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SOUTHERN COMPANY

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Docket Nos.: 50-321
50-366

NL-14-1530

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to NRC Request for Additional Information Regarding
Request to Add Critical Instrument Electrical Bus in LCO 3.8.7

References:

1. NRC Order Number EA-12-049, *Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events*, dated March 12, 2012.
2. Southern Nuclear Operating Company letter NL-14-1197, *Edwin I. Hatch Nuclear Plant – Units 1 and 2, License Amendment Request to Revise Technical Specifications to Add a Critical Instrumentation Electrical Bus in LCO 3.8.7*, dated August 15, 2014.
3. NRC RAI, *"Hatch Nuclear Plant, Units 1 and 2 – Request for Additional Information (TAC Nos. MF4586 and MF4587),* dated September 23, 2014.

Ladies and Gentlemen:

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued an order (Reference 1) to Southern Nuclear Operating Company (SNC). Reference 1 was immediately effective and directs the Edwin I. Hatch Nuclear Plant - Units 1 and 2 (HNP) to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event. Specific requirements are outlined in Attachment 2 of Reference 1.

By letter dated August 15, 2014, SNC submitted a request to revise the HNP Technical Specifications (TS) to add a critical instrumentation electrical bus in Limiting Condition of Operations (LCO) 3.8.7 (Reference 2). By letter dated September 23, 2014, the NRC advised additional information was required to complete its review of the requested change (Reference 3). Accordingly, the additional information requested by the NRC is enclosed.

This letter contains no new NRC commitments. If you have any questions, please contact John Giddens at 205.992.7924.

Mr. C. R. Pierce states he is the Regulatory Affairs Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and, to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

C. R. Pierce

C. R. Pierce
Regulatory Affairs Director

CRP/JMG/OCV

Sworn to and subscribed before me this 20 *day of* October, *2014.*

Laura L. Crist
Notary Public

My commission expires: 10/8/2017

Enclosure: Response to NRC Draft Request for Information

Attachments: 1. Location of Unit 2 FLEX Buses 2R25-S066 and 2R25-S067
2. Location of Unit 1 FLEX Buses 1R25-S066 and 1R25-S067
3. Load Profiles of the Station Batteries

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. D. R. Vineyard, Vice President – Hatch
Mr. B. L. Ivey, Vice President – Regulatory Affairs
Mr. T. E. Tynan, Vice President – Fleet Operations
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U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
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State of Georgia
Mr. J. H. Turner, Director Environmental Protection Division

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to NRC Request for Additional Information Regarding
Request to Add Critical Instrument Electrical Bus in LCO 3.8.7

Enclosure

Response to NRC Draft Request for Information

NRC RAI #1

In the LAR, the licensee stated that t critical he instruments to be relocated to the new critical instrumentation bus will include primary containment pressure, reactor and suppression pool water level, and drywall [sic] and suppression pool temperature indications. Additionally, the new critical instrument bus will be providing power and position indication to some Primary Containment Isolation Valves, as well as to the hardened vent valves, as required by the EA-13-109 Order [Order Modifying Licenses with Regard to Reliable Containment Vents].

Regarding each of the critical instruments to be relocated/added to the new critical instrumentation buses, please provide the following information:

a) Instrument function.

b) Critical Instrument Bus Number (e.g., A or B), and the original Instrument Bus Number/Essential Cabinet Number.

c) For any new critical instrument which is not currently part of the "Post Accident Monitoring Instrumentation" listed in TS Table 3.3.3.1-1, explain why it is not included in the TS Table 3.3.3.1 1.

d) For each instrument being relocated/added, identify whether it will meet the requirements of NRC Order EA-12-049 or EA-13-109.

SNC Response RAI #1

Tables E.1, E.5, E.9 and E.13 list the critical instruments credited for FLEX, along with other Tech Spec instruments, being relocated to the FLEX instrument bus. The remaining tables list the other Tech Spec related components, such as primary containment isolation valves, being relocated. The information in Tables E.1 through E.15 pertain to questions 1a, 1b, and 1d. The response to 1c, and additional information with respect to questions 1a and 1d is provided in the ensuing paragraphs:

Table	Description
E.1	Hatch Unit 2 Critical Instruments Relocated to the 2A FLEX Bus
E.2	Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2A FLEX Bus
E.3	Hatch Unit 2 Secondary Containment Isolation Valves (SCIVs) Relocated to the 2A FLEX Bus
E.4	Hatch Unit 2 Miscellaneous Items Relocated to the 2A FLEX Bus
E.5	Hatch Unit 2 Critical Instruments Relocated to the 2B FLEX Bus
E.6	Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2B FLEX Bus
E.7	Hatch Unit 2 Secondary Containment Isolation Valves (SCIVs) Relocated to the 2B FLEX Bus
E.8	Hatch Unit 2 Miscellaneous Items Relocated to the 2B FLEX Bus
E.9	Hatch Unit 1 Critical Instruments Relocated to the 1A FLEX Bus
E.10	Hatch Unit 1 Primary Containment Isolation Valves (PCIVs) Relocated to the 1A FLEX Bus
E.11	Hatch Unit 1 Secondary Containment Isolation Valves (SCIVs) Relocated to the 1A FLEX Bus
E.12	Hatch Unit 1 Miscellaneous Items Relocated to the 1A FLEX Bus
E.13	Hatch Unit 1 Critical Instruments Relocated to the 1B FLEX Bus
E.14	Hatch Unit 1 Primary Containment Isolation Valves (PCIVs) Relocated to the 1B FLEX Bus
E.15	Hatch Unit 1 Miscellaneous Items Relocated to the 1B FLEX Bus

The Technical Specifications (TS) instruments being relocated to the FLEX buses include Post Accident Monitoring (PAM) Instrumentation, Primary Containment Isolation Valves (PCIV), and Secondary Containment Isolation Valves (SCIVs). Their TS functions are as follows:

The PAM instrumentation serves to display plant variables that provide information required by the control room operators during accident situations. Specifically, the PAM instruments ensure the Operability of the Regulatory Guide 1.97 Category I Type A and non-Type A variables.

The PCIVs and SCIVs, in combination with other accident mitigation systems, limit fission product release during and following postulated Design Basis Accidents (DBAs) to within limits. Primary Containment Isolation ensures that the release of radioactive materials to the environment will be consistent with the assumptions used in the analysis for a DBA. The TS operability requirements for the SCIVs help ensure that an adequate secondary containment boundary is maintained during and after an accident, minimizing potential paths to the environment.

The TS functions of other miscellaneous items relocated to the FLEX buses are provided as Notes to the Table.

With regard to question 1c, all instruments on the new FLEX buses are being relocated from the existing instrument buses or the existing essential cabinets. No new critical instruments are being added to the FLEX bus that did not previously exist, in fact, no new critical instruments are being added to the plant as a result of this specific design change. Furthermore, all instrument and components that are currently credited as Tech Spec components will continue to be credited as such following implementation of the FLEX critical instrument bus design.

Regarding question 1d, the instruments credited for the FLEX coping evaluation are identified in the enclosed tables as meeting the requirements of EA-12-049.
The hardened vent and its components will meet the requirements of Order EA-13-109. However, that design has not been finalized. Furthermore, the hardened vent, and its supporting equipment, will not be a Tech Spec component.

NRC RAI #2

In its Overall Integrated Plan for HNP dated February 27, 2013, the licensee identified Spent Fuel Pool (SFP) Level as essential instrumentation during a BDBEE. Please provide details of the source of power for SFP Level instrumentation, if not planned to be fed from the critical instrument bus.

SNC Response RAI #2

The source of power for the Spent Fuel Pool (SFP) level instrumentation to be installed under NRC Order EA-12-051 and used as a "Key Parameter" instrument under NRC Order EA-12-049 has not been determined. It will be installed by the 2016 compliance dates in accordance with the Order, the guidance in NEI 12-02, and the applicable Overall Integrated Plan.

Note that the SFP level instrumentation will not be a Tech Spec instrument, thus it is not impacted by the Technical Specification change for the critical instrument buses.

NRC RAI #3

Please provide a summary of the analysis performed to determine the impact of adding additional loads on battery and battery charger sizing, and load profiles for surveillance tests. Confirm that the minimum battery voltage will continue to provide the minimum required voltage at the downstream devices to perform their safety function.

SNC Response RAI #3

Station Service Battery 2A

The 24.08A increase in continuous loading from inverter 2R44-S006, as well as a 0.505A increase in continuous loading on panel 2R25-S001, a 0.23A increase in continuous loading on panel 2R25-S003, and a 0.91A increase in intermittent loading on panel 2R25-S001, reduces the available margin on station service battery 2A (2R42-S001A).

The conclusion section of the base calculation SENH-93-024 documents the spare margin is 28.09% for 60/120 cells, 19.70% for 59/118 cells, and 9.28% for 58/116 cells before the Design Margin will have to be changed. The spare margin on station service battery 2A with the implementation of the design change which installs the FLEX critical instrumentation buses and inverters, will be 27.81% for 60/120 cells, 19.45% for 59/118 cells, and 9.05% for 58/116 cells. Base calculation SENH-93-024 recommends that the minimum Design Margin be 5%. 5% design margin is included in the calculated spare margin percentage values with the implementation of the design change and is therefore acceptable.

The 400-amp battery chargers 2R42-S026, 2R42-S027, & 2R42-S028 are still adequately sized because the battery charger output current is 286.92A with a Design Margin of 28.27%.

Station Service Battery 2B

The 15.89A increase in continuous loading from inverter 2R44-S007 reduces the available margin on the battery. The conclusion section of the base calculation SENH-93-025 documents the spare margin is 18.69% for 60/120 cells, and 6.69% for 59/118 cells before the Design Margin will have to be changed. The spare margin on Station Service battery 2B with the implementation of the design change will be 15.16% for 60/120 cells, and 3.41% for 59/118 cells. Base calculation SENH-93-025 recommends that the minimum Design Margin be 5%. 5% design margin is included in the calculated spare margin percentage values with the implementation of the design change and is therefore acceptable.

The 400-amp battery chargers 2R42-S029, 2R42-S030, & 2R42-S031 are still adequately sized because the battery charger output current is 200.77A with a Design Margin of 49.81%.

Station Service Battery 1A (Pending Approval of the Unit 1 Design Package)

The 27.26A increase in continuous loading from inverter 1R44-S006 reduces the available margin on the battery. The conclusion section of the base calculation SENH-92-137 documents the spare margin is 49.63% for 60/120 cells, 39.45% for 59/118 cells,

and 22.14% for 58/116 cells before the Design Margin will have to be changed. The total design margin on Station Service Battery 1A with the implementation of the design change will be 38.45% for 60/120 cells, 29.17% for 59/118 cells, and 13.32% for 58/116 cells. The Base calculation recommends that the minimum Design Margin be 5%. Unlike the Unit 2 calculations, the 5% design margin was not included in the calculated spare margin percentage values. Nevertheless, when the 5% design margin is taken into account, all three cases have spare capacity (i.e., 33.45%, 24.17%, and 8.32%, respectively).

The 400-amp battery chargers 1R42-S026, 1R42-S027, & 1R42-S028 are still adequately sized because the battery charger output current is 325.67A with a Design Margin of 18.58%.

Station Service Battery 1B (Pending Approval of the Unit 1 Design package)

The 13.56A increase in continuous loading from inverter 1R44-S007 reduces the available margin on the battery. The conclusion section of the base calculation SENH-92-136 documents the spare margin is 18.92% for 60/120 cells and 6.18% for 59/118 cells before the Design Margin will have to be changed. The total design margin on Station Service battery 1B with the implementation of the design change will be 15.48% for 60/120 cells and 3.29% for 59/118 cells. The Base calculation recommends that the minimum Design Margin be 5%. The 60/120 cell case is above the minimum (i.e. 10.48%), however, the 59/118 cell case is -1.71%, which is below the minimum. Upon the implementation of the design change, which replaces existing MCR incandescent lighting with LED bulbs, the resulting total spare margin will be 18.25% for the 60/120 cell case and 5.63% for the 59/118 cell case. Unlike the Unit 2 calculations, the 5% design margin was not included in the calculated spare margin percentage values. Nevertheless, when the 5% design margin is taken into account, the resultant total spare margin will be 13.25% and 0.63%, which is acceptable for both of these cases.

The 400-amp battery chargers 1R42-S029, 1R42-S030, & 1R42-S031 are still adequately sized because the battery charger output current is 203.08A with a Design Margin of 49.23%.

The load profiles for Station Service Batteries 2A, 2B, 1A, and 1B are provided in Attachment 3.

NRC RAI #4

Please provide details on the physical separation between the two trains of critical instrument buses, and a discussion of the adequacy of physical separation between the buses.

SNC Response RAI #4

The critical instrument cabinets are located in separate fire areas and meet the separation criteria described in Section 4.2 of Hatch's FHA. Section 4.2 of Hatch's FHA describes the separation requirements for redundant pieces of safety-related equipment. A copy of the described section is listed below.

4.2 Separation Criteria

The most effective means of preventing simultaneous damage to redundant paths of safe shutdown circuits and components is physical separation, wherever practical. HNP was designed and built with this separation as a design criteria. The primary features of this separation criteria are:

a) *RPS and PCIS circuits are routed in individual, separate conduits.*
b) *ESS system circuits are routed in raceways containing only one division.*
c) *All Diesel Generator A circuits are routed in separate raceways from Diesel Generator B and C circuits.*
d) *Raceways containing power cables are limited to one voltage level, i.e., various voltage levels are routed in separate raceways.*
e) *In general, plant areas (excepting the cable spreading room for which alternate shutdown is used) opposite division raceways are separated by a horizontal dimension of 3 ft and a vertical dimension of 5 ft unless cable tray covers have been installed.*

As a result, all safe shutdown circuits are at a minimum, routed in separate cable trays from their redundant counterparts. In general, redundant paths of safe shutdown circuits are routed through separate fire areas within the plant. Redundant safe shutdown components are also located in separate fire areas in nearly all cases.

Wherever redundant, required, safe shutdown circuits or components are not located in separate fire areas, unless specifically exempted from separation requirements, the criteria of Section III.G.2 of Appendix R is employed at HNP to either:

a) *Enclosure of cable and equipment, and associated non-safety circuits of one redundant train in a fire barrier having a 1-h rating with fire detectors and an automatic fire suppression system installed in the fire area.*
b) *Separation of cables and equipment, and associated non-safety circuits of redundant trains by a fire barrier having a 3-h rating. Structural steel forming a part of or supporting such fire barriers are protected to provide fire resistance equivalent to that required of the barrier.*
c) *Separation of cables and equipment, and associated non-safety circuits of redundant trains by a horizontal distance of greater than 20 ft with no intervening combustibles or fire hazards.*

Separation of redundant safe shutdown circuits and components by 20 ft with no intervening combustibles is a rare occurrence at any nuclear plant. HNP is no exception and, therefore, does not attempt to utilize these separation criteria.

Since the Division I and Division II critical instrument cabinets are located in separate fire areas as shown in Attachment 1 for Unit 2 and Attachment 2 for Unit 1, the equipment meets the requirements listed in FHA section 4.2

NRC RAI #5

Please provide details on the protection coordination between the largest breaker located on each of the critical instrument bus and its upstream protection device.

SNC Response RAI #5

Critical instrument cabinet and inverter coordination curves are shown in calculations MC-H-14-0051 and MC-H-14-0052 for Unit 2 and MC-H-14-0078 and MC-H-14-0079 for Unit 1 (Pending approval of Unit 1 DCP). The result of these calculations is that there is no adverse impact on breaker coordination for the affected buses.

MC-H-14-0051 evaluates the addition of 60A feeder breakers to 125/250VDC buses 2A and 2B to supply power to the critical instrument inverters and cabinets. The addition of the 60A breakers on 125/250VDC buses 2A and 2B does not have an adverse impact on breaker coordination for the affected buses.

MC-H-14-0052 evaluates the coordination of each Unit 2 critical instrument inverter output breaker to the largest breaker on the corresponding critical instrument cabinet. The output breaker on each of the inverters coordinates with the largest downstream breaker on each of the critical instrument cabinets.

MC-H-14-0079 evaluates the addition of 60A feeder breakers to 125/250VDC buses 1A and 1B to supply power to the critical instrument inverters and cabinets. The addition of the 60A breakers on 125/250VDC buses 1A and 1B does not have an adverse impact on breaker coordination for the affected buses.

MC-H-14-0078 evaluates the coordination of each Unit 1 critical instrument inverter output breaker to the largest breaker on the corresponding critical instrument cabinet. The output breaker on each of the inverters coordinates with the largest downstream breaker on each of the critical instrument cabinets.

NRC RAI #6

Final Safety Analysis Report (FSAR) Section 8.3.1.1.4 provides the description of the instrument power supply. Please provide a design description of the new AC inverters and critical instrument buses, which will be added to the FSAR.

SNC Response to RAI #6

The following will be added to Unit 2 FSAR Section 8.3.1.1.4. A similar description will be added to Unit 1 FSAR Section 8.7:

120 VAC Critical Instrument bus

This is an essential power system supplied from the safety related 125/250 VDC system via a safety related seismically qualified 250 VDC/120 V AC inverter.

Like the essential 120/208 VAC instrument buses, the critical instrument buses supply both essential and non-essential loads. They provide AC power from the safety related DC sources to loads critical for the mitigation of events, when AC power is not available from offsite sources or from the on-site emergency AC system.

Failure of a non-essential load will not affect the ability of this system to supply the essential loads.

Back-up power is available to the inverter via the existing essential cabinets. The back-up power will ensure power is not lost to the critical instrumentation during DC system maintenance.

NRC RAI #7

The LAR Section 3.0 states that the new equipment will be environmentally qualified to the appropriate IEEE standards. Clarify whether the new equipment will be subjected to harsh environment, and therefore qualified in accordance with 10 CFR 50.49. If they will be installed in a harsh environment, please provide a summary of the qualification report.

SNC Response to RAI #7

The new equipment, including the inverters and the FLEX buses, will not be located in a harsh environment.

Table E.1 – Hatch Unit 2 Critical Instruments Relocated to the 2A FLEX Bus, 2R25-S066

Instrument Number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
2T47-R626	- Suppression Pool Water Temperature - Drywell Temperature in Vicinity of Reactor Level Instrument Reference Leg - Drywell Air Temperature	Recorder	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Items 9 and 10 And LCO 3.6.1.5[9], "Drywell Air Temperature", And LCO 3.6.2.1[10], "Suppression Pool Average Temperature"	EA-12-049
2T48-R601A	- Drywell Area Radiation (wide-range) - Drywell Pressure (wide range)	Recorder	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 4c and 5 And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA

Table E.1 – Hatch Unit 2 Critical Instruments Relocated to the 2A FLEX Bus, 2R25-S066 (continued)

Instrument Number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
2T48-R607A	- Torus Water Level (nar row-range) - Drywell Pressure (narrow-range)	Recorder	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Items 3b and 4b And LCO 3.6.2.2[11], "Suppression Pool Water Level" And LCO 3.6.1.4[8], "Drywell Pressure" And, LCO 3.5.2[7], "ECCS Shutdown"	EA-12-049
2T48-R608	Drywell Pressure (mid range)	Recorder	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	NA	EA-12-049
2B21-R623A	- Reactor Vessel Water Level (fuel zone) - Reactor Pressure	Recorder	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Items 1 and 2a	NA

Table E.1 – Hatch Unit 2 Critical Instruments Relocated to the 2A FLEX Bus, 2R25-S066 (continued)

Instrument Number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
2T48-R631A	- Drywell Pressure (mid-range)	Recorder	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 4a	NA
2D11-K621A	- Drywell Area Radiation (wide-range)	Indicator	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 5 And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA

Table E.2 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2A FLEX Bus, 2R25-S066

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2E11-F041A	Drywell Pressure Sensing Line Isolation Air Operated Valve (power to position indication and power to controlling valves 2E11-F213 and 2E11-F214)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, Table 3.3.3.1-1 Item 6, And LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2E11-F041C	Drywell Pressure Sensing Line Isolation Air Operated Valve (power to position indication and power to controlling valves 2E11-F217 and 2E11-F218)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F113	Drywell Nitrogen Make-up Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F114	Drywell Nitrogen Make-up Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.2 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2A FLEX Bus, 2R25-S066 (Continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T48-F209	Drywell to Torus Differential Pressure Return Inboard Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F211	Drywell to Torus DP Suction Inboard Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1,"Post Accident Monitoring Instrumentation", Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F332A	Torus Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1,"Post Accident Monitoring Instrumentation", Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F334A	Drywell Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.2 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2A FLEX Bus, 2R25-S066 (Continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T48-F333A	Torus Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F335A	Drywell Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F361A	Torus Instrument Isolation Valve (power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T47-F362A	Torus Instrument Isolation Valve (power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.2 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2A FLEX Bus, 2R25-S066 (Continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T48-F363A	Torus Instrument Isolation Valve (power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F364A	Torus Instrument Isolation Valve (power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F115	Torus Nitrogen Makeup Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F116	Torus Nitrogen Makeup Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2G51-F011	Torus Vacuum Drag Valve (Power to close on low torus level)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.2 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2A FLEX Bus, 2R25-S066 (Continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T48-F307	Drywell Purge Inboard Isolation Valve (power to close from high radiation signal)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.1.3, "Primary Containment Isolation Valves" And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
2T48-F309	Torus Air Purge Inboard Isolation Valve (power to close from high radiation signal)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.1.3, "Primary Containment Isolation Valves" And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
2T48-F319	Drywell Vent Inboard Isolation Valve (power to close from high radiation signal)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.1.3, "Primary Containment Isolation Valves" And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
2T48-F318	Torus Vent Inboard Isolation Valve (power to close from high radiation signal)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.1.3, "Primary Containment Isolation Valves" And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA

Table E.3 – Hatch Unit 2 Secondary Containment Isolation Valves (SCIVs) Relocated to the 2A FLEX Bus, 2R25-S066

SCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T46-F001A	Reactor Building Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
2T41-F011A	Reactor Building Supply Fan Discharge Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
2T41-F044A	Reactor Building Inaccessible Area Inboard Vent Exhaust Fan Discharge Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
2T41-F003A	Refueling Floor Supply Fan Discharge Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.4.2., "Secondary Containment Isolation Valves"	NA
2T41-F023A	Refueling Floor Exhaust Fan Discharge Valve (control power and power to position indication)	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA

Table E.4 – Hatch Unit 2 Miscellaneous Items Relocated to the 2A FLEX Bus, 2R25-S066

Component	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2G11-C001A	Drywell Floor Drain Sump Pump	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.4.5[1] "RCS Leak Detection Instrumentation"	NA
2G11-C001B	Drywell Floor Drain Sump Pump	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.4.5[1] "RCS Leak Detection Instrumentation"	NA
2T41	Logic power for the initiation of Unit 1 and 2 Standby Gas Treatment System from a Unit 2 Reactor Building and Refueling Floor High Radiation signal from Division I logic.	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.6.2[2] "Secondary Containment Isolation Instrumentation"	NA
2T41	Logic power for the isolation of the Unit 1 Reactor Building and Refueling Floor Ventilation Fans from a Unit 2 Division I Reactor Building Ventilation System High Radiation signal.	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.3.6.2[2] "Secondary Containment Isolation Instrumentation"	NA
2E21-C002A and C003A	Power to Auto Start Core Spray Jockey Pumps	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.5.1[7], "ECCS-Operating"	NA
2T46	Power to Standby Gas Treatment Filter Train 'A' Control Logic	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.4.3[4], "Standby Gas Treatment System"	NA
2T46-F002A	Standby Gas Treatment System 1A Outlet Damper (control power and power to indicating lights).	Instrument Bus 2R25-S064	FLEX Bus 2R25-S066	LCO 3.6.4.3[4] "Standby Gas Treatment System"	NA

Table E.5 – Hatch Unit 2 Critical Instruments Relocated to the 2B FLEX Bus, 2R25-S067

Instrument Number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
2T48-R607B	- Torus Water Level (narrow-range) - Drywell Pressure (narrow-range)	Recorder	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Items 3b and 4b And LCO 3.6.2.2[11], "Suppression Pool Water Level" And LCO 3.6.1.4[8], "Drywell Pressure" And LCO 3.5.2[7], "ECCS Shutdown"	EA-12-049
2T48-R601B	- Drywell Area Radiation (wide-range) - Drywell Pressure (wide range)	Recorder	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Items 4c and 5 And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
2T48-R609	Drywell Pressure (mid range)	Recorder	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	N/A	EA-12-049
2T47-R621	- Drywell Air Temperature	Temperature Indicating Switch	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.1.5[9], "Drywell Air Temperature"	NA

Table E.5 – Hatch Unit 2 Critical Instruments Relocated to the 2B FLEX Bus, 2R25-S067 (continued)

Instrument Number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
2T47-R627	- Torus Water Temperature - Drywell Air Temperature - Drywell Temperature in the Vicinity of the Reference Legs.	Recorder	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Items 9 and 10 And LCO 3.6.2.1[10] "Suppression Pool Average Temperature" And LCO 3.6.1.5[9], "Drywell Air Temperature"	EA-12-049
2T48-R631B	Drywell Pressure (mid range)	Recorder	Essential Cabinet 2R25-S037	FLEX Bus 2R25-S067	LCO 3.3.3.1, Table 3.3.3.1-1 Item 4a	NA
2D11-K621B	- Drywell Area Radiation (wide-range)	Indicator	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 5 And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
2P41-R612	Plant Service Water River Level	Indicating Switch	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.7.2[12], "Plant Service Water and Ultimate Heat Sink"	NA

Table E.6 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2B FLEX Bus, 2R25-S067

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T48-F321	Drywell Nitrogen Make-up Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F322	Drywell Nitrogen Make-up Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F325	Torus Nitrogen Make-up Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F327	Torus Nitrogen Make-up Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves	NA

Table E.6 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2B FLEX Bus, 2R25-S067 (continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T48-F334B	Drywell Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F335B	Drywell Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F332B	Torus Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.6 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2B FLEX Bus, 2R25-S067 (continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T48-F333B	Torus Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F361B	Torus Instrument Isolation Valve (power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F362B	Torus Instrument Isolation Valve (power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.6 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2B FLEX Bus, 2R25-S067 (continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T48-F363B	Torus Instrument Isolation Valve (power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F364B	Torus Instrument Isolation Valve (power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2E11-F041D	Drywell Pressure Sensing Line Isolation Air Operated Valve (power to controlling valves 2E11-F219 and 2E11-F220 and power to indicating lights)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.6 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2B FLEX Bus, 2R25-S067 (continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2E11-F041B	Drywell Pressure Sensing Line Isolation Air Operated Valve (power to controlling valves 2E11-F215 and 2E11-F216 and power to indicating lights)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 6, and LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2G51-F012	Torus Vacuum Drag Valve (power to close on low torus level)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
2T48-F308	Drywell Purge Outboard Isolation Valve (close signal from high radiation)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.1.3, "Primary Containment Isolation Valves" And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA

Table E.6 – Hatch Unit 2 Primary Containment Isolation Valves (PCIVs) Relocated to the 2B FLEX Bus, 2R25-S067 (continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T48-F324	Torus Air Purge Outboard Isolation Valve (close signal from high radiation)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.1.3, "Primary Containment Isolation Valves" And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
2T48-F320	Drywell Vent Outboard Isolation Valve (close signal from high radiation)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.1.3, "Primary Containment Isolation Valves" And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
2T48-F326	Torus Vent Outboard Isolation Valve (close signal from high radiation)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.1.3, "Primary Containment Isolation Valves" And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA

Table E.7 – Hatch Unit 2 Secondary Containment Isolation Valves (SCIVs) Relocated to the 2B FLEX Bus, 2R25-S067

SCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T46-F001B	Reactor Building Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus R25-S067	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
2T41-F011B	Reactor Building Outboard Vent Supply Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
2T41-F044B	Reactor Building Inaccessible Area Outboard Vent Exhaust Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus R25-S067	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
2T41-F003B	Refueling Floor Outboard Vent Supply Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
2T41-F023B	Refueling Floor Outboard Vent Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA

Table E.8 – Hatch Unit 2 Miscellaneous Items Relocated to the 2B FLEX Bus, 2R25-S067

Component	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
2T41	Logic power for the initiation of Unit 1 and 2 Standby Gas Treatment System from a Unit 2 Reactor Building and Refueling Floor High Radiation signal from Division II logic.	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.6.2[2] "Secondary Containment Isolation Instrumentation"	NA
2T41	Logic power for the isolation of the Unit 1 Reactor Building and Refueling Floor Ventilation Fans from a Unit 2 Division II Reactor Building Ventilation System High Radiation signal.	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.3.6.2[2] "Secondary Containment Isolation Instrumentation"	NA
2T46	Power to Standby Gas Treatment system Filter Train 'B' Control Logic	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.4.3[4], "Standby Gas Treatment System"	NA
2T46-F002B	Standby Gas Treatment System 1B Outlet Damper (control power and power to indicating lights).	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.4.3[4], "Standby Gas Treatment System"	NA
2T48-F081	SGTS Inlet Isolation Bypass Valve	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	LCO 3.6.4.3[4], "Standby Gas Treatment System"	NA
2T48-F082	Main Stack Vent Path Valve (Hardened Vent)	Instrument Bus 2R25-S065	FLEX Bus 2R25-S067	NA	NA

Table E.9 – Hatch Unit 1 Critical Instruments Relocated to the 1A FLEX Bus, 1R25-S066

Instrument number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
1T48-R601A	- Drywell Radiation (wide-range) - - Drywell Pressure (wide range)	Recorder	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Items 4c and 5 And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
1T47-R611	- Torus Water Temperature - Drywell Air Temperature - Drywell Temperature in the Vicinity of the Reference Legs	Recorder	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Items 9 and 10 And LCO 3.6.2.1[10], "Suppression Pool Average Temperature" And LCO 3.6.1.5[9], "Drywell Air Temperature"	EA-12-049
1T48-R608	Drywell Pressure (mid range)	Recorder	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 4a	EA-12-049

Table E.9 – Hatch Unit 1 Critical Instruments Relocated to the 1A FLEX Bus, 1R25-S066 (continued)

Instrument number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
1T48-R607A	- Torus Water Level (narrow range) - Drywell Pressure (narrow range)	Recorder	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 3b and 4b And LCO 3.6.2.2[11], "Suppression Pool Water Level" And LCO 3.6.1.4[6], "Drywell Pressure" And LCO 3.5.2[7], "ECCS Shutdown"	EA-12-049
1D11-K621A	Drywell Radiation (Wide Range)	Indicator	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 5 And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
1E11-R602A	RHR Service Water Flow	Indicator	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 12	NA

Table E.9 – Hatch Unit 1 Critical Instruments Relocated to the 1A FLEX Bus, 1R25-S066 (continued)

Instrument number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
1T48-R647	Torus Water Temperature	Recorder	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 9 And LCO 3.6.2.1[10], "Suppression Pool Average Temperature"	NA
1B21-R623A	- Reactor Water Level (fuel zone) - Reactor Pressure	Recorder	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Items 1 and 2a	NA
1R43-R900A	- Diesel Generator '1A' Day Tank Fuel Level	Indicator	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.8.1[6], "AC Sources – Operating"	NA

Table E.10 – Hatch Unit 1 Primary Containment Isolation Valves (PCIVs) Relocated to the 1A FLEX Bus, 1R25-S066

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1T48-F113	Drywell Nitrogen Make-Up Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F114	Drywell Nitrogen Make-Up Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F115	Torus Nitrogen Make-Up Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F116	Torus Nitrogen Make-Up Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.10 – Hatch Unit 1 Primary Containment Isolation Valves (PCIVs) Relocated to the 1A FLEX Bus, 1R25-S066 (continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1T48-F334A	Drywell Ventilation Exhaust Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F335A	Drywell Ventilation Exhaust Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F332A	Torus Ventilation Exhaust Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F333A	Torus Ventilation Exhaust Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.3.1, Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.10 – Hatch Unit 1 Primary Containment Isolation Valves (PCIVs) Relocated to the 1A FLEX Bus, 1R25-S066 (continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1T48-F307	Drywell Purge Inboard Isolation Valve (control power)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F309	Torus Air Purge Inboard Isolation Valve (control power)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F319	Drywell Vent Inboard Isolation Valve (control power)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F318	Torus Vent Inboard Isolation Valve (control power)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.11 – Hatch Unit 1 Secondary Containment Isolation Valves (SCIVs) Relocated to the 1A FLEX Bus, 1R25-S066

SCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1T41-F011A	Reactor Building Inboard Ventilation Supply Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
1T41-F043A	Reactor Building Accessible Area Inboard Ventilation Exhaust Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
1T41-F044A	Reactor Building Inaccessible Area Inboard Ventilation Exhaust Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
1T41-F032A	Standby Gas Treatment Inlet from Reactor Building (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
1T41-F003A	Refueling Floor Inboard Ventilation Supply Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA
1T41-F023A	Refueling Floor Inboard Ventilation Exhaust Isolation Valve (control power and power to indicating lights)	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.2, "Secondary Containment Isolation Valves"	NA

Table E.12 – Hatch Unit 1 Miscellaneous Items Relocated to the 1A FLEX Bus, 1R25-S066

Component	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1Z41	Control power and power to indicating lights for several control room heating and ventilation system valves.	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.7.4[5] and 3.7.5[3], "Main Control Room Environmental Control System" And "Control Room Air Conditioning System"	NA
1T46-F001A	Standby Gas Treatment System 1A Inlet Damper (control power and power to indicating lights).	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.3[4] "Standby Gas Treatment System"	NA
1T46-F002A	Standby Gas Treatment System 1A Outlet Damper (control power and power to indicating lights).	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.3[4] "Standby Gas Treatment System"	NA
1T46-F003A	Standby Gas Treatment System 1A Fan Suction Damper (control power and power to indicating lights).	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.3[4] "Standby Gas Treatment System"	NA
1T46-F004A	Standby Gas Treatment System 1A Filter Discharge Damper (control power and power to indicating lights).	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.3[4] "Standby Gas Treatment System"	NA
1T46-F005	Standby Gas Treatment System Discharge Damper to Main Stack (control power and power to indicating lights).	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.3[4] "Standby Gas Treatment System"	NA
1T41	Power to isolation logic to the Reactor Building Ventilation fans from a High Radiation or LOCA Division I logic signal	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.6.2[2] "Secondary Containment Isolation Instrumentation"	NA

Table E.12 – Hatch Unit 1 Miscellaneous Items Relocated to the 1A FLEX Bus, 1R25-S066 (continued)

Component	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1T41	Power to isolation logic to the Unit 2 Reactor Building Ventilation fans from a Unit 1 Reactor Building Ventilation System High Radiation or LOCA Division I logic signal.	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.6.2[2] "Secondary Containment Isolation Instrumentation"	NA
1T46	Power to the Standby Gas Treatment System Train 'A' relay logic	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.6.4.3[4], "Standby Gas Treatment System"	NA
1T41	Power for the automatic initiation of the Unit 2 SBGT system on a Unit 1 Division I refueling area ventilation system high radiation signal or reactor building ventilation high radiation signal.	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.6.2[2] "Secondary Containment Isolation Instrumentation"	NA
1Z41	Power to the Control Room Inlet Air High Radiation , Control Room Pressurization Mode Trip Logic, Channel A.	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.3.7.1[5] "Main Control Room Environmental Control System Instrumentation"	NA
1Z41	Power to automatic start logic for the 'A' Main Control room Environmental Control and Air Conditioning System booster fan.	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.7.4[5] and 3.7.5[3], "Main Control Room Environmental Control System" and "Control Room Air Conditioning System"	NA
1Z41	Power to the operation of Main Control Room Air Conditioner 3A with the Control Switch in "RUN".	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.7.4[5] and 3.7.5[3], "Main Control Room Environmental Control System" and "Control Room Air Conditioning System"	NA

Table E.12 – Hatch Unit 1 Miscellaneous Items Relocated to the 1A FLEX Bus, 1R25-S066 (continued)

Component	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1Z41	Logic power to close the MCREC and Control Room Air Conditioner 3B inlet and discharge isolation dampers on a Division I signal, and Control Room Filter Train 'A' low flow failure logic.	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.7.4[5] and 3.7.5[3], "Main Control Room Environmental Control System" and "Control Room Air Conditioning System"	NA
1G11	Power to radiation indicating switch, 1D11-K623, for Drywell Floor Drain Sump Pumps, 1G11-C001A and C001B.	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.4.5[1], "Reactor Coolant System Leakage Detection Instrumentation"	NA
1E21	Power to inboard and outboard Suction Valves 1E21-F069A and 1E21-F070A for Core Spray Jockey Pump 1E21-C002A	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.5.1[7], "ECCS – Operating"	NA
1T41	Power to Operate Safeguard Equipment Cooling System; Room Coolers to ECCS, CRD, and RCIC systems	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.5.1[7], "ECCS – Operating"	NA
1Z41	Power to Control Room Pressurization Mode Trip Channel 'A'	Instrument Bus 1R25-S064	FLEX Bus 1R25-S066	LCO 3.7.4[5], "Main Control Room Environmental Control System"	NA

Table E.13 – Hatch Unit 1 Critical Instruments Relocated to the 1B FLEX Bus, 1R25-S067

Instrument number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
1T48-R601B	- Drywell Area Radiation (wide-range) -Drywell Pressure (wide range)	Recorder	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Items 4c and 5 And "LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
1T47-R612	- Torus Water Temperature - Drywell Air Temperature - Drywell Temperature in the Vicinity of the Reference Legs	Recorder	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 9 and 10 And LCO 3.6.2.1[10], "Suppression Pool Average Water Temperature" And LCO 3.6.1.5[9], "Drywell Air Temperature"	EA-12-049

Table E.13 – Hatch Unit 1 Critical Instruments Relocated to the 1B FLEX Bus, 1R25-S067 (continued)

Instrument number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
1T48-R609	Drywell Pressure (mid range)	Recorder	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 4a	EA-12-049
1T48-R607B	Torus Water Level (narrow range) and Drywell Pressure (narrow range)	Recorder	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 3b and 4b And LCO 3.6.2.2[11], "Suppression Pool Water Level" And LCO 3.6.1.4[8], "Drywell Pressure" And, LCO 3.5.2[7], "ECCS Shutdown"	EA-12-049

Table E.13 – Hatch Unit 1 Critical Instruments Relocated to the 1B FLEX Bus, 1R25-S067 (continued)

Instrument number	Description	Instrument Type	Relocated		Applicable Tech Specs	Applicable Order
			Original Power Source	Proposed Power Source		
1D11-K621B	Drywell Radiation (Wide Range)	Indicator	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, "Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 5 And LCO 3.3.6.1, "Primary Containment Isolation Instrumentation"	NA
1E11-R602B	RHR Service Water Flow	Indicator	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	"Post Accident Monitoring Instrumentation" Table 3.3.3.1-1 Item 12	NA

Table E.14 – Hatch Unit 1 Primary Containment Isolation Valves (PCIVs) Relocated to the 1B FLEX Bus, 1R25-S067

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1T48-F308	Drywell Purge Outboard Isolation Valve (logic power)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48 F324	Torus Air Purge Outboard Isolation Valve (logic power)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F320	Drywell Vent Outboard Isolation Valve (logic power)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F326	Torus Vent Outboard Isolation Valve (logic power)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F321	Drywell Nitrogen Makeup Isolation Valve (control power and power to position indication)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, Post Accident Monitoring Instrumentation", Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F322	Drywell Nitrogen Makeup Isolation Valve (control power and power to position indication)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, Post Accident Monitoring Instrumentation", Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.14 – Hatch Unit 1 Primary Containment Isolation Valves (PCIVs) Relocated to the 1B FLEX Bus, 1R25-S067 (continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1T48-F325	Torus Nitrogen Makeup Isolation Valve (control power and power to position indication)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, Post Accident Monitoring Instrumentation", Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F327	Torus Nitrogen Makeup Isolation Valve (control power and power to position indication)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, Post Accident Monitoring Instrumentation", Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F334B	Drywell Ventilation Exhaust Isolation Valve	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, Post Accident Monitoring Instrumentation", Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.14 – Hatch Unit 1 Primary Containment Isolation Valves (PCIVs) Relocated to the 1B FLEX Bus, 1R25-S067 (continued)

PCIV	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1T48-F335B	Drywell Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, Post Accident Monitoring Instrumentation", Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48 F332B	Torus Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, Post Accident Monitoring Instrumentation", Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA
1T48-F333B	Torus Ventilation Exhaust Isolation Valve (control power and power to position indication)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.3.3.1, Post Accident Monitoring Instrumentation", Table 3.3.3.1-1 Item 6, LCO 3.6.1.3, "Primary Containment Isolation Valves"	NA

Table E.15 – Hatch Unit 1 Miscellaneous Items Relocated to the 1B FLEX Bus, 1R25-S067

Component	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1Z41	Power to the MCREC and Control Room Air Conditioning Filter Train Low Flow Failure Logic and Electric Heater 1B Damper Position.	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.7.4[5] and 3.7.5[3], "Main Control Room Environmental Control system" And "Control Room Air Conditioning System"	NA
1Z41	Power to several Control Room Heating and Ventilation System dampers and power to indicating lights.	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.7.4[5] and3.7.5[3], "Main Control Room Environmental Control System" And "Control Room Air Conditioning System"	NA
1Z41	Power to the automatic start of AC Unit 3B after the loss of redundant AC unit.	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.7.4[5] and3.7.5[3], "Main Control Room Environmental Control System" And "Control Room Air Conditioning System"	NA

Table E.15 – Hatch Unit 1 Miscellaneous Items Relocated to the 1B FLEX Bus, 1R25-S067 (continued)

Component	Description	Relocated		Applicable Tech Specs	Applicable Order
		Original Power Source	Proposed Power Source		
1Z41	Power to the operation of AC Unit 3C with the control switch in "RUN".	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.7.4[5] and 3.7.5[3], "Main Control Room Environmental Control system" And "Control Room Air Conditioning System"	NA
1Z41	Power to the low flow trip of AC Unit 3B.	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.7.4[5] and3.7.5[3], "Main Control Room Environmental Control System" And "Control Room Air Conditioning System"	NA
1Z41	Power to the automatic start of booster fan 1Z41-C012A with the control switch in "AUTO"	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.7.4[5] and3.7.5[3], "Main Control Room Environmental Control System" And "Control Room Air Conditioning System"	NA
1T48-F081	SGTS Inlet Isolation Bypass Valve	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	LCO 3.6.4.3[4], "Standby Gas Treatment System"	NA
1T48-F082	Main Stack Vent Path Valve (Hardened Vent)	Instrument Bus 1R25-S065	FLEX Bus 1R25-S067	NA	NA

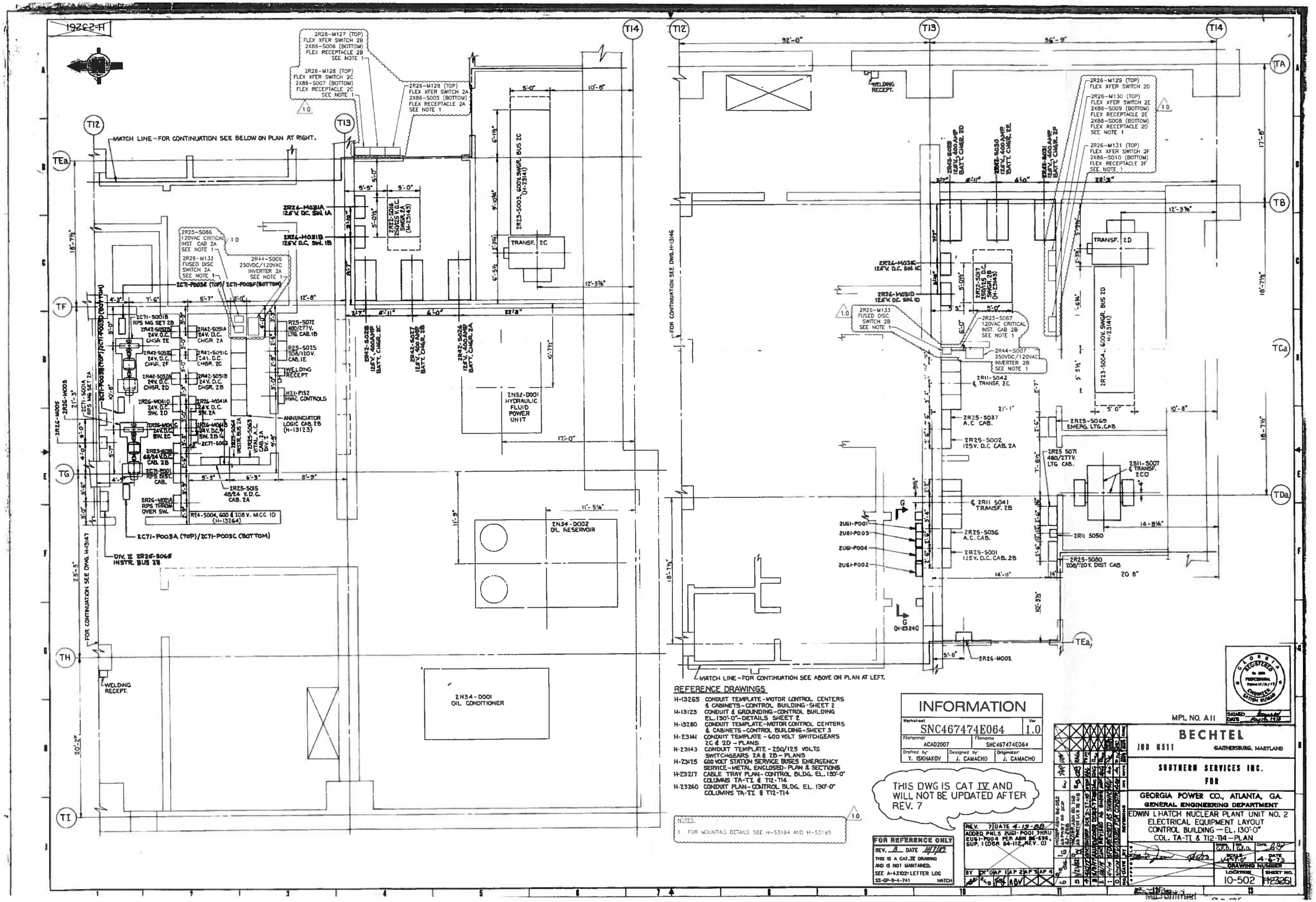
Notes

1. Leakage detection systems for the RCS are provided to alert the operators when leakage rates above normal background levels are detected and also to supply quantitative measurements of leak rates.
   Limits on leakage from the reactor coolant pressure boundary (RCPB) are needed so that appropriate actions can be taken before the RCPB is impaired.
2. The secondary containment isolation instrumentation automatically initiates closure of appropriate secondary containment isolation valves (SCIVs) and starts the Standby Gas Treatment (SGT) System. The function of these systems, in combination with other accident mitigation systems, is to limit fission product release during and following postulated Design Basis Accidents (DBAs).
3. The Control Room Air Conditioning System provides a temperature controlled environment in the Control Room for both personnel and equipment protection under both normal and accident conditions.
4. The Standby Gas Treatment System ensures that radioactive materials that leak from the primary containment into the secondary containment following a Design Basis Accident are filtered and adsorbed prior to exhausting to the environment.
5. The Main Control Room Environmental Control System provides a radiologically controlled environment in the Control Room from which the unit can be safely operated following a Design Basis Accident. The instrumentation system automatically initiates action to pressurize the control room, minimizing the consequences of radioactive material in the control room.
6. The Diesel Generators ensure an available source of power to Engineered Safety Systems during accident conditions. The instrument provides indication of fuel oil for the diesel generators as required by Surveillance Requirement 3.8.1.3.
7. The Emergency Core Cooling Systems, in conjunction with the primary and secondary containments, limit the release of radioactive materials to the environment following a Loss of Coolant Accident. The Core Spray Jockey pumps ensure the Core Spray discharge lines are kept full of water to minimize waterhammer effects and to ensure rapid delivery of water to the reactor vessel.
8. The drywell pressure is limited during normal operations to preserve the initial conditions assumed in the design basis accident analysis.
9. The drywell air temperature is limited during normal operations to preserve the initial conditions assumed in the design basis accident analysis.
10. A limitation on suppression pool average temperature ensures that peak primary containment pressures and temperatures do not exceed maximum allowable values during a postulated design basis accident or any transient resulting in heatup of the suppression pool.
11. A limit on suppression pool level, both high and low, is required to ensure that the primary containment conditions assumed for the safety analyses are met.
12. The Plant Service Water system is designed to provide cooling water for the removal of heat from safety related components required for safe reactor shutdown following a design basis accident or transient.

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to NRC Request for Additional Information Regarding
Request to Add Critical Instrument Electrical Bus in LCO 3.8.7

Attachment 1

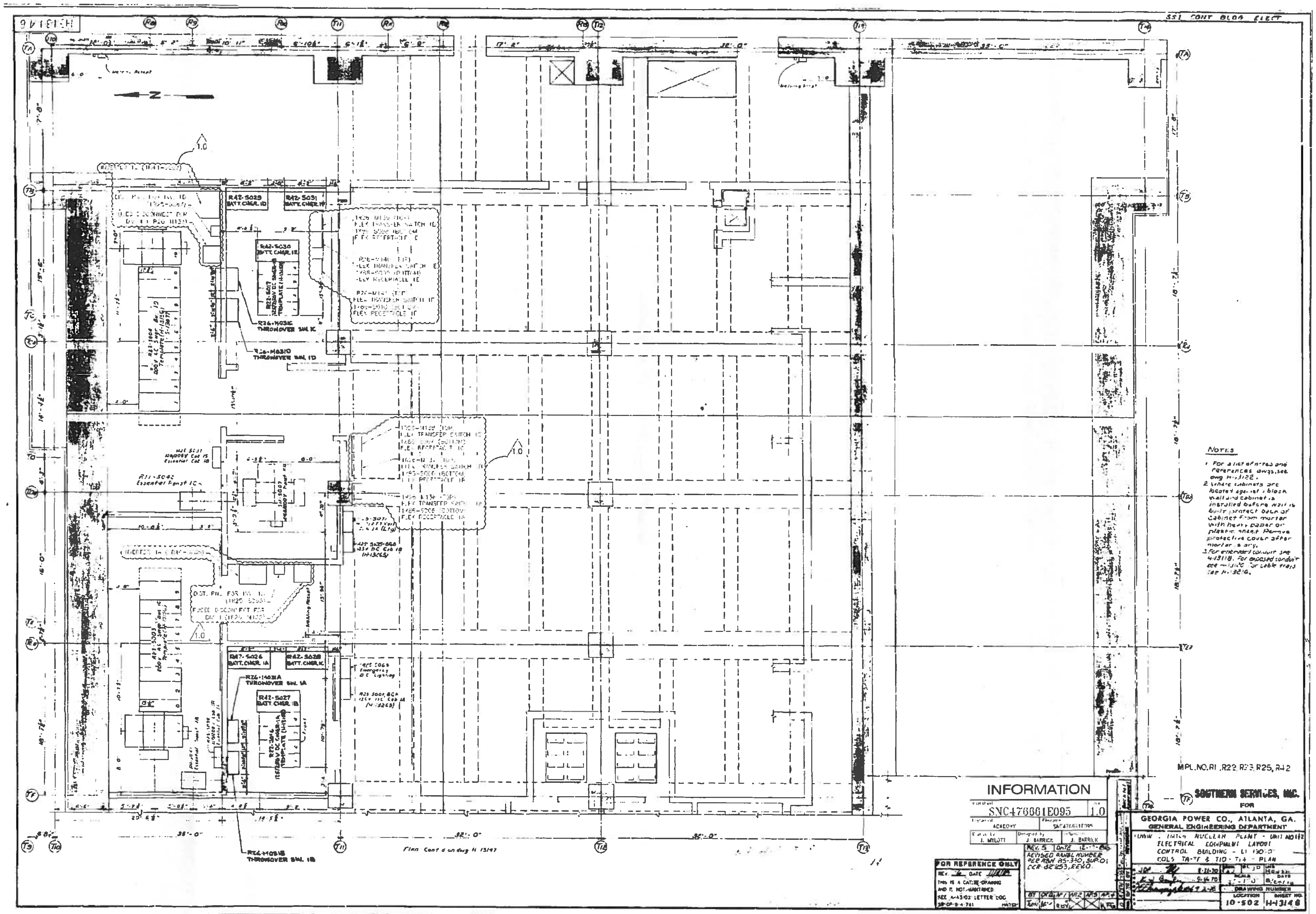
Location of Unit 2 FLEX Bus 1R25 S066 and 1R25-S067


H-23261
MATCH LINE - FOR CONTINUATION SEE BELOW ON PLAN AT RIGHT.
MATCH LINE - FOR CONTINUATION SEE ABOVE ON PLAN AT LEFT.
FOR CONTINUATION SEE DWG. H-13147
FOR CONTINUATION SEE DWG. H-13146
2N34-D001 OIL CONDITIONER
2N34-D002 OIL RESERVOIR
2N32-D001 HYDRAULIC FLUID POWER UNIT
2R23-S003, 600V. SWGR. BUS 2C (H-23141)
2R23-S004, 600V. SWGR. BUS 2D (H-23141)
TRANSF. 2C
TRANSF. 2D
2R22-S016 250/125 V.D.C. SWGR. 2A (H-23143)
2R22-S017 250/125 V.D.C. SWGR. 2B (H-23143)
2R42-S026 125V., 400 AMP BATT. CHGR. 2A
2R42-S027 125V., 400 AMP BATT. CHGR. 2B
2R42-S028 125V., 400 AMP BATT. CHGR. 2C
2R42-S029 125V., 400 AMP BATT. CHGR. 2D
2R42-S030 125V., 400 AMP BATT. CHGR. 2E
2R42-S031 125V., 400 AMP BATT. CHGR. 2F
WELDING RECEPT.
REFERENCE DRAWINGS
H-13265 CONDUIT TEMPLATE - MOTOR CONTROL CENTERS & CABINETS - CONTROL BUILDING - SHEET 2
H-13123 CONDUIT & GROUNDING - CONTROL BUILDING EL. 130'-0" - DETAILS SHEET 2
H-13280 CONDUIT TEMPLATE - MOTOR CONTROL CENTERS & CABINETS - CONTROL BUILDING - SHEET 3
H-23141 CONDUIT TEMPLATE - 600 VOLT SWITCHGEARS 2C & 2D - PLANS
H-23143 CONDUIT TEMPLATE - 250/125 VOLTS SWITCHGEARS 2A & 2B - PLANS
H-23125 600 VOLT STATION SERVICE BUSES EMERGENCY SERVICE - METAL ENCLOSED - PLAN & SECTIONS
H-23217 CABLE TRAY PLAN - CONTROL BLDG. EL. 130'-0" COLUMNS TA-TI & T12-T14
H-23240 CONDUIT PLAN - CONTROL BLDG. EL. 130'-0" COLUMNS TA-TI & T12-T14
NOTES:
1. FOR MOUNTING DETAILS SEE H-53194 AND H-53195.
INFORMATION
SNC467474E064 1.0
Drafted by: Y. ISKHAKOV
Designed by: J. CAMACHO
Originator: J. CAMACHO
THIS DWG IS CAT IV AND WILL NOT BE UPDATED AFTER REV. 7
FOR REFERENCE ONLY
BECHTEL
JOB 6511 GAITHERSBURG, MARYLAND
SOUTHERN SERVICES INC.
FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
EDWIN I. HATCH NUCLEAR PLANT UNIT NO. 2
ELECTRICAL EQUIPMENT LAYOUT
CONTROL BUILDING - EL. 130'-0"
COL. TA-TI & T12-T14 - PLAN
MPL NO. A11
10-502 H-23261

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to NRC Request for Additional Information Regarding
Request to Add Critical Instrument Electrical Bus in LCO 3.8.7

Attachment 2

Location of Unit 1 FLEX Buses 2R25 S066 and 2R25-S067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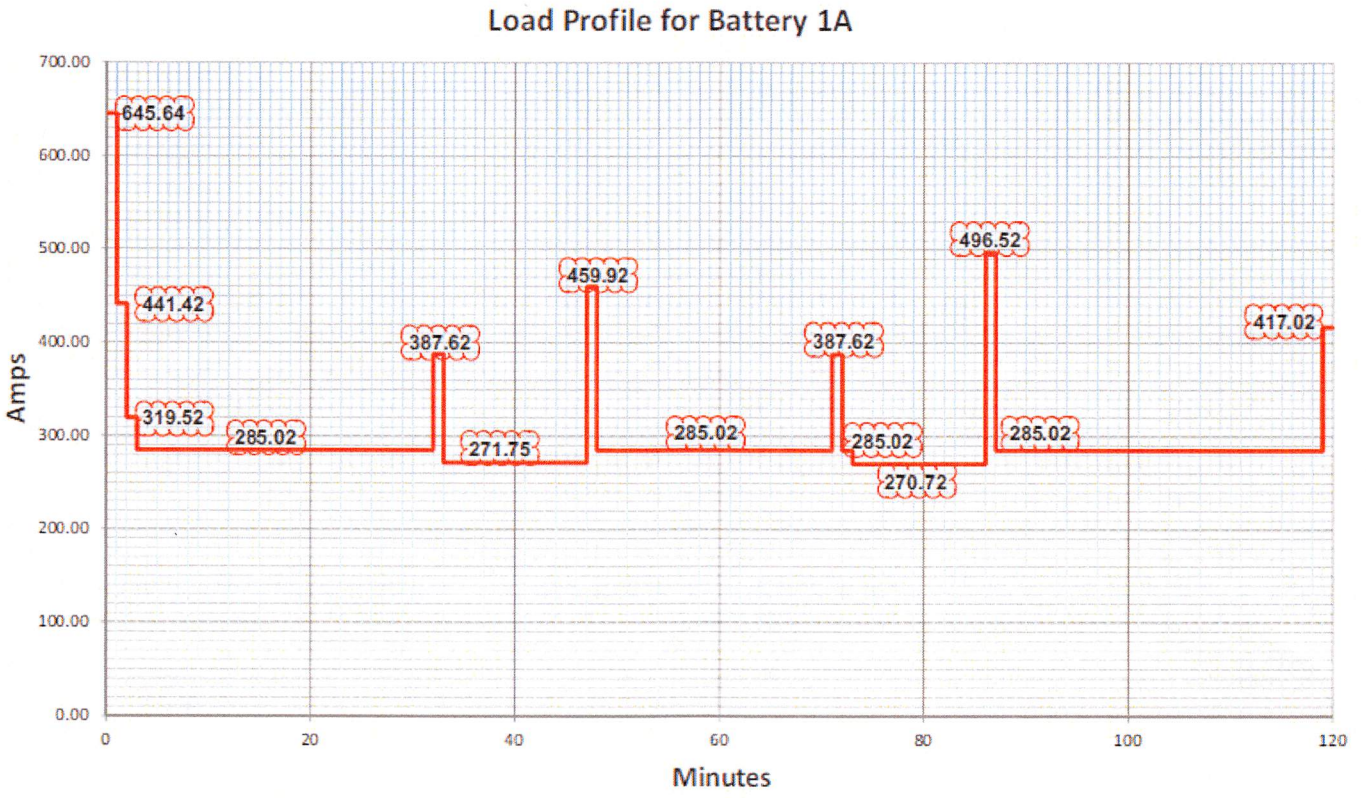
SOUTHERN SERVICES, INC.
FOR
GEORGIA POWER CO., ATLANTA, GA.
GENERAL ENGINEERING DEPARTMENT
ELECTRICAL EQUIPMENT LAYOUT
CONTROL BUILDING
FOR REFERENCE ONLY
MPL NO. R1, R22, R23, R25, R42
R42-S025 BATT. CHGR. 1D
R42-S031 BATT. CHGR. 1F
R42-S030 BATT. CHGR. 1E
R26-H031C THROWOVER SW. 1C
R26-H031D THROWOVER SW. 1D
R42-S026 BATT. CHGR. 1A
R42-S028 BATT. CHGR. 1C
R26-H031A THROWOVER SW. 1A
R42-S027 BATT. CHGR. 1B
R26-H031B THROWOVER SW. 1B
10-502
H-13146

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to NRC Request for Additional Information Regarding
Request to Add Critical Instrument Electrical Bus in LCO 3.8.7

Attachment 3

Load Profiles of Station Batteries


Load Profile for Battery 1A
Amps
Minutes
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400.00
300.00
200.00
100.00
0.00
0
20
40
60
80
100
120
645.64
441.42
319.52
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387.62
271.75
459.92
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387.62
285.02
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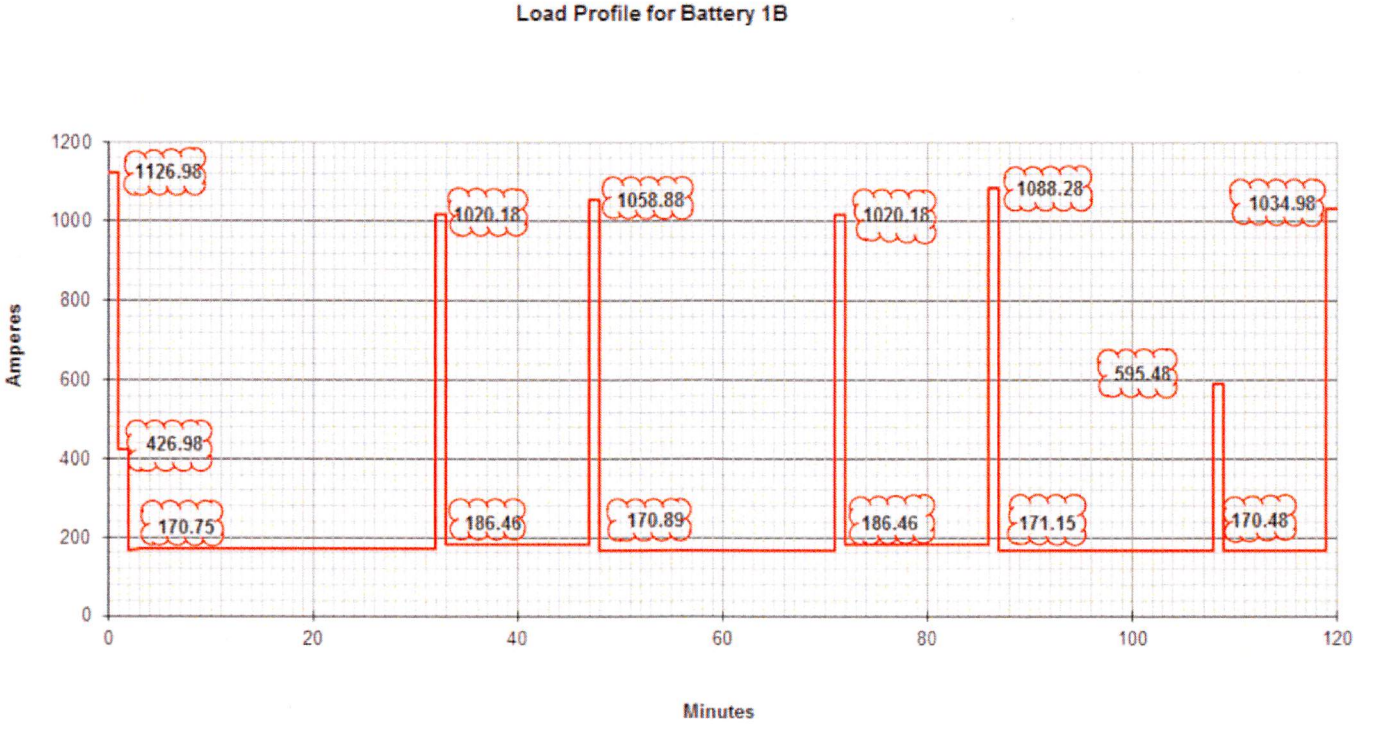
496.52
285.02
417.02


Load Profile for Battery 1B
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Minutes
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800
600
400
200
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20
40
60
80
100
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170.75
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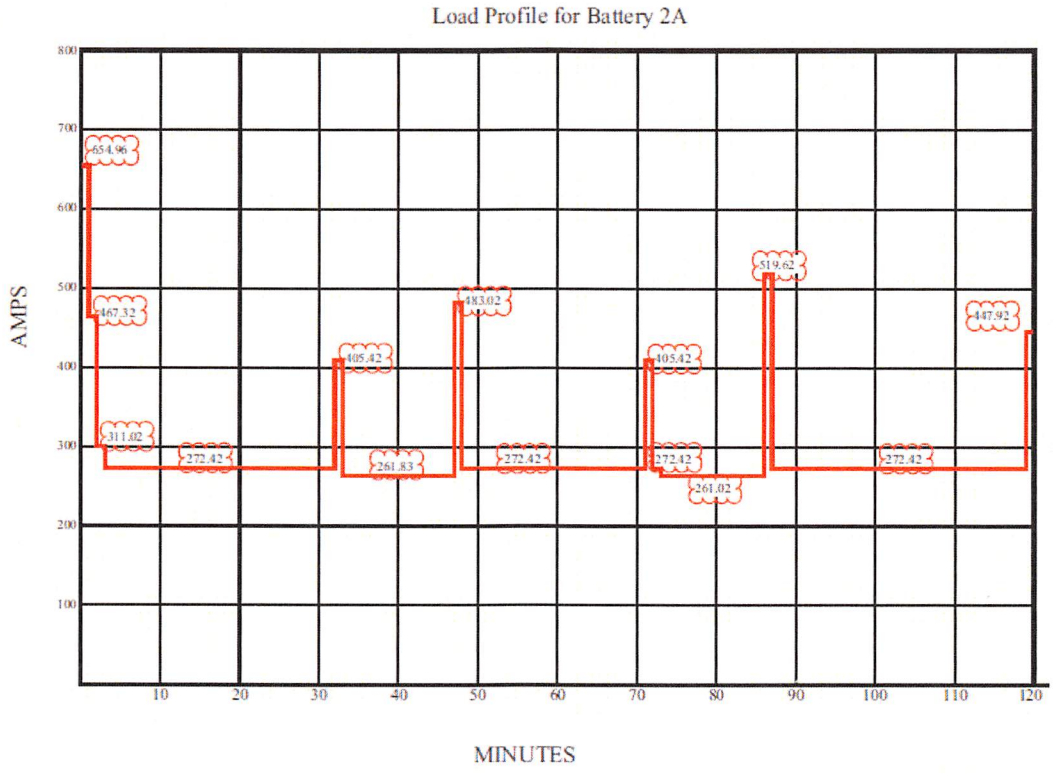
171.15
1034.98
170.48


Load Profile for Battery 2A
AMPS
MINUTES
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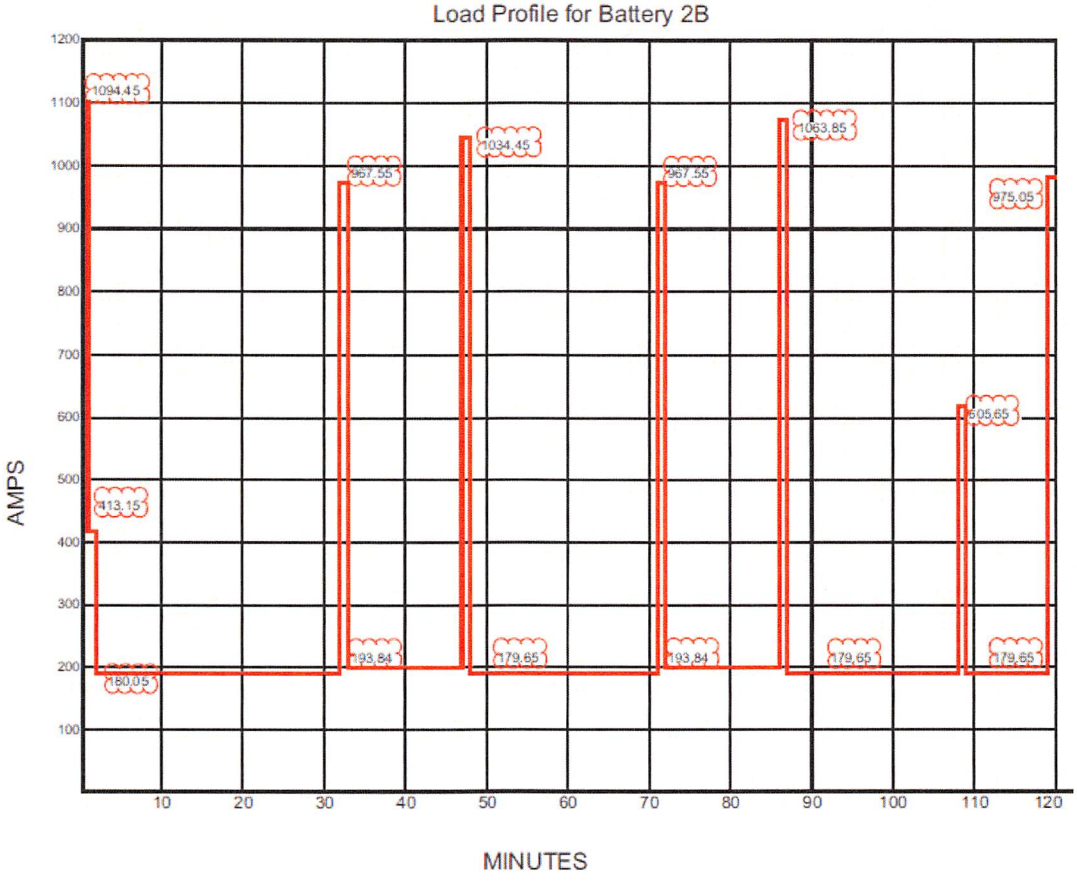
311.02
272.42
405.42
261.83
483.02
272.42
405.42
272.42
261.02
519.62
272.42
447.92


Load Profile for Battery 2B
AMPS
MINUTES
1094.45
413.15
180.05
967.55
193.84
1034.45
179.65
967.55
193.84
1063.85
179.65
975.05
605.65
179.65