKAG	E CRA-OAP	न-1	(2)			Ι	
TRAIN A (B) CONTROL ROOM FILTER PACKAGE	E FAN A-(B)						
TRAIN A (B) CONTROL ROOM AIR HANDLING	UNIT CR-AH	J-1 (	(2)				
TRAIN A (B) CONTROL ROOM AREA AIR HAND	UNG UNIT O	RA	-AHU-1 (2)				
FAN UNIT BR-XF-1 (2)							
SWITCHGEAR ROOM AIR HANDLING UNIT SGR	-AHU-1A (1	<b>B)</b>					
SWITCHGEAR ROOM AIR HANDLING UNIT SGR	-AHU-1C (1	D)					
SWITCHGEAR ROOM AIR HANDLING UNIT SGR	-AHU-2A (2	B)					
SWITCHGEAR ROOM AIR HANDLING UNIT SGR	-AHU-2C (2	D)		T		Τ	
				Т		Ţ	
HEATER CRA-H-1					. X		
HEATER CRA-H-2		Γ			X		
HEATER CRA-H-3				1	X	1	
HEATER CRA-H-4			· · · · · · · · · · · · · · · · · · ·	1	X	7	•
HEATER CRA-H-5					X	1	
HEATER CRA-H-6 (8)				1	X	1	····
HEATER CRA-H-7 (9)		1		1	X	-	
HEATER CRA-H-11 (10)				+	x	-†	
HEATER CRA-H-13 (12)		+-	1	╉	x	-†	
HEATER CRA-H-15 (14)	<u> </u>	+		1		-+	
		1	Income la	_		_	

TABLE 2 -

.

x.

Pager 22

ļ

TABLE 2 -

ſ	ł	Line	1	Included in		Press bodry	_ <u></u>
VC SYSTEM COMPONENTS (cont.) - #	+	Size (in.)		Seismic PRA		Integrity only	Non-Safety
	╈						
HEATER CRA-H-19 (18)	+					X	
HEATER CRA-H-20 (17)	+-					X	
HEATER CRA-H-21 (16)	+		-			X	
HEATER CRA-H-23 (27)		· · · ·				$-\hat{\mathbf{x}}$	
HEATER CRA-H-24 (28)	+		-				
HEATED (DA.H-25 (20)	╈	<b> </b>					
HEATER CRA-H-26 (30)	╉					- Ŷ	
	+			[		<u> </u>	
······································	╈			· · · · · · · · · · · · · · · · · · ·			
		<u></u>	·				
	╉	Lino		Included in		Prost bodny	
VC SYSTEM COMPONENTS . #	┢			Solicities DDA		intogrity only	Non-Safah
TC STSTEM COMPONENTS - #	╋	328(11.)		JESHIC FRA			NOIPSCIETY
	+-	1.25		┼─────┤			
NOV NC200 (39A)	+	, 1.20					
MOV TYCSYB (SOA)	╋	°				<u> </u>	
	+						
3-WAY VALVE IYC34 (113)	+	4				×	
3-WAY VALVE 14C70 (135)	+	5				× ·	·
3-WAY VALVE 1YC 148 (204)		2.5					
3-WAY VALVE 1YC 162 (218)	┢	2.5					
3-WAY VALVE 1YC1/6 (232)		2.5					
3-WAY VALVE 1YC 190 (246)	-	2.5					
					<u> </u>		
CONTROL ROOM AREA CHILLED WATER PUM		<u>RA-P-1 (2)</u>		-			
CONTROL ROOM AREA CHILLER CRA-C-1 (2)	1_	<b> </b>					
COMPRESSION TANK CRA-T-T (2)	╇						
	+						
					-		
	+						
		<u></u>	_				
					_		
	Γ						
	Γ						
	1						
	1				_		
· · · · · · · · · · · · · · · · · · ·	1-	↑					
	$\top$				•		
	+-			h			-   ·
	+			<u> </u>	-		
	+	<u> </u>		<u> </u>			
	+			<u>├</u> }			
A only outropy to vious of those company	+0 -		_				
IF - UNIV CUISULY LEVIEW OF THESE CUINDONEN	15 11	Janiea		I 1			1

Page 18 23

## TABLE 3 -

MECHANICAL EQUIPMENT LIST	FC	OR MCG	Ū	IRE UNIT 2	1	PEEE WALK	D	OWN
'B' train components are shown in parenthes	es	. A detaile	d	walkdown of th	18	e components	is	not
necessary if the 'B' train configuration is similar	<u>r to</u>	o the 'A' tra	In.	)				
	_	Line		Included In		Press. bndry.		
CA SYSTEM COMPONENTS		Sizə (in.)	-	Seismic PRA	-	Integrity only		Non-Safe
AOV 2CA20AB		6	-					
AOV 2CA27A (32B)		4						
AOV 2CA36AB		4						
AOV 2CA48AB		4						
AOV 2CA52AB		4						
AOV 2CA56A (44B)	_	4						
AOV 2CA60A (40B)		4						
AOV 2CA64AB		4						
MOV 2CA7AC		8	-					
MOV 2CA11A (9B)		8						
MOV 2CA15A (18B)	_	6	-					
MOV 2CA38B		4	_	·······				
MOV 2CA50B		4	~					
MOV 2CA54AC		4			-			
MOV 2CA58A (46B)		4						
MOV 2CA62A (42B)		4						
MOV 2CA66AC		4						
MOV 2CA86A (1168)		8						
MOV 2CA161C		8	_					
TURBINE DRIVEN PUMP 2 (INCLUDING			-	Х	$\vdash$			
CONDENSATE EDUCTOR )		[]		•				
TURBINE DRIVEN PUMP LUBE OIL HX		├						
MOTOR DRIVEN PUMP 2A (2B)	~		-1	Х		<u> </u>		
WZ SUMP PUMP A (B) FROM GROUNDWATER	Dr	AINAGE SU	M	PB (B)				
		┢────┦	-		_			
			-		- •	•	_	
DIESEL GENERATOR AND SUPPORTING		Line		Included in		Press. bndry.		
COMPONENTS		Size (in.)	_	Seismic PRA		integrity only	_	Non-Safe
D/G 2A (2B)	   •		-	X	-			
	_	ŀ					_	
FUEL OIL DAY TANK 2A (2B)				X				
FUEL OIL STORAGE TANK 2A (2B)	<u> </u>	l						
FUEL OIL BOOSTER PUMP 2A (2B)				-		X		
FUEL OIL FUEL TRANSFER FILTERS 2A1, 2A2						X		
(281, 282)	ļ							
FUEL OIL TRANSFER PUMP 2A (2B)				•				
	<b>_</b>		_					
	1	1			1			

Pager 24

•

.

	DIESEL GENERATOR AND SUPPORTING		Line	<b></b>	Included In	<b>—</b>	Press. bndry.	Г	
	COMPONENTS (cont.)		Size (in.)		Seismic PRA		integrity only		Non-Safety
	· ·			-		-		<b> </b>	
	AIR-OPERATED REGULATING VALVE 2KD9	_	4	$\vdash$		┢	[·	┢╴	
	(2KD29)	-			·····	-		<u> </u>	
		-		-		-			
	KD D/G COOLING WATER HX 2A (2B)		<b> </b>	-		-		┢──	
	KD INTERCOOLER PLIMP 2A (2B)			-					
	KD JACKET WATER PLIMP 2A (2B)			-					
	KD SUPCE TANK 2A (2B)	-						┢─	
				-		-		┣─	
				-				┝╍	
	MOV 210108 (113)				······································				·····
	LUBE OIL INTAKE STRAINED 24 (28)					-			
		-		-			Ŷ		
					······	-			
							·		
	VO DIC BLOC VENTLATION FANS DSE 24 2	5	(29, 20)						
	VO DIG BEDG. VENTEARON FAINS DSF-2A, 2		(20, 20)						
						-			
			2				<u>├</u>		
	SOLENOID VALVE 2VG02 (00)								
	SOLENOID VALVE 2VGOS (07)		2					-	
	SULEIVUID VALVE ZVGO4 (00)				~			ļ	
	VG STARTING AIR TAINS 2AT, 2AZ (2B), 2DZ)		1 0 4 0		<u> </u>	-			
	CODI ODDI		1, ZAZ					_	<u> </u>
								_	
	VG AIR COMPRESSORS 2A1, 2A2 (2B1, 202)					_		_	
	VG CONTROL AIR FILTER ZA (2D)	_							
									~~~~~
	VIN AIR INTAKE SILENCER 2A (2B)								<u> </u>
	VIN AIR EAHAUST SILENCER ZA (ZB)								
	14/11 D/C CLIMAD DUNADO 242 241 (000 000)								
	WIN DIG SUMP PUMPS ZAZ, ZAS (282, 283)								<u> </u>
	ZD MACHINA PLOMED DACKACE DA (20)								
	2D VACUUM BLOWER PACKAGE ZA (2B)					_	· · ·		<u> </u>
				_	<u> </u>				
		_							
			1.00		Included in		Diana hardari		
							Press. Dhory.	-	
	FVV STSIEIVI CONTONEIVIS		512e (IN.)		SUSTIC PRA		Integrity only		Non-Satety
			i						
			Ö 14						
			14			_		-	
			8					ŀ	
	MOV 2FW33A		2						
	MOV 2FW498		2						
_	REFUELING WATER STORAGE TANK (FWST)				X				
			L						
			,						

TABLE 3 -

Page 2 25

•

.

TABLE	3	-
-------	---	---

2

<b></b>	Line	Included in	Press, bndry,	T
KC SYSTEM COMPONENTS	Size (in.)	Seismic PRA	Integrity only	Non-Safety
AOV 2KC57A (82B)	12			
MOV 2KC1A (2B)	20			
MOV 2KC3A (18B)	10		1	
MOV 2KC50A (53B)	20		1	
MOV 2KC51A (54B)	4		X	
MOV 2KC56A (81B)	16			
MOV 2KC230A (228B)	8			
KC HX 2A (2B)		X	•	
KC PUMPS 2A1, 2A2 (2B1, 2B2)		X		
UNIT 2 KC SURGE TANK				
RHR PUMP MECH. SEAL HX 2A (28)				_
			<u> </u>	
	Line	Included in	Press. bndry.	
NC SYSTEM COMPONENTS	Size (in.)	Selsmic PRA	integrity only	Non-Safety
PZR PORV 2NC328	3	X		
PZR PORV 2NC34A	3	X		
PZR PORV 2NC36B	3	<u> </u>	- <u> </u>	
SAFETY RELIEF VLV 2NC1	0		·	
SAFETY RELIEF VLV 2NC2			++	
SAFETY RELIEF VLV 2NC3	0			
MOV ONCOUR				
MOV 2NC31B			<u> </u>	
MOV 2NC35A			- <del> </del> +-	
MOV 2NC35B	<u>}</u> -}		-+	
	┝╌┟╌╌╌┽			
	╂╾╂╾╍╌╌┝			
	Line	Included in	Prost body	
		Seismic PDA	integrity only	Non-Safety
ND STOLEN CONFORMENTS	528 (11.)	JOEBING FRA	Timeginy Only	THOIFOLIETY
AOV 2ND29 (14)	8			- <del> </del>
				+
<u></u>				
MOV 2ND18		- <u>}</u>	+	
MOV 2ND2AC			Y #	
MOV 2ND19A (4B)	111	╾╁╍╍╌╌╌╌┼╴		
MOV 2ND30A (15B)	R 1			· [
MOV 2ND32 (17)	+++		+ +	
MOV 2ND33 (18)	2		$+$ $\hat{\mathbf{y}}$ $+$	
	<u>├</u>		<b></b>	
4 - required to function during cold shuts		╶╆╾╍┉┈╌╌╴┢╸		
				1

Page \$ 26

	Line		Included in	Press. bndry.	
ND SYSTEM COMPONENTS (cont.)	Size (in.)		Seismic PRA	integrity only	Non-Safety
MOV 2ND68A (67B)	2	_		· · · · ·	
		-			
ND PUMP 2A (2B)			X	#	
ID HX 2A (2B)			X	#	
	<u> </u>	-		·	
		-			
	Line		Included in	Press. bndry.	
NI SYSTEM COMPONENTS	Sizə (in.)	_	Seismic PRA	integrity only	Non-Safety
QV 2NI50		┥		- x	
OV 2NI56	1			X	
OV 2NI57	0.75			X	
OV 2NI58	0.75			X	
OV 2NI61	1	_		X	
<u>VOV 2NI67</u>	1		·	X	
OV 2N168	0.75	_		X	
OV 2NI69	0.75	_		X	
	<u> </u>		·	<u> </u>	·
		_		× ×	- <b> </b>
	0.75	⊢		X	
		-		<del>``</del>	
OV 20104		┥			
AUX 2NI91	0.75	+			
OV 2N192	0.75	÷		+	
OV 2N/163	0.75	+	····	$-\hat{\mathbf{x}}$	
OV 2N1174 (179)	0.75	+		X	
		1			
10V 2NI9A (10B)	4	┫		#	
10V 2NI54A	10	1		X #	-
10V 2N165B	10	1		X #	1
10V 2N176A	10	1		#	
10V 2N188B	10			#	
AOV 2NI100B	8			X	
10V 2NI103A (135B)	.6			X	
MOV 2NI115B (1448)	1.5			X	
MOV 2NI118A (150B)	4			X	
MOV 2NI121A (152B)	4			X	
MOV 2NI136B	6				
10V 2NI147A	2	$\square$		X	
10V 2NI162A	4			<u> </u>	
MOV 2NI173A (178B)	8				
10V 2NI183B	12			<u> </u>	
10V 2NI185A (184B)	18				
MOV 2N1332A	6	$\square$			
<u>NOV 2NI333B</u>	6				
# - required to function during cold shute		- 1			

TABLE 3 -

.

001

.

	T	Line		Included in	Press. bndry.	1	_
NI SYSTEM COMPONENTS (cont.)		Stze (in.)		Seismic PRA	integrity only	Non-S	Saf
•	$\bot$	<u> </u>	_				
MOV 2NI334B	╞	6	_		X		
	+	0.75				_	
2NIA31B (NITROGEN BACKUP TO PER PORVS)	┢	0.75	-	$-\hat{\mathbf{v}}$			
ZINGTE (MIROGEN DACKOF TO FZR FORVS)	╋	0.75	-	<u> </u>			
NI PUMP 2A (2B)	+	<u>├</u>		X			
(not needed for inventory control for 1' SB	ίO	CA)					
COLD LEG ACCUMULATORS	Τ			X			
(not needed for 1' SBLOCA)	_	[]	_				
	╞	<u> </u>					
		Line	+	Included in	Press. bndry.		
NS SYSTEM COMPONENTS	4_	Szę (in.)		Seismic PRA	integrity only	Non-S	<u>sa</u> t
MOV 2NS43A (38B)	t	8					
SPRAY NO77LES DOWNSTREAM OF 2NS47 (42	<u> </u> n	┠────┣	+			_	
	Í						
	╀	╂────┼	+				
	$\uparrow$	Line	+	Included in	Press, bndry.		
NV SYSTEM COMPONENTS	┸	Size (in.)	_	Seismic PRA	integrity only	Non-S	Sal
AOV 2NV238	╋	3	+		×		
AOV 2NV241	+	3	+		× 1		
	+		+				
MOV 2NV94AC	T	4					
MOV 2NV95B	Γ	4					
MOV 2NV141A		4			X		
MOV 2NV142B		4			X		
MOV 2NV150B		2			X		
MOV 2NV151A		2			X		
MOV 2NV221A		8					
MOV 2NV222B		8					
MOV_2NV244A	Τ	3					
MOV 2NV245B	Ļ	3					
CENTRIFUGAL CHARGING PUMP 2A (2B)	$\pm$			X			
SEAL WATER HX 2					X		
SEAL WATER INJECTION FILTER 2A (2B)			T		X		
SEAL WATER RETURN FILTER 2			Τ		X		
VOLUME CONTROL TANK 2	Ι			X	X		
(not needed for inventory control for 1" SE	<b>JLO</b>	(CA)					
REGENERATIVE HEAT EXCHANGER	T			X	X	1	
(not peopled for lowestery control for 17 PP	<u>JIO</u>	CAL					
	_		_				

TABLE 3 -

Page \$ 28

TABLE	3	-	
-------	---	---	--

	Line		Included in	<u> </u>	Press bodry	7	· · · · · · · · · · · · · · · · · · ·
PN SYSTEM COMPONENTS	Size (In )		Seismic PRA		integrity only	-	Non-Safety
NA OTOFEN COM CHERTS			ocionae neve			-	11011-001017
AOV 20021A (258)							
AOV 201217 (200)					·	-	
$\Delta OV 2DNA8A (161B)$	15						
	20					-	· · · · · · · · · · · · · · · · · · ·
ACV 2RIVOTA (1905)	20			-			
ACV 2KN105A (2048)							
AOV 2KIN112A (2150)	$-\frac{2}{2}$		<b> </b>			-	
AOV 2RN114A (2158)				_			
AOV 2KN117A (2100)	2	$\vdash$		_		-	
AOV 2RN120A (227B)	2		~		^	-	
AUV 2KN130A (231B)	<u> </u>						
	4				<u> </u>		
AOV 2RN100A (17UB)	2			_			
AUV 2RN252B	0	$\square$	·		×	-	
AOV 2RN2778	6				×	-	
						_	
MOV 2RNI	42				X	_	
MOV 2RN16A (18B)	36				<u> </u>		
MOV 2RN40A	10				X		
MOV 2RN41B (43A)	. 10						
MOV 2RN42A	10		·				- <u></u>
MOV 2RN63B	10				<u> </u>		
MOV 2RN64A	10			_	X	_	
MÓV 2RN69A (162B)	8			_		_	
MOV 2RN70A (171B)	8					_	
MOV 2RN73A (174B)	8				<u> </u>		
MOV 2RN86A (187B)	20						
MOV 2RN134A (235B)	18				X		
MOV 2RN137A (238B)	18				X		
MOV 2RN253A	6				X		
MOV 2RN276A	6				X		
MOV 2RN279B	6				X		
MOV 2RN296A (297B)	36				X		
MOV 2RN299A	6				Х		
			· · · ·	-			
RN PUMP 2A (2B)		F	X	_			
RN STRAINER 2A (2B)							
STANDBY NUCLEAR SERVICE WATER POND			X				
			· · ·	_			
		1-		_			
		<u>†</u>		_			
	Line	<del> </del>	Included in		Press, body		
SA SM SV COMPONENTS	Size (in )	<del>  -</del>	Seismic DDA		integrity only		Non-Safet
		+-	CONTING FRA				HUI UUIOI
		┝			├─ <b>─</b> ──┤		
	<u>├-</u> └└		·		<u>}</u> }		
	++	┝			<u> </u>		
STEAM STUP VALVE TO TUP - 25A3		┡			<b>├</b> ────		
STEAM CONTROL VALVE TO TOP - 25A4							
MSIV 2SMTAB	34	<u>ا</u>	l!	_			

Pages 29

TABLE 3 -

	Т	Une		Included in		Press, bndry,		
SA. SM. SV. COMPONENTS (cont.)	+-	Ste(in)	<b> </b>	Selsmic PRA		Integrity only		Non-Safety
	+-			000000000000000	~		-1	Homedalory
MSIV 2SAA3AB		- 34	┝╌		_		-	
NASIV 2SNASAB		34			_		-	
	+-	24			_		4	
IVDIV ZONI/AB		- 34					-	
	+-		$\vdash$		-		-	
NOI DYPAGO VLV ZOWIAD		3					-	
MOI BYPASS VLV ZSWIUAB	╉╼	3			_			
	+	3					-+	
IVISI BTFASS VLV ZSIVITZAD	+-				-		+	
A () / () () A79							-	<u>`</u>
AOV 25/01/0	+-	2			-		-	
AOV 25M83		2		·	_		4	
AOV 25M84	┿╸	2			4	×	-	
AOV 25MB9	+-	2			-{		-	
AOV 25M9U	+	2			_	×	-+	
AOV 25M95	╇	2			_		_	
AOV 2SM96	╇	2			_	X	-	
AOV 25M101		2					4	
	$\perp$							
SG PORV 2SV1AB	L	6		X	_	<u> </u>	$\downarrow$	·
SG PORV 2SV7ABC		6		X		X		
SG PORV 2SV13AB	_	6		<u> </u>		X		
SG PORV 2SV19AB		6		<u> </u>		X	_[	
SG SRV 2SV2		6				<u> </u>		
SG SRV 2SV3	_	6				X		
SG SRV 2SV4		6				X		
SG SRV 2SV5		6				X		
SG SRV 2SV6		6				X		
SG SRV 2SV8		6				X		
SG SRV 2SV9		6				X		
SG SRV 2SV10		6				X	Γ	
SG SRV 2SV11	T	6				X	T	
SG SRV 2SV12	Т	6				X	T	
SG SRV 2SV14	Τ	6				X	T	
SG SRV 2SV15	Τ	6				X		
SG SRV 2SV16	1	6			1	X	7	
SG SRV 2SV17		6				X		
SG SRV 2SV18	1-	6			1	X	~†	
SG SRV 2SV20	1	6			1	X	╈	
SG SRV 2SV21	+-	6			1	x	-+	
SG SRV 2SV22	+	6			┥		╉	
SG SPV 2SV23		×			+		+	
SC SDV 2SV2A					+		+	
	+				-+	^	┥	
MOV 28V25	-				$\rightarrow$		╉	
	+	0			-	<u>-</u>	_	
		<u>-</u>			$\rightarrow$	X	4	
					_	X ·		
-[MUV 25V28	1	6				<u> </u>		

Page 30

ØØ5

.

TABLE 4 -

ELECTRICAL EQUIPMENT LIST F	OF	MCGU	IR	E UNIT 1	IPE	EE	WALKDO	)\	ŴN
	+-		ļ						
	+-		<b> </b>				icluded in	_	
AREA TERMINATION CABINETS	+-		<u> </u>			<u> </u> Se	eismic PRA	_	Non-Safe
	+	L				<u> </u>		_	
	╇		-					~	
	+		<u> </u>			<u> </u>		_	
······································	4_		<u> </u>			Ļ			
	╇		<b> </b>				cluded in		
AUXILIARY SHUIDOWN PANEL	-					<u>Se</u>	SISTIC PRA	_	NON-SOTE
		<u> </u>	<b> </b>				<u>×</u>		ļ
· · · · · · · · · · · · · · · · · · ·	+	ļ				<b>[</b>			
·····	┢					┣			
						<u> </u>			
							iciuaea in		
SUPPORT FOR CA SYSTEM					<del> </del> _	1 Se	ESTIC PRA		NORSOI
		<u>├</u> ────				╂		-	
HOUV AC SWITCHGEAK IEIA (IEIB)	+		_		_+				
OUV AC MCC TEMXA (TEMXB) (TEMXB-2)	+						X		
DUV AC MCC IEMXA-4	+-						<u> </u>		
OUV AC MCC TEMXA-5						-	<u> </u>		
125V DC DISIRIBUTION CENTER TEVDA (TEV	<u>(80</u>			·		┣	<u> </u>		
125V DC PANELBOARD TEVDA (TEVDB)					_ _	·}	×	_	
20V AC PANELBOARD TEVKA (TEVKB) & N		UAL IRAN		ER SWIICH		<b> </b>	X		
OCAL MOTOR-DRIVEN PUMP CONTROL PA	ANE	<u> </u>	-				- <del>X</del>	_	
COLAL TURBINE-DRIVEN PUMP CONTROL PA	AIVE T	ι	╉──			·	<u> </u>		
SFAS TRAIN A (B) 48V DC POWER SUPPLIES	기_							_	
ATTERY EVCA (EVCB)	-					ļ		_	
SATIERY CHARGER EVEA (EVEB)	<u></u>	TOTADT				-		_	
DC CIRCUIT BREAKER FOR MUPTA (MUPTB)		NOSIARI		<u> </u>	_	<u> </u>		-	
	┿								
U PUMP RELAY HE			[					-	
VIEW PUMP RELAY BBIAJ (BB(BJ)	<u> </u>					<u> </u>			
VIEW PUMP RELAY RATIFFICAJ (RATIFFICA)	<u>))</u>	<u> </u>	┨'			<u> </u>			
MEW PUMP RELAY R/II-I (FPICA) (R/II-I (F		B))	┝╌			┣			
(ELAY KZOC(A) (KZOC(B))	+-		┢					_	
						_			<u> </u>
(ELAY LIKAO (LIKBO)			┣_						
CAD SHED RELAY LSAT (LSBT)		<u> i</u>	_			–		-	
EST KELAY ISAZ (ISBZ)			┢					_	
SFAS SLAVE RELAY KOJJA (KOJJB)						┼—		_	
CORAD DLAVE KELAY KOJAA (KOJAB)		<u> </u>	┡		_	╂		_	
SFAS MASIEK RELAY KSIOA (KSIOB)		ļ	–			┣		_	<u> </u>
ESFAS INPUT RELAY KITISA (KITISB)		<u> </u>		ļ		<b> </b>		_	
ESFAS INPUT RELAY K114A (K114B)		ļ	1_			<u> </u>			
LSFAS INPUT RELAY K121A (K121B)			<u> </u>			1			
ESFAS INPUT RELAY K150A (K150B)		Ļ				<b>_</b>			
ESFAS INPUT RELAY K230A (K230B)		ļ							
ESFAS INPUT RELAY K231A (K231B)		L					1		
ESFAS INPUT RELAY K250A (K250B)									
ESFAS INPUT RELAY K255A (K255B)	T		<b>_</b>					_	l

Poge 7 31

TABLE 4 -

	Г	· · · · ·	T		Included in	_	[
SUPPORT FOR CA SYSTEM (cont.)	T				Seismic PRA		Non-Safety
	1-	tt-					
ESFAS INPUT RELAY K331A (K331B)	1-						
ESFAS INPUT RELAY K332A (K332B)	f						
ESFAS INPUT RELAY K333A (K333B)	$\mathbf{f}$						
ESFAS INPUT RELAY K334A (K334B)	+-			- -			
ESFAS INPUT RELAY K407A (K407B)	1-	[				_	
ESFAS INPUT RELAY K408A (K408B)		[	+			-	
ESFAS INPUT RELAY K409A (K409B)	F	<u> </u>  -				-	
ESFAS INPUT RELAY KAIOA (KAIOB)	+						
ESFAS LOGIC MODULE A317A (A317B)	+	<u>├──</u>				-	
D/G LOAD SEQUENCER (LOAD ACTUATE) REL	A	2.1A(RA8) (	214(288))	-+-		-	
D/G LOAD SEQUENCER RELAY A3 (B3)	Ť					-	
SG A LOLO WATER LEVEL CHANNEL 1 BIST	AP	IF T				-	
SG A LOLO WATER LEVEL CHANNEL 1 LEV		TDANISMITTE	 D				
SC A LO-LO WATER LEVEL CHANNEL 2 BIST						-	
ISC A LOLO WATER LEVEL CHANNEL 2 USI		TDANICH AITTE				-	
SC A LOLO WATER LEVEL CHANNEL 2 LEV		IE	T				
SG A LOLO WATER LEVEL CHANNEL 3 DIST		TDANICANTTE	<u>_l</u>				
SG A LO-LO WATER LEVEL CHAINNEL 3 LEV		TRAINSMITTE	<u> </u>				
SG A LOLO WATER LEVEL CHAININEL 4 DISI			<u></u>			_	
ISG A LO-LO WATER LEVEL CHAINNEL 4 LEV		TRAINSMILLE	<del>к</del>			_	
SG BLOLO WATER LEVEL CHANNEL I DIST.							
SG B LOLO WATER LEVEL CHANNEL I LEV		TRAINSMILLE	K				
SG BLOLO WATER LEVEL CHAINNEL 2 BIST							· · · · · · · · · · · · · · · · · · ·
SG B LOLO WATER LEVEL CHAINNEL 2 LEV		TRANSMITTE	K .			-	
SG B LOLO WATER LEVEL CHANNEL 3 BIST						-	
SG B LOLO WATER LEVEL CHANNEL S LEVE			<u></u>			_	
SG B LO-LO WATER LEVEL CHANNEL 4 DIST.			<del></del>				
ISG BLOLO WATER LEVEL CHANNEL 4 LEVI		TRAINSMITTE	<u>K</u>			_	
ISG C LO-LO WATER LEVEL CHANNEL T BIST	AL	TOANON	<u>_</u>			_	
SG C LO-LO WATER LEVEL CHANNEL I LEV	EL	TRANSMITTE	.l₹ 			_	
SG C LO-LO WATER LEVEL CHANNEL 2 BIST	At	LE.					
ISG C LOLO WATER LEVEL CHANNEL 2 LEV	EL	TRANSMITTE	1			_	
ISG C LO-LO WATER LEVEL CHANNEL 3 BIST	AL					_	
SG C LO-LO WATER LEVEL CHANNEL 3 LEV	EL.	TRANSMITTE	iR				
SG C LO-LO WATER LEVEL CHANNEL 4 BISI	AL						
SG C LO-LO WATER LEVEL CHANNEL 4 LEV	EL	IRANSMITTE	<u>:R</u>			_	ļ
SG D LO-LO WATER LEVEL CHANNEL 1 BIST	AB		_ <u>_</u>				
SG D LO-LO WATER LEVEL CHANNEL 1 LEV	EL	TRANSMITTE	R				ļ
ISG D LO-LO WATER LEVEL CHANNEL 2 BIST	AB	<u>LE  </u>					
SG D LO-LO WATER LEVEL CHANNEL 2 LEV	EL	TRANSMITTE	R	·			
SG D LO-LO WATER LEVEL CHANNEL 3 BIST	AB					_	
SG D LO-LO WATER LEVEL CHANNEL 3 LEV	EL	TRANSMITTE	R				
SG D LO-LO WATER LEVEL CHANNEL 4 BIST	AB	LE					
SG D LO-LO WATER LEVEL CHANNEL 4 LEV	EL	TRANSMITTE	R				
INSTR. LOOP CONTAINING ICASV/MV0200,	SV	0201, & SVO	)202				
INSTR. LOOP CONTAINING ICASV/MV0270	03	20) & SV027	71 (0321)		· · · · · · · · · · · · · · · · · · ·		
INSTR. LOOP CONTAINING ICALLIP /SV/MLO	520	0 (0480)	<u> </u>	-		-	
INSTR. LOOP CONTAINING ICALLIP /SV/MLD	560	) (0440)				-	
INSTR. LOOP CONTAINING ICALLIP /SV/MLO	600	) (0400)	-			-	
						_	

Poge \$ 32

۰

ı

## TABLE 4 -

_						T	Included in	Γ	}
	SUPPORT FOR CA SYSTEM (cont.)				· · · · · · · · · · · · · · · · · · ·	+-	Seismic PRA		Non-Safety
		-						┢┯	indiri dalerri
	INSTR LOOP CONTAINING ICALLIP (SV/MIC)		(0360)			╋╤			
-	INSTR LOOP CONTAINING ICAFE/PS/FT/P 50	$\overline{\mathbf{n}}$	(50)0 PS	50	01 (5011) &	005	002 (5012)	┝	
	INSTR LOOP CONTAINING ICAPS/PT/P 5020	<u>~~</u> (51	1300						
	INSTR LOOP CONTAINING 1CAFE/PS/FT/P 50		DS5041 E	22	012 & DS501	1	•		
			100041, P	3	042, <u>a raio</u> 4	• •		┝	
	INSTR. LOOP CONTAINING TCAPS/PT/PG/PG	7E				╀─			
	INSTR. LOOP CONTAINING ICAPS/FI/P 50/0		10) % FTF	~	(51)1)	+			
	INSTR. LOOP CONTAINING TCAFE/FT/P 5090	(5)	20) & FT5	101		┼			
	INSTR. LOOP CONTAINING TO APE (PT/P 5100		20) & FI3						
	INSTR. LOOP CONTAINING TCAPS/PT/P 5100					┢			
	INSTR. LOOP CONTAINING TOFLT/P 5490					+		-	
	INSTR. LOOP CONTAINING ICFLIP 5500			_					
	INSTR. LOOP CONTAINING TOFLT/P 5510				<u> </u>	┼╍		<i>.</i>	
	INSTR. LOOP CONTAINING ICFLI/P 5520	_		_		_			
	INSTR. LOOP CONTAINING ICFLI/P 5530					┨			
	INSIR. LOOP CONTAINING ICFL1/P 5540	_				_			
	INSIR. LOOP CONTAINING ICFL1/P 5550			_					
1	INSIR. LOOP CONTAINING ICFLT/P 5560								
	INSTR. LOOP CONTAINING ICFLT/P 5570	_				_			
	INSTR. LOOP CONTAINING TCFLT/P 5580					_			
	INSTR. LOOP CONTAINING ICFLT/P 5590					<b> </b>			
	INSTR. LOOP CONTAINING ICFLT/P 5600								
	INSTR. LOOP CONTAINING TCFLT/P 6000	_		_			··	_	
	INSTR. LOOP CONTAINING ICFLT/P 6010								
	INSTR. LOOP CONTAINING TCFLI/P 6020								
•	INSTR. LOOP CONTAINING 1CFLT/P 6030					<u> </u>		_	
		_			····				
•									
		_		_					
						_	Included in		
	SUPPORT FOR DIESEL GENERATORS	_		_	· · · · · · · · · · · · · · · · · · ·	_	Seismic PRA	_	Non-Safety
	4160V AC SWITCHGEAR 1ETA (1ETB)						X	_	
	600V AC LOAD CENTER IELXA (IELXB)						<u> </u>		
	600V AC LOAD CENTER TELXC (TELXD)						X		
	600V AC LOAD CENTER IELXE (IELXF)			_			X	_	
	600V AC MCC IEMXA (IEMXB)						X		
	600V AC MCC 1EMXE						X		
	120V AC PANELBOARD IDG1A (1DG1B)						· X		
	125V DC PANELBOARD IEVDA (IEVDD)	L	· · ·				X	_	
	125V DC BATTERY / RACK						X		
	INVERTER						X		
	D/G CONTROL PANELS						X		
	BATTERY IEDGA (IEDGB) AND CHARGERS				_		X		
	BATTERY IEDGA (IEDGB) INPUT & OUTPUT E	BRE	AKERS			1			
	600 / 120V AC TRANSFORMER TO PANELBOAR	2D	IDGIA (II	DG	51B)	$\top$	·		
	BREAKER DG1A-2 (DG18-2)		·			$\uparrow$		<b> </b>	
	AUTO RESET RELAY ED(TRA3) (ED(TRB3))					$\top$	[		
		1			<b>-</b>	+			

<sup>Page</sup>∦ 33

• .

TABLE 4 -

SUPPORT FOR DIESEL GENERATORS (cont.)         Seismic PRA         Non-Sofely           BLACKOUT LOGIC RELAY DA(URA2)         (DA(UR82))					Γ	]	Г	Included in	F	
BLACKOUTLOGIC RELAV DALIBA2         (DALUR22)           DEFEAT TEST RELAV FB0TISA)         (FB(DTSB))           D/G START RELAV ZITRA(A)         (ZTRA(B))           DESEL STARTING AR RELAV RVG2(A)         (RVG2(B))           DESEL STARTING AR RELAV RVG2(A)         (RVG2(B))           DAD SHED RELAV ABASILI (ABUSEDI)         DESEL STARTING AR RELAV RVG2(A) (CRV2(B))           LOAD SHED RELAV ABASILI (ABUSEDI)         DEGIC TIMER RELAV FOLITA)           LOGIC TIMER RELAV FOLITA)         (FD(LT2B))           LOGIC TIMER RELAV FOLITA)         (FD(LT2B))           RELAV ALLAV ALLAV (CRVEN)         RELAV RELAV RELAV FOLITA)           RELAV ALLAV (AL) (ART(B))         RELAV SIZA(A) (ESTRB)           RELAV SIZA(A) (GST(B))         RELAV SIZA(A) (GST(B))           RELAV SIZA(A) (GST(B))         RELAV SIZA(A) (GST(B))           RELAV SIZA(A) (GST(B))         RELAV SIZA(A) (GST(B))           RELAV SIZA(A) (GST(B))<		SUPPORT FOR DIESEL GENERATORS (cont.)				1		Seismic PRA		Non-Safety
BLACKOUT LOGIC RELAY DA(IRA2) (DA(IRA2))					T		1			
DEFEAT ITST RELAY FROTSA)		BLACKOUT LOGIC RELAY DA(LRA2) (DA(LRB2)	)		Γ		1			
D/G START RELAY 2IRA(A) (ZIRA(B))		DEFEAT TEST RELAY FB(DTSA) (FB(DTSB))	Γ		Γ.		Γ			
D/G START RELAY 2TRAI(A) (2TRAI(B))		D/G START RELAY 2TRA(A) (2TRA(B))			1		1			
D/G START RELAY ZTRB(A) (ZTRB(B))		D/G START RELAY 2TRAI(A) (2TRAI(B))	-		1-		1-			
D/G START RELAY 2TRC(A)         (2TRC(B))           DIESEL STARTING AIR RELAY RVGI(A)         (RVG1(B))           DIESEL STARTING AIR RELAY RVG3(A)         (RVG3(B))           DIESEL STARTING AIR RELAY RVG3(A)         (RVG3(B))           DIESEL STARTING AIR RELAY RVG3(A)         (RVG3(B))           D/G AUTOSTART RELAY ABLSA1)         (ABLSB1)           LOAD SHED RELAY ABLSA1)         (ABLSB1)           RELAY ABLSA1         (SALSHB1)           RELAY ABLSA1         (SALSHB1)           RELAY BLSA         (ABLSB1)           RELAY STRA(A) <t< td=""><td></td><td>D/G START RELAY 2TRB(A) (2TRB(B))</td><td></td><td></td><td></td><td></td><td>f</td><td></td><td></td><td></td></t<>		D/G START RELAY 2TRB(A) (2TRB(B))					f			
DIESEL STARTING         AIR RELAY RVG1(A) (RVG1(B))           DIESEL STARTING AIR RELAY RV32(A) (RVG2(B))		D/G START RELAY 2TRC(A) (2TRC(B))		}	1	]	1-			
DIESEL STARTING AIR RELAY RVG2(A) (RVG2(B))		DIESEL STARTING AIR RELAY RVG1(A) (RVG1	ß	))	1-		1			
DIESEL STARTING AIR RELAY RVG3(A) (RVG3(B))		DIESEL STARTING AIR RELAY RVG2(A) (RVG2	2(B	))		[	-			
D/G AUTOSTART RELAY DASR(A) (DASR(B))		DIESEL STARTING AIR RELAY RVG3(A) (RVG3	B(B)	1)	$t^{-}$		1-			
LOAD SHED RELAY ABLSA1) (ABI(SB1))		D/G AUTOSTART RELAY DASR(A) (DASR(B))	Ē	<u> </u>	1-					
LOAD SHED RELAY AA(LSA2)		LOAD SHED RELAY ABILSA11 (ABILSB11)								
LOAD SHED TIMER RELAY GC(LSAR) (GC(LSB))		OAD SHED RELAY AA(ISA2) (AA(ISB2))		·····	┣─					
LOGIC TIMER RELAY FOLITIA) (FDILTIB)		LOAD SHED TIMER RELAY GOULSATI (GOULSE	30.	) )	1		┢━			
LOGIC TIMER RELAY FOLIZA) (FD(L12B)           RELAY AC(12728X)           RELAY AC(12728X)           RELAY AC(12728X)           RELAY AC(12728X)           RELAY AC(12728X)           RELAY ART(A) (ART(B))           RELAY ART(A) (ART(B))           RELAY SI(A) (ESX(A) (50 (60 (70 (70 (70 (70 (70 (70 (70 (70 (70 (7		LOGIC TIMER RELAY EDITIAL (EDITIAL)	ſ ĺ		├	<u> </u>	+			
RELAY AC(127280)		LOGIC TIMER RELAY EDILIZAL (EDILIZAL)	<b>;</b>		$\vdash$		+			
IRELAY AE(127X8X)         IRELAY AC(12/X8X)           RELAY ART(A) (ART(B))         IREAY CONTACT (ART(B))           RELAY ART(A) (ART(B))         IREAY CONTACT (ART(B))           RELAY ESX(A) (ESX(B))         IREAY ESX(A) (ESX(B))           RELAY EX(A) (ZIRA(B))         IREAY CONTACT (INTER))           RELAY EX(A) (ZIRA(B))         IREAY FC(IRA1) (FC(IRB1))           RELAY STATUS         IREAY RD(A) (RTD(B))           RELAY RD(A) (RTD(B))         IREAY STATUS           RELAY STATUS         ISTATUS           INDERVOLTAGE RELAY ACI(A)         IACA(B)           INDERVOLTAGE RELAY ACI(27/XA)         IACI(27/XA)           INDERVOLTAGE RELAY ACI(27/XA)         IACI(27/XA)           INDERVOLTAGE RELAY ACI(27/XA)         IACI(27/XA)           INSTR. LOOP CONTAINING INCONCARES         ISSATUS		RELAY AC(12778X)			<u>├</u>		┢	<i></i>		
RELAY 3CR(A) (3CR(B))	- {	RELAY AF(127XBX)			├		┢─		$\vdash$	
RELAY ART(A) (ART(B))         RELAY ART(A) (ART(B))         RELAY ESX(A) (ESX(B))         RELAY ESX(A) (ESX(B))         RELAY EXTA(A) (ZIRA(B))         RELAY FC(TRA1) (FC(TRB1))         RELAY RID(A) (ZIRA(B))         RELAY RID(A) (ZIRA(B))         RELAY RID(A) (RTD(B))         RELAY RID(A) (RTD(B))         RELAY SIA2X(A) (SIA1X(B))         RELAY SIA2X(A) (SIA1X(B))         RELAY SIA2X(A) (SIA2X(B))         RELAY SIA2X(A) (SIA4X(B))         RELAY SIA3 (SIB3)         REST RELAY EBI(RRA) (EB(RRB))         UNDERVOLTAGE RELAY AC(A) (4CA(B))         UNDERVOLTAGE RELAY AC(127ZAX) (AC(127ZBX))         UNDERVOLTAGE RELAY AD(A) (4CA(B))         UNDERVOLTAGE RELAY AD(A) (4CC(B))         REST SWITCH 4CC(A) (4CC(B))         REST SWITCH 4CC(A) (4CC(B))         REST SWITCH 4CC(A) (4CC(B))         REST SWITCH SIA1 (SIB1)         SPEED SWITCH SIA1 (SIB1)         SPEED SWITCH SIA2 (SIB2)         INSTR. LOOP CONTAINING ILDPG	-	DELAY 3CP(A) (3CP(B))	-		-					
RELAY DG JFRA (DG JFRB)		RELAY ART(A) (ART(B))			┼		┝─			
RELAY ESX(A) (ESX(B))		RELAY DGJERA (DG1ERB)	-		┼──		┢			
RELAY 2IRA(A) (2IRA(B))	l	DELAY ESY(A) (ESY(B))		•	<u> </u>		┢─		$\vdash$	
RELAY         FC(TRA1)         (FC(TRB1))           RELAY         RELAY         (RTD(B))         (RTD(B))           RELAY         RTD(A)         (RTD(B))         (RTD(B))           RELAY         STA1X(A)         (STA1X(B))         (STA1X(B))           RELAY         STA2X(A)         (STA2X(B))         (STA2X(B))           RELAY         STA2X(A)         (STA2X(B))         (STA2X(B))           RELAY         STA3X         (TSB3)         (FC(TRA1))           REST         RELAY         STA3X         (TSB3)           REST         RELAY         STA3X         (FA(RGB))           UNDERVOLTAGE         RELAY         4CA(A)         (4CA(B))           UNDERVOLTAGE         RELAY         4CA(A)         (4CA(B))           UNDERVOLTAGE         RELAY         AC(127ZAX)         (AC(127ZBX))           UNDERVOLTAGE         RELAY         AC(127ZAX)         (AC		$\frac{1}{2} \frac{1}{2} \frac{1}$	-		┢──		┢		$\vdash$	
RELAY HRA(AA)       (HRB(BB))         RELAY RTD(A)       (RTD(B))         RELAY RTD(A)       (S1A1X(B))         RELAY S1A1X(A)       (S1A1X(B))         RELAY S1A2X(A)       (S1A2X(B))         RELAY S1A2X(A)       (S1A2X(B))         RELAY S1A3X(A)       (S1A2X(B))         RELAY S1A4X(A)       (S1A2X(B))         RELAY S1A4X(A)       (S1A2X(B))         REST       (S1A2X(B))         RESTART RELAY EB(RRA)       (EB(RRB))         RESTART RELAY FA(RGA)       (FA(RGB))         UNDERVOLTAGE RELAY 4CA(A)       (4CA(B))         UNDERVOLTAGE RELAY 4DA(A)       (4DA(B))         UNDERVOLTAGE RELAY AD(1277AX)       (AC(1272BX))         UNDERVOLTAGE RELAY AC(1277AX)       (AC(1272BX))         UNDERVOLTAGE RELAY AE(127XAX)       (AE(127XBX))         UNDERVOLTAGE RELAY AE(127XAX)       (AE(127XBX))         UNDERVOLTAGE RELAY AE(127XAX)       (AE(127XBX))         UNDERVOLTAGE RELAY AE(127XAX)       (AE(127XBX))         INSTR. LOOP CONTAINING IFDLS5040       & LS041 (5050 & 5051)         INSTR. LOOP CONTAINING ILDPE/PS5120 & PS5121/5122/5123 (5130 & 5131/5132/5133)         INSTR. LOOP CONTAINING ILDPE/PS5120 & S050 (5000)       INSTR. LOOP CONTAINING ILOPE/PS5120 & S050 (5000)         INSTR. LOOP CONTAINING IVGPG/PS5040			-		<del> </del>		┢		$\vdash$	
RELAY RID(A) (RTD(B))		RELAY HRA(AA) (HRB(BB))			-		┢╴		$\square$	
RELAY SIA1X(A)       (SIA1X(B))         RELAY SIA2X(A)       (SIA2X(B))         RELAY SIA3       (TSB3)         REST RELAY ED(RRA)       (EB(RRB))         REST RELAY ED(RRA)       (EB(RRB))         UNDERVOLTAGE RELAY ACA(A)       (4CA(B))         UNDERVOLTAGE RELAY ADA(A)       (4DA(B))         UNDERVOLTAGE RELAY ADA(A)       (4DA(B))         UNDERVOLTAGE RELAY ADA(A)       (4DA(B))         UNDERVOLTAGE RELAY AD(127YAX)       (AC(127ZBX))         UNDERVOLTAGE RELAY AD(127YAX)       (AC(127ZBX))         UNDERVOLTAGE RELAY AD(127YAX)       (AC(127ZBX))         UNDERVOLTAGE RELAY AE(127XAX)       (AC(127ZBX))         RESET SWITCH 4CC(A)       (4CC(B))         RESET SWITCH 4CC(A)       (4CC(B))         RESET SWITCH EG135       Image: Comparison of the compariso		RELAY RID(A) (RID(B))					┢━╸			
RELAY SIA2X(A)       (SIA2X(B))         RELAY SIA4X(A)       (SIA4X(B))         RELAY SIA4X(A)       (SIA4X(B))         RELAY TSA3       (TSB3)         RESET       RELAY EB(RRA)         (EB(RRB))		RELAY STATX(A) (STATX(B))								
RELAY \$1A4X(A)       (\$1A4X(B))         RELAY \$5A3       (\$15B3)         REST RELAY EB(RRA)       (EB(RB))         RESTART RELAY FA(RGA)       (FA(RGB))         UNDERVOLTAGE RELAY 4CA(A)       (4CA(B))         UNDERVOLTAGE RELAY 4DA(A)       (4DA(B))         UNDERVOLTAGE RELAY 4DA(A)       (4DA(B))         UNDERVOLTAGE RELAY 4DA(A)       (4DA(B))         UNDERVOLTAGE RELAY 4DA(A)       (4DA(B))         UNDERVOLTAGE RELAY AD(127YAX)       (AC(127ZBX))         UNDERVOLTAGE RELAY AD(127YAX)       (AC(1277BX))         UNDERVOLTAGE RELAY AE(127XAX)       (AE(127XBX))         RESET SWITCH 4CC(A)       (4CC(B))         RESET SWITCH 4CC(A)       (4CC(B))         RESET SWITCH 51A1       (S1B1)         SPEED SWITCH 51A2       (S1B2)         INSTR. LOOP CONTAINING 1FDLS5040 & LS5041       (5050 & 5051)         INSTR. LOOP CONTAINING 1LDPT/PG5360       (5370)         INSTR. LOOP CONTAINING 1LDPT/PG5360       (5030)         INSTR. LOOP CONTAINING 1VGPG/PS5120 & PG/PS5050       (5060 & 5070)         INSTR. LOOP CONTAINING 1VGPG/PS5040       4C/PS5050       (5060 & 5142)         INSTR. LOOP CONTAINING 1VGPG/PS5130 & PG/PS5122       (5140 & 5142)       INSTR. LOOP CONTAINING 1VGPG/PS5130 & PG/PS5132         INSTR. LOOP CONT	1	RELAY STA2X(A) (STA2X(B))				·	-			
RELAY TSA3 (TSB3)		RELAY SIA4X(A) (SIA4X(B))	-					·	$\square$	
RESET       RELAY       EB(RRA)       (EB(RRB))         RESTART       RELAY       FA(RGA)       (FA(RGB))         UNDERVOLTAGE       RELAY       4CA(A)       (4CA(B))         UNDERVOLTAGE       RELAY       4CA(A)       (4CA(B))         UNDERVOLTAGE       RELAY       4CA(A)       (4CA(B))         UNDERVOLTAGE       RELAY       4C(127ZAX)       (AC(127ZBX))         UNDERVOLTAGE       RELAY       AC(127ZAX)       (AC(127ZBX))         UNDERVOLTAGE       RELAY       AD(127YAX)       (AD(127YBX))         UNDERVOLTAGE       RELAY       AE(127XAX)       (AE(127XBX))         RESET       SWITCH       4CC(A)       (4CC(B))         RESET       SWITCH       EG135       SPEED         SPEED       SWITCH       S1A1       (S1B1)         SPEED       SWITCH       S1A2       (S1B2)         INSTR.       LOOP       CONTAINING       ILDPG/PS5120 & PS5121/5122/5123       (5130 & 5131/5132/5133)         INSTR.       LOOP       CONTAINING       ILDPG/PS5040 & PG/PS5050       (5060 & 5070)       INSTR.         INSTR.       LOOP       CONTAINING       ILDPG/PS5040 & PG/PS5050       (5060 & 5070)       INSTR.         INSTR.		RELAY TSA3 (TSB3)			┢──				$\vdash$	
RESTART RELAY FA(RGA)       (FA(RGB))         UNDERVOLTAGE RELAY 4CA(A)       (4CA(B))         UNDERVOLTAGE RELAY 4DA(A)       (4DA(B))         UNDERVOLTAGE RELAY 4DA(A)       (4DA(B))         UNDERVOLTAGE RELAY AC(127ZAX)       (AC(127ZBX))         UNDERVOLTAGE RELAY AD(127YAX)       (AC(127ZBX))         UNDERVOLTAGE RELAY AD(127YAX)       (AC(127ZBX))         UNDERVOLTAGE RELAY AE(127XAX)       (AE(127XBX))         RESET SWITCH 4CC(A)       (4CC(B))         RESET SWITCH 4CC(A)       (4CC(B))         RESET SWITCH 51A1       (S1B1)         SPEED SWITCH 51A2       (S1B2)         INSTR. LOOP CONTAINING IFDLS5040 & LS5041       (5050 & 5051)         INSTR. LOOP CONTAINING ILDPG/PS5120 & PS5121/5122/5123       (5130 & 5131/5132/5133)         INSTR. LOOP CONTAINING ILDPG/PS5040 & PG/PS5050       (5060 & 5070)         INSTR. LOOP CONTAINING IVGPG/PS5040 & PG/PS5050       (5060 & 5070)         INSTR. LOOP CONTAINING IVGPG/PS5040 & PG/PS5050       (5060 & 5070)         INSTR. LOOP CONTAINING IVGPG/PS5040 & PG/PS5050       (5000)         INSTR. LOOP CONTAINING IVGPG/PS5040 & PG/PS5050       (5060 & 5070)         INSTR. LOOP CONTAINING IVGPG/PS5040 & PG/PS50122       (5140 & 5142)         INSTR. LOOP CONTAINING IVGPG/PS5130 & PG/PS5132       (5150 & 5152) <td></td> <td>RESET RELAY EBIRRAL (EBIRRBI)</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td>		RESET RELAY EBIRRAL (EBIRRBI)					-			
UNDERVOLTAGE RELAY 4CA(A) (4CA(B))		RESTART RELAY FAIRGAL (FAIRGRL)			<b> </b>		+-			
UNDERVOLTAGE RELAY 4DA(A) (4DA(B))		UNDERVOLTAGE RELAY (CA(A) (4CA(B))		<u> </u>	┢──		<del> </del>		$\vdash$	
UNDERVOLTAGE RELAY AC(127ZAX) (AC(127ZBX))         UNDERVOLTAGE RELAY AD(127YAX) (AD(127YBX))         UNDERVOLTAGE RELAY AD(127YAX) (AD(127YBX))         UNDERVOLTAGE RELAY AE(127XAX) (AE(127XBX))         RESET SWITCH 4CC(A) (4CC(B))         RESET SWITCH EG135         SPEED SWITCH S1A1 (S1B1)         SPEED SWITCH S1A2 (S1B2)         INSTR. LOOP CONTAINING IFDLS5040 & LS5041 (5050 & 5051)         INSTR. LOOP CONTAINING ILDPG/PS5120 & PS5121/5122/5123 (5130 & 5131/5132/5133)         INSTR. LOOP CONTAINING ILDPT/PG5360 (5370)         INSTR. LOOP CONTAINING IVGPG/PS5040 & PG/PS5050 (5060 & 5070)         INSTR. LOOP CONTAINING IVGPG/PS5120 & PG/PS5122 (5140 & 5142)         INSTR. LOOP CONTAINING IVGPG/PS5130 & PG/PS5122 (5140 & 5142)         INSTR. LOOP CONTAINING IVGPG/PS5130 & PG/PS5132 (5150 & 5152)		UNDERVOLTAGE RELAY (DA(A) (4DA(B))			┢		┝─			
UNDERVOLTAGE RELAY AD(127YAX) (AD(127YBX))		UNDERVOITAGE RELAY AC(1277AX) (AC(127	/ 77P	(XI)			┢─		-	
UNDERVOLTAGE RELAY AE(127XAX)       (AE(127XBX))         RESET SWITCH 4CC(A)       (4CC(B))         RESET SWITCH EG135		UNDERVOLTAGE RELAY AD(127YAX) (AD(127	7YF		┢─		┢──		$\vdash$	
RESET SWITCH 4CC(A) (4CC(B))       .         RESET SWITCH EG135       .         SPEED SWITCH S1A1 (S1B1)       .         SPEED SWITCH S1A2 (S1B2)       .         INSTR. LOOP CONTAINING IFDLS5040 & LS5041 (5050 & 5051)       .         INSTR. LOOP CONTAINING ILDPG/PS5120 & PS5121/5122/5123 (5130 & 5131/ 5132/ 5133)       .         INSTR. LOOP CONTAINING ILDPG/PS5120 & PS5121/5122/5123 (5130 & 5131/ 5132/ 5133)       .         INSTR. LOOP CONTAINING ILDPG/PS5120 & PS5121/5122/5123 (5130 & 5131/ 5132/ 5133)       .         INSTR. LOOP CONTAINING ILDPG/PS5120 & PS5121/5122/5123 (5130 & 5131/ 5132/ 5133)       .         INSTR. LOOP CONTAINING ILDPG/PS5120 & PG/PS5050 (5060 & 5070)       .         INSTR. LOOP CONTAINING IVGPG/PS5080 (5090)       .         INSTR. LOOP CONTAINING IVGPG/PS5120 & PG/PS5122 (5140 & 5142)       .         INSTR. LOOP CONTAINING IVGPG/PS5130 & PG/PS5132 (5150 & 5152)       .		UNDERVOITAGE RELAY AE(127XAX) (AE(127	XP	(X))	<del> </del> -		1			
RESET SWITCH EG135		RESET SWITCH ACC(A) (ACC(B))	<u> </u>		1-		┢─			
SPEED SWITCH \$1A1 (\$1B1)		RESET SWITCH EG135			┢━╸		1-			
SPEED SWITCH STA2 (S1B2)       INSTR. LOOP CONTAINING IFDLS5040 & LS5041 (5050 & 5051)         INSTR. LOOP CONTAINING ILDPG/PS5120 & PS5121/5122/5123 (5130 & 5131/5132/5133)         INSTR. LOOP CONTAINING ILDPF/PG5360 (5370)         INSTR. LOOP CONTAINING IVGPG/PS5040 & PG/PS5050 (5060 & 5070)         INSTR. LOOP CONTAINING IVGPG/PS5040 & PG/PS5050 (5060 & 5070)         INSTR. LOOP CONTAINING IVGPG/PS5040 & PG/PS5050 (5060 & 5070)         INSTR. LOOP CONTAINING IVGPG/PS5080 (5090)         INSTR. LOOP CONTAINING IVGPG/PS5120 & PG/PS5122 (5140 & 5142)         INSTR. LOOP CONTAINING IVGPG/PS5130 & PG/PS5132 (5150 & 5152)		SPEED SWITCH SIAL (SIBL)	┢╴		t		$\vdash$		$\vdash$	
State String in		SPEED SWITCH SLA2 (SLB2)	-				+			
INSTR. LOOP CONTAINING 1LDPG/PS5120 & PS5121/5122/5123 (5130 & 5131/5132/5133)         INSTR. LOOP CONTAINING 1LDPT/PG5360 (5370)         INSTR. LOOP CONTAINING 1VGPG/PS5040 & PG/PS5050 (5060 & 5070)         INSTR. LOOP CONTAINING 1VGPG/PS5080 (5090)         INSTR. LOOP CONTAINING 1VGPG/PS5120 & PG/PS5122 (5140 & 5142)         INSTR. LOOP CONTAINING 1VGPG/PS5130 & PG/PS5132 (5150 & 5152)		INSTR LOOP CONTAINING IEDI SSOUD & LSSOU	<u> </u>	5050 & S	051	<u> </u>	┝			
INSTR. LOOP CONTAINING 1LOPT/PG5380 (5370)         INSTR. LOOP CONTAINING 1VGPG/PS5040 & PG/PS5050 (5060 & 5070)         INSTR. LOOP CONTAINING 1VGPG/PS5080 (5090)         INSTR. LOOP CONTAINING 1VGPG/PS5120 & PG/PS5122 (5140 & 5142)         INSTR. LOOP CONTAINING 1VGPG/PS5130 & PG/PS5132 (5150 & 5152)			51	21/5122/51	27	(5130 & 5121	15	132/51331		
INSTR. LOOP CONTAINING 1VGPG/PS5040 & PG/PS5050 (5060 & 5070) INSTR. LOOP CONTAINING 1VGPG/PS5080 (5090) INSTR. LOOP CONTAINING 1VGPG/PS5120 & PG/PS5122 (5140 & 5142) INSTR. LOOP CONTAINING 1VGPG/PS5130 & PG/PS5132 (5150 & 5152)		INSTR LOOP CONTAINING 11 DDT 10 5340 (537	<u>m</u>		1	<u>(0100 a 0101</u>	13	102/ 0100/	$\left  - \right $	
INSTR. LOOP CONTAINING 1VGPG/PS5040 & PG/PS5030 (3000 & 3070) INSTR. LOOP CONTAINING 1VGPG/PS5120 & PG/PS5122 (5140 & 5142) INSTR. LOOP CONTAINING 1VGPG/PS5130 & PG/PS5132 (5150 & 5152)					1	9.5070	╟		$\vdash$	
INSTR. LOOP CONTAINING 1VGPG/PS5120 & PG/PS5122 (5140 & 5142) INSTR. LOOP CONTAINING 1VGPG/PS5130 & PG/PS5132 (5150 & 5152)		INSTR. LOOP CONTAINING TVOPOPSOULO & PO	5	-30000 (30			┣		$\vdash$	l
INSTR. LOOP CONTAINING 1VGPG/PS5120 & PG/PS5132 (5150 & 5152)		INSTR. LOOP CONTAINING IVERGIPSUOU (30	20/	DE6100 (F)		9.5140	·		-	
10111. LOOF CONTAINING TY OF OJF 30130 & POJF 30132 (0100 & 0102)		INSTR LOOP CONTAINING TVGPG/PS0120 & PO		DEE122 (D		9.5150	╂—		$\vdash$	
		HOR LOOP CONTAINING TVGFGJF30130 & PC		-30132 (5		a 5152)	┝		$\left  - \right $	

Poge # 34

	<del>-</del>		т –	r	<b>r</b> -		τ-	
	╇	<u> </u>	<b> </b>	ļ	_	Included in	┢	
SUFFURI FUR FW SYSIEM	╉	<b> </b>	<u> </u>		┝─	Seismic PRA	1-	Inon-salet
	╇		_		┣		┡	<u> </u>
INSTR. LOOP CONTAINING TEWLITP 5000	+	ļ	<b> </b>				╞	ļ
INSTR. LOOP CONTAINING TFWLT/P 5010	┶	ļ	<b> </b>	· · · · · · · · · · · · · · · · · · ·	<b> </b>		_	.[
INSTR. LOOP CONTAINING 1FWLT/P 5020	╇				┡	{	╞	
	+		┢					
	+	<u>}</u>	$\vdash$		┝─	}	┢╴	
	T					included in		
SUPPORT FOR KC SYSTEM	╇					Seismic PRA		Non-Safet
ALANY AC SWITCHCEAD LETA (LETB)	┢	}	╂		-	<u>├</u>	┢╌	<u> </u>
ADDV AC MCC LEMYA (LEMYR)	╋						┢╸	·
125V DC RANELBOARD JEVDA (JEVDD)	╺╂──				┣		<b>{</b>	────
DIG ACCELDATED SECUENCE DELAY 2001(AA	<u>~</u>	(200(002)				^	┢	·[
D/C ALITO DESET ALIVILLADV DELAV COTDAS	<u>4)</u>		$\frac{1}{2}$	·	⊢		┢╍	┼
DIG LOAD ACTILATE DELAV OLADAAL (OL	<u>~)</u> <u>~</u> (1)		Ť		-		$\vdash$	<u> </u>
DIC LOAD SECULENCED DELAV LEAD (1992)	$\mathcal{T}$		┢─┙				┢	<b> </b>
DIG LOAD SEQUENCER RELAT WAZ (LSB2)	4-		╂				┢─	
DIG LOAD SEQUENCER RELAT RAD (RED)				(240(4791))			┝	·{
DIG LOADING TRANSIENT ADVANCE TIMER R		AY ZADIAT	AU	(ZAU(AIBT))			┢	
D/G LOADING TRANSIENT ADVANCE TIMER I		AY 20D(AL	12)	(2BD(AIB2J)	-		┢	<u> </u>
DIG LOADING TRANSIENT ADVANCE TIMER IN		AY ZODIAT	AJ	(2CD(AIB3))		[		
DIG CONTING TRANSIENT ADVANCE TIMER H			<u>44)</u>	(20D(A164))			┢━	<u> </u>
DIG SEQUENCE TIMER RELAY GA(SI4A) (GA	AIS	140))	+				⊢	
DIG SEQUENCE TIMER RELAY GB(SIZA) (GE	<u>(01)</u>	20))	+				┢	
DIG SEQUENCE TIMER RELAY HEISTOA) (HE		(B))						·
DIG SEQUENCE TIMER RELAY HC(SIDA) (HC	<u> (SI</u>	<u>28))</u>					┣	<u> </u>
D/G IESI RELAY 2FB(ISA4) (2FB(ISB4))	╇	ļ					<u> </u>	<u> </u>
ESFAS SLAVE RELAY KOTUA (KOTUB)	┿							ļ
TEST RELAY ISAT (ISBT)	L						<u> </u>	
INSTR. LOOP CONTAINING IKCPT/P 5490 (550	<u>0</u>	L			_		L	
INSTR. LOOP CONTAINING 1KCFE/FT/P 5530 (	554	<u>))</u>			_		L	
INSTR. LOOP CONTAINING IKCFE/FT/FS/SV/P 5	<u>367(</u>	<u>) (5680)</u>	┝╌┤				┝	<b></b>
	╀	<u> </u>			-			<u> </u>
	T				F			<b></b>
	T					Included in	E	
MAIN CONTROL BOARDS	╇	<b> </b>	ļ			Seismic PRA	1_	Non-Safet
	╇		┢			X	┝─	
	┽		┢				┝	
	$\mathbf{T}$		1-				$\vdash$	<u> </u>
	T					Included in		
SUPPORT FOR NC SYSTEM	+	<b> </b>	<u> </u>		_	Seismic PRA		Non-Safety
ALANY AC SWITCHGEAD LETA (LETB)	┢						$\vdash$	<u> </u>
600V ACLOAD CENTER JELYA (JELYA)	+-	<u> </u>	<b>├</b> ─					
AMV ACTOAD CENTER IFIYO (TELXD)	╋		┢─┤		<u> </u>			<u> </u>
KOOV AC MCC 1EMXC (1EMXD)	-	<u> </u>	+				$\vdash$	
125V DC PANELROADD 15VDA (15VDD)	≁		<b>{</b>				⊢	<u>├</u>
		1	1	1				1

TABLE 4 -
TABLE	4	-
-------	---	---

		r -		-		_		_	
			L		<u> </u>		Included In		
	SUPPORT FOR NC SYSTEM (cont.)					i	Seismic PRA		Non-Safety
	ACCELERATED SEQUENCE RELAY 2CB(AA1)	(2	CB(AB1))						
	ESFAS SLAVE RELAY KOOBA (KOOBB)								
	ESG AUXILIARY RELAY BD(ESGAX1) (BD(ESG	BX	1))	Γ					
	LOAD SHED RELAY AB(LSA1) (AB(LSB1))					-			
i	MAXIMUM SEQUENCE TIMER RELAY BE(LT3A)	(B	E(LT3B))	Γ					
	RELAY 2AB(LRA4) (2AB(LRB4))								
	RELAY DC(BOA) (DC(BOB))			-		-		-	
i	RELAY DA(URA2) (DA(LRB2))								
	RELAY FC(TRA1) (FC(TRB1))								
	SEQUENCER LOAD RELAY 2CA(RA)] (2CA(RB)	m							
	SEQUENCER LOAD RELAY 2DA(RA2) (2DA(RB2	2))		$\square$	┟╼┯┅╼╌┝	-		-	
	SEQUENCER TIMER RELAY JA(ST1A) (JA(ST1B	))		f		-			
	TEST RELAY 2FB(TSA4) (2FB(TSB4))	ŕ		F	· · · · · · · · · · · · · · · · · · ·			-	
	TEST RELAY 2GB(TSA5) (2GB(TSB5))			┢──		-	•··-		
	UNDERVOLTAGE RELAY CB(127AX) (CB(127B	xn	ц <u></u> )		<u>├</u> ────			-1	
	INSTR. LOOP CONTAINING INCSV0320 & SV03	121		┢		-		-	
	INSTR LOOP CONTAINING INCSV0340 & SV03	241		<del> </del> —		-		-	
	INSTR LOOP CONTAINING INCSV0360 & SV03	361		┢──					
		ř	····	┝					w
						-			
		┢	· · · ·			-		-1	
	······································					-	Included in	-	
	SUPPORT FOR ND SYSTEM			┝		-	Soismic PDA		Non-Safety
						-	SCINITIC TRA	-	
	ALON AC SWITCHGEAR LETA (LETB)	┢		-		-			
	ADDV AC MCC IEMXA (IEMXB-1)					-			<u> </u>
	125V DC DISTRIBUTION CENTER LEVDA (LEVD	$\overline{\mathbf{D}}$				-			
	DIG 10AD ACTUATE DELAY 2EA(DAA) (2EA(D	27 78/	L			-		┥	
	DELAY DETSAA (DETSAA)			-				-	
							·	-	
		120				5	•		
	INSTR LOOP CONTAINING INDRUT SOUD (S			<u>7</u>		끠		-{	
	INSTR. LOOP CONTAINING INDEPROVAD (00		/	┝	┝━━━╋	4		$\rightarrow$	
		00,	<u></u>	┣		_		-	
	INDIK. LOUP CONTAINING INDE/FI3200 (52	ου, Γ	, 	-	·				
		┣			<u>├</u>			-	
				┞	<u> </u>	_			
	······································	┣—		⊢	<b>├</b> ───── <u></u>			_	
		$\vdash$					included in	_	
	SUPPORI FOR NI SYSTEM					_	Seismic PRA	_	Non-Safety
					L			$\square$	
	4160V AC SWITCHGEAR IETA (IETB)				L		X		
	600V AC MCC IEMXA	-		L		_	<u> </u>		
	600V AC MCC IEMXA-1						X		
	600V AC MCC 1EMXB-1						X		
	125V DC PANELBOARD 1EVDA (1EVDD)						X		
_	D/G LOAD ACTUATE RELAY 2EA(RA3) (2EA(	RB.	3))					T	
	D/G LOAD SEQUENCER RELAY RA3 (RB3)		•	Γ					
	D/G RELAY LSA1 (LSB1)				1	-		-1	

Page X 36

•

TABLE 4	-
---------	---

	<u> </u>	1	1	<b></b>	I la altrada da	~~~~	T
SUPPORT FOR ME SYSTEM (cost)	+-	<u> </u>	+			┝──	
SUFFOR FOR IN SYSTEM (CONI.)	+-	<u> </u>	+		Seismic PRA		Non-Safety
		<u> </u>	_			<u> </u>	h
D/G TEST RELAY DGISAO (DGISBO)							l
LIMIT SWITCH TO MOV INIT4/A		<u> </u>	-			<u> </u>	ļ
LIMIT SWITCH TO MOV TNIT85A (INIT84B)	+	ļ					
INSTR. LOOP CONTAINING INILT/P 5260							
INSTR. LOOP CONTAINING INILT/P 5270		<u> </u>					
							Ĺ
		<u> </u>		L			l
					Included in		
SUPPORT FOR NV SYSTEM		<u> </u>		·	Seismic PRA		Non-Safety
4160V AC SWITCHGEAR 1ETA (1ETB)					X		
600V AC MCC IEMXA					X		
600V AC MCC 1EMXB-1			Γ		X		
600V AC MCC 1EMXB-2					X		
125V DC PANELBOARD 1EVDA (1EVDD)	1		·		X		
D/G AUTO RESET RELAY ED(TRA3) (ED(TRB)	3))					_	
D/G LOAD ACTUATE RELAY 2DA(RA2) (2DA	IRB	2))				-	
D/G TEST RELAY TSA2 (TSAB)	T	Î.		[·			
CONTAINMENT HIGH PRESS, CHANNEL 2 BIST/	BLE	(ESFAS)	$\top$				
CONTAINMENT HIGH PRESS, CHANNEL 2 TRAN	VSM	ITTER (ESF.	AS)			-	
CONTAINMENT HIGH PRESS, CHANNEL 3 BIST	ABLE	(ESEAS)	T			-	
CONTAINMENT HIGH PRESS, CHANNEL 3 TRAN	JSM	ITTER (ESE	ASI			-	
CONTAINMENT HIGH PRESS CHANNEL 4 BIST		(ESEAS)	T,		-		
CONTAINMENT HIGH PRESS CHANNEL 4 TRAN	JSM	ITTER (ESE	ASI			-1	
ESFAS INPUT RELAY KI3IA (K131B)	T		Ť			-	
ESEAS INPUT RELAY KI33A (K133B)	~ -	· · · · ·				-	
ESEAS INPUT RELAY K201A (K201B)	-		+				
ESEAS INPLIT RELAY K217A (K271B)	+-		+			-	
ESEAS INPLIT RELAY K247A (K247B)	+	<u> </u>	+			-	·
ESEAS INPLIT RELAY K330A (K330B)			┿			-	<u> </u>
ESEAS INDUT DELAY KONA (KOMB)			+				
ESEAS INPLIT DELAY KAITA (KAITB)				i			
ESEAS INDUIT DELAY KARDA (KARDA)		·	+				<u> </u>
	+-	·	+				
			+			-	
				-			
ESFAS LOGIC MODULE AZISA (AZISB)	╇	<u>├</u>					
ESFAS LOGIC MODULE ASUBA (ASUBB)			_	L		_	
ESFAS LOGIC MODULE A3 13A (A3 13B)			┢	· · ·			
ESFAS LOGIC MODULE A411A (A411B)			ļ				
ESFAS LOGIC MODULE A416A (A416B)		ļ	1				
ESFAS MASTER RELAY K501A (K501B)		ļ	<u> </u>				l
ESFAS SLAVE RELAY KOOJA (KOOJB)		<u> </u>		[]			
ESFAS SLAVE RELAY KOOTA (KOOTB)							
LOW STEAMLINE PRESSURE CHANNEL 1 BISTAR	3LE	(ESFAS)					
LOW STEAMLINE PRESSURE CHANNEL 1 TRANS	SMIT	TER (ESFA	S)				
LOW STEAMLINE PRESSURE CHANNEL 2 BISTAR	3LE	(ESFAS)					
LOW STEAMLINE PRESSURE CHANNEL 2 TRANS	SMIT	TER (ESFA	S)	•			

Poge × 37

~

TABLE 4 -

	<b>—</b>	F F	-	r	<u> </u>		·	
	+-				<u> </u>	Included in	-	
SUPPORT FOR INV SYSTEM (CONT.)	┢	<u> </u>		<u> </u>	Ļ.,	Seismic PRA	_	Non-Safety
	L	L	_					
LOW STEAMLINE PRESSURE CHANNEL 4 BISTABI	E	(ESFAS)						
LOW STEAMLINE PRESSURE CHANNEL 4 TRANSI	VIIT	TER (ESFAS)						
PRESSURIZER LOW PRESSURE CHANNEL 1 BISTA	BL	E (ESFAS)						
PRESSURIZER LOW PRESSURE CHANNEL 1 TRAN	JSN	ITTER (ESFA	S	)	Γ			
PRESSURIZER LOW PRESSURE CHANNEL 2 BISTA	BL	E (ESFAS)	_				_	
PRESSURIZER LOW PRESSURE CHANNEL 2 TRAN	ISM	ITTER (ESFA	S				-	
PRESSURIZER LOW PRESSURE CHANNEL 3 BISTA	BL	E					_	
PRESSURIZER LOW PRESSURE CHANNEL 3 TRAN	ISM	ITTER (ESFA	S					
INSTR. LOOP CONTAINING INVEE/ET/SS/P 5620	8	INVET/P 56	21				-	
INSTR LOOP CONTAINING INVELIET ISS /P 5430	1.8	INVET/P 54	21		$\vdash$			
	ñ		~	·····				
	+				$\vdash$			
	┢	├ <b>───</b>						
	╀─	<u>├</u> }			$\vdash$			
	┢	┝┈──┟	_		$\vdash$	included in		
PROCESS CONTROL CABINETS			_			Selsmic PRA	_	Non-Safety
	$\vdash$	l			$\square$			
	1	l			$\square$			
						_		
						included in		
SUPPORT FOR RN SYSTEM	J					Seismic PRA		Non-Safety
	1							
4160V AC SWITCHGEAR IETA (IETB)						Х		
600V AC MCC 1EMXA	1					X	_	
600V AC MCC JEMXB-2	1		-			X		
ADDV AC MCC JEMXE		/	-			<u>``</u>		
ADON AC MCC JENAYH	+				$\vdash$	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-	
ACOV AC MCC JEMANN	+-		_		-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~	
ACTING ACTINATE	+	┝──── <u></u>	_		$\vdash$			
DOUV AC MCC ZEMAN			_					
125V DC DISTRIBUTION CENTER TEVDA (TEVL	<u>(U</u>				$\vdash$	· X		
D/G LOAD SEQUENCER RELAY ZIA(RA/) (ZIA		<u>3/])</u>	_				_	
D/G LOAD SEQUENCER RELAY LSAT (LSB)	<u> </u>	1					_	
D/G LOADING TRANSIENT ADVANCE TIMER RE	LA	Y 2ED(ATA5	)	(2ED(ATB5))				
D/G SEQUENCE TIMER RELAY HA(ST7A) (HA	<u>\(SI</u>	7B))					_	
D/G TEST RELAY 2FB(TSA4) (2FB(TSB4))		<u> </u>						
INSTR. LOOP CONTAINING IRNPG/PS5000 & S	<u>5VC</u>	<u>210.0211.0</u>	2	20,0221				
(5010 & 0250, 0251, 0260, 0261)								
INSTR. LOOP CONTAINING IRNPT/PS/P 5020 (5	503	0)	_					
INSTR. LOOP CONTAINING IRNFE/FT/P 5040 &	FT	5041 (5050	&	5051)				
INSTR. LOOP CONTAINING IRNEE/FT/P 5220 (	523	$\overline{0}$	_			· · · · · · · · · · · · · · · · · · ·	-	
INSTR LOOP CONTAINING IRNEF/FT/P 5340 &	PI	7P 5361 (53	7	1& 5371)	┢─┤		-	
	r-		-		$\vdash$			
		<u>├</u> }	-		<u> </u>			
	╋	┟────┤	_				-	
	_	<u>}</u>						
REACIOR PROTECTION SYSTEM	<b> </b>	l	_		$\square$			Non-Safety
REACTOR TRIP BREAKER A (B)			_					
REACTOR TRIP BYPASS BREAKER A (B)								
	Γ		-					

013
-----

TABLE 4 -

		Included in	<b> </b>	
SUPPORT FOR SM. SV SYSTEMS		Selsmic PRA		Non-Safet
500V AC MCC 1EMXA-2		· · · · · · · · · · · · · · · · · · ·	┝─	
SOV AC MCC IEMXB-4		X	┝─	
NSTR LOOP CONTAINING 19MSV0010 (0011) (0013) & (10010 0011		<u>^</u>		
NSTR LOOP CONTAINING ISMSV0030 (0031) (0033) & (10030 0031			-	
NSTR. LOOP CONTAINING ISMSV0050 (0051) (0053) & 110050 0051				
NSTR. LOOP CONTAINING ISMSV0070 (0071) (0073) & LL0070, 0071				
NSTR. LOOP CONTAINING ISMSV/LL/ML0090 (SV0091)				
NSTR. LOOP CONTAINING ISMSV/LL/ML0100 (SV0101)				
NSTR. LOOP CONTAINING ISMSV/LL/ML0110 (SV0111)				
NSTR. LOOP CONTAINING ISMSV/LL/ML0120 (SV0121)				
NSTR. LOOP CONTAINING ISMFE/FT/P 5000, IRCPS. FWCS (FE/FT/P 5010)	RCP	S. FWCS)		
NSTR. LOOP CONTAINING ISMFE/FT/P 5020, IRCPS, FWCS (FE/FT/P 5030,	RCP	S. FWCS)		
NSTR. LOOP CONTAINING ISMFE/FT/P 5040. RCPS. FWCS (FE/FT/P 5050.	RCP	S. FWCS)	-	
NSTR. LOOP CONTAINING ISMFE/FT/P 5060, IRCPS. FWCS (FE/FT/P 5070)	RCP	S. FWCS)	-	;
NSTR. LOOP CONTAINING SMPT/P 5080 & RCPS	T			
NSTR. LOOP CONTAINING ISMPT/P 5090 & RCPS				
NSTR. LOOP CONTAINING ISMPT/P 5100 & RCPS		·		
NSTR. LOOP CONTAINING ISMPT/P 5110 & RCPS				
NSTR. LOOP CONTAINING ISMPT/P 5120 & RCPS				
NSTR. LOOP CONTAINING ISMPT/P 5130 & RCPS				
NSTR. LOOP CONTAINING ISMPT/P 5140 & RCPS			_	
NSTR. LOOP CONTAINING 19MPT/P 5150 & RCPS			-	
NSTR. LOOP CONTAINING ISMPT/P 5160 & RCPS				
NSTR. LOOP CONTAINING ISMPT/P 5170 & RCPS				
NSTR. LOOP CONTAINING 19MPT/P 5180 & RCPS				
NSTR. LOOP CONTAINING ISMPT/P 5190 & RCPS				
			-	
		Included in		•
		Seismic PRA	-1	Non-Safe
SOLID STATE PROTECTION SYSTEM		X		
			_	
			_	
		Included in		
SUPPORT FOR VA SYSTEM - #		Seismic PRA		Non-Safe
POWER SUPPLY FOR VA SYSTEM				X
			_	
		Included in		
		Seismic PRA		Non-Safe
SUPPORT FOR VC SYSTEM - #		_ JOANNO TRA	<u> </u>	
SUPPORT FOR VC SYSTEM - #			· ·	l .
SUPPORT FOR VC SYSTEM - #			-	

Page¥ 39

TABLE	4	-
-------	---	---

			Included in	
SUPPORT FOR YC SYSTEM - #			Seismic PRA	Non-Safety
4160V AC SWITCHGEAR 1ETA (1ETB)				
4160V AC SWITCHGEAR 2ETA (2ETB)				
600V AC MCC 1EMXG				
600V AC MCC 2EMXG				
600V AC MCC 1EMXH				
600V AC MCC 2EMXH				
120V AC PANELBOARD EKA (EKB)				
120V AC PANELBOARD KXA				
				<u> </u>
# - only cursory review of these compone	nts required	1		



TABLE 5 -	
-----------	--

ELECTRICAL EQUIPMENT LIST F	OF	MCGU	IR		2 IPE	EE WALKDO	٦١	WN
	$\perp$					Included in		ļ
AREA TERMINATION CABINETS	+		+	· ·		Seismic PRA		Non-Safety
			Ţ					
			$\Box$			included in		
AUXILIARY SHUTDOWN PANEL	+					Selsmic PRA X		Non-Safet
			╀╴					
	╀		-			Included in		
SUPPORT FOR CA SYSTEM	1-					Seismic PRA		Non-Safet
4160V AC SWITCHGEAR 2ETA (2ETB)			L			X	— —	
600V AC MCC 2EMXA (2EMXB) (2EMXB-2)	<u>'</u>	L	4			X		
600V AC MCC 2EMXA-4	┶					X		
600V AC MCC 2EMXA-5			_			X		
125V DC DISTRIBUTION CENTER 2EVDA (2EV	DB)	·				<u> </u>		
125V DC PANELBOARD 2EVDA (2EVDB)			1	l		<u> </u>		
120V AC PANELBOARD 2EVKA (2EVKB) & N	<u>AAN</u>	<b>JUAL TRAN</b>	VSFI	er switc	<u>H</u>	X		
LOCAL MOTOR-DRIVEN PUMP CONTROL PA	<b>NE</b>	L				X		
LOCAL TURBINE-DRIVEN PUMP CONTROL PI	ANE	<u>l</u>				X		
ESFAS TRAIN A (B) 48V DC POWER SUPPLIES	3	ļ						
BATTERY EVCA (EVCB)		ļ	L					
BATTERY CHARGER EVCA (EVCB)	L							
DC CIRCUIT BREAKER FOR MDP2A (MDP2B)	<u>) Al</u>	JTOSTART	_					
INVERTER 2EVIA (2EVIB)								
TD PUMP RELAY HF		L						
MFW PUMP RELAY BB(A) (BB(B))								
MFW PUMP RELAY R/TT(FPTCA) (R/TT(FPTCB)	)							
MFW PUMP RELAY R/TT-1 (FPTCA) (R/TT-1 (FF	गC	B))						
RELAY R25C(A) (R25C(B))								
RELAY_K609A (K609B)								
RELAY LRAG (LRBG)								
LOAD SHED RELAY LSA1 (LSB1)								
TEST RELAY TSA2 (TSB2)			Т					
ESFAS SLAVE RELAY K633A (K633B)	Τ		Т					
ESFAS SLAVE RELAY K634A (K634B)	Τ							
ESFAS MASTER RELAY K516A (K516B)		1						
ESFAS INPUT RELAY K113A (K113B)	1	1						
ESFAS INPUT RELAY K114A (K114B)	Τ	1	$\top$			1	_	
ESFAS INPUT RELAY K121A (K121B)		T	1					
ESFAS INPUT RELAY K150A (K150B)	1	1	1					[
ESFAS INPUT RELAY K230A (K230B)	+		+				-	
ESFAS INPUT RELAY K231A (K231B)	+-		+			<u>├</u> ───────┤	_	
ESEAS INPUT RELAY K250A (K250B)	+	t	t -			<u>├</u>		<u> </u>
ESEAS INPUT RELAY K255A (K255B)	+		+	<u> </u>			-	
ESEAS INDUT DELAV KASIA (KASIB)		+	╋				<u> </u>	

TABLE 5	-
---------	---

						<u> </u>	Included in		
	SUPPORT FOR CA SYSTEM (cont.)	-		<u> </u>		F	Seismic PPA		Non-Safety
				-		+-			
	ESFAS INPUT RELAY K332A (K332B)	-		-	j	$\vdash$			
1	ESFAS INPUT RELAY K333A (K333B)	-		┢─		┢╌			
	ESFAS INPUT RELAY K334A (K334B)			+-		1-			
ļ	ESFAS INPUT RELAY K407A (K407B)	-		$\vdash$		-			
	ESFAS INPUT RELAY KAOBA (KAOBB)	-		┣		-			
	ESEAS INPUT RELAY KANDA (KANDA)					$\vdash$			
	ESFAS INPUT RELAY KAIDA (KAIDB)					<u> </u>		-	
	ESFAS LOGIC MODULE A317A (A317B)			-				-	
	D/G LOAD SEQUENCER (LOAD ACTUATE) REL	AY	2JA(RA8)	0	JA(RB8))	-			
	D/G LOAD SEQUENCER RELAY A3 (B3)			<u>`</u>					
	SG A LO-LO WATER LEVEL CHANNEL 1 BIST	AB	LE	-	·····	<u> </u>			
	SG A LO-LO WATER LEVEL CHANNEL 1 IFVE	1	TRANSMIT	ER					
	SG A LO-LO WATER LEVEL CHANNEL 2 BIST	AB	E			H			
	SG A LO-LO WATER LEVEL CHANNEL 2 LEVE	. <u></u> 1	TRANSMIT	FP		-			
1	SG A LO-LO WATER LEVEL CHANNEL 3 BIST	AR	LE			-			
	SG A LO-LO WATER LEVEL CHANNEL 3 IFVE	- <u></u>	TRANSMIT	ER	L				
	SG A LO-LO WATER LEVEL CHANNEL 4 BIST	AB	E						
1	SG A LO-LO WATER LEVEL CHANNEL 4 LEVE	EL	TRANSMIT	ER					
	SG B LO-LO WATER LEVEL CHANNEL 1 BISTA	181	E				·		
	SG B LO-LO WATER LEVEL CHANNEL 1 LEVE	L	TRANSMITT	ER					
	SG B LO-LO WATER LEVEL CHANNEL 2 BISTA	BI	E					··	
	SG B LO-LO WATER LEVEL CHANNEL 2 LEVE	L	TRANSMITT	ER					
	SG B LO-LO WATER LEVEL CHANNEL 3 BISTA	B	E						
	SG B LO-LO WATER LEVEL CHANNEL 3 LEVE	L	TRANSMITT	ER				-	
	SG B LO-LO WATER LEVEL CHANNEL 4 BISTA	BL	E						
	SG B LO-LO WATER LEVEL CHANNEL 4 LEVE	L	TRANSMITT	ER					
	SG C LO-LO WATER LEVEL CHANNEL 1 BIST	AB	LE						
	SG C LO-LO WATER LEVEL CHANNEL 1 LEVE	EL	TRANSMIT	ER					
	SG C LO-LO WATER LEVEL CHANNEL 2 BIST	AB	LE					····	
	SG C LO-LO WATER LEVEL CHANNEL 2 LEVE	EL	TRANSMIT	ER					
	SG C LO-LO WATER LEVEL CHANNEL 3 BIST	AB	LE					-	
	SG C LO-LO WATER LEVEL CHANNEL 3 LEVE	EL	TRANSMIT	ER				•	
	SG C LO-LO WATER LEVEL CHANNEL 4 BIST	AB	LE				0		
	SG C LO-LO WATER LEVEL CHANNEL 4 LEVE	EL	TRANSMIT	ER					
	SG D LO-LO WATER LEVEL CHANNEL 1 BIST	٩B	LE						
	SG D LO-LO WATER LEVEL CHANNEL 1 LEVE	L	TRANSMIT	ER				_	
	SG D LO-LO WATER LEVEL CHANNEL 2 BIST	AB	E						
	SG D LO-LO WATER LEVEL CHANNEL 2 LEVE	EL	TRANSMIT	ER					
	SG D LO-LO WATER LEVEL CHANNEL 3 BIST	٩B	LE					-	
	SG D LO-LO WATER LEVEL CHANNEL 3 LEVE	EL	TRANSMIT	ER				-	
	SG D LO-LO WATER LEVEL CHANNEL 4 BIST	AB	LE						
	SG D LO-LO WATER LEVEL CHANNEL 4 LEVE	EL	TRANSMIT	ER	· · · · · · · · · · · · · · · · · · ·				
	INSTR. LOOP CONTAINING 2CASV/MV0200, S	576	201, & SV	/02	02				
	INSTR. LOOP CONTAINING 2CASV/MV0270 (	332	20) & SV02	271	(0321)				
	INSTR. LOOP CONTAINING 2CALL/P /SV/ML05	520	(0480)						
	INSTR. LOOP CONTAINING 2CALL/P /SV/ML05	60	(0440)						
	INSTR. LOOP CONTAINING 2CALL/P /SV/ML06	00	(0400)					-	
	INSTR. LOOP CONTAINING 2CALL/P /SV/ML06	40	(0360)					-	
		_	the second s	_		_			

Page \$ 42

TABLE 5 -

1					Τ	Included in		<u> </u>
SUPPORT FOR CA SYSTEM (cont.)	-				T	Seismic PRA		Non-Sofety
	-		-	[····	F			
INSTR. LOOP CONTAINING 2CAFE/PS/FT/P 500	D	(5010), PS	50	01 (5011), & (	555	002 (5012)		
INSTR. LOOP CONTAINING 2CAPS/PT/P 5020 (	(5(	)30)			Γ		_	
INSTR. LOOP CONTAINING 2CAFE/PS/FT/P 504	10,	P\$5041, P	×55	042, & PS504	1			
INSTR. LOOP CONTAINING 2CAPS/PT/PG/P 50	50	)			Γ			
INSTR. LOOP CONTAINING 2CAPS/PT/P 5070 (	(50	)80)						
INSTR. LOOP CONTAINING 2CAFE/FT/P 5090 (	51	10) & FT5	09	1 (5111)				
INSTR. LOOP CONTAINING 2CAFE/FT/P 5100 (	51	20) & FT5	10	1 (5121)				
INSTR. LOOP CONTAINING 2CAPS/PT/P 5160					1			
INSTR. LOOP CONTAINING 2CFLT/P 5490								
INSTR. LOOP CONTAINING 2CFLT/P 5500							_	
INSTR. LOOP CONTAINING 2CFLT/P 5510							_	
INSTR. LOOP CONTAINING 2CFLT/P 5520			·					
INSTR. LOOP CONTAINING 2CFLT/P 5530								
INSTR. LOOP CONTAINING 2CFLT/P 5540							~	
INSTR. LOOP CONTAINING 2CFLT/P 5550		_		1				
INSTR. LOOP CONTAINING 2CFLT/P 5560			_					
INSTR. LOOP CONTAINING 2CFLT/P 5570	٦	· · · · ·	-		-			
INSTR. LOOP CONTAINING 2CFLT/P 5580					-		_	
INSTR. LOOP CONTAINING 2CFLT/P 5590					$\square$		_	
INSTR. LOOP CONTAINING 2CFLT/P 5600				·				
INSTR. LOOP CONTAINING 2CFLT/P 6000			-					
INSTR. LOOP CONTAINING 2CFLT/P 6010			-				-	
INSTR. LOOP CONTAINING 2CFLT/P 6020			_					
INSTR. LOOP CONTAINING 2CFLT/P 6030							-	
	-		-				_	
· · · · · · · · · · · · · · · · · · ·		•						
						Included in		
SUPPORT FOR DIESEL GENERATORS						Seismic PRA		Non-Safety
							_	
410UV AC SWITCHGEAR ZETA (ZETB)				·	┣	<u> </u>	_	
OUV AC LOAD CENTER ZELXA (ZELXB)				{	╂	X	_	
OUV AC LOAD CENIER ZELXC (ZELXD)				·	$\vdash$	X	_	
OUV AC LOAD CENIER ZELXE (ZELXF)	_					X		
OUV AC MCC 2EMXA (2EMXB)					╞	X	_	
OUUV AC MCC ZEMXE			L	ļ	<u> </u>	X		
12UV AC PANELBOARD 2DG2A (2DG2B)					_	<u>X</u>		
125V DC PANELBOARD 2EVDA (2EVDD)						X		
125V DC BATTERY / RACK			L			X	_	
INVERIER				ļ		X		
D/G CONTROL PANELS		L	-			X		
BATTERY 2EDGA (2EDGB) AND CHARGERS		L		L	<u> </u>	X		
BATTERY 2EDGA (2EDGB) INPUT & OUTPUT B	IRE	AKERS		L				
600 / 120V AC TRANSFORMER TO PANELBOAR	D	2DG2A (2	DG	52B)				
BREAKER DG2A-2 (DG2B-2)	_							
AUTO RESET RELAY ED(TRA3) (ED(TRB3))		L						
BLACKOUT RELAY DC(BOA) (DC(BOB))								
BLACKOUT LOGIC RELAY DA(LRA2) (DA(LRB2))	)							

Page \$ 43

•

TABLE 5	٠
---------	---

							Included in		]
	SUPPORT FOR DIESEL GENERATORS (cont.)						Seismlc PRA	-	Non-Safety
						-			
Š	DEFEAT TEST RELAY FB(DTSA) (FB(DTSB))								
	D/G START RELAY 2TRA(A) (2TRA(B))			<b> </b>		-			
	D/G START RELAY 2TRA1(A) (2TRA1(B))			-		-			
1	D/G START RELAY 2TRB(A) (2TRB(B))	-		<b> </b>		<u> </u>			
	D/G START RELAY 2TRC(A) (2TRC(B))								
	DIESEL STARTING AIR RELAY RVG (A) (RVG)	(B)	)						
	DIESEL STARTING AIR RELAY RVG2(A) (RVG2	2(8)	)			-			
	DIESEL STARTING AIR RELAY RVG3(A) (RVG3	SIB	)	-	<u></u>				{
	D/G AUTOSTART RELAY DASR(A) (DASR(B))			-					
	LOAD SHED RELAY ABILSAIL (ABILSBIL)								
	LOAD SHED RELAY AAILSA2) (AAILSB2))				<u> </u>				
	LOAD SHED TIMER RELAY GC(LSAT) (GC(LSE		)						
	LOGIC TIMER RELAY EDILITIAL (EDILITIB)		····						
	LOGIC TIMER RELAY ED(112A) (ED(112B))	_				-			
	RELAY AC(1277BX)								
i	RELAY AF(127XBX)			-				-	
	$\frac{\text{REG}(1) + \text{REG}(2)}{\text{REG}(2)} = \frac{(3 \cap R(B))}{(3 \cap R(B))}$			-				-	
ĺ	PELAV APT(A) (APT(B))								
	RELAY DG1ERA (DG1ERB)			-	**************************************				
	RELAY ESX(A) (ESX(B))	Η							
	$\frac{1}{2} \frac{1}{2} \frac{1}$								
	RELAY EC(TRA1) (EC(TRB1))								
	RELAY HRA(AA) (HRB(BB))								
	RELAY RID(A) (RID(B))			-					
	RELAY STATX(A) (STATX(B))			-	····				
	RELAY \$1A2X(A) (\$1A2X(B))					-			
	RELAY SIA4X(A) (SIA4X(B))					_		-	
	RELAY TSA3 (TSB3)							_	
	RESET RELAY EB(RRA) (EB(RRB))			-					
	RESTART RELAY FAIRGAL (FAIRGBI)							_	
	UNDERVOLTAGE RELAY 4CA(A) (4CA(B))								
	UNDERVOLTAGE RELAY 4DA(A) (4DA(B))				······································			-	
	UNDERVOLTAGE RELAY AC(127ZAX) (AC(127	ZB	X))						
	UNDERVOLTAGE RELAY AD(127YAX) (AD(127	YE	X))						
	UNDERVOLTAGE RELAY AE(127XAX) (AE(127	'XE	X))	-					
	RESET SWITCH 4CC(A) (4CC(B))			-	· · · · · · · · · · · · · · · · · · ·	-		-	{
	RESET SWITCH EG135			-		-			
	SPEED SWITCH S2 A2 (S2 B2)					-			
	SPEED SWITCH S2 A2 (S2 B2)		· · ·						
	INSTR. LOOP CONTAINING 2FDLS5040 & LS504		5050 8 5	151	)	$\vdash$		-	
	INSTR. LOOP CONTAINING 21 DPG/PS5120 & PS	512	21/5122/51	23	(5130 & 5131	15	132/ 5133)		
	INSTR. LOOP CONTAINING 2LDPT/PG5360 (537	0)	.,	Ē		Ē			
	INSTR. LOOP CONTAINING 2VGPG/PS5040 & PO	G/I	P\$5050 (50	50	& 5070)			-	
	INSTR. LOOP CONTAINING 2VGPG/PS5080 (50	90)				<u>├</u> ─-		-	
	INSTR. LOOP CONTAINING 2VGPG/PS5120 & PC	G/I	25122 (5)	40	& 5142)				[
	INSTR LOOP CONTAINING 2VGPG/PS5130 & PC	<u>~/'</u>	255132 (51	50	8 5152)				
		Ē"					·	-	
	······································				<u> </u>	$\vdash$			
		L I		F		F İ			

Poge¥ 44

n

**%18** 

						Included in		
SUPPORT FOR FW SYSTEM						Seismic PRA		Non-Safety
INSTR. LOOP CONTAINING 2FWLT/P 5000	L							
INSTR. LOOP CONTAINING 2FWLT/P 5010					_	· · · · · · · · · · · · · · · · · · ·		
INSTR. LOOP CONTAINING 2FWLT/P 5020	Ļ							
			_				<u>.</u>	
·	1						_	L
······	<b> </b>		_		_			
	1_					Included in		
SUPPORT FOR KC SYSTEM	+					Selsmic PRA	_	Non-Safet
			_				_	
410UV AC SWITCHGEAR ZEIA (ZEIB)						X		
OUV AC MCC 2EMXA (2EMXB)	╞		_			X	_	
125V DC PANELBOARD ZEVDA (ZEVDD)	ľ.					X		
DIG ACCELIKATED SEQUENCE RELAY 208(AA	<u>()</u>	(2DB(AB2))						
DIG AUTO RESEL AUXILIARY RELAY CC(TRA3)	<u>v</u>	ICC(IRB3X	ຶ					Ļ
DIG LOAD ACTUATE RELAY 2HA(RAG) (2H)	<u>4(R</u>	60)) ·						
DIG LOAD SEQUENCER RELAY LSAZ (LSB2)	┢	┝────┦	_					
DIG LOAD SEQUENCER RELAY RAG (RBG)		VOADUT	Ļ	(040(470)))				
D/G LOADING TRANSIENT ADVANCE TIMER R		Y 2AD(ATA	$\frac{1}{2}$	(2AD(A181))		·		
D/G LOADING TRANSIENT ADVANCE TIMER R		Y 2BDIAIA	2)	(2BU(AIB2J)				·
D/G LOADING TRANSIENT ADVANCE TIMER R		V 20DIATA	(3)	(2CD(AIB3))	_			<u> </u>
DIG LOADING TRANSIENT ADVANCE TIMER R			4)	(200(A184))				
DIG SEQUENCE TIMER RELAT GA(ST4A) (GA	1() (CT							
DIG SEQUENCE TIMER REDAT (GD(STZA) (GD	CTA		_					
DIG SEQUENCE TIMER RELAT HO(STOA) (HO	310 (CT		-					
DIG TEST DELAY PERITSAAL (PERITSAAL)	T		_				-	
$\frac{D}{3} = \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}$	┢━						_	
TEGT DELAY TOAL (TOBL)	┢						_	
	<u>۳</u>		-					
INSTR. LOOP CONTAINING 2KCF1/F 5470 (000	51	<u> </u>	_			·		
INSTR. LOOP CONTAINING 2KCFE/FT/FS/SV/P5	A70	/548m	-					
INSIN: EOOF COMAINING ERCIE/11/15/54/F S	T	(3000)		······································				
	┢─		-				_	
·	+-					Included in		<del>_</del>
MAIN CONTROL BOARDS	$\vdash$					Seismic PPA		Non-Safet
	+					X		rion-seller
	+	ł	-			^		
	+		_					<u> </u>
	┢╌	·						<del>-</del>
	+				-	Included in		
SUPPORT FOR NC SYSTEM	+	┝━───┤				Selsmic PDA		Non-Safet
	$\uparrow$		_					
4160V AC SWITCHGEAR 2ETA (2ETB)	┢					x		·
600V AC LOAD CENTER 2FLXA (2FLXB)	+					<u> </u>		
600V AC LOAD CENTER 2FLXC (2FLXD)	┢─							
600V AC MCC 2EMXC (2EMXD)	┢	┟╍───┤				x		
	+			·····			Ļ	<u> </u>

Page \$ 45

TABLE 5 -

.

TABLE 5 -

			1	Т	Included in		
SUPPORT FOR NC SYSTEM (cont.)				$\top$	Seismic PRA		Non-Satety
	-		1	1			
ESFAS SLAVE RELAY KOO8A (KOO8B)		[·		1			
ESG AUXIUARY RELAY BD(ESGAX2) (BD(ESGI	BX	2))	1	$\top$			
LOAD SHED RELAY AB(LSA2) (AB(LSB2))							
MAXIMUM SEQUENCE TIMER RELAY BE(LT3A)	(B	E(LT3B))		+			
RELAY 2AB(LRA4) (2AB(LRB4))							
RELAY DC(BOA) (DC(BOB))			1	1-			
RELAY DA(LRA2) (DA(LRB2))				1			
RELAY FC(TRA2) (FC(TRB2))				+		-	
SEQUENCER LOAD RELAY 2CA(RA2) (2CA(RB2	$\overline{m}$		<u> </u>	+			<b>*</b>
SEQUENCER LOAD RELAY 2DA(RA2) (2DA(RB2	$\overline{\mathbf{n}}$			+			***_,. <u></u>
SEQUENCER TIMER RELAY JA(ST2A) (JA(ST2B)	<u>"</u>	├		+			
TEST RELAY 2EB(TSA4) (2EB(TSB4))				+		-	
TEST RELAY 2GB(TSA5) (2GB(TSB5))	-	<u>├</u> ────┤~	1	+			
UNDERVOLTAGE RELAV CR(127AX) (CR(127R	XII	¦{		+			
INSTR LOOP CONTAINING 2NCSV0320 & SV03	21	╧╼╾╾╼╁╾	<b> </b>	+			
INSTR LOOP CONTAINING 2NCSV0340 & SV03		<del></del>		┽╌			
INSTR LOOP CONTAINING 2NCSV0340 & SV03						-	
INSTIC COOP CONTAINING ZINCOVOCO & STOD				+			
		├ <u>──</u> ─	<u> </u>	╉─		-	
				╋			~ <u>.</u>
		┟┅ <u>──</u> ─┤-•		+-	Included in	-	
SUDDODT FOD ND SYSTEM			+	╋	Solimia PDA	-1	Non Safah
	-			+	SEBILIC PRA	_	1001-30101
ALAON AC SUMTCHICEAR OFTA (DETR)	-	┠────┼─		+			
4100V AC SWITCHGEAR ZEIA (ZEIB)	-	┝┉───┼┙	· <u> </u>	+-		-	
						-	
125V DC DISTRIBUTION CENTER ZEVDA (ZEVDI				╋	·		
DIG LOAD ACTUATE RELAY ZFARA4) (ZFAR	04	<u>"</u>	<u> </u>	+		-	
RELAY DEISAO (DEISBO)				+		_	
RELAY LOAD (LOB2)						_	
INSTR. LOOP CONTAINING 2NDRU/P 5000 (51		D & 2NDRD	1P /CR5000 (50	<u>)/()</u>	·	_	
INSTR. LOOP CONTAINING 2NDFE/FS5040 (50	$\frac{1}{20}$	2		₋			
INSTR. LOOP CONTAINING 2NDPI/P 5090 (50	80	2		+-			
INSTR. LOOP CONTAINING 2NDFE/F15250 (520	60	}		4-			
				+			
			<u> </u>				
	L_	<b>├</b> ──── <b>├</b>	+	4_			
		ļ		_[	Included in		
SUPPORT FOR NI SYSTEM					Seismic PRA		Non-Safety
			•				
4160V AC SWITCHGEAR 2ETA (2ETB)					X		
600V AC MCC 2EMXA					X		
600V AC MCC 2EMXA-1					X		
600V AC MCC 2EMXB-1		[]-			X		
125V DC PANELBOARD 2EVDA (2EVDD)			1		X		<u></u>
D/G LOAD ACTUATE RELAY 2EA(RA3) (2EA(F	<b>₹</b> 8.	3))	1		<u> </u>		<u></u>
D/G LOAD SEQUENCER RELAY RA3 (RB3)			1	1-		-	
D/G RELAY LSA2 (LSB2)				+-			
DIG TEST RELAY DGTSAA (DGTSBA)	┢	├────	<u> </u>	+-		-	
	L	1 1	1	1			

Page ¥ 46

TABLE 5 -

1		<b>T</b>		<b>T</b>	· · · · · · · · · · · · · · · · · · ·			
		L	L	L		Included In	⊥	
1	SUPPORT FOR NI SYSTEM (cont.)			L		Seismic PRA		Non-Safety
		L		L				
	LIMIT SWITCH TO MOV 2NI147A			Γ			Т	
	LIMIT SWITCH TO MOV 2NI185A (2NI184B)					· · · · · · · · · · · · · · · · · · ·	T	
	INSTR. LOOP CONTAINING 2NILT/P 5260		· · · · · · · · · · · · · · · · · · ·				$\top$	1
	INSTR. LOOP CONTAINING 2NILT/P 5270			<u> </u>			┢	
1				1			+	(
		F		-			+	<u> </u>
	· ·			┢─			+	l
				<u> </u>		Included in	+	
	SUPPORT FOR NIV SYSTEM					Soiemic PDA	┿	Non-Safety
i						JOBSITIC TICK	╉──	I TO FOUNDIN
	ATAIN AC SWATCHCEAD 2ETA (2ETB)					-		
	ACOV AC SWICHGEAR ZEIA (ZEIB)	-					┼╍	<u> </u> ]
	ACOV AC NICC ZENIAA	$\vdash$			·-		┢	<u>↓</u> ]
	COUV AC NICC ZEMAD-1					<u> </u>	+	
	OULV AC MUL ZEMAB-Z					×	┢	<b></b>
	125V DC PANELBOARD ZEVDA (ZEVDD)	Ļ		<u> </u>		X	+	<b>.</b>
	D/G AUIO RESET RELAY ED(IRA3) (ED(IRB3)	)		-			┢	·
	D/G LOAD ACTUATE RELAY 2DA(RA2) (2DA(	882	2))				_	
	D/G TEST RELAY TSA2 (TSAB)							
	CONTAINMENT HIGH PRESS. CHANNEL 2 BISTAE	BLE	(ESFAS)				1-	
	CONTAINMENT HIGH PRESS. CHANNEL 2 TRANS	SMI	TTER (ESFA	<u>\S)</u>				
	CONTAINMENT HIGH PRESS. CHANNEL 3 BISTAE	BLE	(ESFAS)					
	CONTAINMENT HIGH PRESS. CHANNEL 3 TRANS	<u>SM</u>	TTER (ESF/	<b>(</b> S)				
	CONTAINMENT HIGH PRESS. CHANNEL 4 BISTAE	BLE	(ESFAS)					
	CONTAINMENT HIGH PRESS. CHANNEL 4 TRANS	SM	TTER (ESFA	S)				
	ESFAS INPUT RELAY K131A (K131B)							
	ESFAS INPUT RELAY K133A (K133B)				, ,		-	
	ESFAS INPUT RELAY K201A (K201B)						-	
	ESFAS INPUT RELAY K217A (K271B)			Γ		1	T	
	ESFAS INPUT RELAY K247A (K247B)						Ť	
	ESFAS INPUT RELAY K330A (K330B)	_					+	
	ESEAS INPUT RELAY K344A (K344B)			-				
	ESEAS INPLIT RELAY KAITA (KAITB)							
	ESEAS INPUT RELAY K430A (K430B)			┝─			+	<u>├</u> [
	ESEAS INDUT DELAY KAAAA (KAAAB)						+	[
							┾	<u>  </u>
		$\vdash$					┢	<u></u> {
	ESFAS LOGIC MODULE AZISA (AZISB)						╞	<u> </u>
	ESFAS LOGIC MODULE AJUBA (AJUBB)			<u> </u>			⊢	·
	ESFAS LOGIC MODULE ASTSA (ASTSB)						1	·
	ESFAS LOGIC MODULE A4TTA (A4TTB)	<b> </b>					$\bot$	
	ESFAS LOGIC MODULE A416A (A416B)							
	ESFAS MASTER RELAY K501A (K501B)	L		h		· ·		
	ESFAS SLAVE RELAY K603A (K603B)							
	ESFAS SLAVE RELAY K607A (K607B)							
	LOW STEAMLINE PRESSURE CHANNEL 1 BISTABL	E	(ESFAS)				Τ	
	LOW STEAMLINE PRESSURE CHANNEL 1 TRANSM	ЛП	ER (ESFAS	;)			$\top$	
	LOW STEAMLINE PRESSURE CHANNEL 2 BISTABL	E	(ESFAS)	ŕ			$\top$	<u>†</u>
	LOW STEAMLINE PRESSURE CHANNEL 2 TRANSP	AIT	ER (ESFAS	5)			$\uparrow$	†
-	LOW STEAMLINE PRESSURE CHANNEL 4 BISTABL	E	(ESFAS)	ŕ			$\uparrow$	<u> </u> ]

Poget 47

TABLE 5 -

		-		_				_	
							Included in		
SUPPORT FOR NV SYSTEM (cont.)						<u> </u>	Seismic PRA		Non-Safety
		Т		Ţ		Γ			
LOW STEAMLINE PRESSURE CHANNEL 4 TRANS	MIT	ΠĒ	R (ESFAS)	1		1			
PRESSURIZER LOW PRESSURE CHANNEL 1 BIST	ABL	E	(ESEAS)	1	· · · · · · · · · · · · · · · · · · ·	$\vdash$			
PRESSURIZER LOW PRESSURE CHANNEL 1 TRAI	NSA	<u></u>	TTER IESEAS	รื		┢			
PRESSURIZER LOW PRESSURE CHANNEL 2 BIST		۲ ۲	(ESEAS)	ή		┢╌			
DDESSUDITED LOW PRESSUDE CHANNEL 2 DAT	NICA	in the second second	TED (ESEAS	ц Ц		-		-	
DESCLIDITED LOW PRESSURE CHANNEL 2 IRA	ADI	2	(ESEAS)	ž		┢		_	
DESCUDITED LOW PRESSURE CHANNEL 3 DAI			(ESFAS)	1		╟──			
INSTR LOOD CONTAINING 2NIVER IT ISS ID 5420	D P.	2	NIVET ID 5401	<u>1</u> 1		$\vdash$			
INSTR. LOOP CONTAINING 2NVFE/F1/SS/P 3021	$\frac{1}{2\alpha}$	21	NVFI/P SOZ	1 -	<u> </u>	┢─		_	
INSTR. LOOP CONTAINING 2NVFE/FT/55/P 3031	<u>18</u>	-21	NVF1/P 203	Ļ	·····	ļ		_	
	╇	∔		4		<b> </b>			
	┶	1		1		<u> </u>			
							Included in		
PROCESS CONTROL BOARDS		L					Seismic PRA		Non-Safety
		T		T					
	Т	Т		T		Г		_	
	1	Т		t					
	$\top$	T		t		1-	Included in	_	
SUPPORT FOR RN SYSTEM		$^{+}$		1		-	Seismic PRA	_	Non-Safet
	-[-	+		†			00001180 1101	-	
ALADY AC SWITCHCEAD 2FTA (2FTB)	+	+		╉		$\left -\right $			
AMY AC MCC 2EMYA		╋		╉		┢─	├		
ACOV AC MICC 200XA	+	╋		╉		┢─	<del>;</del>	-	
		╋		╉		╂		-	
OUDY AC IVICC ZEIVIXE		+-		+			<u> </u>	_	
OUUV AC MCC ZEMXH				╉		<b> </b>	X		
OUV AC MCC 2EMXH-1	╾┼─╴	╞		4		<b> </b>	<u> </u>		
600V AC MCC 2EMXH		╇		4			X X		
125V DC DISTRIBUTION CENTER 2EVDA (2EVI	<u>(OC</u>	<u>/</u> _		1		L	X		
D/G LOAD SEQUENCER RELAY 2IA(RA7) (21/	<u> 4(R</u> f	<u>B7</u>	<u>'))  </u>	1					
D/G LOAD SEQUENCER RELAY LSA2 (LSB2)									
D/G LOADING TRANSIENT ADVANCE TIMER R	ELA	٩Y	2ED(ATA5)		(2ED(ATB5))				
D/G SEQUENCE TIMER RELAY HA(ST7A) (H.	A(ST	17	'B))	T					
D/G TEST RELAY 2FB(TSA4) (2FB(TSB4))	T	Т		T					
INSTR. LOOP CONTAINING 2RNPG/PS5000 &	SVC	02	10.0211.02	$\dot{z}$	20.0221	<b>—</b>			
(5010 & 0250, 0251, 0260, 0261)	T	Ť		T		┢			
INSTR LOOP CONTAINING 2RNPT/PS/P 5020 (	503	ភា	<u> </u>	1		<u>├</u> ──		-	
INSTR LOOP CONTAINING 2PNEE/ET/P 5040 &		r v	M1 (5050 8	1	5051)	$\vdash$	·	-	
INSTR. LOOP CONTAINING 2001EE/ET/D 5220	507	50		Ť	30017	┝			
INSTR. LOOP CONTAINING 2RNFE/FI/P 5220 (	020			1	0 52712	-			
INSTR. LOOP CONTAINING ZRNFE/FI/P 5300 8	<u>י או</u>	Ψ	P 5301 (53/	Ч Т	18 53/1)			_	
		∔		1		L			
		╇				L			
		L					included in		
REACTOR PROTECTION SYSTEM		I		J	•		Seismic PRA		Non-Safety
	Т	T		T					
REACTOR TRIP BREAKER A (B)	T	T		1	· · · · · · · · · · · · · · · · · · ·	Γ		1	
REACTOR TRIP BYPASS BREAKER A (B)	+	T		1	······································	<b>—</b>			
	-	+		1		1		-	
······································		╋		+		┢			
	+	╋		┥		┢	├────┤		
	1.	1.		1		í I			i

Poge \$ 48

•

TABLE	5	-
-------	---	---

	Γ	<u> </u>			-1-	Included in	ſ	
· SUPPORT FOR SM, SV SYSTEMS				· · · · · · · · · · · · · · · · · · ·		Selsmic PRA		Non-Safet
600V AC MCC 2EMXA-2						X		·
600V AC MCC 2EMXB-4						X		
INSTR. LOOP CONTAINING 25MSV0010 (0011),	. (0	013) & LLOC	110	,0011				
INSTR. LOOP CONTAINING 25MSV0030 (0031),	(0	033) & ШОС	)30	. 0031				
INSTR. LOOP CONTAINING 25MSV0050 (0051).	0	053) & LLOC	50	,0051				·
INSTR. LOOP CONTAINING 25MSV0070 (0071),	0)	073) & LLOC	)70	,0071				
INSTR. LOOP CONTAINING 2SMSV/LL/ML0090	(S	V0091)						
INSTR. LOOP CONTAINING 2SMSV/LL/ML0100	<u>(S</u>	V0101)						
INSTR. LOOP CONTAINING 25MSV/LL/ML0110	<u>(S</u>	V0111)						L
INSTR. LOOP CONTAINING 2SMSV/LL/ML0120	(\$	V0121)		L				
INSTR. LOOP CONTAINING 2SMFE/FT/P 5000,	R	CPS, FWCS	(F	E/FT/P 5010,	RCP	S, FWCS)		
INSTR. LOOP CONTAINING 2SMFE/FT/P 5020,	R	CPS, FWCS	(	E/FT/P 5030,	RCP	S, FWCS)		
INSTR. LOOP CONTAINING 25MFE/FT/P 5040,	R	CPS, FWCS	(ł	E/FT/P 5050,	RCP	S, FWCS)		
INSTR. LOOP CONTAINING 25MFE/FT/P 5060,	R	CPS, FWCS	(	E/FT/P 5070,	RCP	S, FWCS)		
INSTR. LOOP CONTAINING 25MPT/P 5080 & F	<u>RC</u>	2S						
INSTR. LOOP CONTAINING 2SMPT/P 5090 & F	<u>SC</u>	25					L	
INSTR. LOOP CONTAINING 2SMPT/P 5100 & F	<u>25</u>	PS					L	
INSTR. LOOP CONTAINING 2SMPT/P 5110 & F	<u>SC</u>						L	
INSTR. LOOP CONTAINING 2SMPT/P 5120 & F	SC	PS					L	
INSTR. LOOP CONTAINING 2SMPT/P 5130 & F	2S	PS					L	
INSTR. LOOP CONTAINING 25MPT/P 5140 & F	<u> XC</u>	PS					L	L
INSTR. LOOP CONTAINING 2SMPT/P 5150 & F	<u>SC</u>	PS						
INSTR. LOOP CONTAINING 2SMPT/P 5160 & F	SC	PS			·			L
INSTR. LOOP CONTAINING 2SMPT/P 5170 & F	SC	P\$					L	L
INSTR. LOOP CONTAINING 2SMPT/P 5180 & F	SC	PS					L	
INSTR. LOOP CONTAINING 2SMPT/P 5190 & F	<u>SC</u>	PS						
			_					ļ
				·			-	ļ
· · · · · · · · · · · · · · · · · · ·							_	
						Included in	L	
SOLID STATE PROTECTION SYSTEM	ļ					Seismic PRA	L	Non-Safe
		1				X		

02A

TABLE	6 -
-------	-----

CONTAINMENT PERFORMANCE COMPONENT LIST FOR MCGUIRE UNIT 1													
	IPE	EE WA	LK	DOWN									
							-						
CONTAINMENT ISOLATION VALVES		Penetr.					Val	ve Pos	tion				
AND PENETRATIONS		No.		Valve No.		Line Size (in.)	Norm.	Fail	Acc.				
	<u> </u>						l						
UPPER COMPARIMENT PURGE INLET	┝╼╍┝╴	M367		IVPIB		24		C	C				
UPPER COMPARIMENT PURGE INLET	-+	M30/				24		<u> </u>	C				
	┝─┼╸	M454	_			24			<u> </u>				
		M454		IVP4A		24		<u> </u>	<u> </u>				
LOWER COMPARIMENT PURGE INLET	$\vdash$	IVI30/				24							
	┝─┝	_IVIJO7				24							
LOWER COMPARTMENT PURGE INLET		10/400 M//56		11/200		24			- <u>&gt;</u>				
CONTAINMENT DI DEE EYLALIST	┝╼┝╸	BAENA		11/0100		24							
	┝╼┼╴	BASENA		1/0118		24							
CONTAINMENT PIDCE EXHAUST	<u>├</u> {	NA65		1/0120		24		č					
	┝╼┼╸	M455		11/0138		24			<u> </u>				
	┝╌╋╸	M110		1VP156		24			- <u>~</u> -				
CONTAINMENT PURGE		M110				24			7				
INCORE INSTR. ROOM PURGE IN	┝╍╊╸	M213		1\/P17A		12	-č	<del>c</del>					
ICORE INSTR. ROOM PURGE IN		M213				12	-č	Č	-č-				
SORE INSTR. ROOM PURGE OUT		M138		1VP19A		24	C C	č	č				
ORE INSTR. ROOM PURGE OUT		M138		1VP20B		24	č	C	c				
CONTAINMENT AIR RELEASE		M243				6	Ċ	C	č				
CONTAINMENT AIR RELEASE		M243		1VQ2B		6	C	Č	Č				
CONTAINMENT AIR ADDITION		M384		1VQ5B		6	С	C	C				
CONTAINMENT AIR ADDITION		M384		1VQ6A		. 6	С	С	C				
CONT. VENT UNITS COND. DRAINS TO DRN. TK.		M221		1WL321A		6	0	AI	С				
CONT. VENT UNITS COND. DRAINS TO DRN. TK.		M221		1WL322B		· 6	0	AJ	С				
EQUIPMENT HATCH		*******											
UPPER CONTAINMENT PERSONNEL HATCH		C392											
LOWER CONTAINMENT PERSONNEL HATCH		C152											
	ΓT												
PERSONNEL AIR LOCK INFLATABLE DOOR SEALS	(INC	LUDING	AIR	SUPPLY SYSTEM	5								
PERSONNEL AIR LOCK 208 V LINEAR ACTUATOR	DO	OR LATCI	HES		İ.								
600V AC MCC IEMXA													
600V AC MCC IEMXB													
125V DC PANELBOARD 1EVDA													
125V DC PANELBOARD 1EVDB													
125V DC PANELBOARD 1EVDD													
120V AC PANELBOARD IEKVA													
120V AC PANELBOARD JEKVD													
							1						

TABLE 6 -

					<u> </u>	· · · · · · · · · · · · · · · · · · ·			
("B' train components are shown in parenthese	<u>s.</u>	<u>A detailed</u>	W	<u>alkdown of the</u>	se	components is i	<u>not</u>		
essary if the 'B' train configuration is similar	to t	he 'A' train	).)					·[	
	<b>—</b>	]		1	1	· ·	1	1	
HYDROGEN MITIGATION SYSTEM				······	+		-#	1	+
	┢──	<u> </u>	┢──	· · · · · · · · · · · · · · · · · · ·	╀		-∦	·	
	┣—		┣		┢		· <b> </b>		
GLOW PLUG IGNITERS	<b></b>							ļ	<u> </u>
							ŀ		
600V AC MCC 1EMXA (1EMXB)								Γ	
TRANSFORMER HMTA (HMTB)		1			$\square$	1	1		1
TRANSFORMER 1EMXA (1EMXB)					$\square$			1	<u> </u>
					╋		-{}	·	+
				<u> </u>					┿───
······································			<u> </u>	ļ	-		<u> </u>	<u> </u>	<b></b>
								· ·	
ICE BASKETS & DOORS				ł					
								T	1
					<u>†</u>		╢────		†
			$\vdash$						
	$\square$				-		<u>   </u>	<u> </u>	<del> </del>
		LINE		inciuded in	<b> </b>		∦	<u> </u>	
NS SYSIEM		Sze (in.)		Seismic PRA			<u>  </u>	L	1
							JI		
NS PUMP 1A (1B)		·		X	Γ			1	1
NS HX 1A (1B)				· X	1		1		1
			<u> </u>		┢			<u>}</u>	1
	<b>├</b>			·		<u> </u>	#	<u> </u>	<b></b>
4100V AC SWITCHGEAR TETA (TETB)	$\square$				<b> </b>	<u> </u>		<b></b>	┥
AUV AC MCC TEMXA (TEMXB)									
25V DC PANELBOARD 1EVDA (1EVDD)									
									}
		•			1		1		1
						<u> </u>	1		<del> </del>
		1100		Included in	-		·}		┼───
				inciuded in			∦	<b> </b>	
VX SYSIEM		Size (in.)		Seismic PRA			l		
					·			·	
AIR-OP DAMPER 1RAF-D-5 (-8)									
······································						· ·			1
AIR-OP DAMPER IRAF-D-6 (-9)					-				<u>+</u>
AID OD DAMPED 1045-D-7 (-10)			-			<u> </u>	╢────		╉────
AIR-OF DAMPER TRAF-D-7 (-TU)							-∥	ļ	
MOTOR-OP ISOLATION DAMPER TRAF-D-2 (-4)							<u>  </u>		
CONTAINMENT AIR RETURN FAN 1A (1B)				X	1.				1
						<b> </b>			1
AMON AC MCC IENAYA (JENAYA)	$\left  - \right $			<u> </u>	-		<u>  </u>	<u> </u>	<u> </u>
	$\vdash$			<u> </u>	<b> </b>			I	<b> </b>
OUV AC MCC IEMAC (IEMAD)				ļ					<b> </b>
120V AC PANELBOARD 1EKVA (1EKVD)									
PRESSURE TRANSMITTER 1VXPT5390 (incl. assoc.	br	eaker, ala	۶M	module. & 48 (	dc	power supply)			
(PRESSURE TRANSMITTER 1VXPT5380 (incl. assoc	br	eaker ala	m	module & 48	te	nower supplyi)	1		t
PDESSIDE TDANSMITTED 11/2015500 (Incl. assoc	5	ookor do		module 9.49	Ť	power supply)	{ <b> </b>		f
CODECCUDE TO ANOMITTED 3 WOTE 400 (IIICI, COOC)		EUKEI, UIU		1100018, 0( 48 (					·
(PRESSURE IRANSMILLER IVXPIDAYU (INC). OSSOC.	<u>10</u>	eaker, ala	m	module, & 48 (	JC	power supply))		1	1

. .

.

TABLE	7	•
-------	---	---

CONTAINMENT PERFORMANCE COMPONENT LIST FOR MCGUIRE UNIT 2												
	IPEEE WA	ALKDOWN			<u> </u>							
				<b>#</b>								
CONTAINMENT ISOLATION VALVES	Penetr.			Va	ve Pos	ition						
AND PENETRATIONS	No.	Valve No.	Line Size (in.)	Norm	Fail	ACC.						
	14247	0/010		<b> </b>								
	M367	20010	24									
LIPPER COMPARIMENT PURCE INLET	NA054	2VF2A 2\/D2B	24									
UPPER COMPARTMENT PURGE INLET	M454	21/240	24	l č								
LOWER COMPARTMENT PURGE INLET	M357	2VP68	24	l č	<del>c</del>	- č						
LOWER COMPARTMENT PURGE INLET	M357	2VP7A	24		č	- č						
LOWER COMPARTMENT PURGE INLET	M456	2VP88	24	Ċ	c	- č						
LOWER COMPARTMENT PURGE INLET	M456	2VP9A	24	Ċ	C	Ċ						
CONTAINMENT PURGE EXHAUST	M368	2VP10A	24	C	C	C						
CONTAINMENT PURGE EXHAUST	M368	· 2VP118	24	С	С	С						
CONTAINMENT PURGE EXHAUST	M455	2VP12A	24	C	С	C						
CONTAINMENT PURGE EXHAUST	M455	2VP138	24	C	С	C						
CONTAINMENT PURGE	M119	2VP15A	24	C	C	C						
CONTAINMENT PURGE	M119	2VP16B	24	C	С	С						
INCORE INSTR. ROOM PURGE IN	M213	2VP17A	12.	С	C	C						
ICORE INSTR. ROOM PURGE IN	M213	2VP188	12	С	С	C						
CORE INSTR. ROOM PURGE OUT	M138	2VP19A	24	C	С	C						
ORE INSTR. ROOM PURGE OUT	M138	2VP208	24	C	С	С						
CONTAINMENT AIR RELEASE	M243	2VQ1A	6	С	С	C						
CONTAINMENT AIR RELEASE	M243	2VQ28	6	С	C	С						
CONTAINMENT AIR ADDITION	M384	2VQ58	6	C	C	С						
CONTAINMENT AIR ADDITION	M384	2VQ6A	6	C	_C	C						
CONT. VENT UNITS COND. DRAINS TO DRN. TK.	_ M221	2WL321A	6	0	AI	С						
CONT. VENT UNITS COND. DRAINS TO DRN. TK.	M221	2WL322B	6	0	Al ·	С						
EQUIPMENT HATCH	*******	*******										
UPPER CONTAINMENT PERSONNEL HATCH	C392	******										
LOWER CONTAINMENT PERSONNEL HATCH	C152											
PERSONNEL AIR LOCK INFLATABLE DOOR SEALS (	INCLUDING	AIR SUPPLY SYSTEM	)									
PERSONNEL AIR LOCK 208 V LINEAR ACTUATOR	DOOR LATC	HES										
600V AC MCC 2EMXA					<u> </u>							
600V AC MCC 2EMXB												
125V DC PANELBOARD 2EVDA	_											
125V DC PANELBOARD 2EVDB												
125V DC PANELBOARD 2EVDD												
120V AC PANELBOARD 2EKVA												
120V AC PANELBOARD 2EKVD												

Poge \$ 52

### TABLE 7 -

TCB' train components are shown in parenthese	s. A detaile	dw	alkdown of the		components is a	ot	1	T
Cessary if the 'B' train configuration is similar								-
		<u></u>		┝			<u> </u>	
HYDROGEN MITICATION SYSTEM			<u> </u>	┝				+
THERE BER MINISANCH STREW						<u>  </u>		
				┝		∦		
GLOW FLOG IGNITERS	<u> -</u> }	+-				<b>  </b>		
600V AC MACC 25MAYA (25MAYA)			·			∦	<u> </u>	
TDANSEODATED WATA (WATE)				<u> </u>		∦		
TRAINSFORIVIER HIVITA (HIVITA)				<u> </u>		₿		
TRANSPORVIER ZEIVIAA (ZEIVIAB)				<u> </u>		<b>  </b>		
	· · · · · · · · · · · · · · · · · · ·					╫	<u> </u>	
		_		<u> </u>		∦		+
			·			∦	ļ	
ICE BASKETS & DOOKS						<b>  </b>	<u> </u>	
		_				[		
							<u> </u>	- <b> </b>
						[ <b> </b>		- <b> </b>
	Line		Included in	L			<u> </u>	
NS SYSTEM	<u>Stze (in</u> .	<u> 기</u>	Seismic PRA	_		l	ļ	
						₩		
NS PUMP 2A (2B)		_	X			<u>  </u>		
NS HX 2A (2B)			X			ļ	L	_
						l		
4160V AC SWITCHGEAR 2ETA (2ETB)								
600V AC MCC 2EMXA (2EMXB)						<u> </u>		
25V DC PANELBOARD 2EVDA (2EVDD)						<u> </u>		
								1
						· ·		
	Line		Included in				L	
. VX SYSTEM	Stze (in.	)	Seismic PRA				[	
							1	
AIR-OP DAMPER 2RAF-D-5 (-8)								Γ
AIR-OP DAMPER 2RAF-D-6 (-9)				-			1	
AIR-OP DAMPER 2RAF-D-7 (-10)							<u> </u>	-
MOTOR-OP ISOLATION DAMPER 2RAF-D-2 (-4)							[	
						}		
CONTAINMENT AIR PETURN FAN 2A (2B)	┝━ ┟────		×					
	<u>├</u>		·····	-				
AMY AC MCC 2EMXA (2EMXB)				-		∥───		-
ADDV AC MCC 2EMYC (2EMYD)	<u> </u>			┝				
1201/ AC DANIELO ADD 251/14 (251/10)	<u>├</u>		<u> </u>					
DESCHE TRANSMITTER OVARTER	brogling					₿		
CODECCIDE TRANSMITTER 2VAPIDOYU (IRC), OSSOC.	brocker, C					₩		
IPRESSURE IRAINSIVILLER ZVXPISSOU (INCL. OSSOC	Dreaker, C	iaim	module, & 48 (	JC	power suppiy!)		<u> </u>	<b>-</b>
PRESSURE TRANSMITTER 2VXP15500 (Incl. OSSOC.	preaker, c	iarm	module, & 48 (	<u> 3C</u>	power supply)	l		╂──
LINKESSUKE IKANSMITTER ZVXP1549U (Incl. assoc	preaker, c	Iarm	<u>module, &amp; 48 (</u>	2C	power supply))	<u>  </u>	L	<b>_</b>

Ø27

Poge \$ 53

Fukushima Near-Term Task Force (NTTF) Recommendation 2.3: NRC Submittal report for Seismic Walk-downs McGuire Unit 2

Ç

,

## ATTACHMENT 2

## McGuire Unit 2 SWEL-1

ATTACHMENT 2

1 of 6

Equipment #	Description	<u>System</u>	Class of Equipment	<u>Bldg</u>	<u>Elev</u>	<u>Room #</u>	<u>Column-</u> <u>Grid</u>	Listed on IPEEE List	<u>Major New/</u> Replacement Equipment	Prior IPEEE Discrepancy/ Enhancement	<u>Safety</u> Function
2CAPU0002	2B MDCAP	CA	05-Horizontal Pump	Aux Bldg	716	601/MDCAP Rm	BB-61	x			NC-Press, DH
2CA-PN-	MDCAP 2A Control Panel	CA	20-Instrument and Control Panel	Aux Bldg	716	601/MDCAP Rm	CC-61	X			NC-Press, DH
2CAPU0003	TDCAP	CA	05-Horizontal Pump	Aux Bldg	716	601/TDCAP Rm	BB-61	x			NC-Press, DH
2CA-PN- AFTP	TDCAP Control Panel	CA	20-Instrument and Control Panel	Aux Bldg	716	601/TDCAP Rm	BB-61			X-eliminate panel contact w/pipe	NC-Press, DH
2CAHX0003	TDCAP Bearing Oil Cooler	CA	21-Tanks/HtXs	Aux Bldg	716	601/TDCAP Rm	BB-61	х			NC-Press, DH
2SA-49AB	TDCAP steam supply from 2C SG	SA	07-AOV	inner Doghouse	767+10	Inner Doghouse		N/A			NC-Press, DH
2SA-48ABC	TDCAP steam supply from 2B SG	SA	07-AOV	Inner Doghouse	767+10	Inner Doghouse		N/A		······	NC-Press, DH
2KCTK0009	KC Surge Tank	кс	21-Tanks/HtXs	Aux Bldg	767	9	JJ-57	x			Various
2KCPU0003	2B1 KC Pump	кс	05-Horizontal Pump	Aux Bldg	733	U2 KC Pump Area	GG-56	x			Various
2KCPU0004	2B2 KC Pump	кс	05-Horizontal Pump	Aux Bldg	733	U2 KC Pump Area	GG-56				Various
2KCHX0005	2A KC HIX	кс	21-Tanks/HtXs	Aux Bldg	750	KC HtX Area	JJ-56				Various
2KCHX0006	2В КС НІХ	кс	21-Tanks/HtXs	Aux Bldg	750	KC HtX Area	JJ-56	x			Various
2KC-2B	KC Aux Bldg Non-ESS Return Isol	кс	08-MOV/SOV	Aux Bldg	750+4	Open General Area	GG-57	N/A	X - (EC-10046)		Various
2KC-230A	KC Rx Bldg Non-Essential Header Isol	кс	08-MOV/SOV	Aux Bldg	750+7	824	LL-58	N/A			Various
2VGTK0062	21 EDG Starting Air Tank	VG	21-Tanks/HtXs	EDG Bldg		2A EDG Rm		х			Various
2VGTK0063	2A2 EDG Starting Air Tank	VG	21-Tanks/HtXs	EDG Bldg		2B EDG Rm					Various
2VGTK0064	2B1 EDG Starting Air Tank	VG	21-Tanks/HtXs	EDG Bldg		2A EDG Rm					Various
2VGTK0065	2B2 EDG Starting Air Tank	VG	21-Tanks/HtXs	EDG Bldg		2B EDG Rm		Х			Various
2VG-64	EDG Sarting Air Solenoid	VG	08-MOV/SOV	EDG Bldg	L	2A EDG Rm		N/A			Various
2VG-66	EDG Sarting Air Solenoid	VG	08-MOV/SOV	EDG Bldg		2B EDG Rm		N/A		···	Various

ATTACHMENT 2

Prior IPEEE Major New/ isted on Column-Safety Equipment # Description System **Class of Equipment** Bidg <u>Elev</u> Room # IPEEE Replacement Discrepancy/ Grid Function List Equipment Enhancement 2A EDG 2A Emergency Diesel Generator Set EDG 2A EDG Rm 17-Engine Generator EDG Blda Various 2B EDG 2B Emergency Diesel Generator Set EDG 17-Engine Generator EDG Bida 2B EDG Rm Х Various NC-Press, NC 2NC-32B NC System Pressurizer PORV NC 07-AOV Przr Cavity Rx Bldg N/A Inventory NC-Press, NC 2NC-34A NC System Pressurizer PORV NC 07-AOV Rx Bldg Przr Cavity N/A Inventory DH, NC 2NDHX0003 2A RHR HtX ND 21-Tanks/HtXs Aux Bldg 733 785 LL-60 Х Inventory, Reactivity DH. NC 2NDHX0004 2B RHR HtX ND 21-Tanks/HtXs 733 Aux Bldg 786 LL-60 Inventory, Reactivity 2A ND HtX dischargeTemperature to 19-Temperature Containment 2NDRD5000 ND Aux Blda 755 785 LL-61 Х NC CL Sensor Integrity, DH 2B ND HtX dischargeTemperature to 19-Temperature Containment 2NDRD5120 ND 755 Aux Bldg 786 LL-61 NC CL Sensor Integrity, DH NC-Press, DH, NC 2NDPU0001 ND 2A RHR Pump 06-Vertical Pump Aux Bldg 695 506 GG-58 Х Inventory. Reactivity NC-Press, DH, NC 2NDPU0002 2B RHR Pump ND 06-Vertical Pump Aux Blda 696 507 FF-58 Х Inventory. Reactivity B-C Lower Between 2ND-1B **RHR Pump Hotleg Suction Isolation** ND 08-MOV/SOV Rx Blda 745 Х DH Containment B & C SG B-C VL Fan B-C VL Fan 2ND-2AC RHR Pump Hotleg Suction Isolation ND 08-MOV/SOV Rx Bldg 745 Х DH Rm Rm NC-Press 695 DH. NC 2ND-19A RHR FWST Suction Isolation ND 08-MOV/SOV Aux Bldg 695+4 GG-59 Х Inventory, Pipechase Reactivity DH, NC х 2ND-14 ND 2B HtX Discharge Flow Control ND Aux Bldg 07-AOV 733 786 LL-60 Х Inventory, (EC-77865) Reactivity DH, NC Х 2ND-29 ND 2A HtX Discharge Flow Control ND 07-AOV Aux Blda 733 LL-60 Х 785 Inventory, (EC-77865) Reactivity

.

2 of 6

ATTACHMENT 2 3 of 6

Equipment #	Description	<u>System</u>	Class of Equipment	<u>Bldg</u>	<u>Elev</u>	<u>Room #</u>	<u>Column-</u> <u>Grid</u>	Listed on IPEEE List	<u>Maior New/</u> Replacement Equipment	Prior IPEEE Discrepancy/ Enhancement	<u>Safety</u> <u>Function</u>
2NI-136B	RHR Supply to MED-head NI pumps	NI	08-MOV/SOV	Aux Bidg	716	633	GG-59	×			NC-Press, DH, NC Inventory, Reactivity
2NIPU0009	2A Med-Head NI Pump	NI	05-Horizontal Pump	Aux Bldg	716	635	HH-58	x			DH, NC Inventory, Reactivity
2NI-147A	Med-Head NI Pump Minflow Isolation	NI	08-MOV/SOV	Aux Bldg	716	646	HH-60	x			DH, NC Inventory, Reactivity
2NI-178B	A train ND to Coldleg Isol.	Ni	08-MOV/SOV	Aux Bldg	733+5	788	JJ-61	x			NC-Press, DH, NC Inventory, Reactivity
2NI-430A	N2 Assured Supply to 2NC-34A PORV	Ni	08-MOV/SOV	Rx Bldg	760	2A CLA Room		x			NC-Press
2NI-431B	N2 Assured Supply to 2NC-32B PORV	NI	08-MOV/SOV	Rx Bldg	760	2B CLA Room		x			NC-Press
2NI-184B	ND/NS Pump Containment Sump Supply Isol	NI	08-MOV/SOV	Aux Bldg	716+3	647W /Rathole	FF-60	x			Various
2NSHX0003	2A NS HIX	NS	21-Tanks/HtXs	Aux Bldg	733	785	LL-60	x			Containment Integrity
2NSHX0004	2B NS HtX	NS	21-Tanks/HtXs	Aux Bldg	733	786	LL-60	x	ŗ		Containment Integrity
2NSPU0002	2B Containment Spray Pump	NS	06-Vertical Pump	Aux Bldg	695	504	FF-58	x	<u></u>		Containment Integrity
2NVTK0011	CVCS Volume Control Tank	NV	21-Tanks/HtXs	Aux Bldg	733	790	KK-62	x			NC Inventory, Reactivity
2NV-142B	Hi-Head NV pump VCT Suction isolation	NV	08-MOV/SOV	Aux Bldg	733	788	JJ-62	x			NC Inventory, Reactivity
2NV-221A	Hi-Head NV pump FWST Suction isolation	NV	08-MOV/SOV	Aux Bldg	716	646	JJ-60	x		· · ·	NC Inventory, Reactivity
2NV-238	Charging flow control	NV	07-AOV	Aux Bldg	716	636	JJ-58	х			NC Inventory, Reactivity
2NVPU00015	2A Hi-Head NV Pump	NV	05-Horizontal Pump	Aux Bidg	716	634	HH-58	х			NC Inventory, Reactivity
2NVPU00016	2B Hi-Head NV Pump	NV	05-Horizontal Pump	Aux Bldg	716	637	HH-59	X			NC Inventory, Reactivity
2RNST0001	2A RN Pump Suction Strainer	RN	00-other	Aux Bldg	716	600/RN Strainer Rm	BB-52	х	X -replaced (EC99730))		Various
2RNPU0008	2B RN STRAINER BACKWASH PUMP	RN	05-Horizontal Pump	Aux Bldg	716	601/RN Strainer Rm	BB-60		X -new (EC102482)		Various

ATTACHMENT 2

4 of 6

Equipment #	Description	<u>System</u>	Class of Equipment	<u>Bldg</u>	<u>Elev</u>	<u>Room #</u>	<u>Column-</u> <u>Grid</u>	Listed on IPEEE List	<u>Major New/</u> Replacement Equipment	Prior IPEEE Discrepancy/ Enhancement	<u>Safety</u> Function
2RN-25B	2B RN Strainer Auto Backwash Valve	RN	07-AOV	Aux Bldg	716	601/RN Strainer Rm	BB-61	×	X - new valve,actuator controls various ECs		Various
0RN-9B	1B/2B RN Pump SNSWP Suction Isol	RN	08-MOV/SOV	Aux Bldg	716	601/MDCAP Rm	BB-62	х			Various
0RN-152B	1B/2B RN Essential header SNSWP return	RN	08-MOV/SOV	Aux Bldg	716	647W /Rathole	EE-59	x			Various
2SM-1AB	Main Steam Isolation Valve 2D SG	SM	07-AOV	Outer Doghouse	807+3	Outer Doghouse	FF-69	x	X -controls upgraded (NSM-22563)		NC pressure, Reactivity
2SM-3ABC	Main Steam Isolation Valve 2C SG	SM	07-AOV	Inner Doghouse	784+4	Inner Doghouse	DD-60	x	X -controls upgraded (NSM-22563)		NC pressure, Reactivity
2SM-5AB	Main Steam Isolation Valve 2B SG	SM	07-AOV	Inner Doghouse	784+4	Inner Doghouse	DD-59	. <b>x</b>	X - controls upgraded (NSM-22563)		NC pressure, Reactivity
2SV-1	2D SG Main Steam PORV	SM	07-AOV	Outer Doghouse	767+30	Outer Doghouse	FF-69	х			NC pressure, Reactivity
2SV-7	2C SG Main Steam PORV	SM	07-AOV	Inner Doghouse	767+30	Inner Doghouse	FF-59	Х			NC pressure, Reactivity
2SV-13	2B SG Main Steam PORV	SM	07-AOV	Inner Doghouse	767+30	Inner Doghouse	FF-69	х			NC pressure, Reactivity
2SV-19	2A SG Main Steam PORV	SM	07-AOV	Outer Doghouse	767+30	Outer Doghouse	FF-69	x			NC pressure, Reactivity
2VI-AC-12	RN Strainer Backwash Assured Air Supply (2RN-25B)	VI	21-Tanks/HtXs	Aux Bldg	733	713	CC-61		X - new (EC-101546)		Various
2WL-322B	Containment Ventilation Otbrd CIV to VUCDT	WL	08-MOV/SOV	Aux Bldg	716+12	601/MDCAP Rm	DD-60	х			Containment Integrity
1VC-12B	VC Otsd Air Intake Isol from Unit 2	VC	08-MOV/SOV	Aux Bidg	767	928	BB-62	х			Various
0VCDO0005 (CŔ-OAD-5)	Control Room Outside Press Fan Supply	vc	07-AOV	Aux Bidg	767	Control Rm Ventilation Rm	FF-56	х			Various
0VCFL0012 (CR-OAPFT- 2)	Control Room Filter Package Fan B	VC	09-Fan	Aux Bldg	767	Control Rm Ventilation Rm	DD-54	х			Various
0YC-CH- 0006 (CRA-C- 2)	Control Room Area Chiller	VC/YC	11-Chiller	Aux Bldg	767	Control Rm Ventilation Rm	EE-56	х	X -controls upgraded (MD500740)		Various
0VCAH0002 (CRA-AHU-2)	B' TrainControl Room AHU-2	vc	10-AHU	Aux Bldg	767	Control Rm Ventilation Rm	FF-56	x			Various
2EPQ-BC2- EDGA	2A EDG Battery Charger	EPQ	16-Battery Charger/Inverter	EDG Bldg	736.5	2A EDG Rm		x	X -replaced (NSM-22482/ EC72394)		Various

ATTACHMENT 2

Equipment #	Description	<u>System</u>	Class of Equipment	Bidg	<u>Elev</u>	Room #	<u>Column-</u> <u>Grid</u>	<u>Listed on</u> IPEEE List	<u>Major New/</u> <u>Replacement</u> Equipment	<u>Prior IPEEE</u> Discrepancy/ Enhancement	<u>Safety</u> Function
2EPQ-BA- EDGA	2A EDG Battery	EPQ	15-Battery Rack	EDG Bldg	736.5	2A EDG Rm		x			Various
2EPQ-BC2- EDGB	2B EDG Battery Charger	EPQ	16-Battery Charger/Inverter	EDG Bldg	736.5	2B EDG Rm		x	X - replaced (NSM-22482/ EC72394)		Various
2EPQ-BA- EDGB	2B EDG Battery	EPQ	15-Battery Rack	EDG Bidg	736.5	2B EDG Rm		x			Various
2ETA	4.16 kV Essential Power	EPC	03-Med Voltage Metal Clad SWGR	Aux Bldg	750	805	Electr Pen Rm/AA-62	x			Various
2EPE-TF- ELXA	2ELXA 4.16 KV/600 VAC Transformer	EPE	04-Transformer	Aux Bldg	750	805	AA-62	x			Various
2EPE-TF- ELXC	2ELXC 4.16 KV/600 VAC Transformer	EPE	04-Transformer	Aux Bldg	750	805	AA-63	x			Various
2EPE-TF- ELXB	2ELXB 4.16 KV/600 VAC Transformer	EPE	04-Transformer	Aux Bldg	733	716	AA-63	x			Various
2EPE-TF- ELXD	2ELXD 4.16 KV/600 VAC Transformer	EPE	04-Transformer	Aux Bldg	733	716	AA-64	x	X - replaced EC 91590 (MD200559)		Various
2EMXA	600 VAC Essential MCC	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bldg	750	821	FF-57	x			Various
2EMXB	600 VAC Essential MCC	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bldg	733	724	GG-57	x		X -contact w/adjacent MCC	Various
2EMXB-1	600 VAC Essential MCC	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bidg	733	724	GG-57	x		X -contact w/adjacent MCC	Various
2EMXH	600 VAC Essential MCC	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bldg	733	821	LL-56	х			Various
2-IPE-CA- 9010	SSPS Cabinet 'A' Output & Logic cabinet	IPE	18-Instrument Rack	Control Complex	767	Control Rm	CC-56	x			Various
2-IPE-CA- 9020	SSPS Cabinet 'B' Output & Logic cabinet	IPE	18-Instrument Rack	Control Complex	767	Control Rm	CC-56	х			Various
2EPG-BI- EVIA	Vital Battery Inverter	EPG	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	х	X - replaced(MG- 22522)		Various

.

ATTACHMENT 2

6 of 6

Equipment #	Description	<u>System</u>	Class of Equipment	<u>Bldg</u>	<u>Elev</u>	<u>Room #</u>	<u>Column-</u> <u>Grid</u>	Listed on IPEEE List	<u>Major New/</u> Replacement Equipment	Prior IPEEE Discrepancy/ Enhancement	<u>Safety</u> Function
2EPG-BI- FVIB	Vital Battery Inverter	EPG	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	х	X - replaced (MG-22522)		Various
2EPG-BI- FVIC	Vital Battery Inverter	EPG	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	х	X - replaced (MG-22522)		Various
2EPG-BI- FVID	Vital Battery Inverter	EPG	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	х	X - replaced (MG-22522)		Various
2EVDA	Vital Panel 125VDC Breaker Panel	EPG	02-Low Voltage SWGR and Breaker Panels	Control Complex	733	701	CC-56	· X			Various
2EVDB	Vital Panel 125VDC Breaker Panel	EPG	02-Low Voltage SWGR and Breaker Panels	Control Complex	733	701	CC-56	x			Various
2EVDC	Vital Panel 125VDC Breaker Panel	EPG	02-Low Voltage SWGR and Breaker Panels	Control Complex	733	701	CC-56	x			Various
2EVDD	Vital Panel 125VDC Breaker Panel	EPG	02-Low Voltage SWGR and Breaker Panels	Control Complex	733	701	CC-56	x			Various
EVDC	125VDC Distribution Center	EPL	14-Distribution Panels and Automatic Transfer Switches	Control Complex	733	701	CC-56	x			Various
EVDD	125VDC Distribution Center	EPL	14-Distribution Panels and Automatic Transfer Switches	Control Complex	733	701	CC-56	x			Various
0-EPL-BA- EVCC	Vital Battery	EPL	15-Battery Rack	Control Complex	733	710	CC-56	х	X - replaced (NSM-52485 / EC-65356)		Various
0-EPL-BA- EVCD	Vital Battery	EPL	15-Battery Rack	Control Complex	733	711	CC-56	x	X - replaced (NSM-52486 / EC-65653)		Various
0-EPL-BC- EVCC	Vital Battery Charger	EPL	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	x	X - replaced (NSM-52488 / EC-65972)		Various
0-EPL-BC- EVCD	Vital Battery Charger	EPL	16-Battery Charger/Inverter	Control Complex	733	701	CC-56	x	X - replaced (NSM-52491 /EC-66887)		Various

### Fukushima Near-Term Task Force (NTTF) Recommendation 2.3: NRC Submittal report for Seismic Walk-downs McGuire Unit 2

# ATTACHMENT 3 - McGuire Unit 2 SWEL-2 Base-2 List and Rapid Drain Down List

	Unit 2 SWEL-2 Base List			-				
2KFPU0001	2A KF Pump	KF	05-Horizontal Pump	Aux Bldg	750	829	PP-60	SFP Cooling
2KFPU0002	2B KF Pump	KF	05-Horizontal Pump	Aux Bldg	750	829	PP-60	SFP Cooling
2KFHX003	2A KF HtX	KF	21-Tanks/HtXs	Aux Bldg	750	829	PP-60	SFP Cooling
2KFHX004	2B KF HtX	KF	21-Tanks/HtXs	Aux Bldg	767	829	PP-60	SFP Cooling
2VAAH0032	2A KF Pump AHU	VA	10-AHU	Aux Bidg	750	829	PP-60	SFP Cooling
2VAAH0033	2B KF Pump AHU	VA	10-AHU	Aux Bldg	750	829	PP-60	SFP Cooling
2ETA-4	2A KF Pump Breaker	EPC	03-Med Voltage Metal Clad SWGR	Aux Bldg	750	805	Electr Pen Rm/AA-62	SFP Cooling
2ETB-4	2B KF Pump Breaker	EPC	03-Med Voltage Metal Clad SWGR	Aux Bldg	733	716	Electr Pen Rm/AA-62	SFP Cooling
2RN-140A	2A KF Pump Ess AHU Sup Isol	RN	07-AOV	Aux Bidg	750	829	PP-60	SFP Cooling
2EMXA-F3D	2A KF Pump Motor AHU Motor	EPE	01-Motor Control Centers/Wall Mounted Contactors	Aux Bldg	750	821	FF-57	SFP Cooling
2EMXB-4C	2B KF Pump Motor AHU Motor	EPE	01-Motor Control Centers/Wali Mounted Contactors	Aux Bldg	750	724	GG-57	SFP Cooling
2RN-240B	2B KF Pump Ess AHU Sup Isol	RN	07-AOV	Aux Bldg	750	829	PP-60	SFP Cooling

	Unit 2 SWEL-2 "Rapid				<u> </u>			
	Draindown List"							
Equipment #	Description	<u>System</u>	Class of Equipment	<u>Bidg</u>	<u>Elev.</u>	Room #	<u>Column-</u> <u>Grid</u>	Function
2NV-842AC	SBMUP Suction Isolation	NV	08-MOV/SOV	Rx Bidg	725	Annulus	273°/61 R	SFP & Refueling Cavity Inventory
2NVAC0048	SBMUP Suction Pulsation Dampener (non-seismic SSC)	NV	00-Other- (pulsation dampener)	Rx Bldg	725	Annulus	320°/61 R	N/A
2NVPU0046	SBMUP (non-seismic SSC)	NV	05-Horizontal Pump	Rx Bidg	725	Annulus	320°/61 R	N/A
2NVAC0049	SBMUP Discharge Pulsation Dampener (non-seismic SSC)	NV	00-Other- (pulsation dampener)	Rx Bldg	725	Annulus	320°/61 R	N/A
2NVFL0047	SBMUP Discharge Filter (non-seismic SSC)	NV	00 - Other	Rx Bldg	725	Annulus	320°/61 R	N/A
2NV-849AC	SBMUP Discharge Isolation	NV	08-MOV/SOV	Rx Bldg	725	Annulus	273°/61 R	N/A
Reactor Cavity Seal	Refueling Reactor Cavity Seal	FW	00 - Other	Rx Bldg	n/a	n/A	n/a	SFP & Refueling Cavity Inventory
2FW-8, -10, -25, -26, -46, -47, -76, -75	Refuling Cavity Manual Drain Valves	FW	00 - Other	Rx Bldg	n/a	n/A	n/a	SFP & Refueling Cavity Inventory
Fuel Transfer Tube blind flange	Fuel Transfer Tube Blind Flange	KF	00 - Other	Rx Bldg	n/a	n/A	n/a	SFP & Refueling Cavity Inventory
Fuel Transfer Tube Weir Gate	Fuel Transfer Tube Weir Gate	KF	00 - Other	Rx Bldg	n/a	n/A	n/a	SFP & Refueling Cavity Inventory

,

Fukushima Near-Term Task Force (NTTF) Recommendation 2.3: NRC Submittal report for Seismic Walk-downs McGuire Unit 2

## ATTACHMENT 4

## McGuire Unit 2 SWEL-2

Equipment#	Description	<u>System</u>	<u>Class of</u> Equipment	Bldg	<u>Elev.</u>	<u>Room #</u>	<u>Column-</u> <u>Grid</u>	Major New/ Replacement Equipment	Function
2NVAC0048	SBMUP Suction Pulsation Dampener (non-seismic SSC)	NV	00-Other (pulsation dampener)	Rx Bldg	725	Annulus	320°/61 R		N/A
2NVPU0046	SBMUP (non-seismic SSC)	NV	05-Horizontal Pump	Rx Bldg	725	Annulus	320°/61 R		N/A
2NV-842AC	SBMUP Suction Isolation	NV	08-MOV/SOV	Aux Bldg	750	Annulus	320°/61 R		SFP & Refueling Cavity Inventory
2KFPU0001	2A KF Pump	. KF	05-Horizontal Pump	Aux Bldg	750	829	PP-60	X - Motor replaced (WO 1761590)	SFP Cooling
2KFPU0002	2B KF Pump	KF	05-Horizontal Pump	Aux Bldg	750	829	PP-60		SFP Cooling
2KFHX0003	2A KF HtX	KF	21-Tanks/HtXs	Aux Bldg	750	829	PP-60		SFP Cooling
2KFHX0004	2B KF HtX	KF	21-Tanks/HtXs	Aux Bldg	767	829	PP-60		SFP Cooling
2VAAH0032	2A KF Pump AHU	VA	10-AHU	Aux Bldg	750	829	PP-60		SFP Cooling

United States Nuclear Regulatory Commission November xx; 2012 Enclosure 3

### Enclosure 3 List of New Voluntary Regulatory Commitments

Below is a list of actions that are described within this document and considered voluntary regulatory commitments. Any other statements in this document are provided for information purposes and are not considered to be regulatory commitments.

 The associated component seismic walkdowns and area walk-bys discussed in Enclosure 1 Table 4-2 will be completed during the next scheduled Unit 1 refueling outage. A follow-up report addressing the inaccessible components will be provided to the NRC by July 1, 2013.