



Jamey Sharlow
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Harris Nuclear Plant
5413 Shearon Harris Road
New Hill, NC 27562-9300

10 CFR 50.4(b)(5)(ii)
10 CFR 50.54(q)(5)

July 12, 2022
Serial: RA-22-0214

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

Shearon Harris Nuclear Power Plant, Unit 1
Docket No. 50-400/Renewed License No. NPF-63

Subject: 10 CFR 50.54(q) Evaluation

Ladies and Gentlemen:

In accordance with 10 CFR 50.4(b)(5)(ii) and 10 CFR 50.54(q)(5), Duke Energy Progress, LLC, is submitting the 10 CFR 50.54(q) Review Form for revisions to the Shearon Harris Nuclear Power Plant, Unit 1, Emergency Action Level (EAL) Technical Basis Document and the EAL Wallchart Document. CSD-EP-HNP-0101-01, "EAL Technical Basis Document," Revision 3, and CSD-EP-HNP-0101-02, "EAL Wallchart (Both Hot and Cold)," Revision 2, were issued on June 16, 2022.

This submittal contains no regulatory commitments. Please refer any questions regarding this submittal to Sarah McDaniel at (984) 229-2002.

Sincerely,

A handwritten signature in black ink, appearing to be "J Sharlow", written over a large, stylized "Z" or "2".

Jamey Sharlow

Enclosure: 10 CFR 50.54(q) Review Form for CSD-EP-HNP-0101-01, Revision 3, and
CSD-EP-HNP-0101-02, Revision 2

cc: C. Smith, NRC Senior Resident Inspector, HNP
M. Mahoney, NRC Project Manager, HNP
NRC Regional Administrator, Region II

Document Control Desk
Serial: RA-22-0214
Enclosure

ENCLOSURE

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-400/RENEWED LICENSE NUMBER NPF-63

10 CFR 50.54(Q) REVIEW FORM FOR

CSD-EP-HNP-0101-01, REVISION 3, AND CSD-EP-HNP-0101-02, REVISION 2

(32 PAGES PLUS COVER)

EMERGENCY PLAN CHANGE SCREENING AND EFFECTIVENESS EVALUATIONS 10 CFR 50.54(Q)	AD-EP-ALL-0602
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Section I: 10 CFR 50.54(q) Review Number: (EREG #):				2384809	
Applicable Sites and Applicability Determination # (5AD)					
<input type="checkbox"/> BNP		<input type="checkbox"/> CNS		<input checked="" type="checkbox"/> HNP	2397188, 2397201, 2402279
<input type="checkbox"/> MNS		<input type="checkbox"/> ONS		<input type="checkbox"/> RNP	
Document #, EC #, or N/A	Revision # or N/A	Document or Activity Title			
CSD-EP-HNP-0101-01	Revision 3	EAL <i>[Emergency Action Level]</i> Technical Basis Document			
CSD-EP-HNP-0101-02	Revision 2	EAL Wallchart (Both Hot and Cold)			

Section II: Identify/Describe All Proposed Activities/Changes being Reviewed
Event or action, or series of actions that may result in a change to the emergency plan or affect the implementation of the emergency plan (Use attachments, or continue additional pages as necessary): Continue to Section III .

Activity/Changes:

CSD-EP-HNP-0101-01, EAL Technical Basis Document, is the EAL technical basis document for Harris and CSD-EP-HNP-0101-02, EAL Wallchart (Both Hot and Cold), is the EAL Wallchart for Harris Nuclear Plant (HNP). This proposed change incorporates several Document Revision Requests (DRRs), with changes detailed below. Major changes proposed include the following.

- The reference to the Residual Heat Removal (RHR) pump area, Reactor Auxiliary Building (RAB) 190, was removed from Table R-3/H-2, Safe Operation & Shutdown Rooms/Areas. This table listed the area as one in which operators need to physically access for normal shutdowns in Mode 4. Also, the Boric Acid Injection Tank (BIT) area, RAB 216, is no longer listed as an area requiring operator access for normal shutdowns in Modes 5 and 6. Operations review identified these areas as not requiring access by personnel during normal plant shutdowns.
- The EAL basis for CA3.1, used to declare events that cause unplanned RCS pressure increases while in Cold Shutdown, included the RCS wide range instruments as the recommended instrumentation for verifying a greater than 10 psig pressure increase occurred. The proposed change will list narrow range instruments instead, as these are more suitable for declaring an increase in RCS pressure of more than 10 psig.
- EAL SU8.1 is used to declare an event where an actual containment isolation signal was received and containment was not properly isolated. The proposed change clarifies potential confusion concerning receipt of a Main Steam Line Isolation signal.
- Numerous other more minor or editorial changes are also being made. Each change is detailed in the table below.

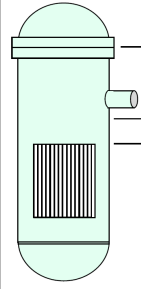
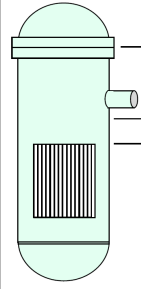
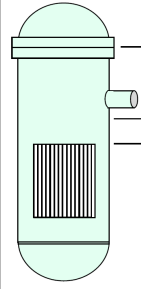
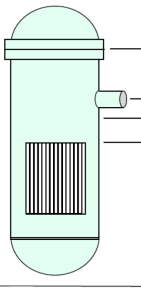
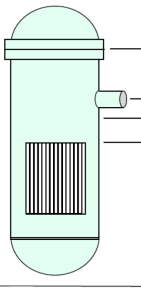
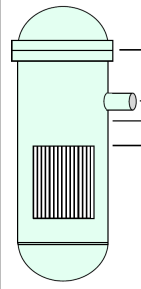
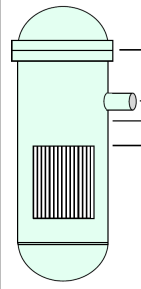
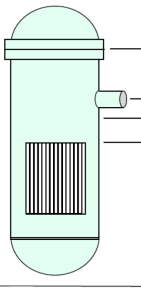
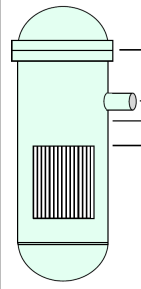
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#	Document, Section, Reference	Current (Existing) Text	Proposed (Change) Text
1	CSD-EP-HNP-0101-01, Footer	"Rev. 002"	"Rev. 003"
2	CSD-EP-HNP-0101-01, Table of Contents	Page numbers changed based on changes as documented below.	Table of Contents updated.
3	CSD-EP-HNP-0101-02, Footer	"Rev. 001"	"Rev. 002"
4	CSD-EP-HNP-0101-01, EAL Basis SG1.2 (Page 149)	Minimum bus voltage is 105 VDC (ref. 7, 9).	Minimum bus voltage is 105 VDC (ref. 7, 8).
5	CSD-EP-HNP-0101-01, Section 2.6 (Page 13)	<p>1 <u>Power Operations</u> K_{eff} ≥ 0.99 and reactor thermal power > 5% and average coolant temperature ≥ 350°F</p> <p>2 <u>Startup</u> K_{eff} ≥ 0.99 and reactor thermal power ≤ 5% average coolant temperature ≥ 350°F</p> <p>3 <u>Hot Standby</u> K_{eff} < 0.99 and average coolant temperature ≥ 350°F</p> <p>3 <u>Hot Shutdown</u> K_{eff} < 0.99 and average coolant temperature 350°F > T_{avg} > 200 °F (excluding decay heat)</p> <p>4 <u>Cold Shutdown</u> K_{eff} < 0.99 and average coolant temperature T_{avg} ≤ 200°F</p> <p>5 <u>Refueling</u> K_{eff} < 0.95 and average coolant temperature T_{avg} ≤ 140°F; fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed</p> <p>D <u>Defueled</u> All reactor fuel removed from reactor pressure vessel (full core off load during refueling or extended outage)</p>	<p>1 <u>Power Operations</u> K_{eff} ≥ 0.99 and reactor thermal power > 5% and average coolant temperature ≥ 350°F</p> <p>2 <u>Startup</u> K_{eff} ≥ 0.99 and reactor thermal power ≤ 5% average coolant temperature ≥ 350°F</p> <p>3 <u>Hot Standby</u> K_{eff} < 0.99 and average coolant temperature ≥ 350°F</p> <p>4 <u>Hot Shutdown</u> K_{eff} < 0.99 and average coolant temperature 350°F > T_{avg} > 200 °F (excluding decay heat)</p> <p>5 <u>Cold Shutdown</u> K_{eff} < 0.99 and average coolant temperature T_{avg} ≤ 200°F</p> <p>6 <u>Refueling</u> K_{eff} < 0.95 and average coolant temperature T_{avg} ≤ 140°F; fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed</p> <p>D <u>Defueled</u> All reactor fuel removed from reactor pressure vessel (full core off load during refueling or extended outage)</p>
6	CSD-EP-HNP-0101-01, EAL CU5.1 and EAL SU7.1 Basis (Pages 96 and 171)	PLP 201, Emergency Plan, Section 3.8	EP-ALL-EPLAN, Duke Energy Common Emergency Plan, Section 8.0

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7	CSD-EP-HNP-0101-01, Section 4.1.11 (Page 18)	PLP 201 Emergency Plan	EP-ALL-EPLAN Duke Energy Common Emergency Plan and EP-HNP-EPLAN-ANNEX, Duke Energy Harris Emergency Plan Annex																																																
8	CSD-EP-HNP-0101-01, EAL HU7.1, HA7.1, HS7.1 and HG7.1 Bases (Pages 131, 132, 134, and 136)	PLP-201, HNP Emergency Plan section 2.4, Assignment of Responsibility	EP-ALL-EPLAN, Duke Energy Common Emergency Plan, Section 3.0, Assignment of Responsibility																																																
9	CSD-EP-HNP-0101-01, EAL CA1.1 Basis (Page 65)	Loss of RCS inventory as indicated by LI-403 or RCS standpipe level < -82 in.	Loss of RCS inventory as indicated by LI-403 or RCS standpipe level < -82 in. (Figure C-RVLIS)																																																
10	CSD-EP-HNP-0101-01, EAL CA1.1 Basis (Page 66) EAL CS1.1 Basis (Page 70) EAL CS1.2 Basis (Page 72) EAL CG1.1 Basis (Page 78)	Added Figure C-RVLIS, from CSD-EP-HNP-0101-02, to the listed document and section.	<table><tr><th colspan="4">Reactor Vessel Levels (Figure C-RVLIS)</th></tr><tr><td></td><td>Plant El.</td><td>Standpipe</td><td>RVLIS Full Range</td></tr><tr><td></td><td>260.62'</td><td>0"</td><td>89%</td></tr><tr><td></td><td>253.75'</td><td>- 82"</td><td></td></tr><tr><td></td><td>252.04'</td><td>-----</td><td>70%</td></tr><tr><td></td><td>249.01'</td><td>-----</td><td>63%</td></tr></table>	Reactor Vessel Levels (Figure C-RVLIS)					Plant El.	Standpipe	RVLIS Full Range		260.62'	0"	89%		253.75'	- 82"			252.04'	-----	70%		249.01'	-----	63%																								
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12	CSD-EP-HNP-0101-01, EAL CS1.2 Basis (Page 71)	With CONTAINMENT CLOSURE established, RCS level < 63% RVLIS Full Range	With CONTAINMENT CLOSURE established, RCS level < 63% RVLIS Full Range (Figure C-RVLIS)																																																
13	CSD-EP-HNP-0101-01, EAL CG1.1 Basis (Page 76)	RCS level < 63% RVLIS Full Range for ≥ 30 min. (Note 1) AND Any Containment Challenge indication, Table C-2	RCS level < 63% RVLIS Full Range for ≥ 30 min. (Note 1) (Figure C-RVLIS) AND Any Containment Challenge indication, Table C-2																																																
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17	CSD-EP-HNP-0101-02, EAL CS1.2	With CONTAINMENT CLOSURE established, RCS level < 63% RVLIS Full Range	With CONTAINMENT CLOSURE established, RCS level < 63% RVLIS Full Range (Figure C-RVLIS)																																		
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19	CSD-EP-HNP-0101-01, EAL RA3.2 Basis (Page 58), EAL HA5.1 Basis (Page 127), and Attachment 3 (Page 233)	<table><tr><th colspan="2">Table R-3/H-2 Safe Operation & Shutdown Rooms/Areas</th></tr><tr><th>Room/Area</th><th>Mode(s)</th></tr><tr><td>RAB 190 (RHR pumps)</td><td>4</td></tr><tr><td>RAB 216 (BIT)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>RAB 236 (CSIP, Primary Sample Sink, AFW pumps, CCW pumps and HX, Boric Acid Transfer Pumps, Mezzanine Area)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>RAB 261 (RHR Heat Exchangers, Demin. Valve Gallery, VCT Valve Gallery)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>RAB 286 (Switchgear)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>Steam Tunnel</td><td>1, 2, 3, 4</td></tr><tr><td>ESW intakes</td><td>1, 2, 3, 4, 5</td></tr></table>	Table R-3/H-2 Safe Operation & Shutdown Rooms/Areas		Room/Area	Mode(s)	RAB 190 (RHR pumps)	4	RAB 216 (BIT)	1, 2, 3, 4, 5	RAB 236 (CSIP, Primary Sample Sink, AFW pumps, CCW pumps and HX, Boric Acid Transfer Pumps, Mezzanine Area)	1, 2, 3, 4, 5	RAB 261 (RHR Heat Exchangers, Demin. Valve Gallery, VCT Valve Gallery)	1, 2, 3, 4, 5	RAB 286 (Switchgear)	1, 2, 3, 4, 5	Steam Tunnel	1, 2, 3, 4	ESW intakes	1, 2, 3, 4, 5	<table><tr><th colspan="2">Table R-3/H-2 Safe Operation & Shutdown Rooms/Areas</th></tr><tr><th>Room/Area</th><th>Mode(s)</th></tr><tr><td>RAB 216 (BIT)</td><td>1, 2, 3</td></tr><tr><td>RAB 236 (CSIP, Primary Sample Sink, AFW pumps, CCW pumps and HX, Boric Acid Transfer Pumps, Mezzanine Area)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>RAB 261 (RHR Heat Exchangers, Demin. Valve Gallery, VCT Valve Gallery)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>RAB 286 (Switchgear)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>Steam Tunnel</td><td>1, 2, 3, 4</td></tr><tr><td>ESW intakes</td><td>1, 2, 3, 4, 5</td></tr></table>	Table R-3/H-2 Safe Operation & Shutdown Rooms/Areas		Room/Area	Mode(s)	RAB 216 (BIT)	1, 2, 3	RAB 236 (CSIP, Primary Sample Sink, AFW pumps, CCW pumps and HX, Boric Acid Transfer Pumps, Mezzanine Area)	1, 2, 3, 4, 5	RAB 261 (RHR Heat Exchangers, Demin. Valve Gallery, VCT Valve Gallery)	1, 2, 3, 4, 5	RAB 286 (Switchgear)	1, 2, 3, 4, 5	Steam Tunnel	1, 2, 3, 4	ESW intakes	1, 2, 3, 4, 5
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20	CSD-EP-HNP-0101-01, Basis Document Attachment 3 (Page 232)	MODE 4 (Hot Shutdown)/Mode 5 (Cold Shutdown) <ul style="list-style-type: none">• RAB 190 (RHR pumps)• RAB 216 (BIT)• RAB 236 (CSIP, Primary Sample Sink, AFW Pumps, CCW Pumps and HX, Boric Acid Transfer Pumps, Mezzanine Area)• RAB 261 (RHR Heat Exchangers, Demin Valve Gallery, VCT Valve Gallery)• RAB 286 (Switch Gear)• Steam Tunnel• ESW Structure (intakes)	MODE 4 (Hot Shutdown)/Mode 5 (Cold Shutdown) <ul style="list-style-type: none">• RAB 236 (CSIP, Primary Sample Sink, AFW Pumps, CCW Pumps and HX, Boric Acid Transfer Pumps, Mezzanine Area)• RAB 261 (RHR Heat Exchangers, Demin Valve Gallery, VCT Valve Gallery)• RAB 286 (Switch Gear)• Steam Tunnel• ESW Structure (intakes)																																		

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21	CSD-EP-HNP-0101-01, EAL Basis RA3.2 (Pages 58 - 59)	<i>[Text located in two places;]</i> If the equipment in the listed room or area was already inoperable, or out-of-service, before the event occurred, then no emergency should be declared since the event will have no adverse impact beyond that already allowed by Technical Specifications at the time of the event.	<i>Deleted the duplicate description under RA3.2 EAL Basis.</i> <i>Added a bullet (●) in front of the remaining description.</i>																																		
22	CSD-EP-HNP-0101-02, Table R-3/H-2	<table><tr><th colspan="2">Table R-3/H-2 Safe Operation & Shutdown Rooms/Areas</th></tr><tr><th>Room / Area</th><th>Mode(s)</th></tr><tr><td>- RAB 190 (RHR pumps)</td><td>4</td></tr><tr><td>- RAB 216 (BIT)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>- RAB 236 (CSIP, Primary Sample Sink, AFW pumps, CCW pumps and HX, Boric Acid Transfer Pumps, Mezzanine Area)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>- RAB 261 (RHR Heat Exchangers, Demin. Valve Gallery, VCT Valve Gallery)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>- RAB 286 (Switchgear)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>- Steam Tunnel</td><td>1, 2, 3, 4</td></tr><tr><td>- ESW intakes</td><td>1, 2, 3, 4, 5</td></tr></table>	Table R-3/H-2 Safe Operation & Shutdown Rooms/Areas		Room / Area	Mode(s)	- RAB 190 (RHR pumps)	4	- RAB 216 (BIT)	1, 2, 3, 4, 5	- RAB 236 (CSIP, Primary Sample Sink, AFW pumps, CCW pumps and HX, Boric Acid Transfer Pumps, Mezzanine Area)	1, 2, 3, 4, 5	- RAB 261 (RHR Heat Exchangers, Demin. Valve Gallery, VCT Valve Gallery)	1, 2, 3, 4, 5	- RAB 286 (Switchgear)	1, 2, 3, 4, 5	- Steam Tunnel	1, 2, 3, 4	- ESW intakes	1, 2, 3, 4, 5	<table><tr><th colspan="2">Table R-3/H-2 Safe Operation & Shutdown Rooms/Areas</th></tr><tr><th>Room / Area</th><th>Mode(s)</th></tr><tr><td>- RAB 216 (BIT)</td><td>1, 2, 3</td></tr><tr><td>- RAB 236 (CSIP, Primary Sample Sink, AFW pumps, CCW pumps and HX, Boric Acid Transfer Pumps, Mezzanine Area)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>- RAB 261 (RHR Heat Exchangers, Demin. Valve Gallery, VCT Valve Gallery)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>- RAB 286 (Switchgear)</td><td>1, 2, 3, 4, 5</td></tr><tr><td>- Steam Tunnel</td><td>1, 2, 3, 4</td></tr><tr><td>- ESW intakes</td><td>1, 2, 3, 4, 5</td></tr></table>	Table R-3/H-2 Safe Operation & Shutdown Rooms/Areas		Room / Area	Mode(s)	- RAB 216 (BIT)	1, 2, 3	- RAB 236 (CSIP, Primary Sample Sink, AFW pumps, CCW pumps and HX, Boric Acid Transfer Pumps, Mezzanine Area)	1, 2, 3, 4, 5	- RAB 261 (RHR Heat Exchangers, Demin. Valve Gallery, VCT Valve Gallery)	1, 2, 3, 4, 5	- RAB 286 (Switchgear)	1, 2, 3, 4, 5	- Steam Tunnel	1, 2, 3, 4	- ESW intakes	1, 2, 3, 4, 5
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28	CSD-EP-HNP-0101-02, “NOTES” table (4 places, Front and Back of both EAL – Hot chart and the EAL – Cold chart.)	<p style="text-align: center;">NOTES</p> <p>Note 1: The Emergency Coordinator should declare the event promptly upon determining that time limit has been exceeded, or will likely be exceeded.</p> <p>Note 2: If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded the specified time limit.</p> <p>Note 3: If the effluent flow past an effluent monitor is known to have stopped, indicating that the release path is isolated, the effluent monitor reading is no longer VALID for classification purposes.</p> <p>Note 4: The pre-calculated effluent monitor values presented in EALs RA1.1, RS1.1 and RG1.1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available. 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31	CSD-EP-HNP-0101-02, EAL SU7.1, Table S-3	<p style="text-align: center;">Table S-3 Communication Methods</p> <table border="1"> <thead> <tr> <th>System</th><th>Onsite</th><th>Offsite</th><th>NRC</th></tr> </thead> <tbody> <tr> <td>PABX telephone (desk phones)</td><td>X</td><td>X</td><td>X</td></tr> <tr> <td>Site paging system</td><td>X</td><td></td><td></td></tr> <tr> <td>Satellite phone</td><td></td><td>X</td><td>X</td></tr> <tr> <td>DEMNET</td><td></td><td>X</td><td></td></tr> <tr> <td>Radio communications networks</td><td>X</td><td></td><td></td></tr> <tr> <td>NRC ETS phone</td><td></td><td></td><td>X</td></tr> <tr> <td>NRC HPN phone</td><td></td><td></td><td>X</td></tr> </tbody> </table>	System	Onsite	Offsite	NRC	PABX telephone (desk phones)	X	X	X	Site paging system	X			Satellite phone		X	X	DEMNET		X		Radio communications networks	X			NRC ETS phone			X	NRC HPN phone			X	<p style="text-align: center;">Table S-3 Communication Methods</p> <table border="1"> <thead> <tr> <th>System</th><th>Onsite</th><th>Offsite</th><th>NRC</th></tr> </thead> <tbody> <tr> <td>Public Address System</td><td>X</td><td></td><td></td></tr> <tr> <td>Onsite Radio System</td><td>X</td><td></td><td></td></tr> <tr> <td>DENMET</td><td></td><td>X</td><td></td></tr> <tr> <td>PBX</td><td>X</td><td>X</td><td>X</td></tr> <tr> <td>Cellular Phones</td><td></td><td>X</td><td>X</td></tr> <tr> <td>Satellite Phones</td><td></td><td>X</td><td>X</td></tr> </tbody> </table>	System	Onsite	Offsite	NRC	Public Address System	X			Onsite Radio System	X			DENMET		X		PBX	X	X	X	Cellular Phones		X	X	Satellite Phones		X	X
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32	CSD-EP-HNP-0101-02, EAL CU5.1, Table C-4	Table C-4 Communication Methods				Table C-4 Communication Methods			
		System	Onsite	Offsite	NRC	System	Onsite	Offsite	NRC
		PABX telephone (desk phones)	X	X	X	Public Address System	X		
		Site paging system	X			Onsite Radio System	X		
		Satellite phone		X	X	DENMET		X	
		DEMNET		X		PBX	X	X	X
		Radio communications networks	X			Cellular Phones		X	X
		NRC ETS phone			X	Satellite Phones		X	X
		NRC HPN phone			X				
33	CSD-EP-HNP-0101-01, EAL SU7.1 (Page 171) and CSD-EP-HNP- 0101-01, EAL CU5.1 (Page 96)	The NRC ETS Phone and HPN Phone are part of the PABX and will be unavailable if the PABX is unavailable.				The NRC communication links (ENS, HPN, RSCL, PMCL, and MCPL) are part of the PBX and will be unavailable if the PBX is unavailable.			
34	CSD-EP-HNP-0101-01, EAL Basis SU8.1 (Page 172)	For the first condition, the containment isolation signal must be generated as the result on an off-normal/accident condition (e.g., a safety injection or high containment pressure); a failure resulting from testing or maintenance does not warrant classification. The determination of containment and penetration status – isolated or not isolated – should be made in accordance with the appropriate criteria contained in the plant AOPs and EOPs. The 15-minute criterion is included to allow operators time to manually isolate the required penetrations, if possible.				For the first condition, the containment isolation signal must be generated as the result on an off-normal/accident condition (e.g., a safety injection or high containment pressure); a failure resulting from testing or maintenance does not warrant classification. Note that Containment Isolation Signals are defined per Shearon Harris Technical Specifications as Phase “A” Isolation, Phase “B” Isolation, and Containment Ventilation Isolation. Other signals, such as Main Steam Isolation signal, do not count as a containment isolation signals. The determination of containment and penetration status – isolated or not isolated – should be made in accordance with the appropriate criteria contained in the plant AOPs and EOPs. The 15-minute criterion is included to allow operators time to manually isolate the required penetrations, if possible.			

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35	CSD-EP-HNP-0101-01, EAL Basis SU8.1 (Page 173)	1. EOP-CSFST, CSF-5 2. OP-112, Containment Spray System 3. FSAR 6.2.1.1.3.2 4. EOP-ECA-1.2, LOCA Outside Containment 5. AOP-023, Loss of Containment Integrity 6. NEI 99-01 SU7	1. EOP-CSFST, CSF-5 2. OP-112, Containment Spray System 3. FSAR 6.2.1.1.3.2 4. EOP-ECA-1.2, LOCA Outside Containment 5. AOP-023, Loss of Containment Integrity 6. NEI 99-01 SU7 7. Shearon Harris Technical Specification Table 3.3-3, Engineered Safety Features Actuation System Instrumentation, Functional Unit 3, Containment Isolation.
36	CSD-EP-HNP-0101-01, EAL Basis CA3.1 (Page 92)	A 10 psig RPV pressure increase can be read on various instruments including narrow range RCS pressure indicators PI-402.1SA and PI- 403.1SB (ref. 5).	A 10 psig RPV pressure increase can be read on ERFIS RCS pressure indicators PRC0440 or PRC0441. Also, using installed MCB meters, a greater than 10 psig RPV pressure increase can be determined by a 10 psig increase on RCS narrow range pressure indicator PI-01RC-0402AW, which has 20 psig increments allowing reading to the half marking (ref. 5).
37	CSD-EP-HNP-0101-01, EAL Basis CA3.1 Reference 5 (Page 92)	simulator walkdown.	MST-I0080, Reactor Coolant System Wide Range Pressure (P-0402) Calibration
38	CSD-EP-HNP-0101-02, EAL SG1.1	Loss of all offsite and all onsite AC power capability to 6.9 KV emergency buses 1A-SA and 1B-SB AND EITHER: - Restoration of at least one emergency bus in < 4 hours is not likely - Core Cooling Red Path entry conditions met	Loss of all offsite and all onsite AC power capability to 6.9 KV emergency buses 1A-SA and 1B-SB AND EITHER: - Restoration of at least one emergency bus in < 4 hours is not likely (Note1) - Core Cooling Red Path entry conditions met

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Section III: Description and Review of Licensing Basis Affected by the Proposed activity or Change:

List all emergency plan sections that were reviewed for this activity by number and title.

IF THE ACTIVITY IN ITS ENTIRETY IS AN EMERGENCY PLAN CHANGE, EAL CHANGE OR EAL BASIS CHANGE, Enter Licensing Basis affected by the change and continue to **Section VI**.

Licensing Basis for NEI 99-01 Rev 6 EALs

Letter from U.S. Nuclear Regulatory Commission to Duke Energy, "Shearon Harris Nuclear Power Plant Unit 1 - Issuance of Amendment [149] to Adopt Emergency Action Level Scheme Pursuant to NEI 99-01, Revision 6, 'Development of Emergency Action Levels for Non-Passive Reactors,'" dated April 13, 2016 (ADAMS Accession No. ML16057A838).

License Amendment 149 was implemented in EP-EAL, Emergency Actions Levels, Revision 17.

Letter from U.S. Nuclear Regulatory Commission to Duke Energy, "Catawba Nuclear Station, Units 1 and 2; McGuire Nuclear Station, Units 1 and 2; Oconee Nuclear Station, Units 1, 2, and 3; Brunswick Steam Electric plant, Units 1 and 2; Shearon Harris Nuclear Power Plant, Unit 1; and H.B. Robinson Steam Electric Plant, Unit No. 2 – Issuance of Amendments [172 for HNP] to Revise Emergency Action Level Schemes to Incorporate Clarifications Provided by Emergency Preparedness Frequently Asked Questions 2015-013, 2015-014, and 2016-002 (EPID L-2018-LLA-0174)," dated July 1, 2019 (ADAMS Accession No. ML19058A632).

Letter from U.S. Nuclear Regulatory Commission to Duke Energy, "Shearon Harris Nuclear Power Plant Unit 1 - Issuance of Amendment No. 173 Regarding Emergency Plan Emergency Action Level Scheme Change (EPID L-2018-LLA-0216)," dated July 18, 2019 (ADAMS Accession No. ML19108A173).

License Amendments 172 and 173 were implemented in EP-EAL, Emergency Actions Levels, Revision 20.

Letter from U.S. Nuclear Regulatory Commission to Duke Energy, "Catawba Nuclear Station, Units 1 and 2; McGuire Nuclear Station, Units 1 and 2; Oconee Nuclear Station, Units 1, 2, and 3; Brunswick Steam Electric Plant, Units 1 and 2; Shearon Harris Nuclear Power Plant, Unit 1; and H. B. Robinson Steam Electric Plant, Unit No. 2 – Issuance of Amendments [186 for HNP] for Common Emergency Plan Consistent with NUREG-0654, Revision 2 (EPID L-2020-LLA-0198)," dated August 26, 2021 (ADAMS Accession No. ML21155A213).

License Amendment 186 was implemented in EP-ALL-EPLAN, Duke Energy Common Emergency Plan, Revision 0, issuance and EP-HNP-EPLAN-ANNEX, Duke Energy Harris Emergency Plan Annex, Revision 0, issuance.

Licensing Basis for Emergency Plan

- EP-ALL-EPLAN, Duke Energy Common Emergency Plan, Revision 0
- EP-HNP-EPLAN-ANNEX, Duke Energy Harris Emergency Plan Annex, Revision 0

Current EALs

CSD-EP-HNP-0101-01, Harris Nuclear Plant Emergency Action Levels Technical Basis Document, Revision 002

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Current Emergency Plan

- EP-ALL-EPLAN, Duke Energy Common Emergency Plan, Revision 1
- EP-HNP-EPLAN-ANNEX, Duke Energy Harris Emergency Plan Annex, Revision 1

The differences in the approved and the current revision of the Emergency Plan have been reviewed, and they have been determined to meet the regulatory requirements required during the course of revisions.

Section IV: Ability to Maintain the Emergency Plan.	
<i>Answer the following questions related to impact on the ability to maintain the Emergency Plan. Continue to Section V.</i>	
1. Do any of the elements of the proposed activity change information or intent contained in the Emergency Plan?	Yes <input type="checkbox"/> No <input type="checkbox"/>
2. Do any elements of the proposed activity change the process or capability for alerting or notifying the public as described in the FEMA-approved Alert and Notification System Design Report?	Yes <input type="checkbox"/> No <input type="checkbox"/>
3. Do any elements of the proposed activity change the Evacuation Time Estimate results?	Yes <input type="checkbox"/> No <input type="checkbox"/>
4. Do any elements of the proposed activity change the On-Shift Staffing Analysis results?	Yes <input type="checkbox"/> No <input type="checkbox"/>
5. Does the Proposed activity require a change to the Emergency Plan Programmatic Description?	Yes <input type="checkbox"/> No <input type="checkbox"/>
<i>If Question 5 was answered yes, and the document being reviewed is NOT the Emergency Plan, then exit this review until the Emergency Plan change is complete or the proposed change is modified to not change the Emergency Plan Programmatic Description.</i>	
Section IV conclusion: <input type="checkbox"/> If questions 1-5 in Section IV marked NO, then complete Section V . <input type="checkbox"/> If any question 1-5 of Section IV marked yes, then continue at Section VI .	

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Section V: Maintaining the Emergency Plan Conclusion.

The questions in **Section IV** do not represent the total of all conditions that may cause a change to or impact the ability to maintain the emergency plan. Originator and reviewer signatures in **Section XIV** document that a review of all elements of the proposed change have been considered for their impact on the ability to maintain the emergency plan and their potential to change the emergency plan.

1. Provide a brief conclusion below that describes how the conditions, as described in the emergency plan, are maintained with this activity.
 2. Select the box below when the review completes all actions for all elements of the activity and no 10CFR50.54 screening or evaluation is required for any element. Continue to **Section XIV**.
- ☐ I have completed a review of this activity in accordance with 10CFR50.54(q)(2) and determined that the effectiveness of the emergency plan is maintained. This activity does not make any changes to the emergency plan. No further actions are required to screen or evaluate this activity in accordance with 10CFR50.54(q)(3).

Conclusion:

Section VI: Activity Previously Reviewed?

Is this activity fully bounded by an NRC approved 10CFR50.90 submittal or Alert and Notification System Design Report?

<input type="checkbox"/>	Yes	10 CFR 50.54(q) Evaluation is not required. Identify bounding source document below and continue to Section XIV .
<input checked="" type="checkbox"/>	No	Continue to Section VII .
<input type="checkbox"/>	Partially	If PARTIALLY , identify bounding source document and list changes bounded by the approved 10 CFR 50.90 or Alert and Notification System Design Report below. Changes not bound by the approved 10 CFR 50.90 or Alert and Notification System Design Report (i.e., part requiring further review). Continue the review in Section VII .

Bounding source document and list of bounded changes:

Section VII: Editorial Changes

<input type="checkbox"/>	Yes	All Activities/Changes identified in Section II are editorial/typographical changes such as formatting, paragraph numbering, spelling, or punctuation that does not change intent.
<input type="checkbox"/>	No	None of the Activities/Changes listed in Section II are editorial/typographical changes. Continue to Section VIII .
<input checked="" type="checkbox"/>	Partially	Some Activities/Changes are editorial/typographical.

If **Yes** is checked, Identify the activities/changes listed in **Section II** that are editorial/typographical changes and provide justification below. Continue to **Section XII**.

If **Partially** is checked, Identify the activities/changes listed in **Section II** that are editorial/typographical changes and provide justification below. Continue to **Section VIII** for changes not identified as editorial.

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Justification: The changes below are defined as editorial in accordance with AD-EP-ALL-0602, Emergency Plan Change Screening and Effectiveness Evaluations 10 CFR 50.54(q), and do not change the intent of the steps as written.

Changes 1 and 3 – This change is editorial because the change updates revision footer information to the new revision.

Change 2 – This change is editorial as it updates the Table of Contents section page numbers based on the changes made per revision 3 to this document.

Change 4 – The references currently listed in SG1.2 for minimum battery bus voltage is Reference 7 and 9, which correspond to the Shearon Harris Final Safety Analysis Report (FSAR) Table 8.3.1-1 and NEI 99-01, "Development of Emergency Action Levels for Non-Passive Reactors," Initiating Condition (IC) number SG8. This change corrects these references to Reference 7 and 8, which correspond to FSAR Table 8.3.1-1 and MST-E0013, 1E Battery Performance Test. (NEI 99-01 SG8 does not include a reference to HNP minimum battery bus voltage. This reference number was a typographical error.) This change is editorial in nature, as it is correcting references associated with equipment to be consistent with approved plant documents.

Change 5 – Section 2.6 lists the Modes of plant operation by number and includes a description that matches the supplied reference, 4.1.17, HNP Technical Specifications Table 1.2 Operational Modes. However, there was a typographical error in Section 2.6, in that Mode 3 was listed twice, with the second Mode 3 matching the description from Technical Specifications of Mode 4. As a result, Mode 5 was also mislabeled as Mode 4 and Mode 6 was mislabeled as Mode 5. The intent was for the second Mode 3 to be labeled Mode 4 and all other Modes after Mode 3 to be labeled sequentially.

This change is editorial in nature, in that it corrects an obvious typographical error in the section. There is only one accepted definition for Mode 3 per HNP Technical Specification Table 1.2, with what is labeled as the second Mode 3 matching the definition of Mode 4. This is consistent with the definitions of editorial per AD-EP-ALL-0602 Section 3.6.a, "Obvious step or section number errors..." or "Correct references..." This also updates Section 2.6 to be consistent with the Mode definitions used through-out the remainder of CSD-EP-HNP-0101-01, the wall charts per CSD-EP-HNP-0101-02, and the mode definitions submitted per HNP-15-025, License Amendment Request to Adopt Emergency Action Level Scheme Pursuant to NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors" (ML15126A117).

Changes 6, 7, and 8 – These changes are editorial and updates the references in the document to support the implementation of the Duke Energy Common Emergency Plan. Accordingly, references to PLP-201, Emergency Plan, are being replaced with references to EP-ALL-EPLAN, Duke Energy Common Emergency Plan and EP-HNP-EPLAN-ANNEX, Duke Energy Harris Emergency Plan Annex.

Change 21 – This change is editorial as it is correcting an unintentional duplication of information. The section included an identical paragraph at the beginning and the end of the section. Including the paragraph a second time did not convey any new information or benefit. Further, the second occurrence of the paragraph was located after a bulleted list. From context, the paragraph was meant to be an item included in the list. Thus, the proposed change deletes the duplicate paragraph at the beginning of the basis section and adds a bullet (●) to the second occurrence of the paragraph, signaling its inclusion in the list of items. This change is editorial, as it corrects a typographical error and does not change the information presented.

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Section VIII: Emergency Planning Element and Function Screen		
<i>(Utilize Reg Guide 1.219 and Attachment 1, Additional Regulatory Guidance References for additional assistance)</i>		
Does any of Proposed Activities/Changes Identified in Section I impact any of the following, including program elements from NUREG-0654/FEMA REP-1 Section II? If yes check appropriate box.		
1	10 CFR 50.47(b)(1) Assignment of Responsibility (Organization Control)	
1a	Responsibility for emergency response is assigned.	<input type="checkbox"/>
1b	The response organization has the staff to respond and to augment staff on a continuing basis (24-7 staffing) in accordance with the emergency plan.	<input type="checkbox"/>
2	10 CFR 50.47(b)(2) Onsite Emergency Organization	
2a	Process ensures that on shift emergency response responsibilities are staffed and assigned	<input type="checkbox"/>
2b	The process for timely augmentation of onshift staff is established and maintained.	<input type="checkbox"/>
3	10 CFR 50.47(b)(3) Emergency Response Support and Resources	
3a	Arrangements for requesting and using off site assistance have been made.	<input type="checkbox"/>
3b	State and local staff can be accommodated at the EOF in accordance with the emergency plan.	<input type="checkbox"/>
4	10 CFR 50.47(b)(4) Emergency Classification System	RS
4a	A standard scheme of emergency classification and action levels is in use. (Requires V/V (Attachment 3) and final approval of Screen and Evaluation by EP CFAM)	<input checked="" type="checkbox"/>
5	10 CFR 50.47(b)(5) Notification Methods and Procedures	RS
5a	Procedures for notification of State and local governmental agencies are capable of alerting them of the declared emergency within 15 minutes (60 minutes for CR3) after declaration of an emergency and providing follow-up notification.	<input type="checkbox"/>
5b	Administrative and physical means have been established for alerting and providing prompt instructions to public within the plume exposure pathway.	<input type="checkbox"/>
5c	The public ANS meets the design requirements of FEMA-REP-10, Guide for Evaluation of Alert and Notification Systems for Nuclear Power Plants, or complies with the licensee's FEMA-approved ANS design report and supporting FEMA approval letter	<input type="checkbox"/>
6	10 CFR 50.47(b)(6) Emergency Communications	
6a	Systems are established for prompt communication among principal emergency response organizations.	<input type="checkbox"/>
6b	Systems are established for prompt communication to emergency response personnel.	<input type="checkbox"/>
7	10 CFR 50.47(b)(7) Public Education and Information	
7a	Emergency preparedness information is made available to the public on a periodic basis within the plume exposure pathway emergency planning zone (EPZ).	<input type="checkbox"/>
7b	Coordinated dissemination of public information during emergencies is established.	<input type="checkbox"/>
8	10 CFR 50.47(b)(8) Emergency Facilities and Equipment	
8a	Adequate facilities are maintained to support emergency response	<input type="checkbox"/>
8b	Adequate equipment is maintained to support emergency response.	<input type="checkbox"/>
9	10 CFR 50.47(b)(9) Accident Assessment	RS
9a	Methods, systems, and equipment for assessment of radioactive releases are in use.	<input type="checkbox"/>
10	10 CFR 50.47(b) (10) Protective Response	RS
10a	A range of public PARs is available for implementation during emergencies.	<input type="checkbox"/>
10b	Evacuation time estimates for the population located in the plume exposure pathway EPZ are available to support the formulation of PARs and have been provided to State and local governmental authorities.	<input type="checkbox"/>

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10c	A range of protective actions is available for plant emergency workers during emergencies, including those for hostile action events.	<input type="checkbox"/>
10d	KI is available for implementation as a protective action recommendation in those jurisdictions that chose to provide KI to the public.	<input type="checkbox"/>
11	10 CFR 50.47(b) (11) Radiological Exposure Control	
11a	The resources for controlling radiological exposures for emergency workers are established.	<input type="checkbox"/>
12	10 CFR 50.47(b) (12) Medical and Public Health Support	
12a	Arrangements are made for medical services for contaminated, injured individuals.	<input type="checkbox"/>
13	10 CFR 50.47(b) (13) Recovery Planning and Post-Accident Operations	
13a	Plans for recovery and reentry are developed.	<input type="checkbox"/>
14	10 CFR 50.47(b) (14) Drills and Exercises	
14a	A drill and exercise program (including radiological, medical, health physics and other program areas) is established.	<input type="checkbox"/>
14b	Drills, exercises, and training evolutions that provide performance opportunities to develop, maintain, and demonstrate key skills are assessed via a formal critique process in order to identify weaknesses.	<input type="checkbox"/>
14c	Identified weaknesses are corrected.	<input type="checkbox"/>
15	10 CFR 50.47(b) (15) Emergency Response Training	
15a	Training is provided to emergency responders.	<input type="checkbox"/>
16	10 CFR 50.47(b) (16) Emergency Plan Maintenance	
16a	Responsibility for emergency plan development and review is established.	<input type="checkbox"/>
16b	Planners responsible for emergency plan development and maintenance are properly trained.	<input type="checkbox"/>
Section VIII: Conclusion		
<p>■ If any Section VIII criteria are checked, document the basis for conclusion below for any changes that are more than editorial, however not impacted by any of the identified criteria in Section VIII and continue the 50.54(q) Review in Section IX.</p> <p>□ If no Section VIII criteria are checked, 10CFR50.54(q)(3) Evaluation is NOT required. Document justification below for any changes that are more than editorial and continue to Section XIV.</p>		

Justification for changes that are more than editorial, however, not impacted by any of the identified criteria in Section VIII:

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Section IX: Description of Emergency Plan Planning Standards, Functions and Program Elements Affected by the Proposed Change

Copy each emergency planning standard, function and program element affected by the proposed change that was identified as applicable in **Section VIII**. Continue to **Section X**.

List affected Emergency Planning Standards, Functions, and Program Elements:

Planning Standard

10 CFR 50.47(b)(4) states: A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures."

Function

The emergency planning function associated with 10 CFR 50.47(b)(4) states: A standard scheme of emergency classification and action levels is in use.

Appendix E

Supporting requirements which are described in 10 CFR 50, Appendix E states:

IV.B: 1. The means to be used for determining the magnitude of, and for continually assessing the impact of, the release of radioactive materials shall be described, including emergency action levels that are to be used as criteria for determining the need for notification and participation of local and State agencies, the Commission, and other Federal agencies, and the emergency action levels that are to be used for determining when and what type of protective measures should be considered within and outside the site boundary to protect health and safety. The emergency action levels shall be based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring. By June 20, 2012, for nuclear power reactor licensees, these action levels must include hostile action that may adversely affect the nuclear power plant. The initial emergency action levels shall be discussed and agreed on by the applicant or licensee and state and local governmental authorities and approved by the NRC. Thereafter, emergency action levels shall be reviewed with the State and local governmental authorities on an annual basis.

IV.C: 1. The entire spectrum of emergency conditions that involve the alerting or activating of progressively larger segments of the total emergency organization shall be described. The communication steps to be taken to alert or activate emergency personnel under each class of emergency shall be described. Emergency action levels (based not only on onsite and offsite radiation monitoring information but also on readings from a number of sensors that indicate a potential emergency, such as the pressure in containment and the response of the Emergency Core Cooling System) for notification of offsite agencies shall be described. The existence, but not the details, of a message authentication scheme shall be noted for such agencies. The emergency classes defined shall include: (1) Notification of unusual events, (2) alert, (3) site area emergency, and (4) general emergency. These classes are further discussed in NUREG-0654/FEMA-REP-1.

IV.C: 2. By June 20, 2012, nuclear power reactor licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of

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indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level. Licensees shall not construe these criteria as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an emergency action level that has been exceeded. Licensees shall not construe these criteria as preventing implementation of response actions deemed by the licensee to be necessary to protect public health and safety provided that any delay in declaration does not deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety.

Informing Criteria from NUREG-0654

The applicable program elements described in NUREG-0654, Section II.D state:

- D.1: An emergency classification and emergency action level scheme as set forth in Appendix 1 must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class.

- D.2: The initiating conditions shall include the example conditions found in Appendix 1 and all postulated accidents in the Final Safety Analysis Report (FSAR) for the nuclear facility.

Section X: Describe How the Proposed Change Complies with Relevant Emergency Preparedness Regulation(s) and Previous Commitment(s) Made to the NRC

If the emergency plan, modified as proposed, no longer complies with planning standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50, then ensure the change is rejected, modified, or processed as an exemption request under 10 CFR 50.12, Specific Exemptions, rather than under 10 CFR 50.54(q). Address each Planning Standard identified in **Section IX. Continue to Section XI.**

Justification:

Changes 9, 11, 12, and 13 modify EAL declaration thresholds CA1.1, CS1.1, CS1.2, and CG1.1, each associated with Initiating Conditions stemming from loss of Reactor Coolant System (RCS) inventory, to include a reference to Figure C-RVLIS, as already included in CSD-EP-HNP-0101-02.

Change 10 adds Figure C-RVLIS from CSD-EP-HNP-0101-02 to the EAL basis section in CSD-EP-HNP-0101-01 for use as the reference for EAL declaration thresholds CA1.1, CS1.1, CS1.2, and CG1.1. This figure illustrates the location of various RCS levels as indicated by RVLIS and by the RCS standpipe relative to the level of the reactor vessel, as indicated by plant elevation. This figure will be used as an operator aid to ensure the declaration threshold is understood and correctly applied to conditions resulting in a loss of RCS inventory. This figure does not change the intent of EAL thresholds and will help ensure consistent operator performance. The illustration within Figure C-RVLIS is already contained in CSD-EP-HNP-0101-02.

Changes 9, 11, 12, and 13 are supported by Change 14, which labels the existing copy of the figure on the EAL – Cold Chart in CSD-EP-HNP-0101-02 as “Figure C-RVLIS” and Changes 15, 16, 17, and 18 which revises CA1.1, CS1.1, CS1.2, and CG1.1 in the EAL Wallchart (CSD-EP-HNP-0101-02) to match the EAL Technical Basis Document CSD-EP-HNP-0101-01.

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Thus, the Emergency Plan, as modified by these proposed changes, will still comply with planning standard 10 CFR 50.47(b)(4) for having an emergency classification system. The proposed changes do not negatively impact the accuracy or the timeliness of the classification. The inclusion of the existing figure in the EAL basis will provide a useful tool for ensuring ongoing accurate EAL declarations made in a timely manner.

Changes 19 and 20 revise Table R-3/H-2, "Safe Operation and Shutdown Rooms/Areas," to remove RAB 190 (RHR [*residual heat removal*] pumps), applicable in Mode 4 only, and RAB 216 (BIT [*boron injection tank*]), entries for Modes 4 and 5. These changes are based upon an operator review of CSD-EP-HNP-0101-01 which identified changes to the EAL bases for declarations of impeded operator access to equipment necessary for normal operations, cooldown, or shutdown of the facility in the current operating mode. Change 22 supports these changes by making the same associated change to CSD-EP-HNP-0101-02.

The operator review validated the equipment listed in Table R-3/H-2, "Safe Operation and Shutdown Rooms/Areas" relative to the requirements as listed in NEI 99-01 Revision 6 for the associated EAL. The review identified two table entries listing equipment in modes that do not need to be accessed physically by operators performing normal operations, cooldown, or shutdown of the facility. Specifically, access to the RHR pumps in Mode 4 and to the BIT for Modes 4 and 5 is not needed for normal operations, cooldown, or shutdown.

The two EALs impacted by this change are EAL RA3.2, "An UNPLANNED event results in radiation levels that prohibit or impede access to any Table R-3/H-2 rooms or areas" and EAL H5.1, "Release of a toxic, corrosive, asphyxiant or flammable gas into any Table R-3/H-2 rooms or areas AND Entry into the room or area is prohibited or IMPEDED."

CSD-EP-HNP-0101-01 incorporates guidance from NEI 99-01 Revision 6 related to declaration of the associated EALs for impeded access. Per this guidance, "The 'site-specific list of plant rooms or areas with entry-related mode applicability identified' should specify those rooms or areas that contain equipment which require a manual/local action as specified in operating procedures used for normal plant operation, cooldown and shutdown. Do not include rooms or areas in which actions of a contingent or emergency nature would be performed (e.g., an action to address an off-normal or emergency condition such as emergency repairs, corrective measures or emergency operations). In addition, the list should specify the plant mode(s) during which entry would be required for each room or area." This note was copied from NEI 99-01 Revision 6 and is associated with items AA3 and HA5.

Sections AA3 and HA5 further elaborate that a declaration is not warranted if "The plant is in an operating mode different than the mode specified for the affected room/area (i.e., entry is not required during the operating mode..." Thus, the current intention for declaration of events per RA3.2 and HA5.1 is to declare events where operators are impeded from entering locations with equipment required for a given mode of operation and have proceduralized manual or local actions. If the equipment in a listed area for a given mode is operated remotely per normal operating procedures, a declaration would not be warranted.

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A review of the Table R-3/H-2 identified the potential to over-classify based on the guidance as captured above. A review of the site operating procedures used for normal plant operation, cooldown and shutdown identified entries in Table R-3/H-2 which included rooms with no equipment requiring manual or local action in the listed mode. Reviews included GP-006, "Normal Plant Shutdown from Power Operation to Hot Standby (Mode 1 to Mode 3)," GP-007, "Normal Plant Cooldown (Mode 3 to Mode 5)," and GP-008, "Draining the Reactor Coolant System." GP-006 and GP-007 are the procedures listed as reviewed per CSD-EP-HNP-0101-01 Attachment 3 to make the initial determination as to equipment required per Mode 4, 5, and 6 operation.

Thus, declarations based on impeded access to RHR in Mode 4 and BIT in Modes 4 and 5 would be overconservative and not based on current licensing basis of the Harris Emergency Plan. Removing these table entries eliminates the potential to declare an emergency where one is not warranted.

Thus, the Emergency Plan, as modified by these proposed changes, will still comply with planning standard 10 CFR 50.47(b)(4) for having an emergency classification system. The proposed changes do not negatively impact the accuracy or the timeliness of the classification. Removal of the overly conservative guidance for declaring impeded access will improve EAL declaration accuracy and will have no effects on making timely declarations for remaining rooms or areas which are rightly associated with the EAL.

Changes 23, 24, 25, and 26 add a note to Table F-2 in CSD-EP-HNP-0101-01, which is used to declare the status (loss or potential loss) of fission product barriers based on radiation levels in containment, with thresholds based on time since the unit was shut-down. The note states, "Use the '0-1 hr' values when evaluating containment radiation readings with the reactor not shutdown."

This table is referenced by Table F-1, Fission Product Barrier Threshold Matrix, which is used in declaring Fission Product Barrier degradation per FA1.1, FS1.1, and FG1.1. The table entries begin at a time of '0-1 hours' to cover the time immediately following a reactor shutdown, which does not take into account any decay time or changes in core conditions since the unit was operating. Thus, the predicted radiation levels at T=0 for shutdown are the same as the levels expected when the reactor is still operating, and would be consistent with the T=0 threshold as calculated per EP-EALCALC-HNP-1701, "Containment Radiation EAL Threshold Values." While this was already understood among operators utilizing the table, this note removes potential for error and ensures the consistent use by Operations staff. Changes 27 and 28 incorporates this change into the wall boards per CSD-EP-HNP-0101-02.

The addition of this note to the EAL Technical Basis Document and EAL Wallchart does not change the Emergency Plan, an Initiating Condition, or an EAL. The intent of the EALs (Category F – Fission Product Barrier Degradation) will remain the same, with no change to Category F declarations as a result of the change to the EAL bases discussed. The Emergency Plan, as modified by these proposed changes, will still comply with planning standard 10 CFR 50.47(b)(4) for having an emergency classification system. The proposed changes do not negatively impact the accuracy or the timeliness of the classification. The note will remove a potential source of confusion, ensuring accuracy in declarations and preventing delays in making timely declarations.

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Changes 29 and 30: These changes update the EAL Basis document, CSD-EP-HNP-0101-01, Tables C-4 and S-3, "Communications Methods," which are tied to EAL declarations CU5.1 and SU7.1 respectively. These EALs are for declaring Unusual Events due to loss of all onsite or offsite communications ability while either in cold conditions or hot conditions respectively. Changes 31 and 32 support these changes by updating the EAL Wall Chart per CSD-EP-HNP-0101-02 to include the revised versions of the communications methods table.

Finally, change 33 revises a statement in the both the CU5.1 and SU7.1 bases to better reflect the language of the current Emergency Plan. Currently, the bases explain, "The NRC ETS [*Emergency Telecommunications System*] Phone and the NRC HPN [*Health Physics Network*] Phone are part of the PABX [*Private Automatic Branch Exchange*] and will be unavailable if the PABX is unavailable." The revised statement expands this statement to include the other NRC communications links currently listed in the Emergency Plan, "The NRC communication links (ENS [*Emergency Notification System*], HPN, RSCL [*Reactor Safety Counterpart Link*], PMCL [*Protective Measures Counterpart Link*], and MCPL [*Management Counterpart Link*]) are part of the PBX [*Private Branch Exchange*] and will be unavailable if the PBX is unavailable."

This change supports implementation of the approved fleet emergency plan which was approved by the NRC for use at Shearon Harris per NRC Safety Evaluation Report, dated August 26, 2021, per ML21155A213. This change is being made per the site's change management plan to shift from PLP-201 to EP-ALL-EPLAN. Per the submittal ("License Amendment Request for Common Emergency Plan Consistent with NUREG-0654, Revision 2," ADAMS Ascension Number ML20247J468, dated 9/3/2020), the change is an administrative change, and the wording change does not change intent or level of commitment concerning the credited site communications systems.

The proposed change includes changing the Table C-4 and Table S-3 entry from 'PABX telephone (desk phones)' to 'PBX'. Also, the current table entries for 'NRC ETS phone' and 'NRC HPN phone' are being removed, as these phones are part of and routed through the PBX. From EP-ALL-EPLAN, "PBX is the primary means of communication with the NRC. Extensions designated for NRC communications are located in the MCRs, TSCs, and EOF." Included in the list of extensions are telephones that have been designated for specific uses in NRC communications, including the NRC ENS and the NRC HPN. Thus, the removal of the ENS (part of the NRC ETS in the current E-Plan) and the HPN from the communications table is not a change in intent to the EAL. There is no change to the equipment or how the equipment is being utilized. A loss of PBX would render the ENS and HPN unavailable, and inclusion of the PBX in the table includes the ENS and HPN also.

Further, there are other NRC communication links listed in EP-ALL-EPLAN that are also part of and routed through the PBX. Change 33 revises a statement in the EAL bases to be more consistent with the communications links found in EP-ALL-EPLAN. There is no change to the equipment or how the equipment is being utilized, and no change to the intent of either EALs.

The 'Site paging system' is renamed 'Public Address System' to be more consistent with EP-ALL-EPLAN. The 'Radio communications networks' is renamed 'Onsite Radio System' to be more consistent with EP-ALL-EPLAN. There is no change to the equipment or how the equipment is being utilized. Finally, cellular phones are added to Table C-4 and Table S-3. This change is consistent with EP-ALL-EPLAN and adds credit for another commonly used communication device.

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Thus, the Emergency Plan, as modified by these proposed changes, will still comply with planning standard 10 CFR 50.47(b)(4) for having an emergency classification system. The proposed changes do not negatively impact the accuracy or the timeliness of the classification. Aligning the table with EP-ALL-EPLAN insured accurate declarations based on the current emergency plan made in a timely manner.

Changes 34 and 35 add clarity to SU8.1 (Any penetration is not isolated within 15 min. of a VALID containment isolation signal) to ensure consistent operator performance and to ensure Unusual Events are not declared in instances not supported by the current licensing basis. Specifically, the proposed change, captured per change 34, adds the following note to the EAL Basis for SU8.1.

Note that Containment Isolation Signals are defined per Shearon Harris Technical Specifications as Phase “A” Isolation, Phase “B” Isolation, and Containment Ventilation Isolation. Other signals, such as Main Steam Isolation signal, do not count as a containment isolation signals.

Change 35 supports the statement above by adding an additional HNP Basis Reference to SU8.1. Specifically, Basis 7 is added to provide the Shearon Harris Technical Specification which defines containment isolation signals as show below.

7. Shearon Harris Technical Specification Table 3.3-3, Engineered Safety Features Actuation System Instrumentation, Functional Unit 3, Containment Isolation.

The additions provide amplifying information to define what is a ‘valid containment isolation signal’ to ensure declarations are consistent with the current licensing basis for SU8.1 as defined by NEI 99-01 Revision 6 and the current EAL basis document for the site. The guidance will reduce the likelihood of an over classification of events not currently warranting declaration of SU8.1, such as an instance of a stuck open Main Steam Isolation Valve after receipt of a valid Main Steam Isolation signal.

Per NEI 99-01 Revision 6 for SU7, to meet this threshold, “the containment isolation signal must be generated as the result on an off-normal/accident condition (e.g., a safety injection or high containment pressure).” This aligns to signals defined in the site’s technical specifications as containment isolation, which have several triggers including containment pressure (Phase “A” and Phase “B” isolation), containment radiation levels (Containment Ventilation isolation), and safety injection (Phase A isolation and Containment Ventilation isolation), among others. These signals support the Containment Isolation System, which is designed to provide a “reliable barrier against the escape of fission products under various environmental conditions following a LOCA.” (FSAR Section 1.2.2.3).

In contrast, Main Steam Isolation serves to prevent the continuous, uncontrolled blowdown of more than one steam generator and thereby control RCS cooldown (FSAR 7.3.1.1.1). The signal is therefore not credited for protection of the public by preventing fission product release from containment. These valves also prevent overpressurization of containment from reverse flow, caused by a fault inside containment (FSAR Section 10.3.2.1.e). This could lead to initiation of a containment isolation signal on containment high pressure but does not itself constitute a containment isolation signal.

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This is also consistent with Shearon Harris Technical Specifications 3.3.2, Engineered Safety Features Actuation System Instrumentation, which does not list Main Steam Isolation Signal as a containment isolation signal. Only Phase "A" Isolation, Phase "B" Isolation, and Containment Ventilation Isolation are listed.

Consideration was given to scenarios involving steam generator tube rupture coupled to a failure of main steam to isolate on Main Steam isolation signal. Consistent with NEI 99-01 Revision 6 guidance for SU7 and for FA1, as well as the guidance in CSD-EP-HNP-0101-01 Revision 2 for SU8.1 and FA1.1, the SG Tube Rupture is classifiable as a loss of RCS per FA1.1, Table F-1 Category A.1 for RCS Barrier. (This corresponds to NEI 99-01 Revision 6 FA1 PWR RCS Barrier Threshold Loss 1.A.) Steam generator tube integrity impacts the RCS barrier, not containment. (This assumes that while main steam is unisolated, the impacted steam generator is not faulted.) Further, if a steam generator is faulted through a failed open main steam isolation valve, the threshold is met for FS1.1 as a loss or potential loss of Containment.

These proposed changes are consistent with CSD-EP-HNP-0101-01 Revision 2 as currently written, and NEI 99-01 Revision 6, which is the licensing basis for the Shearon Harris EAL scheme. Therefore, the changes described do not constitute a change to the Emergency Plan EAL scheme as currently written. The intent of the EAL remains the same with the additional guidance provided in the basis. The Emergency Plan, as modified by these proposed changes, will still comply with planning standard 10 CFR 50.47(b)(4) for having an emergency classification system. The proposed changes do not negatively impact the accuracy or the timeliness of the classification. The guidance removes a potential source of confusion, ensuring accuracy in declarations and preventing delays in making timely declarations.

Changes 36 and 37: CA3.1 contains the following EAL threshold for declaration of 'inability to maintain the plant in cold shutdown,' "UNPLANNED RCS [*Reactor Coolant System*] pressure increase >10 psig." Change 36 improves a statement in the basis section to clarify available instrumentation for declaration of this threshold. Change 37 revises Reference 5 captured in the basis to reflect a better source of information for current instrumentation capabilities.

CA3.1 is based on NEI 99-01 IC# CA3. Per the guidance, the purpose is to declare loss of decay heat removal capability or an addition of heat to the RCS in excess of that which can currently be removed. This provides a pressure-based indication of RCS heat-up, as credited per HNP-15-025, "License Amendment Request to Adopt Emergency Action Level Scheme Pursuant to NEI 99-01," Revision 6, 'Development of Emergency Action Levels for Non-Passive Reactors.' Per HNP-15-025, "10 psig is the site-specific pressure increase readable by Control Room indication."

Currently, the EAL Basis document for CA3.1 elaborates, "In the absence of reliable RCS temperature indication caused by the loss of decay heat removal capability, classification should be based on the RCS pressure increase criteria when in Mode 5...." Further, the EAL states, "A 10 psig RPV [*Reactor Pressure Vessel*] pressure increase can be read on various instruments including narrow range RCS pressure indicators PI-402.1SA and PI-403.1SB (ref. 5)." This statement has several opportunities for improvement that will enhance the basis statement supporting the EAL, as detailed below. To improve this statement, and to remind operators of the additional capability to measure RCS pressure by using the Emergency Response Facility Information System (ERFIS)

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displays, the statement is being revised per Change 36 to state, "A 10 psig RPV pressure increase can be read on ERFIS RCS pressure indicators PRC0440 or PRC0441. Also, using installed MCB *[Main Control Board]* meters, a greater than 10 psig RPV pressure increase can be determined by a 10 psig increase on RCS narrow range pressure indicator PI-01RC-0402AW, which has 20 psig increments allowing reading to the half marking (ref. 5)."

This change accomplishes two improvements on the current language of this statement.

- 1) The change defines more explicitly the "various instruments" mentioned in the original sentence.

By changing "A 10 psig RPV pressure increase can be read on various instruments" to "A 10 psig RPV pressure increase can be read on ERFIS RCS pressure indicators PRC0440 or PRC0441," the Operators are given more explicit instructions as to what 'various instruments' are available.

These ERFIS computer points are available as they process signals from the pressure transmitters similar to the control board recorders and are available in the control room. Per HNP-I/INST-1009, "Reactor Coolant Wide Range and RVLIS Pressure: EOP Set Points," The ERFIS computer displays a pressure reading with no decimal points. Since the computer does not round the data displayed, the accuracy is approximated as +/-1 psig.

- 2) The change identifies the narrow range RCS pressure indicator.

Currently, the statement in question identifies as narrow range RCS pressure indicators "PI-402.1SA and PI-403.1SB." These two instruments (tagged in the Engineering Database (EDB) as 'PI-01RC-402.1SAW' and 'PI-01RC-403.1SBW' respectively) are RCS pressure wide range instruments. This is aligned with the designated range per EDB of 0-3000 psig. Per HNP-I/INST-1009, the wide range instruments utilize a scaled recorder with the smallest marked graduation of 50 psig. Thus, the assumed error caused by human factoring is equal to half the smallest graduation, or 25 psig. This makes the wide range instruments not ideal for use in declarations per CA1.3 for RCS pressure rise > 10 psig.

The narrow range RCS pressure instrument, PI-01RC-0402AW, has a range of 700 psig per EDB. Per HNP/I/INST-1009, the instrument's smallest graduation is 20 psig, which allows reading to the half marking or 10 psig when accounting for human factoring. This makes this instrument more ideal for being able to reliably read a pressure increase of 10 psig from the control board. By referencing the actual narrow range instrument in the EAL Basis document, declarations based on a 10 psig increase in RCS pressure will be more accurate and be based on better human factoring for control board gauges.

Finally, the current 'Reference 5' utilized by the basis for CA3.1 is "simulator walkdown." This reference should be changed per Change 37 to a design control document. MST-I0080, Reactor Coolant System Wide Range Pressure (P-0402) Calibration, will be referenced instead, as this document contains information on the pressure transmitter and the three pressure indicators impacted (both wide range and the narrow range.)

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This revision to the basis will result in listing the narrow range instrument. This instrument will meet all requirements for RCS pressure monitoring during Cold Shutdown per both the current EAL scheme and NEI 99-01 Revision 6. Further, ERFIS computer points PRC0440 and PRC0441 will also provide the necessary indication to determine if a 10 psig pressure increase has occurred. This now provides a total of three listed instruments relative to the original two, ensuring better redundancy. Finally, Reference 5 will be updated to a more rigorously controlled reference, MST-I0080. These changes do not constitute a change to the Emergency Plan, an Initiating Condition, or an EAL, but represent an improvement to the EAL basis guidance only. The intent of the EAL CA3.1 will remain the same with the changes to the EAL basis discussed.

These proposed changes are consistent with CSD-EP-HNP-0101-01 Revision 2 as currently written, and NEI 99-01 Revision 6, which is the licensing basis for the Shearon Harris EAL scheme. Therefore, the changes described do not constitute a change to the Emergency Plan EAL scheme as currently written. The Emergency Plan, as modified by these proposed changes, will still comply with planning standard 10 CFR 50.47(b)(4) for having an emergency classification system. The proposed changes do not negatively impact the accuracy or the timeliness of the classification. By referencing instruments with a more suitable range, accuracy will be improved and less time will be lost by attempting to read the pressure increase of 10 psig on the wide range instruments.

Change 38: This change revised the EAL Wall Chart per CSD-EP-HNP-0101-02 to match the EAL Basis document per CSD-EP-HNP-0101-01 for EAL SG1.1:

“Loss of **all** offsite and **all** onsite AC power capability to 6.9 KV emergency buses 1A-SA and 1B-SB

AND EITHER:

- Restoration of at least one emergency bus in < 4 hours is **not** likely (Note 1)
- Core Cooling **RED** Path entry conditions met.

The EP-EAL Basis document for EAL SG1.1 includes a reference in the EAL to Note 1, “The Emergency Coordinator should declare the event promptly upon determining that time limit has been exceeded, or will likely be exceeded,” per the first bullet. The wall chart did not include a reference to Note 1. (This condition only impacts SG1.1. SG1.2 includes a declaration for loss of all AC power without DC power, but it already includes a reference to ‘Note 1’ in both the EAL basis document and the wall chart.) Adding this note to SG1.1 is also consistent with generic existing guidance in the EAL Basis document, per Section 3.1.3, Imminent Conditions, “For ICs and EALs that have a stipulated time duration (e.g., 15 minutes, 30 minutes, etc.), the Emergency Coordinator should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition has exceeded, or will likely exceed, the applicable time.”

Thus, the Emergency Plan, as modified by these proposed changes, will still comply with planning standard 10 CFR 50.47(b)(4) for having an emergency classification system. The proposed changes do not negatively impact the accuracy or the timeliness of the classification. The addition of the note will serve as a reminder of the rules concerning EAL declarations, which will ensure continued accuracy in declaring the threshold exceeded and ensure timeliness of declarations by helping to ensure operators do not inappropriately wait to declare the EAL.

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Thus, the Emergency Plan, as modified by all proposed changes listed in the above section, will still comply with planning standard 10 CFR 50.47(b)(4) for having an emergency classification system. The proposed changes do not negatively impact the accuracy of the classification or the timeliness of the classification. The proposed changes add clarifying information that is intended to minimize the potential for an under or over-classification of equipment failure. The proposed changes do not reduce the licensee's capability to assess, classify, and declare an emergency condition within 15 minutes of the availability of indications. The classification of the event would not be different from that approved by the NRC in a site-specific application or from the endorsed industry EAL scheme that had been approved for licensee use. The proposed changes can be made because the meaning or intent of the basis of the approved EAL is unchanged.

Section XI: Description of Impact of the Proposed Change on the Effectiveness of Emergency Plan Functions

Address each function identified in Section IX. Continue to Section XII.

Justification:

Changes 9, 11, 12, and 13 modify EAL declaration thresholds CA1.1, CS1.1, CS1.2, and CG1.1, each associated with Initiating Conditions stemming from loss of Reactor Coolant System (RCS) inventory, to include a reference to Figure C-RVLIS, as already included in CSD-EP-HNP-0101-02.

Change 10 adds Figure C-RVLIS from CSD-EP-HNP-0101-02 to the EAL basis section in CSD-EP-HNP-0101-01 for use as the reference for EAL declaration thresholds CA1.1, CS1.1, CS1.2, and CG1.1. This figure does not change the intent of EAL thresholds and will help ensure consistent operator performance.

Changes 9, 11, 12, and 13 are supported by Change 14, which labels the existing copy of the figure on the EAL – Cold Chart in CSD-EP-HNP-0101-02 as “Figure C-RVLIS” and Changes 15, 16, 17, and 18 which revises CA1.1, CS1.1, CS1.2, and CG1.1 in the EAL Wallchart (CSD-EP-HNP-0101-02) to match the EAL Technical Basis Document CSD-EP-HNP-0101-01.

Changes 9, 10, 11, 12, 13, 14, 15, 16, 17, and 18 do not constitute a change to the Emergency Plan, an Initiating Condition, or an EAL. The intent of the EALs will remain the same with the changes to the EAL basis discussed. The proposed changes maintain the current EAL scheme with no reduction in effectiveness.

Changes 19 and 20 revise Table R-3/H-2, “Safe Operation and Shutdown Rooms/Areas,” to remove RAB 190 (RHR pumps), applicable in Mode 4 only, and RAB 216 (BIT), entries for Modes 4 and 5. These changes are based upon an operator review of CSD-EP-HNP-0101-01 which identified changes to the EAL bases for declarations of impeded operator access to equipment necessary for normal operations, cooldown, or shutdown of the facility in the current operating mode. Change 22 supports these changes by making the same associated change to CSD-EP-HNP-0101-02.

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This review validated the equipment listed in Table R-3/H-2 relative to the requirements as listed in NEI 99-01 Revision 6 for the associated EAL. The review identified two table entries listing equipment in modes that do not need to be accessed physically by operators performing normal operations, cooldown, or shutdown of the facility. Thus, including these items in the table does not conform with the bases listed in the associated EAL and could lead to overclassification.

The two EALs impacted by this change are EAL RA3.2, "An UNPLANNED event results in radiation levels that prohibit or impede access to any Table R-3/H-2 rooms or areas" and EAL H5.1, "Release of a toxic, corrosive, asphyxiant or flammable gas into any Table R-3/H-2 rooms or areas AND Entry into the room or area is prohibited or IMPEDED."

As demonstrated above, changes 19, 20, and 22 do not constitute a change to the Emergency Plan, an Initiating Condition, or an EAL. The intent of the EALs will remain the same with the changes to the EAL basis discussed. The proposed changes maintain the current EAL scheme with no reduction in effectiveness.

Changes 23, 24, 25, and 26 add a note to Table F-2 in CSD-EP-HNP-0101-01, which is used to declare the status (loss or potential loss) of fission product barriers based on radiation levels in containment, with thresholds based on time since the unit was shut-down. The note states, "Use the '0-1 hr' values when evaluating containment radiation readings with the reactor not shutdown."

This table is referenced by Table F-1, Fission Product Barrier Threshold Matrix, which is used in declaring Fission Product Barrier degradation per FA1.1, FS1.1, and FG1.1. The table entries begin at a time of '0-1 hours' to cover the time immediately following a reactor shutdown, which does not take into account any decay time or changes in core conditions since the unit was operating. Thus, the predicted radiation levels at T=0 for shutdown are the same as the levels expected when the reactor is still operating, and would be consistent with the T=0 threshold as calculated per EP-EALCALC-HNP-1701, "Containment Radiation EAL Threshold Values." While this was already understood among operators utilizing the table, this note removes potential for error and ensures the consistent use by Operations staff. Changes 27 and 28 incorporates this change into the wall boards per CSD-EP-HNP-0101-02.

The addition of this note to the EAL Technical Basis Document and EAL Wallchart does not change the Emergency Plan, an Initiating Condition, or an EAL. The intent of the EALs (Category F – Fission Product Barrier Degradation) will remain the same, with no change to Category F declarations as a result of the change to the EAL bases discussed. The proposed changes maintain the current EAL scheme with no reduction in effectiveness.

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Changes 29 and 30: These changes update the EAL Basis document, CSD-EP-HNP-0101-01, Tables C-4 and S-3, "Communications Methods," which are tied to EAL declarations CU5.1 and SU7.1 respectively. These EALs are for declaring Unusual Events due to loss of all onsite or offsite communications ability while either in cold conditions or hot conditions respectively. Changes 31 and 32 support these changes by updating the EAL Wall Chart per CSD-EP-HNP-0101-02 to include the revised versions of the communications methods table. Finally, change 33 expounds on a sentence in the basis description, describing the NRC communication links currently carried over the PABX.

This change supports implementation of the approved fleet emergency plan which was approved by the NRC for use at Shearon Harris per NRC Safety Evaluation Report, dated August 26, 2021, per ML21155A213. This change is being made per the site's change management plan to shift from PLP-201 to EP-ALL-EPLAN. Per the submittal ("License Amendment Request for Common Emergency Plan Consistent with NUREG-0654, Revision 2," ADAMS Ascension Number ML20247J468, dated 9/3/2020), the change is an administrative change, and the wording change does not change intent or level of commitment concerning the credited site communications systems. Note that this change is not a result of or reflective of any physical changes to the communications systems of HNP.

As demonstrated above, changes 29, 30, 31, 32, and 33 do not constitute a change to the Emergency Plan, an Initiating Condition, or an EAL. The intent of the EALs will remain the same with the changes to the EAL basis discussed. The proposed changes maintain the current EAL scheme with no reduction in effectiveness.

Changes 34 and 35 add clarity to SU8.1 to ensure consistent operator performance and to ensure Unusual Events are not declared in instances not supported by the current licensing basis. Specifically, the proposed change, captured per change 34, adds the following note to the EAL Basis for SU8.1.

Note that Containment Isolation Signals are defined per Shearon Harris Technical Specifications as Phase "A" Isolation, Phase "B" Isolation, and Containment Ventilation Isolation. Other signals, such as Main Steam Isolation signal, do not count as a containment isolation signals.

Change 35 supports the statement above by adding an additional HNP Basis Reference to SU8.1. Specifically, Basis 7. Is added to provide the Shearon Harris Technical Specification which defines containment isolation signals.

7. Shearon Harris Technical Specification Table 3.3-3, Engineered Safety Features Actuation System Instrumentation, Functional Unit 3, Containment Isolation.

These additions are to support declarations per the first criteria of SU8.1, specifically "**Any** penetration is **not** isolated within 15 min. of a VALID containment isolation signal." The additions provide amplifying information to define what is a 'valid containment isolation signal' to ensure declarations are consistent with the current licensing basis for SU8.1 as defined by NEI 99-01 Revision 6 and the current EAL basis document for the site. The guidance will reduce the likelihood of an over classification of events not currently warranting declaration of SU8.1, such as an instance of a stuck open Main Steam Isolation Valve after receipt of a valid Main Steam Isolation signal.

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As demonstrated above, changes 34 and 35 do not constitute a change to the Emergency Plan, an Initiating Condition, or an EAL. The intent of the EALs will remain the same with the changes to the EAL basis discussed. The proposed changes maintain the current EAL scheme with no reduction in effectiveness.

Changes 36 and 37: CA3.1 contains the following EAL threshold for declaration of 'inability to maintain the plant in cold shutdown,' "UNPLANNED RCS [*Reactor Coolant System*] pressure increase >10 psig" Change 36 improves a statement in the basis section to clarify available instrumentation for declaration of this threshold. Change 37 revises Reference 5 captured in the basis to reflect a better source of information for current instrumentation capabilities.

Currently, the EAL Basis document for CA3.1 elaborates, "In the absence of reliable RCS temperature indication caused by the loss of decay heat removal capability, classification should be based on the RCS pressure increase criteria when in Mode 5...." Further, the EAL states, "A 10 psig RPV [*Reactor Pressure Vessel*] pressure increase can be read on various instruments including narrow range RCS pressure indicators PI-402.1SA and PI-403.1SB (ref. 5)." This statement has several opportunities for improvement that will enhance the basis statement supporting the EAL, as detailed below. To improve this statement, and to remind operators of the additional capability to measure RCS pressure by using the Emergency Response Facility Information System (ERFIS) displays, the statement is being revised per Change 36 to state, "A 10 psig RPV pressure increase can be read on ERFIS RCS pressure indicators PRC0440 or PRC0441. Also, using installed MCB [*Main Control Board*] meters, a greater than 10 psig RPV pressure increase can be determined by a 10 psig increase on RCS narrow range pressure indicator PI-01RC-0402AW, which has 20 psig increments allowing reading to the half marking (ref. 5)."

Finally, the current 'Reference 5' utilized by the basis for CA3.1 is "simulator walkdown." This reference will be changed per Change 37 to a design control document. MST-I0080, Reactor Coolant System Wide Range Pressure (P-0402) Calibration.

As demonstrated above, changes 36 and 37 do not constitute a change to the Emergency Plan, an Initiating Condition, or an EAL. The intent of the EALs will remain the same with the changes to the EAL basis discussed. The proposed changes maintain the current EAL scheme with no reduction in effectiveness.

Change 38: This change revised the EAL Wall Chart per CSD-EP-HNP-0101-02 to match the EAL Basis document per CSD-EP-HNP-0101-01 for EAL SG1.1:

"Loss of **all** offsite and **all** onsite AC power capability to 6.9 KV emergency buses 1A-SA and 1B-SB

AND EITHER:

- Restoration of at least one emergency bus in < 4 hours is **not** likely (Note 1)
- Core Cooling **RED** Path entry conditions met.

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The EP-EAL Basis document for EAL SG1.1 includes a reference in the EAL to Note 1, "The Emergency Coordinator should declare the event promptly upon determining that time limit has been exceeded, or will likely be exceeded," per the first bullet. The wall chart did not include a reference to Note 1. This note will therefore be added to the wallchart.

Change 38 does not constitute a change to the Emergency Plan, an Initiating Condition, or an EAL. The intent of the EALs will remain the same with the changes to the EAL basis discussed. The proposed changes maintain the current EAL scheme with no reduction in effectiveness.

None of the changes evaluated above constitute a change to the Emergency Plan, an Initiating Condition, or an EAL. The intent of the impacted EALs will remain the same with the changes to the EAL basis discussed. The proposed changes maintain the current EAL scheme, and the Emergency Plan will continue to comply with 10 CFR 50.47(b) and 10 CFR 50 Appendix E. The effectiveness of the Emergency Plan will be maintained with no reduction in effectiveness.

The proposed changes do not reduce the effectiveness of the Duke Energy HNP's Emergency Plan because a standard scheme of emergency classification and action levels is in use. These changes continue to provide assurance that the Emergency Response Organization has the ability and capability to: respond to an emergency; perform functions in a timely manner, effectively identify and take measures to ensure protection of the public health and safety; and effectively use response equipment and emergency response procedures.

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Section XII: Evaluation Conclusion	
Answer the following questions about the proposed change:	
1. Does the proposed change comply with 10 CFR 50.47(b) and 10 CFR 50 Appendix E?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. Does the proposed change maintain the effectiveness of the emergency plan (i.e., no reduction in effectiveness)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3. Does the proposed change maintain the current Emergency Action Level (EAL) scheme?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Section XII: Conclusion	
Questions 1, 2 and 3 are answered YES, complete step below to create a General CAS assignment, and then continue on to Section XIV and implement change(s).	<input checked="" type="checkbox"/>
General CAS assignment created - Licensing submit changes in accordance with 10 CFR 50.4(b)(5)(ii) within 30 days of change implementation	<input checked="" type="checkbox"/>
Questions 1 or 2 or 3 are answered NO, complete Sections XIII and Section XIV .	<input type="checkbox"/>

Section XIII: Disposition of Proposed Change Requiring Prior NRC Approval	
Will the proposed change be submitted to the NRC for prior approval?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If No, reject the proposed change, or modify the proposed change and perform a new evaluation. Continue to Section XIV for this evaluation.	
If YES, then initiate a License Amendment Request in accordance 10 CFR 50.90, AD-LS-ALL-0002, Regulatory Correspondence, and AD-LS-ALL-0015, License Amendment Request and Changes to SLC, TRM, and TS Bases, and include the tracking number:_____. Complete Section XIV .	

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Section XIV: Signatures: EP CFAM Final Approval is required for changes affecting Program Element 4a of Section VIII . If CFAM approval is NOT required, then mark the EP CFAM signature block as not applicable (N/A) to indicate that signature is not required. Section XIV as applicable.		
Preparer Name (Print): Chuck Yarley	Preparer Signature: See CAS	Date: See CAS
Reviewer Name (Print): Sarah McDaniel	Reviewer Signature: See CAS	Date: See CAS
Approver Name (Print): Jamey Sharlow	Approver Signature: See CAS	Date: See CAS
Approver (EP CFAM, as required) Name (Print): David Thompson	Approver Signature: See CAS	Date: See CAS

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