Group <u>B</u>

FOIA/PA NO: _2014-0024

RECORDS BEING RELEASED IN THEIR ENTIRETY

Savoy, Carmel

From: Sent: To: Subject: Brock, Kathryn Friday, February 21, 2014 2:20 PM Savoy, Carmel FW: ANO info

From: Brock, Kathryn Sent: Wednesday, April 03, 2013 9:59 AM To: Wittick, Brian; Merzke, Daniel; Huyck, Doug Cc: Cubbage, Amy Subject: ANO info

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Hi. Amy from Commissioner Ostendorff's office called and was wondering if you could provide her the latest info on the ANO incident and I wasn't positive which one of you has the lead for this. She is looking for more info about the cause of the accident and she wondered if there were any plans to have any communications from the NRC to the public. Whatever you give to Amy, please also share with the other offices.

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Thanks.

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		Material Handli	ng Program	n	
Procedure Co	ontains NMM REFLIE	Forms: YES 🛛 NO			
Effective	Procedure Owner:	Mike Repo	Govern	ance Owner:	Sam Stewart

Effective Date	Procedure Owner: Title:	Mike Reno Maint Mgr	Governance Owner:	Sam Stewart
02/14/2013	Site:	JAF	Site:	HQN

Exception Date*	Site	Site Procedure Champion	Title
	ANO	Darrell Perkins	Maintenance Manager
N/A	BRP		
N/A	CNS	Jim O'Conner	Maintenance Manager
	GGNS	William Runion	Maintenance Manager
	IPEC	David Williams	Maintenance Manager
	JAF	Loriann Pickett	Maintenance Project Manager
	PLP	Greg Heisterman	Maintenance Manager
	PNPS	James Taomina	Maintenance Manager
03/30/2013	RBS	James Boulanger	Maintenance Manager
	VY	Paul Paradise	Maintenance Manager
	W3	Brian Lindsey	Maintenance Manager
N/A	NP		
N/A	HQN		

Site and NMM Procedures Canceled or Superseded By This Revision

Process Applicability Exclusion: All Sites: Specific Sites: ANO
BRP GGNS
IPEC JAF PLP
PNPS RBS VY W3

Change Statement

Non-Editorial Changes:

- 1. Deleted reference to SOP-CM-7 from Attachment 9.2 IPEC Unit 3 (CR-HQN-2011-00110 CA 7).
- 2. Changed Definition of Advanced Rigger
- 3. Changed weight limit in Definition of Basic Rigger
- 4. Removed requirement to complete Attachment 9.15 in Section 5.5.6
- 5. Added Attachment 9.15 can be used as a tool to aid in working through a JSHA, BUT is not required to be filled out to Section 5.5.8. (CR-HQN-2012-01249 CA 2 and CA 3).
- 6. Corrected NEIL definition of Critical Lift by adding "Provided that any of the above conditions are met, such lifts include, but are not limited to:" section 3.20.(c) (CR-HQN-2012-01249 CA 9)
- 7. Added "carts and pallet jacks" to section 1.1 PURPOSE.
- 8. Separate definitions for Signal Person and Spotter. (CR-HQN-01249)
- 9. Separate Responsibilities for Signal Person and Spotter. (CR-HQN-01249)
- 10. Listed Attachments and use into body of procedure (CR-HQN-2012-01249 CA 8)
 - Attachment 9.7 Rigging Checklist section 4.7.3 (CR-HQN-2011-00110 CA 9 and 15 as well)

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Attac and	chment 9.10 Typical Lift P 15 as well)	lan Checklist section 4.6	.10 (CR-HQN2011-	00110 and CA 9
Atta	chment 9.11 Forklift Initial	Daily Preoperational Ins	spection section 4.8.1	5
Atta	chment 9.12 Conduct Of C	Crane Operations Appen	dix section 4.6.14, 4.7	7.9, and 4.8.13
Atta	chment 9.13 Conduct Of F	Powered Industrial Truck	Operational Appendi	x section 4.8.14
Attac	chment 9.14 Personnel Lil	Iting Appendix section 4.	6.15, 4.7.10, and 4.8.	16
Attac	chment 9.15 Cart Use / No	on-Suspended Loads ma	aterial handling Check	list section 5.5.8
Attac	chment 9.16 Equipment M	lovement Checklist Appe	endix section 4.8.12	
Attac	chment 9.18 Equipment S	ignage Appendix to atta	chment 9.16	
11. Added NOTE	E for Heavy Load Cribbing	/Supports above sectior	n 5.4.8 (CR-HQN-2012	2-01249CA6)
12. Added NOTE section 5.2.[E: Number of spacers or w 6].(a) (CR-HQN-2011-001	vasher should be minimi: 10 CA 34)	zed to seat shouldere	d eye bolts below
13. Added stand (Non-Standa	alone definition for Critica rd Lift)	al Lift section 3.6 and rer	moved Critical Lift from	n section 3.21

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1.0 PURPOSE

- [1] This procedure provides the program requirements and recommendations for handling and moving loads with carts, pallet jacks, cranes, hoists, industrial trucks and rigging equipment at all Entergy sites.
- [2] Fuel Handling Equipment governed by other site approved procedures is excluded from the scope of this procedure. Attachment 9.2 lists site specific procedures.
- [3] For situations where there are sufficient instructions contained within procedures and training programs to cover the limited use of rigging/lifting and pre-determined lifting using hoists and other devices that are not modifiable, they may be excluded from the requirements of this procedure for those lifts (e.g. operations personnel lifting a resin barrel with a pre-approved lifting device and hoist).

2.0 REFERENCES

- [1] 29CFR17, Occupational Safety and Health Administration Code of Federal Regulations
- [2] NUREG-0612, Control of Heavy Loads at Nuclear Power Plants
- [3] NUREG-0554, Single Failure Proof Cranes for Nuclear Power Plants
- [4] ASME B30.9, American National Standard Safety Requirements for Slings
- [5] ASME B30.10, American National Standard Safety Requirements for Hooks
- [6] ASME B30.16, American National Standard Safety Requirements for Overhead Hoists (Under-hung)
- [7] ANSI/ISEA 107-1999 standards for maximum high-visibility protection
- [8] ANSI N14.6, Special Lifting Devices for Shipping Containers Weighing 10,000 pounds (4500 Kg) or more for Nuclear Materials
- [9] ANSI 45.2.15, Hoisting, Rigging and Transporting Items for Nuclear Power Plants
- [10] ASME B30.11, American National Standard Safety Requirements for Monorails and Under hung Cranes
- [11] ANSI/AWS D1.1-88, Structural Welding Code Steel

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- [12] ANSI/AWS D14.1-85, Specifications for Welding of Industrial and Mill cranes and Other Material Handling Equipment
- [13] ASME B30.2, Overhead Gantry Cranes (Top Running Bridge, Multiple Girder)
- [14] ASME B30.17, Overhead and Gantry Crane (Top Running Bridge, Single Girder, Under hung Hoist)
- [15] ASME B30.21, Manually Lever Operated Hoists
- [16] ASME B30.5, Mobile and Locomotive Cranes
- [17] ASME B30.20, Below the Hook Lifting Devices
- [18] ASME B56.1, Powered Industrial Trucks
- [19] 29CFR1910.6, Incorporation by Reference
- [20] Title 29 CFR 1910.179, Overhead and Gantry Cranes
- [21] Title 29 CFR 1910.180, Crawler Locomotive and Truck Cranes
- [22] Title 29 CFR 1910.184 Slings
- [23] Title 29 CFR 1926.201 Signaling
- [24] Title 29 CFR 1910.251 Definitions
- [25] Title 29 CFR 1926.550 Cranes and Derricks
- [26] Title 29 CFR 1910.178, Powered Industrial Trucks
- [27] Construction Safety Association of Ontario Rigging Manual
- [28] Newberry Handbook for Riggers
- [29] Crane Manufacturer's Association of America (CMAA) 70 and 74
- [30] NMAC Riggers Handbook ,1009706
- [31] EPRI Report, Lifting, Rigging, and Small Hoist Usage Guide, 1007914
- [32] EN-IS-120, Vehicle Safety

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- [33] EN-IS-111, General Safety Requirements
- [34] EN-MA-126, Control of Supplemental Personnel
- [35] EN-OP-102, Protective and Caution Tagging
- [36] EN-MA-131, Lockout Tagout of Non Plant Related Equipment
- [37] EN-TQ-205, Training Exemptions
- [38] EN-NS-112, Medical Program
- [39] EN-IS-123, Electrical Safety
- [40] EN-IS-124, Job Safety Hazard Analysis
- [41] EN-LI-102, Corrective Action Process
- [42] EN-MA-133, Control of Scaffolding
- [43] SOER 06-1, Rigging, Lifting and Material Handling
- [44] MIOSHA Section R 408.41016a(1) and a(12) for Personnel Lifting
- [45] CR-RBS-2010-3594, CR-RBS-2010-1153
- [46] EN-RP-308, Operation and Calibration of Gamma Scintillation Tool Monitors
- [47] EN-MA-119-01, Control, Storage, and Inspection of Lifting Equipment (used in Section 5.2)

3.0 DEFINITIONS

- [1] Advanced Rigger An individual who is qualified to perform lifts for loads that are equal to or greater than the site specific heavy load weight. Must be PIC qualified or have PIC present when moving heavy loads over plant safety related equipment.
- [2] Anemometer a device for measuring wind speed.
- [3] Basic Rigger An individual who is qualified to perform standard lifts for loads that are <u>less than the site specific heavy load weight</u>. Does not qualify individual to invert or transfer loads.

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- [4] Below the Hook Lifting Devices Lifting devices other than slings that are used for attaching loads to a hoist includes structural and mechanical lifting devices (spreader beams, plate clamps, drum turners, vacuum lifting devices, magnetic lifting devices, and material handling grapples. These items are considered part of the load.
- [5] Blind Lift Any lift that requires hand signals to be relayed through more than one person to the crane operator.
- [6] Critical Lift (per NEIL) Lift involves equipment and/or materials which, if failure or personnel errors were to occur, could cause physical or consequential damage in excess of \$500,000, an outage longer than ten (10) weeks, or could cause a significant spread of contamination or uncontrolled radioactive release to the environment. Provided that any of the above conditions are met, such lifts include, but are not limited to:
 - a) Lifts involving the handling of large primary coolant system components; primary containment system components; turbine / generator components; fuel elements; large radiation shielded shipping casks; equipment or supplies handled over spaces in which high value or safety-related equipment or systems are located.
 - b) Loads greater than 85% of the crane's rated capacity, including consideration of load radius and / or rigging equipment where applicable.
 - c) Load is to be lifted by more than one crane simultaneously
- [7] Cone of Protection A safe distance maintained from the load, to include potential load swing or drop in the case of rigging failure.
- [8] Dynamic Loading A sudden change in the speed of the lift and attachments, such as sudden stopping, snatching the load, or swingout.
- [9] Engineering Support Personnel (ESP) Trained individuals who provide specialized support of rigging operation.
- [10] Frequent Inspection Visual examinations by the end user or other designated personnel with records not required.

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[11] Heavy Load -. Any load, carried in any given area of a plant that weighs more than the combined weight of a single spent fuel assembly and its associated handling tool for the specific plant in question.

2000 pounds	(ANO) & (IPEC)
1500 pounds	(WF3) & (PNPS)
1300 Pounds	(PLP)
1200 pounds	(RB)
1140 pounds	(GG)
750 pounds	(JAF)
700 pounds	(VY)

- [12] Hoist Lifting devices air or electrically powered or manually operated. This group of devices shall include manual lever hoists, chain falls, temporary jib hoists, monorails which are not attached to overhead cranes, portable or fixed hoists and under hung traveling hoists. Except for hoists that are an integral part of an overhead crane, hoists and monorails are governed by ASME B30.11, B30.16, and B30.21
- [13] Hoist Operator individual who operates a hoist must either be basic or advanced rigging qualified, based on load weight or work under the direction of an individual who is basic or advanced rigging qualified.
- [14] Load Weight Determination Methods to determine the weight of a load to include but not limited to the following: shipping papers, data plate, dynamometer (or other weight measures), technical manuals, drawings or engineering evaluations.
- [15] Major Plant Equipment equipment that is being lifted as a Complete Assembly such as feed water heaters, circulating water pumps, steam generators, transformers, etc.
- [16] Manlift An aerial lift device that is telescoping or articulated (hinged), or both, which is used to position personnel.
- [17] Manual Lifting Device A manual device used to lift, lower, or pull a load and to apply or release tension.
- [18] Material Handling Program Coordinator Person(s) designated by the Maintenance Manager as the site program owner. The individual designated should be knowledgeable of advanced rigging practices, overhead and mobile crane operations.

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- [19] Mobile Cranes These cranes are maneuverable self-propelled with crawler tracks, rubber tires, locomotive mounted with either rotating or fixed superstructures with adjustable or fixed boom length. Pedestal cranes designed from the upper works of a mobile crane mounted on a fixed platform or pedestal come under the same standards as mobile cranes. Mobile cranes are governed by ASME B30.5. Some examples are rough terrain, truck mounted, crawler or locomotive cranes.
- [20] Nuclear Electric Insurance Limited (NEIL) Insures domestic and international nuclear utilities for the cost associated with interruptions, damages, decontaminations and related nuclear risk.
- [21] Non-Standard Lift:
 - (a) Loads greater than 20,000 lbs and does NOT have specific procedural or vendor instructions for the rigging that is to be used, OR
 - (b) Heavy loads carried outside of a predefined safe load path, OR
 - (c) The load weight is greater than:

2000 pounds	(ANO) & (IPEC)
1500 pounds	(WF3) & (PNPS)
1300 pounds	(PLP)
1200 pounds	(RB)
1140 pounds	(GG)
750 pounds	(JAF)
700 pounds	(VY)

And any of the following conditions are present:

- The load does not have designed rigging lift points or configuration (such as pad eyes, eye bolts, lifting brackets, approved rigging configuration drawing, etc.)
- The load passes over Safety Related equipment and does NOT have specific procedural instructions for the rigging that is to be used.
- The load passes over operating equipment on the Turbine Deck and does NOT have specific procedural or vendor instructions for the rigging that is to be used.

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3.0[21](c) cont.

- The load or the method of handling the load lacks stability (such as possibility of load shifting, indeterminate center of gravity, etc.).
- The lift requires multiple lifting devices (other than leveling devices) such as two or more crane hooks, cranes, tuggers, chain falls, etc.
- Sling angle is less than 30 degrees.

The lift is a blind lift.

- [22] Non-suspended Load A load moved with carts, dolly's, pallet jacks, etc., that, due to a high center of gravity, is inherently unstable when not at rest. The weight and center of gravity need to be considered to ensure appropriate actions are taken for personnel protection (Refer to Attachment 9.15 for loads over 100 lbs)
- [23] Overhead and Gantry Cranes Overhead and gantry cranes have top running bridges of single or multiple girder construction and top running or under hung trolleys. These cranes are governed by ASME B30.2 and B30.17.
- [24] Overhead and Mobile Crane Inspector A competent person that has had the training and skills necessary to perform periodic and engineered lift crane inspections. This is not required for all periodic inspections.
- [25] Periodic Inspections Visual inspection of the equipment in place by a designated person making records of apparent conditions to provide the basis for a continuing evaluation.
- [26] Person-In-Charge (PIC) A qualified person appointed to be responsible for the safe handling of non-standard loads and/or any loads lifted over safety-related equipment that exceed the heavy load limit and are lifted by overhead cranes, mobile cranes, or manual lifting devices.
- [27] Plant Site all areas, both the protected area and plant property.
- [28] Point Loading Undesirable practice of using end of forks on a fork lift to lift a load.
- [29] Rated Capacity/Rated Load The manufacturer's rated capacity. The maximum hook load which a piece of hoisting equipment is designed to or other rigging equipment is designed to safely carry.
- [30] Rigging Hardware is rigging attachments such as rings, links, swivels, eyebolts, shackles, turnbuckles, pad eyes, hoist rings, wire rope clips, wedge sockets, and rigging blocks.

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- [31] Safe Load Path A path defined for transport of a heavy load that will minimize adverse effects if the load is dropped, in terms of releases of radioactive materials and damage to safety systems.
- [32] Slings An assembly used for lifting when connected to a lifting mechanism.
- [33] Special Lifting Device (SLD) (per ANSI 14.6):
 - (a) Lifting fixtures designed to lift shipping containers weighing 10,000 pounds or more for Nuclear Materials.
 - (b) A lifting device that is designed specifically for handling a certain load, or loads such as the lifting rings for reactor vessel head or vessel internals, or for a spent fuel cast.
 - (c) Any special lifting device attached to the hook of the crane is considered a load.
- [34] Spotter- A designated individual who is capable of identifying existing and predictable hazards in the surroundings during the movement of carts, forklifts, trucks, etc. The spotter is responsible to aid operator in safe, collision-free movement of equipment. (no special qualification required)
- [35] Signal Person A designated individual that directs the movement of any load moved with overhead and mobile cranes. The signal person is responsible to aid the equipment operator in safe, collision-free movement of the load. (special qualification required)
- [36] Softener Devices used to increase the radius or decrease angle of a corner so that sling capacity is not reduced and protects the slings, and/or loads from damage. Softeners can be Engineered, wood cribbage, metal, sections of pipe, etc.
- [37] Structural Load Evaluator (SLE) Designated individual/s with appropriate training and experience who is responsible for evaluating structural capabilities for lifting (Civil or Structural Engineering Degree OR 5 years experience in construction and/or industrial maintenance with the ability to perform and interpret results from numerical calculations to determine rigging loads on beams, floor loading, etc. and as a minimum, be familiar with AISC Steel Construction Manual, Structural Steel Drawings and Live Load Drawings).

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- [38] Suspended Load Anything that is hanging or attached to the hook and is hoisted or under tension even if the load has not moved from its position. A suspended load shall not be left unattended or moved over personnel. An approved Job Safety Hazard Analysis (JSHA) is required prior to performing any work activities under a suspended load per EN-IS-124.
- [39] Tagline A restraining line to control positioning and movement of a load.
- [40] Test Load A test load is normally composed of two components, the test load lifting assembly and the test weights.
- [41] Training / Physical Training and physical requirements established by Entergy Management to develop or maintain skills of craft personnel involved with rigging and lifting process.
- [42] Truck or Approved Industrial Truck means a truck that is listed or approved for fire safety purposes for the intended use by a nationally recognized testing laboratory, using nationally recognized testing standards. Refer to 1910.155(c)(3)(iv)(A) for definition of nationally recognized testing laboratory.
- [43] Unattended A condition in which the operator of the lifting device is not at the operating controls.

4.0 **RESPONSIBILITIES**

- 4.1 GENERAL MANAGER, PLANT OPERATIONS
- [1] The General Manager, Plant Operations has the overall responsibility for ensuring implementation of this procedure.
- 4.2 MAINTENANCE MANAGER
- [1] Maintains overall responsibility for the lifting and rigging program implementation at each site.
- 4.3 SITE MATERIAL HANDLING PROGRAM COORDINATOR (SMHPC)
- [1] Coordinates program issues through points of contact at other Entergy sites.
- [2] Participating in the review of site-specific and fleet-wide lifting and rigging procedures, including vendor procedures.
- [3] Supports resolution of field lifting and rigging issues.

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- [4] Supports program assessments.
- [5] Participates in lifting and rigging training development and in industry peer groups.
- 4.4 DEPARTMENT MANAGERS, SUPERINTENDENTS, SUPERVISORS AND PROJECT MANAGERS
- [1] Ensuring the requirements of this procedure is adequately understood by the personnel in their department.
- [2] Ensuring that personnel in their department that could be engaged in rigging, hoisting and load handling are trained and qualified.
- [3] Selecting and qualifying personnel that perform Person-In-Charge (PIC) duties.
- [4] Use the Rigging Observation Checklist (Attachment 9.6) as a guide to observe rigging and lifting activities with the intent to recognize deficiencies and observe safe rigging and lifting practices
- 4.5 ENGINEERING SUPPORT PERSONNEL (ESP)
- [1] Trained individuals who provide specialized expertise in support of rigging operations, but typically do not assume overall responsibility for the rigging operation. For example, Engineering Support Personnel may provide approval of a requested "pull point" on plant structures or equipment, provide a safe heavy load path, provide floor loading evaluation and cribbing recommendations, or provide an evaluation of the acceptability of lifting a load over operable safety equipment.
- 4.6 PERSON-IN-CHARGE (PIC)
- [1] Provides oversight of the lift, including the machine location and making the lift.
- [2] Works with the First Line Supervisor to ensure the rigging crew is qualified.
- [3] Ensures that the equipment and accessories specified in the rigging plan are available.
- [4] Surveys the lift site for hazardous and unsafe conditions.

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4.6 cont.

- [5] Ensures the load is properly rigged. This includes challenging the qualified rigger on the following key elements:
 - Weight of load
 - Center of gravity
 - Load stability
 - Current rigging inspections and personnel qualifications
 - Use of conservative rigging
 - Understanding proper use of softeners, sling angles, and side pull
 - Understanding equipment in the area and consequences of a load drop
 - Adequate measures to control the load in the air
 - Proper set up of lay down areas
 - Appropriate contingency plans established in the event of crane or rigging problems / back out actions
- [6] Coordination and notifications of load movements and load paths, i.e., obtaining heavy load permits, etc.
- [7] Obtains or verifies the correct weight of the load and informs the operator.
- [8] Conducts pre-lift crew briefings.
- [9] Ensures completion of evaluations for non-standard lifts (Attachment 9.4).
- [10] Ensures completion of the Typical Lift Plan Checklist (Attachment 9.10) for all nonstandard lifts, and considers completing a Typical Lift Plan Checklist for standard lifts based on complexity of the task.
- [11] Designates the signal person and informs the operator.
- [12] Controls the movements of all personnel required to work within the area affected by the lift.
- [13] Ensures that all required safety precautions are taken. Ensures required notifications are made if an accident or injury occurs.
- [14] Shall be familiar with the Conduct of Crane Operation Appendix (attachment 9.12)
- [15] Refers to and follows Personnel Lifting Appendix (attachment 9.14) prior to using crane for personnel lifting.

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- 4.7 BASIC / ADVANCED RIGGER
- [1] Verify Rigger Qualifications are current.
- [2] Responsible for evaluating a standard load with an unknown weight and as a minimum has determined the weight of the load by the methods taught in basic or advanced rigging training.
- [3] Responsible for understanding and applying the Rigging Checklist (Attachment 9.7) attributes for all lifts. At least one Rigging Checklist should be completed weekly per Rigger (prior to the first lift that a Rigger performs that week) to ensure the Rigger's familiarity with the Rigging Checklist attributes. This frequency can be increased for individual sites, at the discretion of that site's Maintenance Manager.
- [4] Determine the proper rigging and rigging hardware to be used.
- [5] Ensure the rigging has sufficient capacity and is in safe working condition.
- [6] Inspect the rigging prior, during, and after (post) lift.
- [7] Responsible for the safety of rigging crew and other personnel as they are affected by the rigging operation.
- [8] Responsible for notification of personnel when a load is to pass over buildings, cargo containers, or other structures/areas where people may be working, ensure people are removed and clear from under the load path.
- 4.8 CRANE OPERATOR / POWERED INDUSTRIAL TRUCKS
- [1] Verify crane operator qualifications are current.
- [2] Ensure that the crane is within its periodic inspection frequency.
- [3] Ensuring crane operates within its capacity and limitations of the equipment operation manual.
- [4] Knowing Safe Load Paths according to NUREG-0612 requirements
- [5] Preventing crane damage
- [6] Ensuring standard hand signals (Attachment 9.1), communication, and speed are agreed upon during the pre-job briefing.
- [7] Ensuring that a reference copy of the Standard Hand Signals (Attachment 9.1) has been posted conspicuously in the work area.

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4.8 cont.

- [8] Resolving any concern prior to and during the lift. If necessary, stopping the lift to correct the concern.
- [9] Performing daily inspections of the (mobile and overhead) cranes (attachment 9.8 or 9.9) prior to each use or at the beginning of each shift.
- [10] Never using the crane's limit switches as an operating control unless it is specifically designed for such use.

NOTE

The spotter is always required when moving cranes on site. The spotter requirement can be waived for other Equipment Operations if the JSHA / Walk down identified no overhead equipment hazards.

[11] When traveling, the boom should be completely retracted and lowered to the travel position. All appropriate cab swing brakes should be applied.

i.e. For Dresser Cranes, boom angle is "0" degrees. For Grove 130 ton mobile cranes, boom angle is 20 degrees maximum.

- [12] Completes the "Equipment Movement Checklist" per Attachment 9.16 (if required) UNLESS a JSHA/walk down identified no overhead equipment hazards.
- [13] Shall be familiar with the Conduct of Crane Operation Appendix (attachment 9.12)
- [14] Shall be familiar with the Conduct of Powered Industrial Truck Operations Appendix (attachment 9.13)
- [15] Responsible for performing the Forklift Initial Daily Preoperational Inspection (attachment 9.11)
- [16] Will follow Personnel Lifting Appendix (attachment 9.14) prior to using crane for personnel lifting.

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- 4.9 SPOTTER
- [1] Refers to Attachments 9.17 and 9.18 and implements when required. (no qual required)

<u>NOTE</u>

More than one Spotter may be required when backing a vehicle into a building or if Spotter is unable to keep full view of potential obstructions or overhead equipment hazards at any given time.

- [2] Maintain visible contact or continuous communications with the equipment operator by means of hand signals, two-way radios, or audible warning devices (i.e.; air horns) When driver does not have clear visibility during movement. This includes moving objects on carts and equipment with mounted wheels.
- [3] Use required standard hand signals or communication methods

NOTE

Equipment/vehicles or loads being moved from one location to another that are NOT 15ft tall and/or a JSHA has been documented for the specific work DO NOT require the use of Attachment 9.16 Equipment Movement Checklist.

- [4] When moving mobile equipment onsite, a spotter shall walk with the equipment from beginning to end of travel identifying any and all hazards to the Operator.
- [5] Spotters shall wear designated clothing (as agreed upon in pre job brief) identifying them as performing spotter duties.
- 4.10 SIGNAL PERSON
- [1] Verify Signal person qualification is current
- [2] Maintain visible contact or continuous communications with the crane / hoist operator during the lift.
- [3] Use required standard hand signals (Attachment 9.1) or communication methods during lifting evolutions
- [4] The primary Signal Person shall wear an orange colored vest to be easily identified by the Operator and anyone in the area

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5.0 DETAILS

- 5.1 PRECAUTIONS AND LIMITATIONS
- [1] Traveling overhead cranes with access over an FMEZ (Foreign Material Exclusion Zone) should be restricted from moving over the FMEZ unless the crane has been inspected for potential sources of Foreign Material and the foreign material has been removed (if present).
- [2] Unbalanced or top heavy loads are required to be tied to the mast of forklifts during transportation. CR-RBS-2010-5286
- [3] A suspended load shall never be left unattended or moved over personnel.
- [4] Additional handling requirements for RP equipment and monitors are contained in EN-RP-308 procedure and MUST be followed.
- 5.2 LOAD HANDLING EQUIPMENT REQUIREMENTS
- [1] Slings
 - (a) All slings are required to be maintained and periodically inspected per control, storage and inspection procedure EN-MA-119-01, or equivalent site procedure(s) if that site has a current exception date to EN-MA-119-01.
 - (b) Only slings that meet the requirements of ASME B30.9 shall be purchased for use at all Entergy Nuclear sites.
- [2] Vendor-Supplied Rigging Equipment and Hardware
 - (a) All vendor-supplied rigging equipment and hardware used on site is required to meet the same codes and standards that apply to all Entergy Nuclear sites.
- [3] Manual Lifting Devices
 - (a) All manual lifting devices are required to be maintained and periodically inspected in accordance with control, storage and inspection procedure EN-MA-119-01, or equivalent site procedure(s) if that site has a current exception date to EN-MA-119-01.
 - (b) Only manual lifting devices that meet the requirements of ASME B30.21 shall be purchased for use at all Entergy Nuclear sites.

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5.2 cont.

- [4] Overhead Hoist (Under hung)
 - (a) All overhead hoists (under hung) are required to be maintained and inspected in accordance with control, storage and inspection procedures.
 - (b) Only overhead hoists (under hung) that meet the requirement of ASME B30.16 shall be purchased for use at all Entergy Nuclear sites.
- [5] Below the Hook Lifting Devices
 - (a) All below the hook lifting devices (other than slings and special lifting devices) are required to be purchased, constructed and inspected in accordance with ASME B30.20.
 - (b) Spreader and equalizer beams shall be designed according to specifications within the AISC or ASME, as applicable. Maximum safe working loads shall not exceed either 20% of the ultimate strength of the base material or a minimum design factor of three, based on the yield strength of the base material. Where these specifications cannot be met, the designer shall establish and justify criteria to assure adequate material fracture toughness per ASME BTH-1-2005.
- [6] Rigging Hardware
 - (a) Rigging hardware should be manufactured from forged alloy steel; however, other alloys may be used for special applications. Refer to the manufacturer's load rating charts.



(b) Fabrication or modification of eyebolts, shackles, rings, links, swivels and turnbuckles requires a load test and approval of ESP.

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5.2[6] cont.

- (c) All rigging hardware is required to be visually inspected prior, during, and after each use. Rigging hardware shall be removed from service if visual inspection reveals any of the following discrepancies:
 - Missing or illegible manufacturer's name or trademark and/or rated load identification.
 - Evidence of unauthorized welding or modification.
 - Bent, twisted, distorted, stretched elongated or cracked.
 - Excessive thread damage or wear
- (d) Any purchased, modified or site-fabricated rigging hardware is required to meet the applicable manufacturing and fabrication standards/regulations.
- [7] Temporary Hoisting Assemblies

<u>NOTE</u>

These are general requirements for temporary hoisting assemblies typically used at Entergy sites. Specially designed lifting devices, for specific applications, may be designed and tested to other approved standards

- (a) Site fabricated and vendor supplied gin poles, lifting frames, temporary overhead cranes or supports, winch-driven hoisting or swinging equipment, and other assemblies (except scaffolding equipment) are required to be designed or approved by ESP. The design is required to be supported by detailed drawings, specifications, evaluations, and/or certifications.
- (b) The assembly shall be designed for at least 125 percent of the projected hook load and should be load tested and held for at least five minutes at 125 percent of the actual load rating before initial use. The assembly shall be load tested in all configurations for which it will be used.
- (c) All critical (load bearing) welds are required to be magnetic particle (MT) or liquid penetrant (PT) inspected before and after the load test for detectable changes in weld characteristics or distortion.
- (d) Existing temporary lifting devices must have the load rating permanently affixed prior to use, OR if the device is serialized, then verify documentation supports the lift for which it will be used.

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5.2[7] cont.

- (e) All site fabricated devices used for lifting shall have the following information permanently affixed. These include frames, etc. (above the hook) and spreader beams, etc. (below the hook):
 - Manufacturer name and address
 - Serial number / Design document number
 - Lifter weight, if over 100 lbs Rated load.
- (f) Rigging from scaffolding equipment requires one of the following:
 - Site specific procedure for previously evaluated Lifts from scaffolding
 - A documented evaluation for loads that exceed 500 pounds (400 pounds VY) or could be lifted above operable safety related equipment.
 - The responsible maintenance or modifications Supervisor has authorized rigging from scaffolding for loads 500 pounds (400 pounds VY) or less.
 - See EN-MA-133, (Control of Scaffolding) for rigging from scaffolding specific requirements.
- [8] Softeners
 - (a) For heavy loads, use metal or manufacture-rated softeners or equivalent for sling protection.
 - (b) Ensure all sharp corners or rough surfaces of the load that come into contact with slings are properly softened to prevent damage to the slings during the lift.
 - (c) When softeners are used, stop when the load is lifted for the rigger to inspect the softeners and rigging to ensure no damage is occurring. IF damage appears on either the sling or the softener, STOP and REVALUATE the use of a different type of softener or slings to prevent further damage and the possibility of dropping the load.
- [9] Rigging from Plant Structures
 - (a) When available, equipment/material shall be rigged from pad eyes; structural embeds, monorails, etc.
 - (b) If proper rigging points are not available, a Supervisor shall be notified & an evaluation shall be made by ESP to insure proper rigging support points are used.

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5.2 cont.

- [10] Rigging From Plant Equipment
 - (a) Rigging loads from plant equipment (components, piping, or their supports) requires Structural Load Evaluator or ESP approval.
 - (b) ESP shall evaluate the particular plant equipment being used as a pull point.
- [11] Rigging From Building Structural Steel
 - (a) Loads that exceed 1000 pounds (500 pounds WF-3) or could be lifted above operable safety related equipment requires documented approval by a Structural Load Evaluator or as directed by site specific procedures. All SLE documents should be retained within the work package or as directed by site specific procedures.
 - (b) Any person who is Advanced Rigging qualified may authorize rigging from building structural steel if the load weighs 1000 pounds or less and will not be lifted above operable safety related equipment or as directed by site specific procedures. Documentation of approved rigging is not required.
- [12] Overhead and Gantry Cranes

<u>NOTE</u>

Existing plant cranes that were installed prior to 1967 are not required to be retrofitted to meet the latest revision ASME B30.2. However, if a crane or component of the crane is modified in a way that substantially changes its performance, then the crane or component should be brought up to the latest revision of ASME B30.2 or be consistent with plant-specific licensing basis.

- (a) All overhead and gantry cranes are required to be inspected and maintained in accordance with the crane manufacturer's requirements as prescribed by OSHA 29 CFR 1910.179, 1926.550 and ASME B30.2.
- (b) Only Overhead and Gantry Cranes that meet the requirements of ASME B30.2 shall be purchased for use at all Entergy Nuclear sites.
- (c) Refer to Attachment 9.12 for conduct of crane operations.

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5.2 cont.

- [13] Powered Industrial Trucks
 - (a) Refer to Attachment 9.13 for the conduct of powered industrial truck operations (Attachment 9.3 provides designated location information.)
 - (b) Forklift daily inspections are performed using Attachment 9.11.
- [14] Special Lifting Devices (SLD) for Shipping Containers Weighing 10,000 Pounds (4500 kg) or more for Nuclear Materials.
 - (a) All Special Lifting Devices (SLD) are required to be maintained and inspected in accordance ANSI N14.6.
- 5.3 CONTROL OF HEAVY LOADS PROGRAM (NUREG-0612)
- [1] Site specific procedures (see Attachment 9.2) for "Control of Heavy Loads" prescribes the requirements for handling heavy loads over Nuclear Safety Related equipment and systems.
- 5.4 GENERAL REQUIREMENTS

<u>NOTE</u>

Rigging publications such as, the Newberry Handbook for Riggers, NMAC Riggers Handbook 1009706, Construction Safety Association of Ontario Rigging Manual, etc. is acceptable for aiding in selecting and evaluating rigging.

- [1] Person-in-Charge (PIC)
 - (a) All loads that are to be lifted with an overhead or mobile crane and meet any of the following criteria are required to be supervised and under the direction of a Person-In-Charge(PIC).
 - (1) Any load, lifted over safety-related equipment, that weighs more than the combined weight of a single spent fuel assembly and its associated handling tool for the specific plant in question.

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(ANO) & (IPEC)
(WF3) & (PNPS)
(PLP)
(RB)
(GG)
(JAF)
(VY)

- (2) The lift is a non-standard lift.
- (3) Personnel are to be lifted.
- (4) Blind Lift.
- (b) It is recommended that the Person-In-Charge (PIC) for the lift not be the Crane Operator. The Crane Operator does not always have the best vantage point for watching the load movement or the ability to move quickly from one location to another. It is acceptable for the PIC to be the Signal Person.
- [2] Non-standard lifts are required to be evaluated and documented on Attachment 9.4 unless previously evaluated and the following criteria are met:
 - The weight is less than or equal to the evaluated load.
 - The evaluated rigging configuration is the same.
 - The evaluated method of rigging is the same.
 - The load does not pass over Safety Related Equipment, operating equipment on the turbine deck, or lifting personnel.
- [3] Approval from Engineering Support Personnel is required for modifications or major repairs to any load handling equipment.
- [4] The hoist chain or hoist rope must be free from kinks or twists and must not be wrapped around the load.
- [5] Cranes or Rigging equipment that is rejected or damaged (suffers a challenge or failure) shall be immediately removed from service and shall not be used until inspections or repairs are performed. A Condition Report should be generated.

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5.4 cont.

- [6] Below-the-hook lifting devices are required to be labeled with an identifying number (traceable to the manufacture) and the rated capacity of the device. Load lifting devices with lost or illegible identification tags or numbers shall not be used without ESP approval.
- [7] The following practices apply to the use of slings and wire rope:
 - (a) Pre-use sling inspections (Documentation is not required)
 - (1) Prior to use visually check wire rope slings for signs of anything causing them to be unsafe such as: broken wires, excessive wear, kinking or twisting, chemical or heat damage.
 - (2) Prior to use visually check synthetic slings for signs of anything causing them to be unsafe such as: fraying, cuts, tell-tell red thread, chemical or heat damage, mildew.
 - (3) Prior to use visually check hooks for signs of anything causing them to be unsafe such as: deformity, excessive wear (particularly in the throat area), properly operating or missing hook latches (as required).
 - (4) Prior to each daily use visually check chain slings for signs of anything causing them to be unsafe such as: worn or deformed links, deformed rings, chemical or heat damage.
 - (b) During Use Inspections (Documentation is not required)
 - (1) Lift the load just enough to suspend the load and hold.
 - (2) Ensure the load is stable.
 - (3) While holding the load, listen for unusual noises. IF noises are heard, THEN immediately stop with the lift until all rigging has been reinspected.
 - (4) Ensure rigging is installed properly and not damaged.
 - (5) Ensure softeners are installed properly and not damaged.
 - (6) Ensure load is properly balanced.

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5.4[7](b) cont.

- (7) Ensure slings are loaded equally as possible.
- (8) Ensure crane brakes will hold on load being lifted.
- (c) Post use inspection (Documentation is not required)
 - (1) Visually check wire rope slings for signs of anything causing them to be unsafe such as: broken wires, excessive wear, kinking or twisting, chemical or heat damage.
 - (2) Visually check synthetic slings for signs of anything causing them to be unsafe such as: fraying, cuts, tell-tail red thread, chemical or heat damage, mildew.
 - (3) Visually check hooks for signs of anything causing them to be unsafe such as: deformity, excessive wear (particularly in the throat area), properly operating or missing hook latches.
 - (4) Visually check chain slings for signs of anything causing them to be unsafe such as: worn or deformed links, deformed rings, chemical or heat damage.
- (d) Slings should be long enough to provide the maximum practical angle between the sling leg and the horizontal. The use of an angle less than 30 degrees is not acceptable without prior evaluation.
- (e) Slings shall not be shortened with knots, rope clips, bolts or other unapproved methods:
- (f) Protection of Components from Slings Stainless steel and corrosion resistantalloy surfaces or components should be protected from direct contact with slings and other handling accessories, except where such contact can be limited to lifting eyes or trunnions provided for hoisting and handling.
 - (1) Sharp corners shall be padded or protected to prevent slings from being cut or damaged by using softeners.

NOTE

Eyes in wire rope bridles, slings, or bull wires used for lifting shall not be formed by wire rope clips or knots.

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5.4[7] cont.

(g) When U-bolt wire rope clips are used to form eyes in wire rope, the U-bolt clips must have the U-bolt section on the dead or short end of the wire rope and the saddle on the live or long end of the wire rope.

	NOTE	
Rig	igging designed and approved by OEM or ESP is exempt from next step below	1.

- (h) Multiple-leg hitches may consist of two, three or more legs. Calculations should always assume that only two legs are carrying the load and the other leg(s) are only balancing the load.
- (i) Multiple part lines must not be twisted around each other.
- (j) Eye Bolts of the shouldered or swivel hoist ring design should be used whenever possible and tightened (even if shims are used). Straight Shank eye bolts shall not be exposed to angle or side lifts.

NOTE

Cribbing/supports for Heavy Loads **MUST** be evenly loaded prior to removing rigging. Additional blocking may be used if personnel are required to work under the load once it has been set on cribbing/supports. Requirement will be documented in JSHA if required.

- [8] Determine the safest load path prior to the lift and stage cribbing/supports if required.
- [9] Hoist rope(s) and softeners if used, should be checked after the slack is taken out of the rigging and just before the load is lifted to ensure the load is centered and correctly balanced.
- [10] Hoisting should be stopped when the load is suspended to check the position and condition of the rigging and softeners, if used.

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5.4 cont.

- [11] During hoisting or moving of loads, care should be taken to ensure that:
 - (a) There is no sudden acceleration or deceleration of the load.
 - (b) The load is only lifted high enough to clear obstructions.
 - (c) No work activity should be performed under a suspended load. IF working under a suspended load is required, a JSHA shall be completed in accordance with EN-IS-124.

CAUTION

Loads may hang up during lifting caused by tight dowel pins, seal surface adhesion, guide rod binding or catching on items that are not intended to be lifted.

- [12] Loads with Tight Clearances, Suspect Load Values or Potential to Bind / Drag
 - (a) All rigging lifts that are greater than 1,000 pounds and have potential interferences, suspect load values or the potential to bind / drag, such as concrete blocks, shield walls, etc. must utilize a load cell with a safety factor of at least 5 to 1 to prevent excessive stress which could inadvertently load equipment above its rated capacity., OR
 - (b) IF the configuration of the lift is not conducive to the use of a load cell THEN develop and implement a rigging plan that utilizes appropriate means to alleviate excessive stress from the allowable concentrated load areas such as:
 - (1) Increasing the rigging capacity by at least 100%.
 - (2) Mechanically agitating, lubricating, heating, hydraulically jacking, and / or prying loose from the at-rest point prior to the lift.
 - (3) Placing indicators or precision levels to visually verify if the load is moving correctly (i.e., horizontal / vertical).
- [13] Cranes should not be used for side pulls unless properly evaluated.
- [14] Tag line(s) should be used on all overhead lifts unless the tag line creates a hazard for personnel and plant equipment.
- [15] Employees utilizing taglines should ensure that they are not under the load at any time.

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5.4 cont.

- [16] Do not lift a load of "unknown weight" unless a "load weight determination" has been performed, (i.e., shipping papers, data plate, dynamometer or other weight measures, technical manuals, drawings or engineering evaluation).
 - (a) The weight of a component should be documented by the PIC or Rigger after the weight has been determined. If the component has potential volumetric changes (dry or liquid), mark both the empty and full weights. Documenting the weight of a load should be by, but not limited to, one of the following methods:
 - (1) Label/stencil components,
 - (2) Enter weight to component data base additional info screen,
 - (3) Adding to Tech Manual, drawings, etc.
 - (4) Using approved work package and procedure feedback processes.
- [17] Employees shall not work under loads on the forks of a forklift, suspended from cranes or supported by the use of air/hydraulics. If an exception is needed, an approved JSHA in accordance with EN-IS-124 is required.
- [18] Personnel Lifting shall be performed in accordance with Attachment 9.14.
- 5.5 Non-Suspended Loads

CAUTION

Non-suspended Loads with high centers of gravity have a tendency to overturn when moved over surfaces that result in unexpected drag, tilting and or shifting of the load.

- [1] Precautions should include keeping personnel out of the path of the load, ensuring the understanding of the evolution and its hazards, and following standard rigging practices to control the load. If line of sight is not practical, a spotter should be used to assist the material transfer.
- [2] A walk-down of the travel path shall be performed to identify areas that should not be traversed, such as: uneven surfaces, ramps, holes, carpets/mats, etc.
- [3] Do not move a load of "unknown weight" unless a "load weight determination" has been performed, (i.e., shipping papers, data plate, dynamometer or other weight measures, technical manuals, drawings or engineering evaluation).

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5.5 cont.

- [4] The weight of a component should be documented after the weight has been determined. Documenting the weight of a load should be by, but not limited to, one of the following methods:
 - (a) Label/stencil components,
 - (b) Enter weight to component data base additional info screen,
 - (c) Adding to Tech Manual, drawings, etc.
 - (d) Using approved work package and procedure feedback processes.
- [5] Carts and pallet jacks should be inspected prior use to ensure there are no defects that would prevent safe operation, such as:
 - cracked welds
 - missing bolts/nuts
 - poorly inflated tires, etc.
 - Cart shall be rated for the weight of the load
- [6] Workers should be aware of the personnel hazards involved with conducting relatively routine equipment handling activities or non-suspended loads. This should include the limitations of carts and pallet jacks for moving loads The worker shall:
 - (a) Use a cart that has both the rated capacity AND the lowest profile available.
 - (b) Ensure the center of gravity is located over the center of the cart.
 - (c) Secure the load to the cart, if not stable.
- [7] The weight and center of gravity need to be considered to ensure appropriate actions are taken for personnel protection. Special safety precautions may be needed when moving non-suspended objects weighing greater than 100 pounds or objects whose center of gravity is more than 3 feet above the base.
- [8] A JSHA (per EN-IS-124) should be prepared and approved prior to transporting non-suspended loads over 100 lbs with a center of gravity of more than 3 feet above the base that could injure personnel if moved incorrectly. Attachment 9.15 can be used as a tool to aid in working through a JSHA, BUT is not required to be filled out.

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5.5 cont.

[9] Weights of the objects shall be known. Weights shall be marked on portable objects mounted on wheels and weigh greater than 100 pounds.

Stationary loads weighting greater than 100 pounds (eg- radiation protection tool monitors, frisker caves, etc.) should be mounted on permanent structures or immobilized to prevent inadvertent or unauthorized movement.

6.0 INTERFACES

None

7.0 RECORDS

None

8.0 SITE SPECIFIC COMMITMENTS

None

9.0 ATTACHMENTS

- 9.1 STANDARD HOISTING SIGNALS
- 9.2 SITE SPECIFIC PROCEDURES AND CRs
- 9.3 DESIGNATED LOCATIONS
- 9.4 EVALUATION FOR NON-STANDARD LIFTS FORM
- 9.5 CONTRACTOR SUPPLIED OR RENTED CRANES FORM
- 9.6 RIGGING OBSERVATION CHECKLIST
- 9.7 RIGGING CHECKLIST
- 9.8 MOBILE CRANE (TELESCOPIC BOOM) PRIOR TO USE CHECKLIST
- 9.9 OVERHEAD BRIDGE CRANE PRIOR TO USE CHECKLIST
- 9.10 TYPICAL LIFT PLAN CHECKLIST

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- 9.11 FORKLIFT INITIAL DAILY PREOPERATIONAL INSPECTION
- 9.12 CONDUCT OF CRANE OPERATIONS APPENDIX
- 9.13 CONDUCT OF POWERED INDUSTRIAL TRUCK OPERATIONS APPENDIX
- 9.14 PERSONNEL LIFTING APPENDIX
- 9.15 CART USE / NON-SUSPENDED LOAD MATERIAL HANDLING CHECKLIST
- 9.16 EQUIPMENT MOVEMENT CHECKLIST APPENDIX
- 9.17 EQUIPMENT / OPERATOR SPOTTER CHECKLIST APPENDIX
- 9.18 EQUIPMENT SIGNAGE APPENDIX

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ATTACHMENT 9.1 Sheet 1 of 3 STANDARD HOISTING SIGNALS

Overhead and Gantry Crane Signals (sample posting)


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STANDARD HOISTING SIGNALS

Mobile and Locomotive Crane Signals (sample posting)



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ATTACHMENT 9.1 Sheet 3 of 3 STANDARD HOISTING SIGNALS

Mobile and Locomotive Crane Signals (Continued) (sample posting)



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SITE SPECIFIC PROCEDURES AND CRS

ATTACHMENT 9.2

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Site Specific Procedures

ANO

ANO Procedure 1005.002, Control of Heavy Loads.

ANO Procedure 1000.128, Industrial Safety and Occupational Health.

ANO Procedure 1402.131, Operation of the Containment Polar Crane (L2).

ANO Procedure 1402.132, Operation of the Intake Structure Crane (L7).

ANO Procedure 1402.133, Operation of the Spent Fuel Crane L-3 Units 1 & 2.

ANO Procedure 1402.080, Load Testing of the Containment Polar Cranes (L2 and 2L2).

ANO Procedure 1306.024, Periodic Test of Slings.

ANO Procedure 2402.079, Operation of the Containment Polar Crane (2L2).

ANO Procedure 2402.080, Operation of the Unit 2 New Fuel Handling Crane (2L35).

ANO Procedure 2402.045, Operation of the Unit II MSIV Crane (2L10).

ANO Procedure 1402.091, Visual Inspection of Special Lifting Devices.

ANO Procedure 1402.081, Load Testing of Crane L3, Unit 1 Aux Fuel, 2L35, L7.

ANO Procedure 1402.080, Load Testing of the Containment Polar Cranes (L2 & 2L2).

ANO Procedure 1306.004, Periodic Testing and Inspection of Manual Lifting Devices.

ANO Procedure 1402.232, Operation of the Unit 1 Containment Building Pedestal Crane (L-37).

COPD-024, Risk Assessment Guidelines

GG

GG Procedure 07-S-05-300, Control and Use of Cranes and Hoists

GG Procedure 07-S-05-305, Qualification/Certification of Crane and Hoist Operators

GG Procedure 07-S-05-310, Operation of Containment Polar Crane

GG Procedure 07-S-05-325, Control, Operation and Maintenance of Portable Hoists

GG Procedure 07-S-05-330, Control and Use of Crane and Hoist Rigging

GG Procedure 07-S-05-335, Operation of The New Spent Fuel Cask Crane

GG Procedure 07-S-05-336, Operation of New Fuel Bridge Crane

GG Procedure 07-S-14-177, Inspection and Lubrication of Hand Chain Powered Hoists

GG Standard GGNS-CS-15, Civil Standard For Temporary Rigging

GG Standard GGNS-CS-20, Standard For Heavy Loads and Special Lifting Devices

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SITE SPECIFIC PROCEDURES AND CRS

Site Specific Procedures

PLP

MSM-M-29 – Lifting Equipment, Rigging and Tackle Inspection MSM-M-13A – Reactor Building Polar Crane L-1 Periodic Inspection MSM-M-13B – Turbine Building Crane L-2 Periodic Inspection MSM-M-13C – Spent Fuel Pool Crane L-3 Periodic Inspection CLP-M-6 – Inspection of Heavy Load Lift Devices MSM-M-33 – Containment Boom Crane and Containment Hatch Crane Mechanical Inspection and Lubrication MSM-M-62 – Load Carrying Vehicle Operational Inspection MSM-M-72 – Movement of Heavy Loads in the Turbine Building FHS-M-23 – Movement of Heavy Loads in the Fuel Pool FHS-M-24 – Movement of Heavy Loads in the Containment Building ORM BASES – Operating Requirements Manual

RB

GMP-0014 – Control Of Load Lifting Equipment EDS-ME-006 – Control Of Temporary Rigging EDS-CS-001 – Rigging Scaffold Installation And Removal – Safety Related MLP-7500 – Operation Of The Spent Fuel Cask Crane MLP-7501 – Operation Of The Fuel Building Bridge Crane MLP-7506 – Operation Of The Auxiliary Platform MLP-7507 – Pre-Operational Check Of The Inclined Fuel Transfer System MLP-7508 – Operation And Inspection Of The Fuel Preparation Machine MLP-7509 – Operation Of The Polar Crane MLP-7510 – Operation Of Monorail Cranes MLP-7514 – Operation Of Mobile Cranes MLP-7515 – Operation Of Bridge & Gantry Cranes

WF-3

UNT-007-008 – Control of Loads and Lifting

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SITE SPECIFIC PROCEDURES AND CRS

Site Specific Procedures

JAF

MP-088.01 – Load Handling MP 088.02 – Reactor Building Crane Inspection MDSO-09 – Control of Lifting Equipment

PNPS

3.M.1-12 – Turbine Building Crane Preventive Maintenance

3.M.1-12.1 - Reactor Building Crane Preventive Maintenance

3.M.1-14 – Heavy Load Hand line Operations

3.M.7-5 – Lifting Equipment

3.M.4-18 - Operation of the Reactor and Turbine Building Cranes

3.M.4-48.2 – Opening and Closing of the Reactor Pressure Vessel, Disassembly

3.M.4-48.3 – Opening and Closing of Reactor Pressure Vessel, Reassembly

YY

PP 7206 - Use of Lifting Systems

PP 7023 – Control of Heavy Loads Program

OP 5240 - Turbine & Reactor Building Bridge Crane Inspection and Maintenance

OP 5241 – Lifting Fixtures and Equipment

OP 2200 - Operation of Reactor and Turbine Building Bridge Cranes

AP 0205 - Controlled Use of Monorails

IPEC

UNIT 2 / UNIT 3 PROCEDURES

0-MD-415 - Hoisting and Rigging Equipment Control

0-CRA-401-GEN - Containment Polar Crane Inspection

0-CRA-402-GEN - Plant Monorail / Jib Crane Inspection

0-CRA-403-RCS – Reactor Coolant Pump Motor Lifting Assembly Inspection

0-CRA-405-RCS – Reactor Vessel Head Lifting Rig and Sling Assembly Inspection

0-CRA-406-RCS – Internals Lifting Rig and Sling Assembly Inspection

0-CRA-408-TUR – Turbine Hall Crane Inspection

0-CRA-413-GEN – Breaker Lifting Device Inspection and Preventive Maintenance

0-MS-426 - Polar Crane Operation

IP-SMM-MA-120 - Heavy Loads

0-CRA-GEN-408 – On Site Storage Cask Lifting Rig and Duratek Liner Grapple Tool Inspection

ENN-EE-S-005-IP – Electrical Equipment Grounding Installation Standard

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SITE SPECIFIC PROCEDURES AND CRS

Site Specific Procedures

IPEC (cont.)

UNIT 2

RW-SQ-4.510 – Crane Operation and Rigging for Rad Waste 2-SOP-17.30 – Manipulator Crane Operations 2-SOP-29.8.2 – Fuel Storage Building Crane Operation SOP 29.8.4 – Heater Bay Cranes Operation 2-DCS-016-GEN - DCSS Special Lifting Devices Inspection 2-DCS-026-GEN – FSB 110 Ton X-SAM Gantry Crane Operation 2-DCS-027-GEN – FSB 110 Ton X-SAM Gantry Crane Preventive Maintenance

UNIT 3

3-MD-49 – Rigging Loads From Permanent Plant Structures and Components
3-MD-60 – Turbine Hall Crane Operation
CRA-008-GEN – Chain fall and Hoist Tester Operation
CRA-010-GEN – Fuel Storage Building Crane Inspection
CRA-011-GEN – Fuel Transfer System and Spent Fuel Pit Bridge Crane PM
SOP-CM-003 – Spent Fuel Pit Bridge Crane Operation
3-SOP-CM-002 – Fuel Storage Building Crane Operation
3-SOP-CM-005 – Heater Bay Cranes Operation
SOP-CM-8 – Auxiliary Feedwater Pump Building Monorail Operation

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Designated Locations

- [1] Power-operated industrial trucks shall not be used in atmospheres containing hazardous concentration of acetylene, butadiene, ethylene oxide, hydrogen (or gases or vapors equivalent in hazard to hydrogen, such as manufactured gas), propylene oxide, acetaldehyde, cyclopropane, diethyl ether, ethylene, isoprene, or unsymmetrical dimethyl hydrazine (UDMH).
- [2] Power-operated industrial trucks shall not be used in atmospheres containing hazardous concentrations of metal dust, including aluminum, magnesium, and their commercial alloys, other metals of similarly hazardous characteristics, or in atmospheres containing carbon black, coal or coke dust except approved power-operated industrial trucks designated as EX may be used in such atmospheres.
- [3] In atmospheres where dust of magnesium, aluminum or aluminum bronze may be present, fuses, switches, motor controllers, and circuit breakers of trucks shall have enclosures specifically approved for such locations.
- [4] Only approved power-operated industrial trucks designated as EX may be used in atmospheres containing acetone, acrylonitrile, alcohol, ammonia, benzene, benzol, butane, ethylene dichloride, gasoline, hexane, lacquer solvent vapors, naphtha, natural gas, propane, propylene, styrene, vinyl acetate, vinyl chloride, or xylenes in quantities sufficient to produce explosive or ignitable mixtures and where such concentrations of these gases or vapors exist continuously, intermittently or periodically under normal operating conditions or may exist frequently because of repair, maintenance operations, leakage, breakdown or faulty operation of equipment.

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ATTACHMENT 9.3		<u></u>	DESI	GNATED LOCATIONS

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Designated Locations

[5] Power-operated industrial trucks designated as DY, EE, or EX may be used in locations where volatile flammable liquids or flammable gases are handled, processed or used, but in which the hazardous liquids, vapors or gases will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown of such containers or systems, or in the case of abnormal operation of equipment; also in locations in which hazardous concentrations of gases or vapors are normally prevented by positive mechanical ventilation but which might become hazardous through failure or abnormal operation of the ventilating equipment; or in locations which are adjacent to Class I, Division 1 locations (Ref. OSHA Standard 1910.178), and to which hazardous concentrations of gases or vapors might occasionally be communicated unless such communication is prevented by adequate positive-pressure ventilation from a source of clear air, and effective safeguards against ventilation failure are provided.

In locations used for the storage of hazardous liquids in sealed containers or liquefied [6] or compressed gases in containers, approved power-operated industrial trucks designated as DS, ES, GS, or LPS may be used. This classification includes locations where volatile flammable liquids or flammable gases or vapors are used, but which, would become hazardous only in case of an accident or of some unusual operating condition. The quantity of hazardous material that might escape in case of accident, the adequacy of ventilating equipment, the total area involved, and the record of the industry or business with respect to explosions or fires are all factors that should receive consideration in determining whether or not the DS or DY. ES. EE. GS. LPS designated truck possesses sufficient safeguards for the location. Piping without valves, checks, meters and similar devices would not ordinarily be deemed to introduce a hazardous condition even though used for hazardous liquids or gases. Locations used for the storage of hazardous liquids or of liquefied or compressed gases in sealed containers would not normally be considered hazardous unless subject to other hazardous conditions also.

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ATTACHMENT 9.3			Des	IGNATED LOCATIONS

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Designated Locations

- [7] Only approved power operated industrial trucks designated as EX shall be used in atmospheres in which combustible dust is or may be in suspension continuously, intermittently, or periodically under normal operating conditions, in quantities sufficient to produce explosive or ignitable mixtures, or where mechanical failure or abnormal operation of machinery or equipment might cause such mixtures to be produced.
- [8] The EX classification usually includes the working areas of grain handling and storage plants, room containing grinders or pulverizes, cleaners, graders, scalpers, open conveyors or spouts, open bins or hoppers, mixers, or blenders, automatic or hopper scales, packing machinery, elevator heads and boots, stock distributors, dust and stock collectors (except all-metal collectors vented to the outside) and all similar dust producing machinery and equipment in grain processing plants, starch plants, sugar-pulverizing plants, malting plants, hay grinding plants, and other occupancies of similar nature; coal pulverizing plants (except where the pulverizing equipment is essentially dust tight); all working areas where metal dusts and powders are produced, processed, handled, packed, or stored (except in tight containers); and other similar locations where combustible dust may, under normal operating conditions, be present in the air in quantities sufficient to produce explosive or ignitable mixtures.
- [9] Only approved power-operated industrial trucks designated as DY, EE, or EX shall be used in atmospheres in which combustible dust will not normally be in suspension in the air or will not be likely to be thrown into suspension by the normal operation of equipment or apparatus in quantities sufficient to produce explosive or ignitable mixtures but where deposits or accumulations of such dust may be ignited by arcs or sparks originating in the truck.
- [10] Only approved power-operated industrial trucks designated as DY, EE, or EX shall be used in locations, which are hazardous because of the presence of easily ignitable fibers or flyings but in which such fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures.

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Designated Locations

- [11] Only approved power-operated industrial trucks designated as DS, DY, ES, EE, EX, GS, or LPS shall be used in locations where easily ignitable fibers are stored or handled, including outside storage, but are not being processed or manufactured. Industrial trucks designated as E, which have been previously used in these locations may be continued in use.
- [12] On piers and wharves handling general cargo, any approved power-operated industrial truck designated as D, E, G, or LP may be used, or trucks which conform to the requirements for these types may be used.
- [13] If storage warehouses and outside storage locations are hazardous only the approved power-operated industrial truck specified for such locations in this paragraph (c) (2) shall be used. If not classified as hazardous, any approved power-operated industrial truck designated as Type D, E, G, or LP may be used, or trucks, which conform to the requirements for these types, may be used.
- [14] If general industrial or commercial properties are hazardous, only approve power-operated industrial trucks specified for such locations in this paragraph (c) (2) shall be used. If not classified as hazardous, any approved power-operated industrial truck designated as Type D, E, G, or LP may be used, or trucks which conform to the requirements of these types may be used.

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A					
Sheet	HMENT 9.4	· · · · · · · · · · · · · · · · · · ·	EVA	LUATION FOR NON-STAI	NDARD LIFT FORMS
Initiator Date					
Desc	ription of the	item to be lifted:			<u></u>
 Is the load a major piece of plant equipment that is being lifted as a complete assembly such as feedwater heaters, circulating water pumps, steam generators, transformers, etc. 					
				199	
2.	Weight of t	the load including the r	igging.		lbs.
3.	Safe lifting	capacity (load rating)	of rigging configurat	ion used.	lbs
4.	Does the lo the rigging If yes, deso	bad have sharp corner ? cribe the method to be	s or areas that could used to protect the	d damage Yes[rigging:] No[] N/A[]
					<u> </u>
5.	Does the s the lift resu	ling angle or distance Ilt in a sling angle of le	computed before mass than 30 deg.?	aking Yes[] No[] N/A[]
6 .	Has require	ed crane type, rigging,	or capacity been de	etermined? Yes[] No[] N/A[]
7.	Will the loa (If yes, con	nd pass over Safety Re anply with the requirem	elated Equipment? ents of site specific	Yes[procedures)] No[]] N/A[]]
8.	8. Will the load pass over operating equipment on the turbine deck? Yes No N/A (If yes, attach a load path sketch approved by operations)				
			NOTE		
Chain falls and come-a-longs used for load leveling are not considered to be multiple lifting devices					

9. Are multiple lifting devices required (such as cranes, hooks, tuggers, chain falls, etc.)?

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ATTACHMENT 9.4	EVALUATION FOR NON-STANDARD LIFT FORMS
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10. Is the load unstable by the nature of its contents or configuration?

(If yes, describe and/or provide sketch of the rigging equipment and its configuration.)

<u>NOTE</u> A Blind Lift is any lift that requires hand signals to be relayed through more than one person to the crane operator. If radios are used to communicate signals to the crane operator <u>Then</u> the lift is not a blind lift.

11. Is this a blind lift?	Yes No N/A
Person In Charge (PIC):	
Material Handling Coordinator:	·
Structural Load Evaluator:	

			r <u></u>	<u> </u>	· · · · · · · · · · · · · · · · · · ·	
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Аттасни	ENT 9.5	<u> </u>	CONTRACTOR SUP	PLIED OR RENTE		
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Crane ov	vned or su	pplied by		·····		
Identifyin	g Number	or Serial Number of	the Crane			
Type of (Crane & M	lanufacturer				
Qualified	Crane Ins	spector		Date		
Certificat	ion ID #					
1. If p	oossible, rev	view the maintenance logs	s of the crane.		Sat Unsat N/A	
2. Ch	eck that all	exposed moving parts an	e guarded or protected.		Sat Unsat N/A	
3. Ch	eck that hig	h voltage warning signs a	are displayed on the exte	erior of the crane.	Sat Unsat N/A	
4. Vis	sually inspect vering the lo	ct each component of the ad or boom for any defec	crane used in lifting, sw ts that might result in	vinging, or	Sat Uneat N/A	
5 ins	spect all wire	e rope (including standing	ropes) for the following		Sat Unsat N/A	
•	Any brok	en wires.	i opooy for ind fonotinig	•		
•	Wear of	one-third of the original di	ameter of outside indivi	dual wires.		
•	Kinking, (in distorti	crushing, bird caging, and on of the rope structure.	corrosion, or any other	damage resulting		
•	Evidence	e of any heat damage fror	n any cause.			
•	Reductio	ns from nominal diamete	r of more than:			
	ROPE [DIAMETER	MAXIMUM		REDUCTION	
	up to ar	nd including 5/16"		1/64"		
	3/8" to a	and including 1/2"		1/32"		
	9/16" to	and including 3/4"		3/64"		
	7/8" to a	and including 1-1/8"		1/16"		
	1-1/4" to	o and including 1-1/2	1	3/32"		
•	In standir more tha	ng ropes, more than two b n one broken wire at an e	proken wires in one lay i nd connection.	n sections beyond	end connections or	
•	Wire rope	e safety factors are requir	ed to be in accordance	with ASME B30.5	and SAE J959-1966.	
6. Ch	eck for free	dom of movement of rota	tion of all swivels.		Sat Unsat N/A	
7. Ins	spect tires fo	or cuts, tears, breaks, and	cuts, tears, breaks, and proper inflation.			
8. Ch	eck exhaus	ck exhaust pipes for guards or insulation in accessible areas.			Sat Unsat N/A	

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Shee	t 2 of 3		CONTRAC	TOR SUPPLIED OR REI	TED GRANES FORM
-					
9.	Inspect the c valves, pump lines.	rane for excessive fluid lea os and other part of fuel, air	ks in lines, tanks, or hydraulic	Sat⊡ Uns	at 🗋 N/A 🛄
10.	Visually chec	k that the crane is properly	lubricated.		
	level.	coll reservoirs should be a	an acceptable	Sat Uns	at 🔲 N/A 🗍
11.	Inspect shear attachments.	ves, drums, rigging, hardwa	are and	Sat⊡ Uns	at N/A
	 Any hoc wear mu 	ok that is deformed, cracked ust be removed from servic	d, or shows evidence of e.	excessive	
	Throat C 5%, not	Dpening. Any distortion ca to exceed ¼ in. (or as reco	using an increase in thr ommended by the manu	oat opening Of Ifacture).	
	 Wear. A manufactor 	Any wear exceeding 10% (octurer).	or as recommended by	the	
12.	Check all oth	er functional operating me	chanisms such as		
	hydraulic cyli	nders, instruments and ligh	ety devices, its.	Sat Uns	at 🔲 N/A 🗔
13.	Visually inspe	ect the turntable connection	ns for weld cracks	Cat 🗔 Una	
14	Ensure all cra	missing poits. anes are inspected for loos	e objects, debris or		
111	interferences	prior to use.		Sat 🗍 Uns	at 🗍 N/A 🗌
BOOM AND JIB					
1.	1. Visually inspect the boom and jib for straightness and any evidence of physical damage, such as cracking, bending or any other deformation of the welds.				
2.	Look for corre	osion under any attachmer	ts that are connected	Sot T Upo	
3.	On lattice bo	oms, look for bent lacing.		Sat⊟ Uns	at N/A
2.	When la the main	acing is bent, the ends also n cords out of shape.	tend to draw together v	which pulls	
	This is a			·	

• This inspection is especially important on tubular booms where every component must be straight and free from dents.

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LITTERSY MANAGEMENT MANUAL REFERENCE USE PAGE 49 OF 85 Material Handling Program ATTACHMENT 9.5 CONTRACTOR SUPPLIED OR RENTED CRANES FORMS Sheet 3 of 3 OUTRIGGERS 1. Check outriggers to ensure that neither the beams nor the cylinders are distorted or cracked. 2. Visually check that the welds are not cracked and that both the beams and cylinders extend and retract smoothly and hold the load. 3. Check the condition of the floats. Att Deficiencies are required to be corrected prior to use or evaluated by a Qualified crane inspector. Deficiencies not corrected:	Finterny	NUCLEAR	QUALITY RELATED	EN-MA-119	REV. 16
Material Handling Program ATTACHMENT 9.5 CONTRACTOR SUPPLIED OR RENTED CRANES FORMS Sheet 3 of 3 OUTRIGGERS 1. Check outriggers to ensure that neither the beams nor the cylinders are distorted or cracked. Sat 2. Visually check that the welds are not cracked and that both the beams and cylinders extend and retract smoothly and hold the load. Sat Unsat N/A 3. Check the condition of the floats. Sat Unsat N/A All Deficiencies are required to be corrected prior to use or evaluated by a Qualified crane inspector. Deficiencies not corrected:	Lineigy	MANAGEMENT	REFERENCE USE	PAGE 4	9 OF 85
ATTACHMENT 9.5 CONTRACTOR SUPPLIED OR RENTED CRANES FORMS Sheet 3 of 3 OUTRIGGERS 1. Check outriggers to ensure that neither the beams nor the cylinders are distorted or cracked. Sat 2. Visually check that the welds are not cracked and that both the beams and cylinders extend and retract smoothly and hold the load. Sat Unsat N/A 3. Check the condition of the floats. Sat Unsat N/A All Deficiencies are required to be corrected prior to use or evaluated by a Qualified crane inspector. Deficiencies not corrected:		Materia	l Handling Program	n	
ATTACHMENT 9.5 CONTRACTOR SUPPLIED OR RENTED CRANES FORMS Sheet 3 of 3 OUTRIGGERS 1. Check outriggers to ensure that neither the beams nor the cylinders are distorted or cracked. Sat Unsat N/A 2. Visually check that the welds are not cracked and that both the beams and cylinders extend and retract smoothly and hold the load. Sat Unsat N/A 3. Check the condition of the floats. Sat Unsat N/A All Deficiencies are required to be corrected prior to use or evaluated by a Qualified crane inspector. Deficiencies not corrected:				<u> </u>	
Sheet 3 of 3 OUTRIGGERS 1. Check outriggers to ensure that neither the beams nor the cylinders are distorted or cracked. Sat Unsat N/A 2. Visually check that the welds are not cracked and that both the beams and cylinders extend and retract smoothly and hold the load. Sat Unsat N/A 3. Check the condition of the floats. Sat Unsat N/A All Deficiencies are required to be corrected prior to use or evaluated by a Qualified crane inspector. Deficiencies not corrected:	ATTACHMENT 9.5		Contrac	TOR SUPPLIED OR REA	ITED CRANES FORMS
OUTRIGGERS 1. Check outriggers to ensure that neither the beams nor the cylinders are distorted or cracked. Sat Unsat N/A 2. Visually check that the welds are not cracked and that both the beams and cylinders extend and retract smoothly and hold the load. Sat Unsat N/A 3. Check the condition of the floats. Sat Unsat N/A All Deficiencies are required to be corrected prior to use or evaluated by a Qualified crane inspector. Deficiencies not corrected:	Sheet 3 of 3				
1. Check outriggers to ensure that neither the beams nor the cylinders are distorted or cracked. Sat Unsat N/A 2. Visually check that the welds are not cracked and that both the beams and cylinders extend and retract smoothly and hold the load. Sat Unsat N/A 3. Check the condition of the floats. Sat Unsat N/A All Deficiencies are required to be corrected prior to use or evaluated by a Qualified crane inspector. Deficiencies not corrected:	OUTRIGGERS				
Visually check that the welds are not cracked and that both the beams and cylinders extend and retract smoothly and hold the load. Sat Unsat N/A Check the condition of the floats. Sat Unsat N/A All Deficiencies are required to be corrected prior to use or evaluated by a Qualified crane inspector. Deficiencies not corrected:	1. Check outrig distorted or c	gers to ensure that neither racked.	the beams nor the cylin	iders are Sa	t Unsat N/A
3. Check the condition of the floats. Sat Unsat N/A All Deficiencies are required to be corrected prior to use or evaluated by a Qualified crane inspector. Deficiencies not corrected:	2. Visually chec and cylinders	k that the welds are not cra extend and retract smoot	acked and that both the hly and hold the load.	beams Sa	t Unsat N/A
All Deficiencies are required to be corrected prior to use or evaluated by a Qualified crane inspector. Deficiencies not corrected: Justification to use crane with deficiencies:	3. Check the co	3. Check the condition of the floats. Sat Unsat N/			
Deficiencies not corrected:	All Deficiencies are re	equired to be corrected price	or to use or evaluated b	y a Qualified crane in	spector.
Justification to use crane with deficiencies:	Deficiencies not corre	ected:			
Justification to use crane with deficiencies:					·····
Justification to use crane with deficiencies:		· · · · · · · · · · · · · · · · · · ·			
	Justification to use crane with deficiencies:				
Crane Inspector Approval Date	Crane Inspector App		 Date		

The form will be retained by the Material Handling Program Coordinator for the duration of the Job at which time the form may be discarded.

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ATTACHMENT 9.6

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RIGGING OBSERVATION CHECKLIST

RIGGING OBSERVATION CHECKLIST

<u>SAFETY:</u> <u>NO WORK ACTIVITY SHOULD BE PERFORMED UNDER</u> <u>A SUSPENDED LOAD.</u> <u>IF work under a suspended load is required,</u> <u>THEN a Job Safety Hazard Analysis (JSHA) shall be completed in accordance with</u> EN-IS-124.

Slings, Manual lifting Device (chain-falls/com-a-long):

Verify periodic inspection date on tag is current prior to use.

Visual Inspection for physical damage prior to use by the user

- Frayed slings
- Missing or illegible ID tag
- Abrasion or cuts to the outer jacked
- Tattle tail not visible
- Red Thread
- Mildew
- Indication of heat damage
- Sharp edges require softeners
- Broken wires
- Kinking or twisting
- Excessive wear
- Hooks that are twisted
- Deformity
- Excessive wear in throat area
- Broken or missing safety latch

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ATTACH Sheet	IMENT 9.6 2 of 6			RIGGING OBSE	RVATION CHECKLIST
	Vendor su Material Ha	pplied rigging shall m andling Program.	neet program requi	rements as stated	d in EN-MA-119
	 Should same 	d Receive a full inspe as Entergy.	ection and is prope	rly marked with a	n expiration tag
	Rigging ha	rdware shall have a vi	sual inspection perfe	ormed prior to use) .
Fork ⁻	Trucks:				
	Handle oni Handle	y loads within the capa e only stable or safely	acity of the truck arranged loads		
	Know the l	oad capacity of your m	achine.		
	Understand	d the load/capacity cha	arts.		
	Only trained authorized operators shall be permitted to operate powered industrial truck.				
	Use both forks to lift a load.				
	Point loading should only be used for positioning a load prior to actually lifting.				
Cranes:					
	All mobile and overhead cranes used on site shall meet program requirement as stated in EN-MA-119 (Material Handling Program)				

All mobile cranes shall have a current periodic inspection verified prior to use.

• Sticker/paperwork is located in or on the cab of the machine.

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ATTACHMENT 9.6 Sheet 3 of 6 **RIGGING OBSERVATION CHECKLIST**

All crawler, truck or locomotive (Mobile) cranes brought on site for specific project are required to be inspected in accordance with Attachment 9.5 prior to the first use.

- Inspection performed by a qualified crane inspector.
- Site fabricated devices shall have the,
 - (1) load rating,
 - (2) design document & special lifting instruction if they apply.

Below The Hook Lifting Devices (other than slings and special design lifting devices)

- Structure & mechanical, vacuum, and magnets
- Marking shall have the,
 - (1) manufacturer name & address,
 - (2) serial number/engineering document number,
 - (3) lifter weight, if over 100 lbs. &
 - (4) rated load

A PIC is required when:

- 1. All loads that are to be lifted with an overhead or mobile crane and meet any of the following criteria are required to be supervised and under the direction of a Person-In-Charge (PIC).
 - (1) Any load, lifted over safety-related equipment, that weighs more than the combined weight of a single spent fuel assembly and its associated handling tool for the specific plant in question.

2000 pounds	(ANO) & (IPEC)
1500 pounds	(WF3) & (PNPS)
1300 pounds	(PLP)
1200 pounds	(RB)
1140 pounds	(GG)
750 pounds	(JAF)
700 pounds	(VY)
•	

- (2) The lift is a non-standard lift.
- (3) Personnel are to be lifted.
- (4) Blind Lift.
- 2. It is recommended that the Person-In-Charge (PIC) for the lift not be the Crane Operator. The Crane Operator does not always have the best vantage point for watching the load movement or the ability to move quickly from one location to another. It is acceptable for the PIC to be the Signal Person.

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ATTACHMENT 9.6	RIGGING OBSERVATION CHECKLIST
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Riggers Responsibilities

• Responsible for rigging any load, must have as a minimum, basic rigging training or work under the direction of a lead that has a minimum, basic rigging training.

PIC Responsibilities:

- Supervise the lift.
- Verify qualification of crew.
- Ensure the load is properly rigged.
- Coordination and notification of load movements and load paths.
- Obtain or verify the correct weight of the load and inform the operator.
- Conduct pre-lift crew briefings.
- Contingency planning.
- Ensures completion of evaluation for non-standard lifts.
- Designates the signal person and inform the operator.
- Control the movements of all personnel required to work within the lift area.
- Ensure that all required safety precautions are taken.

General Lifting/Safety Requirement

- Tag lines should be used on all overhead lifts unless the tag line creates a hazard.
- Lift zone/area should be flagged off prior to performing the lift.
- When loads are lifted greater than chest high this should include extra distance due to the potential for the load to swing or bounce if it falls. Personnel should also avoid being in the "line of fire" of rigging equipment in case of rigging failure.
- Crane operation should be suspended when steady wind speeds exceed 20 MPH.

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ATTACHMENT 9.6 Sheet 5 of 6

RIGGING OBSERVATION CHECKLIST

General Lifting/Safety Requirement (Cont.)

- Crane operation should be suspended when thunderstorms are in close proximity to the plant.
- A signal person should be used when the equipment operator vision is impaired.
- A signal person should be used when traveling with a load when vision is impaired.
- All rigging hardware and slings should be checked for proper alignment after tension has been put on the load just prior to making the lift.
- When traveling, the boom should be completely retracted and lowered to the travel position. All appropriate cab swing brakes should be applied. (CR-RBS-2010-1153)

I.E. For Dresser Cranes, boom angle is "0" degrees. For Grove 130 ton mobile cranes, boom angle is 20 degrees maximum.

- Riggers, signal persons, and crane operators know the location of the crane power disconnect.
- A clear line of communication is established between the signal person and the crane operator.
- Tension is placed on the slings, brought to a taut condition, and inspected for safe configuration and any deficiencies.
- A "lift and hold" technique is employed to ensure the rigging hardware and rigging setup is correct. This specifically verifies the center of gravity of the load and the stability of the rigging.
- Rigging is observed to watch for signs of imminent failure.

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ATTACHMENT 9.6

RIGGING OBSERVATION CHECKLIST

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- Rigging from plant equipment (components, piping or their supports) requires Engineer Support Personnel approval for use as a pull point. The authorization does not require formal documentation approval of pull points for rigging of loads up to 500 pounds.
- When rigging from building structure steel and the load exceeds 1000 lbs. (500 WF-3) or could be lifted above safety related equipment, the rigging must be approved by a Structural Load Evaluator.
- Prior to use of mobile equipment, i.e. cranes, forklifts, extend-a-booms, the operator is to ensure that his clothes do not and cannot interfere with the operation of the equipment and cause and inadvertent control manipulation. (CR-RBS-2010-3594)

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			RIGGI	NG CHECKLIST				
1.		Are you	a qualified rigger for th	ne level of rigging yo	ou will perform?	YES	NO	N/A
2.		Have yo	u been pre job briefed	about the lift?				
	a.	Did pre-	job brief include a revi	ew of industry opera	ating experience			
3.		Does ev	eryone understand st	op-work conditions	?			
4.		Have yo	ou considered self/cheo	ck peer/check for er	ror likely situations	s? 🗋		
5.	5. Have you determined this to be a heavy load?							Ľ
6.	6. Do you understand the Load Path (Safe Load Path NUREG 0612 Lift)?							
	a.	Has the obstruct	load path or Safe Loa ions and sharp objects	d Path been walked s that could damage	l down for slings?			С
7.		Have yo	ou determined how the	rigging will be attac	hed to the load?			
	a.	Does the	e load have any conte	nts that can shift wh	en lifted?			С
	b.	Have yo	ou considered any lift h	eight restrictions?				
	c. Is the rigging selected rating adequate for the lift including appropriate Working Load Limits (WLL) de-ratings for sling angle and dynamic loading based on hook speeds?							
	d.	If using load incl	a 3 or more part pick, a luding the de-rating du	can two slings hold ie to sling angle and	the weight of the I dynamic loading?	?		
	e.	lf weight monitori	t of the load is in doub ng device.	t, have you conside	red using a load			
	f.	lf you ar supervis	e unsure about any of or	these issues, STOI	P and contact you	r D		

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ATTACHMENT 9.7	RIGGING CHECKLIST
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			YES	NO	N/A
8.		Does the load have any sharp corners that require softeners or padding?			
	a.	Are the softeners strong enough for the geometry and the weight of the load?			
	b.	Have you considered that heavy loads and increased sling angles require the use of heavier softener material (metal or engineered softeners marked with the load rating)?			
	С.	Do the softeners provide adequate D/d for the slings used?			
	d.	If in doubt as to softener selection, have you contacted an Advanced Rigger?			
9.		Have you inspected the rigging?			
10.		Are you aware that outdoor crane operations should be suspended at a wind speed of 20 mph?			

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ATTACHMENT 9.8

MOBILE CRANE (TELESCOPIC BOOM) PRIOR TO USE DAILY CHECKLIST

Sheet 1 of 2

CAUTION

Failure of the upper limit switches could cause a two-block event, severely damage the crane, drop the hook load block and cause personnel injury

Mfg.	Model #			S	Seria	al #	Date://
Check th	ne appropriate box:	S= 5	Satisfactory			U = Unsatisfactory	NA = Not Applicable
Conditi	ons	1	sυ	N/	4	Number item for refer	ence remarks below
FLUID L	EVELS / LEAKS						
	1. Crankcase Oil						
	2. Coolant						
	3. Hydraulic Oil						
CAB(S)							
	4. Electrical System						
	5. Service / Parking Brake						
	6. Swing Brake / House Lock						
	7. Gauges						
	8. Housekeeping						
	9. Fire Extinguisher(s)						
	10. Load Chart						
	11. Windows Mirrors						
FUNCT	ONS						
	12. Travel						
	13. Steering						
	14. Outriggers						
	15. Boom Up / Down						
	16. Boom In / Out					<u>, , , , , , , , , , , , , , , , , , , </u>	
	17. Hoist(s) Up / Down						
	18. Swing						

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ATTACHMENT	TTACHMENT 9.8 MOBILE CRANE (TELESCOPIC BOOM) PRIOR TO USE DAILY CHECKLIST						
Sheet 2 of 2							
Check the ap	opropriate box:	S=	Sat	isfa	ctory	U = Unsatisfactory	NA = Not Applicable
Conditions			S	υ	NA	Number item for refe	erence remarks below
SAFETY DE	VICES						
19.	Anti-Two-Block						
20.	LMI / Load Wt. Indicator						
21.	Boom Length Indicator						
22.	Boom Angle Indicator						
23.	Radius Indicator					· · · ·	
24.	Warning Lights / Buzzers						
25.	Back-Up Alarm / Horn						
BOOMS, JIE	S & ACCESSORIES						
26.	Load Block / Ball / Hook(s)						
27.	Safety Latches						
28.	Wedge Socket(s)						
29.	Sheaves						
30.	Wire Rope Retainers						
31.	Main Boom						* * **** **********
32.	Jig / Extension						
33.	Lift Cylinder(s)						
LOWER WO	RKS						
34.	Tires / Inflation						
35.	Carrier						<u> </u>
36.	Outriggers						
UPPER WO	RKS						
37.	Machine Guards.						
38.	Hoist Brakes (s)						
39.	Hoses / Tubing						
40.	Hoist(s)						
41.	Wrapping on Drum(s)						
42.	Rope Reeving						
43.	Wire Rope					•	
consult	anarator's manual for addition	not in		-	140.000		

Consult operator's manual for additional inspection items.
Do not operate crane until unsafe conditions are corrected.

Operator Signature ______ Supervisor Signature _____

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ATTACHMENT 9.9 Sheet 1 of 2 OVERHEAD AND GANTRY CRANES PRIOR TO USE DAILY CHECKLIST

neet 1 of 2

CAUTION

Failure of the upper limit switches could cause a two-block event, severely damage the crane, drop the hook load block and cause personnel injury

Date:/	/ Operator	Location				
Make	Туре	Capacity				
Check the ap	propriate box:	S≃ Sa	tisfa	ctory	U = Unsatisfactory	NA = Not Applicable
Conditions		S	υ	NA	Number item for refe	erence remarks below
CAB						
1.	Fire Extinguisher					·
2.	Housekeeping	_				
3.	Lighting					·
4.	Windows					,
5.	Gauges					
6.	Service / Parking Brake					
7.	Power Source					
FUNCTIONS						
8.	Hoist					
9.	Lower					
10.	Trolley Left					
11.	Trolley Right					
12.	Bridge Forward					
13.	Bridge Reverse					
14.	Magnet Disconnected					· · ·
15.	Pendant Control					
16.	Remote Control					
17.	Hoist Brakes (s)					
SAFETY DE	VICES					
18.	Upper Limit Switch					
19.	Lower Limit Switch					
20.	Load Limiter					
21.	Load Weight Indicator					
22.	Warning Device					,

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OVERHEAD AND GANTRY CRANES PRIOR TO USE DAILY CHECKLIST

•

Check the appropriate box:		S= Satisfactory			ctory	U = Unsatisfactory	NA = Not Applicable
Conditi	ons		S	U	NA	Number item for refer	ence remarks below
BRIDGE							
	23. Proximity Sensor						
	24. Girder(s)						
	25. Electrical Equipment						
	26. End Trucks						
	27. Guards						
	28. Rail Sweeps						
	29. Hydraulic/Air System						
HOISTIN	NG EQUIPMENT & DEVICES						
	30. Hoist(s)						
	31. Wraps on Drum(s)						
	32. Rope Reeving						
	33. Wire Rope						
	34. Upper Sheaves						
	35. Load Block(s)						
	36. Hook(s) & Latches						
	37. Hoist Chain						
SUPPO	RT STRUCTURE						
	38. Beams						
	39. Columns						
	40. Rails						
	41. Fasteners						
	42. End Stops						

• Consult operator's manual for additional inspection items.

• Do not operate crane until unsafe conditions are corrected.

Operator Signature

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ATTACHMENT 9.10

Sheet 1 of 4

NOTE

TYPICAL LIFT PLAN CHECKLIST

Lift plan details should be commensurate with the complexity of the task.

1. Component ID and/or Noun Name for item being Lifted

2. Weight of the Load

IF the answer to any of these questions is "yes", fill in the weight and proceed to part 3. If all of the answers to these questions are "no", the lift cannot proceed without approval from a PIC.

			YES	NO	N/A
(a)	Is the weight marked on the load?				
(b)	Is the weight of the load shown on a drawing?	?			
	Record drawing number:				
(C)	Can the weight of the Load be accurately cald	culated by a PIC?			
	(record the weight)				
(d)	Can a test lift be made with a load-weighing o	levice?			
	Weight of the load = Lb / `	Tons circle one)			
	Weight of rigging =				
	Total Weight =				

3. Nature of the Load

IF the answer to any of these questions is "no" consult a PIC for further information before proceeding.

		YES	NO	N/A
(a)	Is the center of gravity of the load known or easily identified?			
(b)	Can the rigging be adjusted to accommodate an uncertain center of gravity or a known imbalance?			
(c)	Can the hoist hook be positioned over the center of gravity of the load?			
(d)	Can the load be lifted without side loading the hoist'?			

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5.

TYPICAL LIFT PLAN CHECKLIST

4. Capacity of the Crane and Rigging

IF the answer to any of these questions is "no" or "unknown" the lift may not proceed until all concerns are addressed.

- (a) List slings, shackles, eyebolts, and other rigging hardware needed for this lift.
- (b) Equipment number or tool number, and capacity of the crane or hoist intended to be used:

		YES	NO	N/A
(c)	Does the crane have the capacity to make the lift?			
(d)	Are the capacities of ALL the rigging components, in their intended configuration greater than the weight of the load?			
(e)	Are all of the rigging components and the crane "in date"?			
Opera	tor, Communications, Load Path, and Environmental Concerns			
		YES	NO	N/A
(a)	Is the operator aware of the requirement to complete pre-use checks on the crane or hoist?			
(b)	Is the operator qualified to operate the crane or hoist?			
(c)	What is the primary method of communication between the crane operator and the rigger?			
	Choose one: Voice 🔲 Radio 🗌 Hand Signals 🗌			
(d)	Are there personnel in the load path?			
(e)	Is the intended load path over offices, shops, or other work locations?			
(f)	Is the intended load path over live equipment (electrical, steam, pressurized fluids)?			

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						YES	NO	N/
(g)	Are t may	here weather hazard adversely affect the	ls (wind, rain, snow, c completion of the Lift	or cold, for example ?	e) that			Ľ
(h)	Are e of the	effective barriers in p e lift?	lace on roads or wal	kways to alert pass	ersby			Ľ
If the a	answer te	o any of (d)-(h) is "ye	es" describe how the	effect of conditions	will be			

6. Comments:

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ATTACHMENT 9.10	TYPICAL LIFT PLAN CHECKLIST

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If needed provide a sketch of the load path; lay down areas, roped off safe areas, potential interferences, and critical equipment in potential load drop areas.

- 7. <u>Signatures</u>
 - (a) We agree that the information on his form is correct. The lift may proceed according to the requirements of EN-MA-119. (Print- sign, and date.)

Person In Charge (PIC):

Crane	Operator:		

Rigger/Signal Person: _____

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ATTACHMENT 9.11		FORKLIFT INIT	IAL DAILY PREOPERAT	IONAL INSPECTION

Sheet 1 of 1

Forklift Initial Daily Preoperational Inspection (Sample Form)

Prior to initial operation of the forklift (once per shift) check condition of all the items on the checklist as applicable. Check for leaks, defects or any condition adversely affecting the safety of the vehicle.

KEY OFF Procedures

- Capacity plate limits
- Overhead guard
- Mast assembly
- Lift chains and rollers
- Forks
- Tires
- Safety door
- LPG tank and locator pin
- LPG tank hose
- Radiator water level
- Battery condition
- Hydraulic fluid level
- Seat belt
- Gas Diesel gauge
- Engine oil level
- Other gauges & instruments

KEY ON Procedures

Check the gauges

- Hour meter
- Battery discharge indicator
- Fuel gauge Service/parking brakes

Test the standard equipment

- Backup alarm
- Horn
- Steering
- Brakes
- Brake light
- Head, tail, and brake lights

Check the operation of load-handling attachments

- Hydraulic cylinders & hoses
- Hydraulic controls
- Raise / Lower forks
- Tilt Mast
- Move forks side to side

Unbalanced or top heavy loads are required to be tied to the mast of forklifts during transportation. CR-RBS-2010-5286.

If at any time a forklift is in need of repair, is defective, or shows any condition adversely affecting the safety of the vehicle, the condition should be reported immediately to your Supervisor. The unit should be taken out of service until it has been restored to safe-operating condition.

Print Name

Date

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ATTACHMENT 9.12

CONDUCT OF CRANE OPERATIONS APPENDIX

Sheet 1 of 4

- [1] A Pre-Job brief is required for all Non-Standard Lifts per EN-MA-101.
- [2] Crane Operators are required to perform inspections of the mobile or overhead crane, including vendor-supplied or rented cranes, prior to each use or at the beginning of each shift (See Prior to Use Checklist Attachments 9.8 &9.9). This inspection is a visual examination by the Operator and does not require documentation unless performed under the direction of a site specific plant procedure. All deficiencies will have to be repaired or evaluated for use as is by Engineering Support Personnel or a Qualified Crane Inspector.
- [3] Persons boarding or leaving any crane should do so only at authorized and designated entrances.
- [4] The Operator shall not engage in any practice that could divert attention while actually engaged in operating the crane.
- [5] When physically or otherwise unfit, an Operator shall not engage in the operation of the crane.
- [6] Signals to the Crane/Hoist Operator shall be in accordance with the standards prescribed in Attachment 9.1 unless radio communication equipment is used. Approved hand signals should be posted or available. The Crane Operator must ensure that a reference copy of the standard approved hand signals has been posted CONSPICUOUSLY in the work area.
- [7] The appointed Signal Person is required to be in constant communication with the crane operator, either visually with hand signals or audibly by radio throughout the lift.
 - (a) The Operator is required to respond to signals from the appointed signal person. However, the Operator is required to obey a stop signal at all times no matter who gives it.
 - (b) Where loads are picked up at one point and lowered at another, two signal persons may be used, one to direct the lift and one to direct the descent.
 - (c) Blind Lifts should be avoided whenever possible. Using radio communications is the preferred method of communicating with the crane operator.

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ATTACHMENT 9.12

CONDUCT OF CRANE OPERATIONS APPENDIX

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- [8] Each Operator is responsible for those operations under the Operator's control. Whenever there is doubt as to safety, the Operator shall consult with the Person-In-Charge (PIC) or the supervisor before handling the load.
- ٠
- [9] If the crane is equipped with a warning device, the Operator is required to activate the warning before starting any bridge or trolley motion and intermittently during travel of the crane when approaching persons in the load path.
- [10] The Operator should never leave his position unattended while a load is suspended unless radiological or other safety hazards dictate an immediate departure from the area.
- [11] Working under suspended loads requires the following:
 - (a) Load paths for suspended loads should ensure that no employee is required to work directly below a suspended load.
 - (b) An approved Job Safety Hazard Analysis (JSHA) is required prior to performing any work activities under a suspended load per EN-IS-124.
- [12] Lockout and tagout requirements for crane maintenance and protection of personnel shall be conducted according to EN-OP-102 or EN-MA-131. For functional testing and inspecting, the Operator shall not close (energize) the main switch until the Operator is certain that no worker is on or in the path of the crane.
 - (a) Before closing the main switch, the Operator shall be sure that all controllers are in the off position.
 - (b) If the power goes off during operation, the Operator is required to place all controllers in the off position.
- [13] When not in use, cranes shall be secured IAW site procedures, i.e., rail locks in place, controller is in the off position, the hook(s) raised high enough to clear all obstacles in its path, etc.

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CONDUCT OF CRANE OPERATIONS APPENDIX

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NOTE

As a matter of good practice, mobile crane booms should not be left in an upright position when the crane is not occupied or in use for an extended period of time (i.e. overnight, weekends, etc.).

- [14] Crane operators are required to monitor wind speed when operating outside gantry and mobile type cranes
 - (a) Crane operations should be suspended and boom lowered when:
 - (1) Steady wind speeds exceed 20 MPH.
 - (2) Thunderstorms are in close proximity to the plant.
 - (3) Ice build-up exists on lifting equipment or extreme temperatures are encountered.
- [15] All parts of mobile cranes, rigging, and loads shall maintain specified clearances from energized power lines (Reference EN-IS-123).
- [16] Contacts with runway stops or other cranes should be avoided.
- [17] Crawler, Truck or Locomotive (Mobile) Cranes
 - (a) Prior to mobile crane operations, notify the Operations Department of any plant equipment that will be within the radius of the crane boom, so risk to equipment can be assessed.

<u>NOTE</u>

The following inspection may be waived with documentation if the owner can prove that the crane is maintained and inspected in accordance with OSHA 1926.550, 1910.180 and ASME B30.5.

(b) All plant crawler, truck or locomotive cranes are required to be inspected and maintained in accordance with the crane manufacturer's requirements as prescribed by OSHA 1926.550, 1910.180 and ASME B30.5.

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ATTACHMENT 9.12 CONDUCT OF CRANE OPERATIONS APPENDIX

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- (c) All crawlers, truck or locomotive cranes brought on site for short specific projects by contractors, leased or rented are required to have a vendor-provided current periodic inspection. If there is no current periodic inspection documentation, prior to use inspect using Attachment 9.5 and forward completed form to the Material Handling Program Coordinator.
- (d) All deficiencies found are required to be corrected or use of the crane will have to be approved by a Qualified crane inspector.
- (e) Signal person or Spotter should be used when transporting cranes on site to ensure that mobile crane components do not interact with plant structures, equipment, or components including overhead power lines.
- (f) Cranes positioned beneath energized power lines shall be electrically grounded per site grounding requirements.
- (g) Cranes and heavy loads should follow approved transport routes to ensure that underground utilities are not damaged.
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ATTACHMENT 9.13 CONDUCT OF POWERED INDUSTRIAL TRUCK OPERATIONS APPENDIX

Sheet 1 of 8

- [1] Fork Truck Designations there are eleven different designations of industrial trucks or tractors as follows:
 - D diesel powered units having minimum acceptable safeguard against inherent fire hazards.
 - DS diesel powered units provided with additional safeguards to the exhaust, fuel and electrical systems.
 - DY diesel powered units that have all the safeguards of the DS units and in addition do not have any electrical equipment including the ignition and are equipped with temperature limitation features.
 - E electrically powered units that have minimum acceptable safeguards against inherent fire hazards.
 - ES electrically powered units that, in addition to all of the requirements for the E units, are provided with additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures.
 - EE electrically powered units that have, in addition to all of the requirements for the E and ES units, the electric motors and all other electrical equipment completely enclosed.
 - EX electrically powered units that differ from the E, ES, or EE units in that the electrical fittings and equipment are so designed, constructed, and assembled that the units may be used in certain atmospheres containing flammable vapors or dusts.
 - G gasoline powered units having minimum acceptable safeguards against inherent fire hazards.
 - GS gasoline powered units that are provided with additional safeguards to the exhaust, fuel, and electrical systems.
 - LP unit is similar to the G unit except that liquefied petroleum gas is used for fuel instead of gasoline.
 - LPS liquefied petroleum gas powered units that are provided with additional safeguards to the exhaust, fuel, and electrical system.

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CONDUCT OF POWERED INDUSTRIAL TRUCK OPERATIONS APPENDIX

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[2] <u>Powered Industrial Trucks</u>

NOTE

This section contains requirements for the use of fork trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engines. This section does not apply to compressed air or nonflammable compressed gas-operated industrial trucks, or to farm vehicles, or to vehicles intended primarily for earth moving or over-the-road hauling.

- (a) All new powered industrial trucks acquired and used by an employer shall meet the design and construction requirements for powered industrial trucks established in the "American National Standard for Powered Industrial Trucks, Part II, ASME B56.1-1969", which is incorporated by reference as specified in Sec. 29CFR1910.6.
- (b) Approved trucks shall bear a label or some other identifying mark indicating approval by the testing laboratory. See step 4.4 and paragraph 405 of "American National Standard for Powered Industrial Trucks, Part II, ASME B56.1-1969", which is incorporated by reference in step (a) of this section and which provides that if the powered industrial truck is accepted by a nationally recognized testing laboratory it should be so marked.
- (c) Modifications and additions which affect capacity and safe operation shall not be performed by the customer or user without manufacturer's prior written approval. Capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly.
- (d) If the truck is equipped with front-end attachments, other than factory installed attachments, the truck shall be marked to identify the attachments and show the approximate weight of the truck and attachment combination at maximum elevation with load laterally centered.
- (e) Loading/Unloading trucks and railroad cars
 - (1) The brakes of highway trucks shall be set and wheel chocks placed under the rear wheels to prevent the trucks from rolling while they are boarded with powered industrial trucks.
 - (2) Wheel stops or other recognized positive protection shall be provided to prevent railroad cars from moving during loading or unloading operations

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(3) Fixed jacks may be necessary to support a semi-trailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor.

- (4) Positive protection shall be provided to prevent railroad cars from being moved while dock-boards or bridge plates are in position.
- (f) Designated locations for Powered Industrial Trucks
 - (1) The industrial trucks specified under Attachment 9.3 are the minimum types required. But industrial trucks having greater safeguards may be used if desired.

[3] Forklift Safety Precautions

NOTE:

Equipment/vehicles or loads being moved from one location to another that are NOT \geq 15ft. tall and/or a JSHA has been documented for the specified work DO NOT require the use of Attachment 9.16 Equipment Movement Checklist.

- (a) Only qualified individuals with documented training shall be authorized to operate forklifts as per OSHA 29 CFR 1910.178. Operators must be trained and qualified on the type/class of forklift they are to operate.
- (b) Only approved industrial trucks shall be used in hazardous locations.
- (c) When engaging wooden pallets with a fork lift, the length of the fork shall be taken in consideration to insure sufficient fork length is in contact with the load to adequately support the material prior to lifting.
- (d) Forklifts shall be inspected prior to the initial daily/shiftily use, using the checklist in Attachment 9.11.
- (e) An overhead guard shall be used as protection against falling objects.

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- (f) Any power-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.
- (g) Proper identification and warning signs shall be posted in the area where the batteries of the electric forklifts are being charged.
- (h) Unbalanced or top heavy loads are required to be tied to the mast of forklifts during transportation. CR-RBS-2010-5286.

[4] <u>Rules for Operating a Powered Industrial Truck</u>

NOTE:

Equipment/vehicles or loads being moved from one location to another that are NOT \geq 15ft. tall and/or a JSHA has been documented for the specified work DO NOT require the use of Attachment 9.16 Equipment Movement Checklist.

- (a) Stunt driving and horseplay shall not be permitted.
- (b) Operators must not engage in racing or other activity involving high speeds with forklifts.
- (c) Arms or legs are prohibited from being placed between the uprights of the mast or outside the running lines of the truck.
- (d) Riding on forklift trucks shall be restricted to the driver only.
- (e) Drivers shall ensure that individuals are not allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.
- (f) A forklift shall not be used as a personnel elevator, except where approved man baskets are used.
- (g) Trucks shall not be driven up to anyone standing in front of a bench or other fixed object.
- (h) All traffic regulations shall be observed, including authorized site speed limits.

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(i)	Unc broi	ler all travel conditions ught to a stop in a safe	the truck shall be o manner.	perated at a spee	d that will permit	it to be
(j) While negotiating turns, speed shall be reduced to a safe level.						
(k)	(k) A safe distance shall be maintained approximately three truck lengths from the truck ahead, and the truck shall be kept under control at all times.				ruck	
(I)	(I) Fire aisles, access to stairways, and fire equipment shall be kept clear.					
(m	n) The	right of way shall be y	vielded in emergenc	y situations.		
(n) Rur	ning over loose object	ts shall be avoided.			
 (I) Fire aisles, access to stairways, and fire equipment shall be kept clear. (m) The right of way shall be yielded in emergency situations. (n) Running over loose objects shall be avoided. (o) Railroad tracks shall be crossed diagonally wherever possible. 						
· (p) Par	king closer than 8 feet	from the center of r	ailroad tracks is p	rohibited.	
(q) Doc	k-board or bridge-plat	es shall be properly	secured before th	ey are driven ov	er.
(r)	Doc cap	ck-board or bridge-plate acity never exceeded.	es shall be driven o	ver carefully and s	lowly and their r	ated
(s) Spo obs	otter(s) must be used if tructed while moving le	the drivers view is coaded or unloaded.	obstructed or has	potential to be co	ome

[5] Forklift Operations

NOTE:

Equipment/vehicles or loads being moved from one location to another that are NOT <u>></u>15ft. tall and/or a JSHA has been documented for the specified work DO NOT require the use of Attachment 9.16 Equipment Movement Checklist.

- (a) Operators should be aware of the weight of a load and the rated capacity of the forklift they are operating. Do not attempt to exceed the capacity of your forklift by carrying loads that are too heavy or unbalanced.
- (b) Free rigging (the direct attachment of rigging onto the forks of a forklift for a "below the forks" lift) is not allowed without written approval from the forklift manufacturer or analysis and approval (in writing) by a qualified, registered professional engineer. Free rigging is considered a modification or an addition which could affect the capacity and safe operation of the forklift.

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CONDUCT OF POWERED INDUSTRIAL TRUCK OPERATIONS APPENDIX

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ATTACHMENT 9.13

- (c) Only forklift attachments (fork extensions or accessories) that are approved by the forklift manufacturer or by a qualified registered professional engineer (in writing) may be used. A forklift operating with an attachment shall be considered as partially loaded when not handling a load.
- (d) Loading
 - (1) "Point loading" should only be used for positioning a load prior to actually lifting.
 - (2) Only stable or safely arranged loads should be handled. Caution shall be exercised when handling off-center loads which cannot be centered.
 - (3) Only loads within the rated capacity of the truck shall be handled.
 - (4) Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.
- (e) Never lift a load with a forklift using only one fork without an engineering analysis.
- (f) There shall be sufficient headroom under overhead installations, lights, pipes, sprinkler system, etc.
- (g) When traveling, watch for low entrances and overhead obstructions or structures (i.e., sprinkler systems, electrical conduits, etc.).
- (h) Loads shall not be carried in an elevated position. When in travel, the forks will be held at a level as low as practical from the floor to clear floor and yard obstructions with the mast tilted back (as applicable/practical) to prevent the load from sliding off the forks.
- (i) Operators shall avoid sudden starts and stops and must wear seat belts (if the forklift is so equipped) while the forklift is in operation.
- (j) A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock, or platform or freight car. Trucks shall not be used for opening or closing freight doors.

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ATTACHMENT 9.13 CONDUCT OF POWERED INDUSTRIAL TRUCK OPERATIONS APPENDIX

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- (k) The driver shall be required to slow down and sound the horn at cross aisles, intersections, blind corners, and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.
- (I) Operators should face their destination. If unable to see over the load, the truck should be driven backwards.
- (m) Grades shall be ascended or descended slowly.
- (n) When ascending or descending grades in excess of 10 percent, the loaded forklift should be driven with the load upgrade.
- (o) On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.
- (p) Forklifts when used during loading and unloading operations requiring physical access inside vans, trucks, etc., require special precautions. Never perform the loading/unloading operation until the wheels of the van, truck, etc. are chocked. In addition, the transport vehicle should be checked for safe parking (i.e., motor turned off, in gear, and brakes set "on").
- (q) Brakes shall be set and wheel blocks shall be in place to prevent movement of trucks, trailers, or railroad cars while loading or unloading. Fixed jacks may be necessary to support a semi-trailer during loading or unloading when the trailer is not coupled to a tractor. The flooring of trucks, trailers, and railroad cars shall be checked for breaks and weakness before they are driven onto.
- (r) Face the load squarely and enter pallets with forks level. A Spotter **MUST** be used to assist in placing or lifting loads when stacking or setting a load cannot be "seen over".
- (s) Prior to entering elevators with Forklift, verify the elevator will support the weight of the Forklift and Load. Elevators shall be approached slowly, and then entered squarely after the elevator car is properly leveled. Once on the elevator, the controls shall be neutralized, power shut off, and the brakes set.

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CONDUCT OF POWERED INDUSTRIAL TRUCK OPERATIONS APPENDIX

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(t) Motorized hand trucks must enter elevator or other confined areas with load end forward

<u>NOTE</u>

A powered industrial truck is unattended when the operator is 25 ft. or more away from the vehicle which remains in his view or whenever the operator leaves the vehicle and it is not in his view.

- (u) When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. Wheels shall be blocked if the truck is parked on an incline.
- (v) When the operator of an industrial truck is dismounted and within 25 ft. of the truck still in his view, the load engaging means shall be fully lowered, controls neutralized, and the brakes set to prevent movement.
- (w) Park the forklift with forks on the ground, brakes set, and engine off before you walk away from it. Never park the forklift in an aisle or doorway or obstruct materials or equipment. If parked on an incline, wheel chocks should be used.

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PERSONNEL LIFTING APPENDIX

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PERSONNEL LIFTING

- [1] The use of a crane to hoist employees on personnel platforms is prohibited except when the erection, use and dismantling of conventional means of reaching the worksite, such as a personnel hoist, ladder, stairway, work platform or scaffold would be more hazardous or is not possible because of structural design or worksite conditions. (Ref. OSHA 1926.550 paragraph G)
- [2] A documented pre-job brief is required to be performed with the crane Operator, signal person, Person-In-Charge (PIC) and the employee(s) being lifted prior to the beginning of the task. Document the pre-job brief in the Work Order package or file with the Industrial Safety Department.
- [3] Verify the annual rigging inspection is current for the personnel basket. The inspection shall include any fixed rigging attachments or bridles contained on the basket.
- [4] A trial lift is required to be performed prior to lifting personnel:
 - (a) Load the personnel platform to a weight 2 times the maximum intended load. Travel the personnel platform to each location that work is to be performed from the platform.
 - (b) Just prior to hoisting personnel, lift the platform to a suspended position for at least 5 minutes and inspect the rigging for deficiencies.
- [5] Personnel platforms may only be used to lift personnel and not for other purposes such as handling materials.
- [6] All materials and tools for use during a personnel lift are required to be secured to prevent dropping.
- [7] It is important to evenly distribute materials and tools for use during personnel lift to prevent an unbalanced load.
- [8] Employees should keep all parts of the body inside the platform during hoisting and positioning of the platform.
- [9] The personnel platform should be tied off or secured when entering or exiting a suspended platform.
- [10] Tag lines are required unless their use creates an unsafe condition.

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- [11] Fall protection is required for personnel working from the platform. The lanyard(s) for the fall protection should be connected to the load block or to a structural member of the platform capable of supporting a fall impact.
- [12] Hoisting of the personnel platform is required to be performed in a slow, cautious manner.

PERSONNEL LIFTING EQUIPMENT REQUIREMENTS

- [1] Personnel Platform Crane Rigging Requirements
 - (a) Load and boom hoist drum brakes, swing brakes, and locking devices such as pawls or dogs shall be engaged when the occupied personnel platform is in a stationary working position.
 - (b) The hoist rope drum shall have a system or device on the power train, other than the load hoist brake, which regulates the lowering rate of speed of the hoist mechanism. Free fall is prohibited.
 - (c) Cranes equipped with outriggers shall have them all fully deployed following the crane manufacturer's specifications. The crane should be level and located on firm footing.
 - (d) The use of cranes that have live booms (booms in which lowering is controlled by a brake without the aid from other devices which slow the lowering speeds) is prohibited.
 - (e) Cranes and derricks with variable angle booms are required to be equipped with a boom angle indicator.
 - (f) Cranes with telescoping booms are required to be equipped with a device that indicates to the Operator the boom's extended length or an accurate determination of the load radius to be used during the lift shall be made prior to lifting personnel.
 - (g) The crane is required to be equipped with a device that prevents two-blocking the hook load block.

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Shee	t 1 of	2	CART USE / N MATERIAL H	ON-SUSPENDED ANDLING CHEC	D LOAD KLIST			
1		Perform	a pre job brief prior to	o movina equipment		YES	NO P	N/
	a.	Ensure experier	the pre-job brief in the specific to materia	cluded a review o al handling	f industry operating			٢
	b.	. Equipment or item to be moved.						
2 .		Ensure t moved (the weight is clearly n required for items gre	narked or known on t ater then 100#)	he equipment being		. 🗖	С
	а.	If weigh used (e needed	t of the load is in de gdynamometer) or contact engineering f	oubt ensure a load perform calculation or assistance.	monitoring device is . If guidance is still			
	b.	Docume	nt weight of the load	here		·		
3		Is the Ce	enter of Gravity know	n or easily identified	?			Г
	*a	Is the Co	enter of Gravity more	then 3-feet above th	e base?			E
	*b	Could m	oving this load poten tly?	tially injure personne	l if moved			C
	C.	If "yes" , prior to t	, A JSHA (per EN-IS- transporting the load.	124) should be prepa	ared and approved			C
4.		Ensure f	the cart, dolly, or pall marked for the rated	et jack is rated to su load capacity	pport the load and is			Γ
	а.	Docume	nt rated load capacity	/ of cart, dolly, or pal	let jack used here			
5		Ensure t ensure t	the cart, dolly, or palle here are no defects th	et jack has been insp nat would prevent sa	ected prior to use to fe operation:			Ε
	*a	Are there	e any cracked welds?					Ľ
	*b	Are there	e missing bolts/nuts?					С
	*c	Any poo	rly inflated tires or dan	nage to the wheels?				Γ

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onee	;i ∠ 0	12						
			CART USE / NO MATERIAL H/	ON-SUSPENDED ANDLING CHEC) LOAD KLIST			
6		Are the i	tem(s) being moved R	adiological Protecti	on Equinment? (eq	YES	NO	N/A
0.		radiation	protection tool monito	ors, frisker caves, et	c.)			
	*a	lf "yes" ,	If "yes", refer to EN-RP-308 for guidance					
_								
7.		Prior to r	moving the equipment	;				
	a.	Ensure a	all personnel moving e	quipment understar	nd the Load Path			
	b.	Ensure interfere to movin	the Load Path has nces uneven surfaces g equipment	been walked dov s, ramps, holes, car	vn for obstruction rpets/mats, etc. pri	is, or		
	C.	Ensure t the cart.	he center of gravity of	the load is located of	over the center of			
	d.	Ensure padding	the load is inspecte or rigging softeners	d for any sharp o	corners that requi	re -		
	e.	If necess prevent of equip	sary ensure the area is people from walking the ment .	blocked off with pro rough or interfering	oper signage to with the movemen	t		
	f.	Ensure t	he load is secured to t	he cart.				
_			_					
8.		SPOTTE	R			_	-	—
	a.	When tra	aveling with a load will	vision be impaired a	at any time?			
	D.	IT "yes",	a spotter IS required.					
9		Are there	e any special PPE req	uirements?				
	*	lf answe asterisk	er is "YES" to any of (*) Contact your su	the questions mar pervisor to discuss	ked with an s.			

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EQUIPMENT MOVEMENT CHECKLIST APPENDIX

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This checklist is to be installed in any equipment /vehicle with the ability to raise \geq 15ft. tall and be utilized when any equipment/vehicle is traveling from one location to another when any part of the equipment/vehicle or load being moved is \geq 15ft. tall. This checklist is to be completed daily or prior to movement of the equipment/vehicle (if required) or when work scope has changed requiring its use. If a JSHA has been documented covering the movement of specified equipment/vehicle or load from one location to another then the use of Attachment 9.16 is not required. (CR-RBS-2010-1153) Attachment 9.18 Equipment Signage Appendix is optional and may be used on Entergy and/or Rental equipment that requires attachment 9.16.

NOTE

Manlifts are not applicable to the requirements of Attachment 9.16, Equipment Movement Checklist.

Requirements:

- A pre-job brief is required for movement from one location to another.
- Use of a "Job Site Review" card is required and will require a walk down of the travel path to identify all hazards, including overhead hazards.
- The "EQUIPMENT / OPERATOR SPOTTER CHECKLIST" (att. 9.17) will be used to provide specific guidance to Operating personnel on the actions necessary prior to operating any applicable equipment onsite.
- When moving mobile equipment onsite, a spotter shall walk with the equipment from beginning to end of travel identifying any and all hazards to the Operator.

NOTE	
A spotter is always required when moving cranes on site (EN-MA-119).	

- Spotters shall wear designated clothing identifying them as performing spotter duties. (determined in pre job brief)
- The spotter shall maintain continuous contact/communications with the equipment operator by means of hand signals, two-way radios, or audible warning devices (e.g., air horns).

Equipment Operator Signature

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ATTACHMENT 9.17 EQUIPMENT OPERATOR/SPOTTER CHECKLIST APPENDIX

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- 1.) Ensure and strictly adhere to the guidelines and restrictions in the equipment operation manual. Additionally adhere to the equipment load chart for pick and carry operation.
- 2.) When traveling, any extendable portion of the vehicle (e.g. booms, beds, etc.) shall be completely retracted and lowered to the travel position unless approved via a JSHA.
- 3.) The Spotter will participate in the Equipment Operator pre-job brief and job site review. Discuss the suitability of the proposed route and determine if any width, height or overhead obstructions or hazards exist.
- 4.) Spotters and Equipment Operators shall review and comply with EN-MA-119 requirements.
- 5.) Ensure air brakes are at operating pressure levels before movement.
- 6.) Drive carefully and adhere to all speed requirements.
- 7.) When machine is parked on a grade ensure parking brake is applied and wheels are chocked or one outrigger is in the down position if chocks are unavailable or impractical.
- 8.) Establish stop criteria for a new Brief and Job Site Review that considers changing route, new hazards identified, or other change in job scope

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EQUIPMENT SIGNAGE APPENDIX

Sheet 1 of 1

NOTE

The below signage is optional and may be used on Entergy and/or rental equipment that requires attachment 9.16 "Equipment Movement Checklist". This signage may be placed on magnetic backings for ease of movement from rental equipment.

Prior to operation of this equipment the requirements of EN-MA-119, Material Handling Program must be adhered to:

- 1. Operator must be qualified in Plateau
- 2. EN-MA-119 Att. 9.16 "Equipment Movement Checklist" must be completed.



Entergy

CONDITION REPORT

CR-ANO-C-2013-00888

Originator: Jackson, Peter Micheal

Originator Group: Operations Mgmt U2 ANO

Supervisor Name: Horton, Jeffrey S

Discovered Date: 03/31/2013 07:50

Originator Phone: 5478 Operability Required: Y Reportability Required: Y

Initiated Date: 03/31/2013 09:15

Condition Description:

At 0750 on 3/31/2013, during movement of the Unit 1 Main Turbine Generator Stator (~500 tons), the Unit 1 Turbine Temporary Lift Device failed. The #1 and #2 EDG has started and are supplying A-3 4160V Switchgear and A-4 4160V Switchgear. P-4A Service Water pump and P-4C Service Water pump has been verified running. Unit 1 has entered 1202.007 Degraded Power, 1203.028 Loss of Decay Heat, and 1203.050 Spent Fuel Emergencies. Unit 1 is in MODE 6.

Entered TS 3.8.2 A.2 One Required Offsite Circuit inoperable. All required actions are complete.

The event caused a loss of Decay Heat Removal on Unit 1 which was restored in 3 minutes and 50 seconds.

Unit 2 Tripped and is in MODE 3. Emergency Feed Water was initiated on Unit 2 and Unit 2 is in 3.0.3 from 0817 to 0848 due to Emergency Feedwater. Unit 2 is being powered by off-site.

(CA&A has changed the Condition Description of this CR per attached email from CR originator located in this Admin Tab)

Immediate Action Description:

Suggested Action Description:

REFERENCE ITEMS:

Type Code	Description
CARB MEETING DATE	07/032013
CARB-ACCEPT	070313
CONDITION REPORT	C-2013-0895
CONDITION REPORT	1-2013-0842
CONDITION REPORT	1-2013-1029
CONDITION REPORT	1-2013-1062
EFFECTIVENESS REVIEW	LO-ANO-2013-0004, CA-7 and CA-8

TRENDING (For Reference Purposes Only):

<u>Trend Type</u>	Trend Code
KEYWORDS	KW-EVENT
EQ	ESPE
REPORT WEIGHT	1
KEYWORDS	KW-CRANE
INPO BINNING	ERI
HEP FACTOR	Е
GRADE CARB RCE	22.5
CAUSAL FACTOR	OP3A
CAUSAL FACTOR	OP2K
NCC INDO	D2 4

Entergy	CONDITION REPORT	CR-ANO-C-2013-00888
TRENDING (For Reference Purposes O	nly):	
Trend Type	Trend Code	· · · · ·
NSC-NRC	H.4(C)	
CAUSAL FACTOR	MTIJ	
CAUSAL FACTOR	DCIC	
Attachments:		
Condition Description Email from CR Originator		
Summary Description Email from CR Originator		
Summary Description Original Admin Tab Cond Desc	ription	
Remarks Description CA-3 Original		
Remarks Description CA-2 Original Version		
	·	

Entergy	ADMIN	CR-ANO-C-2013-00888			
Initiated Date: 3/31/20	13 9:15 Owner Group : Eng Project Mgmt ANO				
Current Contact:					
Current Significance: A					
Closed by:					
Summary Description:					
At 0750 on 3/31/2013, during n Temporary Lift Device failed. Switchgear. P-4A Service Wate Degraded Power, 1203.028 Los	novement of the Unit 1 Main Turbine Generator Stator (~500 The #1 and #2 EDG has started and are supplying A-3 4160 or pump and P-4C Service Water pump has been verified run s of Decay Heat, and 1203.050 Spent Fuel Emergencies. Un) tons), the Unit 1 Turbine / Switchgear and A-4 4160V ning. Unit 1 has entered 1202.007 it 1 is in MODE 6.			
Entered TS 3.8.2 A.2 One Requ	ired Offsite Circuit inoperable. All required actions are com	plete.			
The event caused a loss of Deca	ay Heat Removal on Unit 1 which was restored in 3 minutes	and 50 seconds.			
Unit 2 Tripped and is in MODE due to Emergency Feedwater.	23. Emergency Feed Water was initiated on Unit 2 and Unit Unit 2 is being powered by off-site.	2 is in 3.0.3 from 0817 to 0848			
(CA&A has changed the Condi	tion Description of this CR per attached email from CR origi	nator located in this Admin Tab)			
Remarks Description: CA&A has changed the Condition 04/01/13. Multiple CAs have been revised CR. See attached original CAs. Assignments from and to within Director - James at the direction Changed CA-19, 20, & 25 Assign	Remarks Description: CA&A has changed the Condition Description of this CR per attached email from CR originator located in this Admin Tab. clh 04/01/13. Multiple CAs have been revised including initial due dates based on the unique nature of the evaluation needed to support this CR. See attached original CAs. JRE. 04/04/13 Assignments from and to within Corrective Actions 1, 2, 3, 4, 5, 8 and 11 changed from Eng Project Mgnt - Bauman to NSA Director - James at the direction of CRG on 04/15/13. Changes made and new workflow generated by JRE 04/16/13 Changed CA-19, 20, & 25 Assigned By Group per Image. Im 7/23/13				
Closure Description:					

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Document Name:

untitled

Document Location

Condition Description

Attach Title:

Email from CR Originator

HUBBARD, CHRISL

From:	JACKSON, PETER M
Sent:	Monday, April 01, 2013 12:33 PM
То:	HUBBARD, CHRISL
Subject:	need modification to condition description of CR-C-13-888

I decided to send the info to you; CR-ANO-C-2013-888 needs the following modification to the condition description:

Present text for the first sentence:

The Unit 1 Turbine Building Orane failed at 0750 on 3/31/2013.

Required modifications: At 0750 on 3/31/2013, during movement of the Unit 1 Main Turbine Generator Stator (~500 tons), the Unit 1 Turbine Temporary Lift Device failed. This will clarify the correct information. Please email this to someone who can change it. Peter

From: HUBBARD, CHRISL

Sent: Monday, April 01, 2013 12:08 PM

To: BEWLEY, JAMES C; Birge, Elizabeth; BLACKARD, EDWARD PAUL; BOND, VINCENT S; BURTON, GARY T; BUTLER, PAUL WAYNE; CALLOWAY, JAMES D; DEFRANCI SCO, MICHAEL L; EDGELL, DOUGLAS W; FARMER, MICHAEL B; GARBE, CHARLES R; Gillespie, Richard D; GRACE, LORI R; GREESON, WILLIAM C; HATHCOTE, JOHN CHRISTIAN; HUBBARD, CHRIS L; HUGHES, DANNY C; JACKSON, PETER M; KENNAMORE, KEITH A; KEYS, JAMES R (ANO); KNIGHT, REX A; MARTIN, DONNIE; MARVEL, STANLEY D (RPM-ANO); MCCARTY, LARRY A; MCCOLLUM, LARRY K; MCKENNEY, DAVID N; MILLARD, SARAH E; MILLER, WILLIAM D; MORRIS, SUBRENA; MYERS, LILLIAN; New, Kevin; OLIVER, JASON R; OWEN, ELIZABETH A; Palmer, Charles; PERKINS, DARRELL L; PHILLIPS, DONALD R; RUSSELL, KYLE K; Shurter, Tony; Stahl, Michael L; STARKEY, ROBERT G; STEPHENSON, GREGORY C; Stroud, L. Shane; SULLINS, GARY V; WARDLAW, ROGER W; WOODSON, TIMOTHY R

Subject: CR Screening will be in the Common Area in TSB-2 at 1:00 pm.

All,

The Video Conference Room will be occupied for the next several days so CR Screening will be held in the common area in the TSB-2nd Roor at our regular time of 1:00 pm.

1

Thanks,

Chris

Document Name:

untitled

Document Location

Summary Description

Attach Title:

Email from CR Originator

HUBBARD, CHRISL

From:	JACKSON, PETER M
Sent:	Monday, April 01, 2013 12:33 PM
То:	HUBBARD, CHRIS L
Subject:	need modification to condition description of CR-C-13-888

I decided to send the info to you; CR-ANO-C-2013-888 needs the following modification to the condition description:

Present text for the first sentence: The Unit 1 Turbine Building Crane failed at 0750 on 3/31/2013.

Required modifications:

At 0750 on 3/31/2013, during movement of the Unit 1 Main Turbine Generator Stator (~500 tons), the Unit 1 Turbine Temporary Lift Device failed.

This will clarify the correct information. Please email this to someone who can change it. Peter

From: HUBBARD, CHRISL

Sent: Monday, April 01, 2013 12:08 PM

To: BEWLEY, JAMES C; Birge, Elizabeth; BLACKARD, EDWARD PAUL; BOND, VINCENT S; BURTON, GARY T; BUTLER, PAUL WAYNE; CALLOWAY, JAMES D; DEFRANCI SCO, MICHAEL L; EDGELL, DOUGLAS W; FARMER, MICHAEL B; GARBE, CHARLES R; GIllespie, Richard D; GRACE, LORI R; GREESON, WILLIAM C; HATHCOTE, JOHN CHRISTIAN; HUBBARD, CHRIS L; HUGHES, DANNY C; JACKSON, PETER M; KENNAMORE, KEI TH A; KEYS, JAMES R (ANO); KNIGHT, REX A; MARTIN, DONNIE; MARVEL, STANLEY D (RPM-ANO); MCCARTY, LARRY A; MCCOLLUM, LARRY K; MCKENNEY, DAVID N; MILLARD, SARAH E; MILLER, WILLIAM D; MORRIS, SUBRENA; MYERS, LILLIAN; New, Kevin; OLIVER, JASON R; OWEN, ELIZABETH A; Palmer, Charles; PERKINS, DARRELL L; PHILLIPS, DONALD R; RUSSELL, KYLE K; Shurter, Tony; Stahl, Michael L; STARKEY, ROBERT G; STEPHENSON, GREGORY C; Stroud, L. Shane; SULLINS, GARY V; WARDLAW, ROGER W; WOODSON, TIMOTHY R

Subject: CR Screening will be in the Common Area in TSB-2 at 1:00 pm.

All,

The Video Conference Room will be occupied for the next several days so CR Screening will be held in the common area in the TSB-2nd Roor at our regular time of 1:00 pm.

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Thanks,

Chris

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Document Name:

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Document Location

Summary Description

Attach Title:

Original Admin Tab Cond Description

Entergy	ADMIN	CR-ANO-C-2013-00888
Initiated Date: 3/31/20	13 9:15 Owner Site and Group: ANO En	g P&C Mgmt ANO
Current Contact:		
Current Significance: A		
Closed by:		
		<u></u>
The Unit 1 Turbine Building C and #2 EDG has started and ar and P-4C Service Water pump Decay Heat, and 1203.050 Spe	Trane failed at 0750 on 3/31/2013. This caused a lo e supplying A-3 4160V Switchgear and A-4 4160V has been verified running. Unit 1 has entered 1202 nt Fuel Emergencies. Unit 1 is in MODE 6.	oss of all off site power on Unit 1. The #1 V Switchgear. P-4A Service Water pump 2.007 Degraded Power, 1203.028 Loss of
Entered TS 3.8.2 A.2 One Req	uired Offsite Circuit inoperable. All required action	ns are complete.
The event caused a loss of Dec	ay Heat Removal on Unit 1 which was restored in 3	3 minutes and 50 seconds.
Unit 2 Tripped and is in MOD due to Emergency Feedwater.	E 3. Emergency Feed Water was initiated on Unit Unit 2 is being powered by off-site.	2 and Unit 2 is in 3.0.3 from 0817 to 0848
emarks Description:		
losure Description:		
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Document Location

Remarks Description

Attach Title:

CA-3 Original

Ente	ergy	CO	RRECTIVE	ACTION	C	R-ANO-C-201	3-00888
CA Number:		3			I		
	Site		Group	1	Name	· •	
Assigned By:	ANO	Eng Project Mgmt	ANO	Ba	uman,David 1	N	
Assigned To:	ANO	Eng Project Mgmt	ANO	Ba	uman,David 1	N	
Subassigned To :							
Originated By:	Zz ANO C	RG **IHEA use on	ly**	4/2/2013 11:2	0:41		
Performed By:							
Subperformed By:							
Approved By:							
Closed By:							
Current Due Date:	04/09/201	3	Initial Due Date:	04/09/2013			
CA Type:	GENERAI	ACTION	CA Priority:	4			
Plant Constraint:	NONE						
CA Description: Complete RCE Responsible M	Pre Job Br anagers ma	ief with CA&A. Res y lead the pre-job br	ponsible Manager, CA ief with CA&A in atter	&A, and the Evandance.	aluator will at	tend the pre-job brie	f.
Response:							
Subresponse :							
Closure Commen	ts:						
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Document Name:

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Document Location

Remarks Description

Attach Title:

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CA-2 Original Version

Ente	ergy	COR	RECTIVE A	ACTION	CR-ANO-C-2013-00888
CA Number:	2	• • • • • • • • • • • • • • • • • • • •			
	Site		Group		Name
Assigned By:	ANO E	ng Project Mgmt AN	0	Bauma	n,David N
Assigned To:	ANO E	ng Project Mgmt AN	0	Bauma	n,David N
Subassigned To :					
Originated By:	Zz ANO CRO	G **IHEA use only**		4/2/2013 11:19:48	
Performed By:					
Subperformed By:					
Approved By:					
Closed By:					
Current Due Date:	04/05/2013		Initial Due Date:	04/05/2013	
CA Type:	GENERAL A	CTION	CA Priority:	4	
Plant Constraint:	NONE				
CRG Briefing Statement and 1. A qualified 1 2. A qualified 1 3. Initial guida 4. Initial review 5. Actions to ic 6. RCA process Response: Subresponse : Closure Commen	Develop a Pro list of team m RCA Evaluato D&P Advocate nce and coach v of the event lentify and cor s milestone da	oblem Statement for the embers to the CRG for r (and RCA Team Le e is assigned AND; ing for the root cause is conducted, includir nmit needed resource tes have been establis	he CR in accordance r approval. The foll ad, if required) is as evaluator is obtaine og the RCA Evaluat s have been complet hed.	e with procedure gu owing actions shoul signed AND; ed from CA&A ANI or and/or Team Lea ed listing team Mer	idance. Present the Problem Id be completed as part of this CA : D; d, AND; nbers , AND;

OPERABILITY Entergy CR-ANO-C-2013-00888 **OperabilityVersion:** 1 **Operability Code:** INOPERABLE Immediate Report Code: REPORTABLE- 4 HOUR 04/01/2013 16:58 Performed By: Davenport, David E Approved By: Schacht, Marcus O 04/02/2013 05:01 **Operability Description:** This condition report was written to document the catastrophic failure of a vendor supplied crane while moving the Unit 1 Main Generator Stator to the Train Bay. Unit specific operability descriptions are included below. **UNIT 1 -**Unit I was in Mode 6 for refueling outage IR24 with the Decay Heat Removal System in service. The RCS was open with fuel in the core with RCS level >400 feet. All offsite power was lost to Unit 1 during the event resulting in both EDGs starting and supplying both 4160 vital buses. The Decay Heat System was subsequently restarted within ~4 minutes. Technical Specification 3.8.2 (AC Sources - Shutdown) requires "One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10, (Distribution Systems - Shutdown)". The required qualified source was rendered INOPERABLE by the described event. Technical Specification 3.9.4 (Decay Heat Removal (DHR) and Coolant Circulation - High Water Level) requires one DHR loop to be OPERABLE and in operation in Mode 6 with water level >23 ft above the top of the irradiated fuel seated in the reactor pressure vessel. The required DHR Loop was not in operation as required per Tech Specs from the LOOP until manually restarted. The DHR Loop was successfully placed back in service and remains OPERABLE following the event. UNIT 2 -Unit 2 was in Mode 1 at 100% when the failure occurred. Unit 2 entered the following Tech. Specs. for the following reasons: TS 3.8.1.1 action a due to inoperability of SU#3 (S/U #3 Lockout as documented in CR-ANO-2-2013-00565). TS 3.7.1.2 due to EFW discharge valve alignment. Valve alignment was directed by procedure to support AFW feed through the EFW header. TS 3.0.3 due to overriding EFW to align AFW through the Emergency Feed Water header TS 3.4.1.2 due to loss of all RCPs when S/U #3 Lockout occurred. Unit 2 was being powered by off-site initially until the S/U #3 Lockout at which point, 2H1, 2H2 and 2A2 de-energized, 2A1 swapped to S/U #2 and #2 EDG started and supplied 2A4. Therefore, S/U #3, EFW and Reactor Coolant Loops were Inoperable due to this condition. Unit 2 Operability performed by Rex A. Knight. COMMON -P-6A and P-6B Firewater Pumps were secured when failure of a pipe in the Train Bay resulted in significant leakage and spray onto electrical equipment. Unit 1 entered TRM 3.7.8 Condition B and Unit 2 entered TRM 3.7.1 Action B 24 hour Time Clocks for Two high pressure fire water pumps non-functional. CR-ANO-C-2013-00891. Both required Firewater pumps are NON-FUNCTIONAL relative to the stated condition. This condition was immediately reportable due to the following Unit 2 conditions: 4 hr - 10CFR50.72(b)(2)(iv)(B) RPS actuation 4 hr - 10CFR50.72(b)(2)(xi) Offsite Notification 8 hr - 10CFR50.72(b)(3)(iv)(A) EFAS Actuation The fatality that occurred due to this condition and it's associated reportability are documented in CR-ANO-C-2013-00895. **Approval Comments:** Unit I SM concurs. SJW

B|3

Entergy	OPERABILITY	CR-ANO-C-2013-00888
ttachments:		
Opperability Description		
unit 2, 9.2		
Opperability Description	ttachment 0.2	
Unit I EN-UP-104 A	ttachment 9.2	
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Document Name:

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Document Location

Opperability Description

Attach Title:

unit 2, 9.2

Entorm	NUCLEAR MANAGEMENT MANUAL	QUALITY RELATED	EN-OP-104	REV. 6
·· Entergy		INFORMATIONAL USE	PAGE 78 OF 95	

Operability Determination Process

ATTACHMENT 9.2 IMMEDIATE DETERMINATION FOR DEGRADED OR NONCONFORMING CONDITIONS

Sheet 1 of 2

A.	Condition Report Number: CR-ANO-C-201	3-00888
В.	Operability Version: 1	
C.	Work Request Number(s): 00303759 for S	/U #3
D. E. F.	Applicable Technical Specifications: TS 3.8.1.1, TS 3.7.1.2, TS 3.0.3, TS 3.4.1.2	G. SSC Identification: (system or equipment name and number) S/U #3 (2X-03), EFW (2P-7A/B), RCS Loops.
H.	Specified Functions (cut and paste or page See Tech. Spec. Bases for Tech Specs 3.8	references from TS Bases or CLB): 3.1.1, 3.7.1.2 and 3.4.1.2.
1.	References: Bases for the following Tech Specs.: 3.8.1.	1, 3.7.1.2, 3.4.1.2
J.	Operational Conditions in which SSC Opera determined:	ability is required and for which Operability has been
	1 ⊠ 2 4 ⊠ 5 Dther (specify) Dther (specify)	⊠ 3 ⊠ 6
K.	Copy the Condition Number(s) and Condition SSC specific Degraded or Nonconforming (Specified Functions: [1] The SSC is unable to perform its safety physical conditions, initiation times and Mis operational configuration.	on(s) from Attachment 9.1 that are applicable and describe the Condition and its effect on ability of the SSC to perform its functions specified by its design, within the required range of sion Times due to obvious failure, damage, malfunction, or
L.	Description of the extent of condition. If ext the CA number that will document the exter SSCs, if known: SU#2 Transformer has bee associated with the Alternate A/C Generato documented and evaluated in CR-ANO-C-2	ent of condition determination is not complete, then reference nt of condition. Include CR numbers for the similarly affected en determined to not be affected by this condition. 2A-9 bus rr was damaged due to this condition. That condition is 2013-890.

	Entora	NUCLEAR	QUALITY RELATED	EN-OP-104	REV. 6			
	- Enleigy	MANAGEMENT	INFORMATIONAL USE	PAGE 79	OF 95			
		Operabil	ity Determination Proces	\$				
AT	TACHMENT 9.2		DETERMINATION FOR DEG	RADED OR NONCONFO	RMING CONDITION			
Sh	eet 2 of 2							
Α.	Operability Classi	ification: DPERABLE	E-DNC 🛛 INC E-OP EVAL 🗌 INC	OPERABLE OPERABLE-OP EVAL				
B.	Complete this step only if the SSC is determined to be OPERABLE-DNC or OPERABLE-OP EVAL ., otherwise N/A. Document the basis for the Reasonable Expectation of Operability by providing a basis for each of the following statements:							
	There is a <u>high l</u>	evel of confidence, based of	on currently known facts,	, that:				
	(1). The condition would NOT prevent the SSC from performing its Specified Function(s) in all conditions.							
	BASIS: Describe	the effect of the condition	on the SSC's ability to p	erform its Specified Fi	unctions.			
	(2). All as	spects of Operability based	on the site specific TS d	lefinition of Operability	/ are met.			
	BASIS:							
	(3). None of the Degraded or Nonconforming Conditions in Attachment 9.1 Table 1 that require the SSC to be declared INOPERABLE are applicable.							
	BASIS:							
	(4). All support SSCs required for the SSC to perform its Specified Functions are capable of performing their support functions.							
	BASIS:							
	(5). The S	SSC is in its required opera	ational configuration for C	Operability.				
	BASIS:							
	(6). The condition does NOT invalidate the last successful surveillance test(s) for the SSC AND the surveillance test(s), if performed, would meet all TS requirements.							
	BASIS:							
	(7). Existing Degraded or Nonconforming conditions for other SSCs do not affect the capability of this SSC to perform its Specified Safety Functions.							
	BASIS: Describe the other Degraded or Nonconforming Conditions considered and any effects.							
	(N/A if entered	and approved in PCRS)	Print/Sign/Date					
	Prepared By:							

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Document Name:

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Document Location

Opperability Description

Attach Title:

Unit 1 EN-OP-104 Attachment 9.2

Entergy NUCLEAR QUALITY RELATED EN-OP-104 REV. 6 MANAGEMENT MANUAL INFORMATIONAL USE PAGE 78 OF 95

Operability Determination Process

ATTACHMENT 9.2 IMMEDIATE DETERMINATION FOR DEGRADED OR NONCONFORMING CONDITIONS

Sheet 1 of 2

A. Condition Report Number: CR-ANO-C-2013-00888
B. Operability Version: 1
C. Work Request Number(s): N/A
D. Applicable Technical Specifications: 3.8.2 E. SSC Identification: (system or equipment name and number) Required Offsite Power Sources
 F. Specified Functions (cut and paste or page references from TS Bases or CLB): The following AC electrical power sources shall be OPERABLE: a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10, "Distribution Systems - Shutdown"; and b. One diesel generator (DG) capable of supplying one train of the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10.
G. References: None
H. Operational Conditions in which SSC Operability is required and for which Operability has been determined:
□ 1 □ 2 □ 3 □ 4 ⊠ 5 ⊠ 6 □ Other (specify) □ 0 0
I. Copy the Condition Number(s) and Condition(s) from Attachment 9.1 that are applicable and describe the SSC specific Degraded or Nonconforming Condition and its effect on ability of the SSC to perform its Specified Functions: [1] The SSC is unable to perform its safety functions specified by its design, within the required range of physical conditions, initiation times, and Mission Times due to obvious failure, damage, malfunction, or operational configuration.
J. Description of the extent of condition. If extent of condition determination is not complete, then reference the CA number that will document the extent of condition. Include CR numbers for the similarly affected SSCs, if known: One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10, (Distribution Systems - Shutdown)". The required qualified source was rendered INOPERABLE by the described event.

		•••••••					
	Enterov	NUCLEAR	QUALITY RELATED	EN-OP-104	REV. 6		
	MANUAL		INFORMATIONAL USE	PAGE 79	OF 95		
		Operabili	ty Determination Proces	s			
AT	TACHMENT 9.2	IMMEDIATE	DETERMINATION FOR DEC	RADED OR NONCONFO	RMING CONDITIONS		
Sh	eet 2 of 2						
Α.	Operability Classi	ification: 🗌 OPERABLE		PERABLE			
				PERABLE-OP EVAL			
В.	Complete this ste otherwise N/A. D each of the follow	p only if the SSC is determ ocument the basis for the F /ing statements:	ined to be OPERABLE-I Reasonable Expectation	DNC or OPERABLE-0 of Operability by prov	DP EVAL ., viding a basis for		
	There is a <u>high l</u>	<u>evel of confidence</u> , based o	on currently known facts	that:			
	(1). The condition	would NOT prevent the S	SC from performing its S	pecified Function(s) i	n all conditions.		
	BASIS: Describe	the effect of the condition	on the SSC's ability to p	erform its Specified F	unctions.		
	(2). All aspects of	f Operability based on the s	ite specific TS definition	of Operability are me	et.		
	BASIS:						
	(3). None of the D be declared I	Degraded or Nonconforming NOPERABLE are applicabl	g Conditions in Attachme le.	ent 9.1 Table 1 that re	quire the SSC to		
	BASIS:						
	(4). All support SS support functi	SCs required for the SSC to ions.	o perform its Specified F	unctions are capable	of performing their		
	BASIS:						
	(5). The SSC is in	n its required operational co	onfiguration for Operabili	ty.			
	BASIS:						
	(6). The condition does NOT invalidate the last successful surveillance test(s) for the SSC AND the surveillance test(s), if performed, would meet all TS requirements.						
	BASIS:						
	(7). Existing Degraded or Nonconforming conditions for other SSCs do not affect the capability of this SSC to perform its Specified Safety Functions.						
	BASIS: Describe	the other Degraded or Non	conforming Conditions	considered and any ef	fects.		
<u> </u>	(N/A if entered	and approved in PCRS)	Print/Sign/Date		<u></u>		
	Prepared By:			·			
	Approved Shift Manager:						

EN-OP-104, Rev. 006
Entergy		ASSIGNMI	CR-ANO-C-2013-00888	
Version:	1		·····	
Significance Code:	A			
Classification Code:	RCA			
Owner Group:	Eng Project Mgmt AN	10		
Performed By:	Hubbard,Chris L		04/02/2013 11:29	
Assignment Description Bauman: w/Fleet Lea	aring Actions			

REPORTABILITY

Reportability Version: 1

Report Number:

Report Code: REPORTABLE

Boilerplate Code: REPORTABLE - EQU

Performed By : Coffman, Steven L

04/02/2013 10:33

Reportability Description:

This condition was reported as:

10CFR50.72 (b)(3)(iv)(A) 4 hour notification due to the ES actuation on both Unit 1 and Unit 2 10CFR50.72 (b)(2)(iv)(B) 4 hour notification due to RPS actuation on Unit 2. 10CFR50.72 (b)(2)(xi) 4 hour notification due to Government Notification. 29CFR1904.39a 8 hour notification due to death on site. These notifications were performed at 1250 EDT on 03/31/2013.

A followup Licensee Event Report is due within 60 days, which will be Thursday, May 30, 2013. LAR-2013-104 has been issued to track the LER submittal.

Attachments:

Reportability Description Form 361 - Revised

Attachment Header

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Document Name:

untitled

Document Location

Reportability Description

Attach Title:

Form 361 - Revised

PAGE 1 OF 2

							CON 14 4		
							EN # 4	8869	
NRC OPERATION TELEPH	ONE NUMBER: P	RIMARY 30	01-816-5100 or 8	300-532-3469*	BACKUPS	- [1st] 301-	951-0550) or 800-449-3694*	,
[2nd] 301-415-0550 and [3rd	1] 301-415-0553		*Licensees	who maintain	their own ET	S are provi	ded these	e telephone numbe	rs.
NOTIFICATION TIME FACIL	LITY OR ORGANIZA	TION	UNIT	NAME OF CAL	LER			CALL BACK #	
1250 EDT AND)		1/2	Robert Ci	ark			4/9-000-400	5
			1						
EVENT TIME & ZONE EVEN	IT DATE	POWER	MODE BEFORE			POWER/M	ODE AFTE	ER	
0750 CDT 03/3	31/2013		U1 0%MOD	E 6/		U1	0% MC	DDE 6/	
			U2 100% M	ODE1		U2	0% MC	DDE 3	
EVENT CLASSIF	ICATIONS	1-Hr. 1	Non-Emergen	cy 10 CFR 5	0.72(b)(1)	(v)(A)	Safe S/I	O Capability	
	GEN/AAE		TS Deviation		ADEV	(v)(B)	RHR Ca	pability	
	SIT/AAEC	; 4-Hr. I	Non-Emergen	cy 10 CFR 5	0.72(b)(2)	(v)(C)	Control	of Rad Release	/
	ALE/AAE	c 🔲 (i)	TS Required S	/D	ASHU	(v)(D)	Acciden	t Mitigation	
	UNU/AAE	C (iv)(A) ECCS Dischar	ge to RCS	ACCS	🔲 (xli)	Offsite N	Medical	
50.72 NON-EMERGENCY	(see next colun	nns) 🛛 (iv)(E	3) RPS Actuation	(scram)	ARPS	(xiii)	Loss Co	mm/Asmi/Resp	
PHYSICAL SECURITY (73.7	1) 0000	🔀 (xi)	Offsite Notifica	noit	APRE	60-Da	ay Optic	onal 10 CFR 50.	73(a
	B777	8-Hr. N	on-Emergenc	y 10 CFR 50	.72(b)(3)	Invalid S	Specified S	system Actuation	
FITNESS FOR DUTY	HFIT	(ii)(A) Degraded Con	dition	ADEG	Other U	nspecifi	ed Requiremen	t (ld
	MT. (see last colur	nn) 🗌 (ii)(B) Unanalvzed Cr	ondition	AUNA	29CFF	31904.39	a 8 hour Death	,
	NNF		A) Specified System	em Actuation	AESF				
			DESCI						
Include: Systems affected, actual At 0750 on 3/31/2013 Turbine Temporary Li EDG has started and and P-4C Service Wa Loss of Decay Heat, a	tions and their initiat a, during move ift Device faile are supplying ater pump has and 1203.050	ng signals, cause ement of the d. This cause J A-3 4160 been veri Spent Fur	etfect of event ne Unit 1 Ma used a loss V Switchgea fied running. el Emergenc fiste Circuit I	on plant, actions in Turbine of all off sit ar and A-4 . Unit 1 has cies. Unit 1	taken or plann Generator e power c 1160V Sw entered is in MOE	r Stator (on Unit 1. /itchgear 1202.007 DE 6.	~500 to The A P-4A Degra	ack) ons), the Unit 1 NO Unit 1 #1 Service Water aded Power, 1	1 and [•] pu 203
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			ADC	DITIONAL INFOR	MATION	<u> </u>				PAGE 2 OF 2
RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)					lescription)					
	JGASEO		OFFOR	NED RELEASE		EXOC				
			OFFOIT	E RELEASE		EXCE				AS EVACUATED
PERSONNEL EXPOSED OR CONTAMINATED OFFSITE PROTECTIVE ACTIONS RECOMMENDED State release path in description										
		Release Rate (C	/sec)	% T. S. LIMIT	HOO GU	IDE	Total Activity (Ci)	% T. S. LIMIT	HOO GUIDE
Noble Gas					0.1 Ci/se	c				1000 Ci
lodine		·			IU uCi/s	ec				0.01 Ci
Liquid (excluding tritium	and		<i></i>		10					
dissolved noble gases)										
Liquid (tritium)					0.2 CVm	מו				50
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		PLANT STACK	COND	ENSER/AIR E	JECTOR	MA	IN STEAM LINE	SG	BLOWDOWN	OTHER
RAD MONITOR READING	<u>38</u>					<u> </u>		<u> </u>		
ALARM SETPOINTS								ļ		
% T. S. LIMIT (if applicab	vle)		[<u> </u>				
RCS OR SG TUBE LEAK	S: CHEC	K OR FILL IN APPLI	CABLE I	TEMS: (specif	ic details/e	explan	ations should be	cover	red in event de:	scription)
LOCATION OF THE LEAK (e.)	g., SG #, vi	alve, pipe, etc.)			,					
LEAK RATE		UNITS: gpm/gpd	T. S. LIN	NITS		SUDC	EN OR LONG-TERM	DEVE	LOPMENT	
LEAK START DATE	I	TIME			PRIMAR	Υ			SECONDARY	
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		· · · · · · · · · · · · · · · · · · ·	EVENT DE	SCRIPTION (Co	ntinued from	front)	······			
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CORRECTIVE ACTION

CR-ANO-C-2013-00888

Number:

	Group		Name
Assigned By:	VP-GMPO Mgmt ANO		Chisum, Michael R
Assigned To:	NSA Director ANO		James,Dale E
Subassigned To :			
Originated By:	Zz ANO CRG **IHEA use only**		4/2/2013 11:18:27
Performed By:	James, Dale E		7/27/2013 12:26:55
ubperformed By:			
Approved By:			
Closed By:	Chisum, Michael R		7/29/2013 12:03:50
urrent Due Date:	07/31/2013	Initial Due Date:	07/31/2013
CA Type:	DISP - RCA	CA Priority:	1
Plant Constraint:	NONE		
1. Initiate and	code all CAs, CAPRs as applicable,	and ensure CA wor	ding and due dates match the CARB approved report
2. Verify that to closing this a	all CARB comments are incorporate action unless, a new action is issued b	d and the final appr by CARB for comm	oved version of the report is attached to this CA prior ent incorporation.
 Verify that to closing this a Response: The CARB appr section. Those of maintained outsi properly coded p Subresponse : 	all CARB comments are incorporate action unless, a new action is issued l roved the revised version of the root o comments were incorporated and all ide the PCRS system. Contact CA&. prior to finalizing the document.	d and the final appr by CARB for comm cause report on 6/22 actions issued. The A if you have a legi	ved version of the report is attached to this CA prior lent incorporation. 2/13 with minor comment to the corrective action. report is considered to be confidential and is being timate need to review the document. All CAs were

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CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action: CR-ANO-C-2013-00888 CA-00001

Version:	1	Approved: 🗹
Requested Duedate:	06/05/2013	Previous Duedate: 04/26/2013
Requested By:	James,Dale E	04/24/2013
Approved By:	Chisum, Michael R	04/25/2013

Request Description:

The root cause has been delay due to access to physical evidence due to safe access concerns. Also due to potential litigation, access to certain key individuals involved with this event outside Entergy has been hampered. These delays were not unexpected for this type of event. This extension is acceptable given ANO will not be deploying a similar lift assembly in the near future. It is anticipated that corrective actions from this root cause will be in place before a lift assembly is used to install the refurbished stator. This extension request has been discussed and agreed to by the ANO VP Operations.

Approved Description:

DDE Approved. M. Chisum GMPO

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00001					
Version:	2	Approved: 🗹			
Requested Duedate:	07/02/2013	Previous Duedate: 06/05/2013			
Requested By:	James,Dale E	06/03/2013			
Approved By:	James, Dale E	06/03/2013			

Request Description:

Additional time is required to obtain comments from corporate stakeholders before completing product. Lessons learned have been provided to Projects for incorporation into plans for the next stator lift. No additional actions are necessary prior to the new due date. This extension has been approved by the ANO VP of Operations.

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00001

Version:	3	Approved: 🗹
Requested Duedate:	07/17/2013	Previous Duedate: 07/02/2013
Requested By:	James,Dale E	06/28/2013
Approved By:	James,Dale E	06/29/2013

Request Description:

The draft of the root cause was provided to the CARB members on 6/24/13 for their review as well as additional stakeholders. Based on the number of comments additional time is required to resolve these comments. Comments received to date have not changed the root or contributing causes. An extent of condition action has been issued to Projects requiring lessons learned from the root cause be factored into the design and plans for the lift of the refurbished stator prior to the lift. Based on the actions taken to ensure lessons learned are factored into the lift of the refurbished stator it is acceptable to extend the due date. This extension has been approved by the site Vice President.

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00001

Version:	4	Approved: 🗹
Requested Duedate:	07/31/2013	Previous Duedate: 07/17/2013
Requested By:	James,Dale E	07/15/2013
Approved By:	Browning, Jeremy G	07/16/2013

Request Description:

The root cause report has been reviewed by CARB and approved with comment. Additional comments have been received by stakeholders that require the document to be brought back to CARB. The additional comment will not result in any further substantive corrective actions and are expanding CC1 into an additional root cause and two contributing causes. This will provide more precise descriptions of the the issues surrounding the decision not to load test. Lessons learned were factored into the successful lift of the refurbished stator and there are no other lifts planned within the Entergy system in the near term; therefore, delays in completing the root cause will not have a detrimental impact. This revised schedule and the need for a due date extension has been approved by the ANO site Vice President.

Approved Description:

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CORRECTIVE ACTION

Group Assigned By: NSA Director ANO Assigned To: NSA Director ANO Subassigned To: Originated By: Originated By: Zz ANO CRG **IHEA use only** Performed By: James,Dale E Subperformed By: Approved By: Closed By: James,Dale E Current Due Date: 05/01/2013 Initial Due Date: 05/01/2013 CA Type: GENERAL ACTION CA Description: CRG Briefing - Develop the evaluation and document approval plan an Plan to include timeline through CARB approval and details of require Develop a Problem Statement for the CR in accordance with procedure team members to the CRG for approval. The following actions should be a mailing of PCA Town is not be contended for an evaluation of the contended for evaluation of the contend for evaluation of the contend for evaluation of the con	Name James,Dale E James,Dale E 4/2/2013 11:19:48 4/29/2013 16:05:28 4/29/2013 16:28:16 05/01/2013 4 ad present that to CRG for approval. d resources. e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
Assigned By: NSA Director ANO Assigned To: NSA Director ANO Subassigned To: Originated By: Zz ANO CRG **IHEA use only** Performed By: James,Dale E Subperformed By: Approved By: Closed By: James,Dale E Current Due Date: 05/01/2013 Initial Due Date: CA Type: GENERAL ACTION CA Priority: Plant Constraint: NONE CA Description: CRG Briefing - Develop the evaluation and document approval plan and Plan to include timeline through CARB approval and details of required Develop a Problem Statement for the CR in accordance with procedured team members to the CRG for approval. The following actions should by the problem Statement for the CR in accordance with procedured team members to the CRG for approval. The following actions should by the problem Statement for the CR in accordance with procedured team members to the CRG for approval. The following actions should by the problem Statement for the CR in accordance with procedured team members to the CRG for approval. The following actions should by the problem Statement for the CR in accordance with procedured team members to the CRG for approval. The following actions should by the problem Statement for the CR in accordance with procedured team members to the CRG for approval. The following actions should by the problem Statement for the CR in accordance with procedured team members to the CRG for approval.	James,Dale E James,Dale E 4/2/2013 11:19:48 4/29/2013 16:05:28 4/29/2013 16:05:28 05/01/2013 4 ad present that to CRG for approval. d resources. e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
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Performed By: James,Dale E Subperformed By: Approved By: Closed By: James,Dale E Current Due Date: 05/01/2013 Initial Due Date: 05/01/2013 CA Type: GENERAL ACTION CA Description: CRG Briefing - Develop the evaluation and document approval plan an Plan to include timeline through CARB approval and details of require Develop a Problem Statement for the CR in accordance with procedure team members to the CRG for approval. The following actions should be a multified BCA Evaluation and DA Town I and Difference I and	4/29/2013 16:05:28 4/29/2013 16:28:16 05/01/2013 4 ad present that to CRG for approval. d resources. e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
Subperformed By: Approved By: Closed By: James,Dale E Current Due Date: 05/01/2013 Initial Due Date: 05/01/2013 CA Type: GENERAL ACTION CA Description: CA Description: CRG Briefing - Develop the evaluation and document approval plan an Plan to include timeline through CARB approval and details of require Develop a Problem Statement for the CR in accordance with procedure team members to the CRG for approval. The following actions should be a multified BCA Exchange (and BCA Exchange).	4/29/2013 16:28:16 05/01/2013 4 ad present that to CRG for approval. d resources. e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
Approved By: Closed By: James,Dale E Current Due Date: 05/01/2013 Initial Due Date: CA Type: GENERAL ACTION CA Priority: Plant Constraint: NONE CA Description: CRG Briefing - Develop the evaluation and document approval plan an Plan to include timeline through CARB approval and details of require Develop a Problem Statement for the CR in accordance with procedure team members to the CRG for approval. The following actions should be a multified BCA Exclusion and DA Tore and be added and the statement be added anded and the statement be added and the statement be adde	4/29/2013 16:28:16 05/01/2013 4 ad present that to CRG for approval. d resources. e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
Closed By: James,Dale E Current Due Date: 05/01/2013 Initial Due Date: CA Type: GENERAL ACTION CA Priority: Plant Constraint: NONE CA Description: CRG Briefing - Develop the evaluation and document approval plan an Plan to include timeline through CARB approval and details of require Develop a Problem Statement for the CR in accordance with procedure team members to the CRG for approval. The following actions should be L A multified BCA Exclusion (and BCA Exclusion for the DA)	4/29/2013 16:28:16 05/01/2013 4 ad present that to CRG for approval. d resources. e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
Current Due Date: 05/01/2013 Initial Due Date: CA Type: GENERAL ACTION CA Priority: Plant Constraint: NONE CA Description: CRG Briefing - Develop the evaluation and document approval plan an Plan to include timeline through CARB approval and details of require Develop a Problem Statement for the CR in accordance with procedure team members to the CRG for approval. The following actions should be a wallfard BCA Exclusion and DCA Transitions actions should be approved.	05/01/2013 4 nd present that to CRG for approval. d resources. e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
CA Type: GENERAL ACTION CA Priority: Plant Constraint: NONE CA Description: CRG Briefing - Develop the evaluation and document approval plan an Plan to include timeline through CARB approval and details of require Develop a Problem Statement for the CR in accordance with procedure team members to the CRG for approval. The following actions should be L A gradified BCA Evaluation and DCA Transle and bits	4 nd present that to CRG for approval. d resources. e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
Plant Constraint: NONE CA Description: CRG Briefing - Develop the evaluation and document approval plan ar Plan to include timeline through CARB approval and details of require Develop a Problem Statement for the CR in accordance with procedure team members to the CRG for approval. The following actions should be a publiced BCA Evaluate and BCA Evalua	nd present that to CRG for approval. d resources. e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
CA Description: CRG Briefing - Develop the evaluation and document approval plan ar Plan to include timeline through CARB approval and details of require Develop a Problem Statement for the CR in accordance with procedure team members to the CRG for approval. The following actions should be	nd present that to CRG for approval. d resources. e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
team members to the CRG for approval. The following actions should in the credit of the CRG for approval.	e guidance. Present the Problem Statement and list of be completed as part of this CA : signed AND;
 2. A qualified O&P Advocate is assigned AND; 3. Initial guidance and coaching for the root cause evaluator is obtained. 4. Initial review of the event is conducted, including the RCA Evaluato 5. Actions to identify and commit needed resources have been complet 6. RCA process milestone dates have been established. Response: CRG Briefing - Develop the evaluation and document approval plan and Plan to include timeline through CARB approval and details of required Develop a Problem Statement for the CR in accordance with procedure team members to the CRG for approval. The following actions should b 1. A qualified RCA Evaluator (and RCA Team Lead, if required) is assi	d from CA&A AND; or and/or Team Lead, AND; ed listing team Members , AND; d present that to CRG for approval. I resources. guidance. Present the Problem Statement and list of e completed as part of this CA : gned AND;
 A qualified O&P Advocate is assigned AND; Initial guidance and coaching for the root cause evaluator is obtained Initial review of the event is conducted, including the RCA Evaluator Actions to identify and commit needed resources have been complete RCA process milestone dates have been established 	from CA&A AND; and/or Team Lead, AND; d listing team Members , AND;
Response:	
Problem statement and team list is attached and was presented and appr The qualified RCA evaluator and O&P advocagte are shown on the attact Initial guidance and coaching for the root cause evaluator was provided Initial review of the event was conducted and included the RCA evaluate All required team members have been obtained. The following milestone dates have been established: Root Cause will be provided to CA&A on or before May 29, 2013 in pro- 2012.	roved by the CARB on 4/15/13. ched team list. by the ANO CA&A manager. for and team members. epartation for a CARB reveiw on or before June 12,
Subresponse :	

-

Closure Comments:

Attachments:

Response Description Root Cause Team Response Description Problem Statement

Attachment Header

Document Name:

untitled

Document Location

Response Description

Attach Title:

Root Cause Team

Corporate Event Response Team



April 11, 2013

Attachment Header

Document Name:

untitled

Document Location

Response Description

Attach Title:

Problem Statement

CR-ANO-C-2013-0888

Root Cause Problem Statement for CRG Approval

At 0750 on 3/31/2013, during movement of the Unit 1 Main Turbine Generator Stator (~500 tons), Temporary Lift Device failed resulting in loss of life, loss of off-site power to Unit 1, structural damage to the Turbine Building and physical injuries

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CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action: CR-ANO-C-2013-00888 CA-00002

Version:	1	Approved: 🗹
Requested Duedate:	05/01/2013	Previous Duedate: 04/18/2013
Requested By:	Eichenberger, John R	04/16/2013
Approved By:	James,Dale E	04/16/2013

Request Description:

It is acceptable to extend this action because the details of this action have largely been completed with the remaining portions to be completed in the next few days. This delay in completion of the specific portions of this action will not adversely impact the completion of the evaluation of this issue within this condition report.

The action requires the following to take place:

Develop a Problem Statement for the CR in accordance with procedure guidance. (Completed) Present the Problem Statement and list of team members to the CRG for approval: (Completed 04/15/13) The following actions should be completed as part of this CA :

1. A qualified RCA Evaluator (and RCA Team Lead, if required) is assigned AND; (Completed)

2. A qualified O&P Advocate is assigned AND; (Completed)

3. Initial guidance and coaching for the root cause evaluator is obtained from CA&A AND; (Not complete - root cause evaluator arriving at ANO 04/17/13)

4. Initial review of the event is conducted, including the RCA Evaluator and/or Team Lead, AND; (Completed)

5. Actions to identify and commit needed resources have been completed listing team Members , AND; (Completed)

6. RCA process milestone dates have been established. (Not yet completed)

It is necessary to extend this action to allow sufficient time for completion of the initial coaching of the root cause evaluator by CA&A and to provide sufficient time for the Root Cause Team Leader to establish the process milestones for the team.

Entergy

CORRECTIVE ACTION

CR-ANO-C-2013-00888

CA Number:	3		
	Group		Name
Assigned By:	NSA Director ANO		James, Dale E
Assigned To:	NSA Director ANO		James, Dale E
Subassigned To :			
Originated By:	Zz ANO CRG **IHEA use only**		4/2/2013 11:20:41
Performed By:	Eichenberger, John R		4/23/2013 14:38:59
ubperformed By:			
Approved By:			
Closed By:	Eichenberger, John R		4/23/2013 15:58:36
Current Due Date:	04/23/2013	nitial Due Date:	04/23/2013
СА Туре:	GENERAL ACTION	CA Priority:	4
Plant Constraint:	NONE		
CA Description: Complete RCE	Pre Job Brief with CA&A. Responsib	le Manager, CA& h CA&A in attend	A, and the Evaluator will attend the pre-job brief.

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Subresponse :

Closure Comments:

CA Closed at the direction of NSA Director.

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action: CR-ANO-C-2013-00888 CA-00003

Version:	1	Approved: 🗹
Requested Duedate:	04/23/2013	Previous Duedate: 04/18/2013
Requested By:	Eichenberger, John R	04/17/2013
Approved By:	James, Dale E	04/17/2013

Request Description:

It is acceptable to extend this action because the responsibilities of the Responsible Manager have been covered with the RM by the CA&A Manager therefore the initial expectations for the investigation portion of the root cause team's work has been made clear to the RM. Additionally it is acceptable to extend this action because the Root Cause Analyst is also a CA&A Manager from another station and is very well versed in the requirements of the Entergy Root Cause Process and expectations

It is necessary to extend this action to allow time for the Root Cause Evaluator who just arrived on site today to get site check-in activities completed and to provide time for scheduled this briefing with the RM and the RCE now that both are on site.

CORRECTIVE ACTION

CR-ANO-C-2013-00888

CA Number:	4		
	Group		Name
Assigned By:	VP-GMPO Mgmt ANO		Chisum, Michael R
Assigned To:	NSA Director ANO		James, Dale E
Subassigned To :	. <u> </u>		
Originated By:	Zz ANO CRG **IHEA use only**	·	4/2/2013 11:21:47
Performed By:	James, Dale E		7/27/2013 12:23:41
Subperformed By:			
Approved By:			
Closed By:	Chisum, Michael R		7/29/2013 12:04:20
Current Due Date:	07/31/2013	Initial Due Date:	07/31/2013
CA Type:	CARB REVIEW	CA Priority:	4
Plant Constraint:	NONE		
CA Description: CARB required	d per the CRG. The Responsible Ma	nager presents Repo	rt to CARB.
 Verify all R If RCE is an comments are in the disposition necessary. 	eport identified CAs have been issue proved with comment then ensure (incorporated, all CARB directed acti CA prior to closing this action. Con	ed. CA&A issues a com ions are issue, and th tact CAA for assista	ment incorporation action - OR - Verify that all CARB he final approved version of the Report is attached to nce in attaching completed report to disposition CA if
Response: The CARB appr	oved the revised version of the root	cause report on 6/22	2/13 with minor comment to the corrective action

section. Those comments were incorporated and all actions issued. The report is considered to be confidential and is being maintained outside the PCRS system. Contact CA&A if you have a legitimate need to review the document.

Subresponse :

Closure Comments:

Response Accedptable.

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00004

Version:	1	Approved: 🗹
Requested Duedate:	06/05/2013	Previous Duedate: 04/26/2013
Requested By:	James,Dale E	04/24/2013
Approved By:	Chisum, Michael R	04/25/2013

Request Description:

The root cause has been delay due to access to physical evidence due to safe access concerns. Also due to potential litigation, access to certain key individuals involved with this event outside Entergy has been hampered. These delays were not unexpected for this type of event. This extension is acceptable given ANO will not be deploying a similar lift assembly in the near future. It is anticipated that corrective actions from this root cause will be in place before a lift assembly is used to install the refurbished stator.

Approved Description:

DDE approved. MC

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00004

Version:	2	Approved: 🗹
Requested Duedate:	07/02/2013	Previous Duedate: 06/05/2013
Requested By:	James,Dale E	06/03/2013
Approved By:	James, Dale E	06/03/2013

Request Description:

Additional time is required to obtain comments from corporate stakeholders before completing product. Lessons learned have been provided to Projects for incorporation of plans for the next stator lift. No additional action on necessary prior to the new due date. This extension has been approved by the ANO VP of Operations.

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00004 Version: 3 Approved: Image: Colspan="2">Approved: Requested Duedate: 07/17/2013 Previous Duedate: 07/02/2013 Requested By: James,Dale E 06/28/2013 Approved By: James,Dale E 06/29/2013

Request Description:

The draft of the root cause was provided to the CARB members on 6/24/13 for their review as well as additional stakeholders. Based on the number of comments additional time is required to resolve these comments. Comments received to date have not changed the root or contributing causes. An extent of condition action has been issued to Projects requiring lessons learned from the root cause be factored into the design and plans for the lift of the refurbished stator prior to the lift. Based on the actions taken to ensure lessons learned are factored into the lift of the refurbished stator it is acceptable to extend the due date. This extension has been approved by the site Vice President.

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action: CR-ANO-C-2013-00888 CA-00004

Version:	4	Approved: 🗹
Requested Duedate:	07/31/2013	Previous Duedate: 07/17/2013
Requested By:	James, Dale E	07/15/2013
Approved By:	Browning, Jeremy G	07/16/2013

Request Description:

The root cause report has been reviewed by CARB and approved with comment. Additional comments have been received by stakeholders that require the document to be brought back to CARB. The additional comment will not result in any further substantive corrective actions and are expanding CC1 into an additional root cause and two contributing causes. This will provide more precise descriptions of the the issues surrounding the decision not to load test. Lessons learned were factored into the successful lift of the refurbished stator and there are no other lifts planned within the Entergy system in the near term; therefore, delays in completing the root cause will not have a detrimental impact. This revised schedule and the need for a due date extension has been approved by the ANO site Vice President.

Approved Description:

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Entergy	CORRECTIV	YE ACTION	CR-ANO-C-2013-00888
CA Number:	5		
	Group	1	Name
Assigned By: NSA CA	&A Mgmt ANO	Eichenberger, John R	
Assigned To: NSA Dir	rector ANO	James, Dale E	
Subassigned To :			
Originated By: Zz ANO	CRG **IHEA use only**	4/2/2013 11:23:14	
Performed By: Eichenb	erger, John R	4/24/2013 12:16:30	
ubperformed By:			
Approved By:			
Closed By: Eichenbe	erger, John R	4/24/2013 12:16:30	
Current Due Date: 04/30/2	013 Initial Due D	ate: 04/30/2013	
CA Type: GENER.	ALACTION CA Prio	rity: 4	
Plant Constraint: NONE			
CA Description: Provide the draft of an O industry.	E, with the assistance of the Site OE Coc	rdinator to the Site OE Coord	inator for release to the
The "OE Reporting" tem	plate can be found in EN-FAP-OE-001;	Attachment 7.5 & 7.6 (you nee	ed both)
Subresponse : Closure Comments:			

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CORRECTIVE ACTION

CR-ANO-C-2013-00888

CA Number:	6			
	Group		Name	
Assigned By:	NSA CA&A Mgmt ANO		Eichenberger, John R	
Assigned To:	Operating Experience Mgmt HQN		Ettlinger, Alan A	
Subassigned To :	Operating Experience Staff HQN		Miller, William D	
Originated By:	Zz ANO CRG **IHEA use only**		4/2/2013 11:24:32	
Performed By:	Ettlinger, Alan A		4/16/2013 15:21:41	
Subperformed By:	Miller, William D		4/16/2013 15:17:10	
Approved By:				
Closed By:	Ettlinger, Alan A		4/16/2013 15:21:41	
Current Due Date:	05/10/2013	Initial Due Date:	05/10/2013	
CA Type:	INPO INITIAL OE SUB	CA Priority:	4	

Plant Constraint: NONE

CA Description:

Site OE Notification - Unless justification exists to not issue an OE, the Site OE Coordinator will obtain final approval from the GMPO or designee, then issue an Operating Experience (OE) Report to the Nuclear Industry.

Response:

see sub response.

Subresponse :

OE-ICES-305245 was posted to INPO web page on April 02, 2013 in response to this event as a preliminary OE. This OE was reviewed by the Manager, CA&A, NSA Director, Licensing Manager and OCC. Final approval of this OE was obtained from the GMPO, Vice President and Corporate Emergency response group prior to posting.

Closure Comments:

Attachments:

Subresponse Description Preliminary OE Document sent to INPO

Attachment Header

Document Name:

untitled

Document Location

Subresponse Description

Attach Title:

Preliminary OE Document sent to INPO

Title: Significant Industrial Accident at Arkansas Nuclear One Caused by Failed Turbine Stator Lifting Equipment Device.

Abstract:

On Sunday March 31, 2013 at 0750, a significant industrial accident occurred at Arkansas Nuclear One (ANO). The accident occurred as the Unit 1 (ANO-1) generator stator was being lifted for transport out of the turbine building as part of a maintenance evolution associated with the 1R24 refueling outage. CAUSE: A lifting device designed for heavy lifts failed causing the stator to drop onto the turbine deck floor and then fall into the train bay below. The special lifting device collapsed onto the turbine deck. CONSEQUENCE: This resulted in one fatality and multiple additional non-life threatening injuries as well as substantially damaging plant equipment.

Description:

Damage to the ANO-1 turbine building resulted in the loss of offsite power feeds to both safety and nonsafety related busses. Both ANO-1 emergency diesel generators automatically started and provided power to the safety related busses. At the time of the event ANO-1 was in mode 6 refueling with the reactor vessel head removed and the refuel canal completely filled with Refueling equipment check outs were ongoing. All fuel was in the core and shutdown cooling was momentarily lost while the emergency diesel generator came up to speed, tied onto the safety busses and the operators manually started the spent fuel cooling pumps. There was no noticeable rise in the refuel canal temperatures during this event. Power was lost to spent fuel pool cooling but was reestablished within four minutes. Fire water piping was damaged resulting in water spraying in the area of the accident and onto electrical busses. The fire water system was taken out of service to isolate the water spray. The portions of the fire water system that were damaged have been isolated and a portion of the fire water system is now available.

ANO-1 is in a stable condition with power continuing to be provided by both safety related emergency diesel generators. Core decay heat is being removed by decay heat removal. Plans are underway to reestablish offsite power through alternate means. Additional diesel generator capability is being brought on site as a contingency.

Arkansas Nuclear One (ANO-2) automatically tripped following the event due to the loss of two Reactor Coolant Pumps (RCPs) with a normal post trip response by the plant. At 0923 ANO-2 lost its feed from offsite startup 3 transformer to one of two safety busses and one of its two non-safety related busses resulting in a loss of power to the remaining two running RCPs and the remaining operating circulating water pump. This placed ANO-2 into a natural circulation mode and cool down was commenced using atmospheric dump valves to remove core decay heat. One of the two ANO-2 emergency diesel generators automatically started on the loss of offsite power to the safety bus and provided power to that bus. The redundant safety bus remained powered from offsite power through the Startup 2 Transformer and the redundant emergency diesel generator remains in standby. All safety related equipment maintained operability throughout the event. A Notification of Unusual Event was declared at 1033 on ANO-2 following observation of damage to the ANO-2 switchgear. The Notification of Unusual Event was terminated at 1821 on March 31, 2013. ANO-2 reached mode 4 at 2355 on March 31, 2013 and initiated shutdown cooling utilizing the shutdown cooling pumps at 0300 on April 1, 2013.

Both units remain in a stable condition. No offsite radiological releases occurred as a result of this event.

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CORRECTIVE ACTION

CA Number:	7		
	Group]	Name
Assigned By:	NSA CA&A Mgmt ANO		Eichenberger, John R
Assigned To:	Operating Experience Staff HQN		Miller, William D
Subassigned To :			
Originated By:	Zz ANO CRG **IHEA use only**	r.	4/2/2013 11:26:54
Performed By:	Miller, William D		4/4/2013 07:57:07
Subperformed By:			
Approved By:			
Closed By:	Miller, William D		4/4/2013 07:57:07
Current Due Date:	04/17/2013	Initial Due Date:	04/17/2013
СА Туре:	GENERAL ACTION	CA Priority:	4
Plant Constraint:	NONE		
The CRG/CAR and has directe	B has designated this CR's Evaluat d that it be processed as "Code A2 -	ion for Fleet Learnin, - Priority 2: Potential	g per Internal Fleet OE Initiation for Fleet Learning Impact "
it be processed Site subject ma Actions to be ta 1. Request an H 2. Initiate correc assigning CAs 3. Initiate correc aggregate impa Response: Actions to be tal 1. Request an H 2. Initiate correc assigning CAs for to identified Res 3. Initiate correc aggregate impact this action Subresponse :	as "Code A2 - Priority 2: Potential atter expert is David Bauman ; Resp aken (by OE Coordinator) HQNLO to review this Fleet Learnin active actions under the HQNLO for for site evaluations or performing e active action under the HQNLO for act to the fleet. A constructions under the HQNLO for act to the fleet. A construction of the HQNLO for active actions under the HQNLO for active actions under the HQNLO for active actions under the HQNLO for the active action under the HQNLO for the fleet HQNLO-2013-0001	Impact " ponsible Manager is I ng or the Responsible Ma valuation without site the Responsible Man g - HQNLO-2013-00 the Responsible Man valuation without site action the Responsible Man & CA#2 has been issue	David Bauman. anager to determine fleet vulnerability by either e inputs. nager to perform closure review and determination of 018 has been Generated to track this Fleet Learning hager to determine fleet vulnerability by either inputs HQNLO-2013-00018 CA#1 has been issued ager to perform closure review and determination of ued to identified Responcible Manager to perform
Closure Commen	ts:		

CORRECTIVE ACTION

CA Number:	8		
	Group		Name
Assigned By:	NSA Director ANO		James, Dale E
Assigned To:	NSA Director ANO		James,Dale E
Subassigned To :		· · · · · · · · · · · · · · · · · · ·	
Originated By:	Zz ANO CRG **1HEA use only**		4/2/2013 11:39:49
Performed By:	James, Dale E		7/8/2013 17:38:46
ubperformed By:			
Approved By:			
Closed By:	James, Dale E		7/8/2013 17:39:03
urrent Due Date:	07/11/2013 In	itial Due Date:	07/11/2013
СА Туре:	GENERAL ACTION	CA Priority:	4
Plant Constraint:	NONE		
CR Condition The Bigge Cran Response: This CR was inc	Summary: the collapsed while moving the Unit 1 G luded in the evaluation and corrective a	enerator Stator r	esulting in several injuries and one fatality. I with the root cause evaluaiton of the temporary lift
CR Condition S The Bigge Cran Response: This CR was inc system and stato Subresponse :	Summary: te collapsed while moving the Unit 1 G luded in the evaluation and corrective a r drop event. The Root Cause documer	enerator Stator r actions associated at was approved	esulting in several injuries and one fatality. I with the root cause evaluaiton of the temporary lift with comment on 7/3/13.
CR Condition S The Bigge Cran Response: This CR was inc system and stato Subresponse : Closure Comment	Summary: le collapsed while moving the Unit 1 G luded in the evaluation and corrective a r drop event. The Root Cause documer	enerator Stator r actions associated at was approved	esulting in several injuries and one fatality. I with the root cause evaluaiton of the temporary lift with comment on 7/3/13.
CR Condition S The Bigge Cran Response: This CR was inc system and stato Subresponse : Closure Comment	Summary: le collapsed while moving the Unit 1 G luded in the evaluation and corrective a r drop event. The Root Cause documer	enerator Stator r actions associated at was approved	esulting in several injuries and one fatality. I with the root cause evaluaiton of the temporary lift with comment on 7/3/13.
CR Condition S The Bigge Cran Response: This CR was inc system and stato Subresponse : Closure Comment	Summary: le collapsed while moving the Unit 1 G luded in the evaluation and corrective a r drop event. The Root Cause documer	enerator Stator r actions associated at was approved	esulting in several injuries and one fatality. I with the root cause evaluaiton of the temporary lift with comment on 7/3/13.
CR Condition S The Bigge Cran Response: This CR was inc system and stato Subresponse : Closure Comment	Summary: se collapsed while moving the Unit 1 G luded in the evaluation and corrective a r drop event. The Root Cause documer	enerator Stator r actions associated at was approved	esulting in several injuries and one fatality. I with the root cause evaluaiton of the temporary lift with comment on 7/3/13.
CR Condition S The Bigge Cran Response: This CR was inc system and stato Subresponse : Closure Comment	Summary: le collapsed while moving the Unit 1 G luded in the evaluation and corrective a r drop event. The Root Cause documer is:	enerator Stator r actions associated at was approved	esulting in several injuries and one fatality. I with the root cause evaluaiton of the temporary lift with comment on 7/3/13.
CR Condition S The Bigge Cran Response: This CR was inc system and stato Subresponse : Closure Comment	Summary: le collapsed while moving the Unit 1 G luded in the evaluation and corrective a r drop event. The Root Cause documer	enerator Stator r actions associated at was approved	esulting in several injuries and one fatality. I with the root cause evaluaiton of the temporary lift with comment on 7/3/13.
CR Condition of The Bigge Cran Response: This CR was inc system and stato Subresponse : Closure Comment	Summary: he collapsed while moving the Unit 1 G luded in the evaluation and corrective a r drop event. The Root Cause document is:	enerator Stator r actions associated at was approved	esulting in several injuries and one fatality. I with the root cause evaluaiton of the temporary lift with comment on 7/3/13.
CR Condition of The Bigge Cran Response: This CR was inc system and stato Subresponse : Closure Comment	Summary: le collapsed while moving the Unit 1 G luded in the evaluation and corrective a r drop event. The Root Cause documer	enerator Stator r actions associated nt was approved	esulting in several injuries and one fatality. I with the root cause evaluaiton of the temporary lift with comment on 7/3/13.

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action: CR-ANO-C-2013-00888 CA-00008

Version:	1	Approved: 🗹
Requested Duedate:	05/30/2013	Previous Duedate: 04/17/2013
Requested By:	Eichenberger, John R	04/16/2013
Approved By:	James,Dale E	04/16/2013

Request Description:

This Corrective Action is acceptable to extend because the causal analysis is underway and the condition identified in C-2013-0895 has been included in the initial scoping of the causal analysis for C-2013-0888.

It is necessary to extend this action because the action plan for C-2013-0888 is under development and is not complete.

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00008

Version:	2	Approved: 🗹
Requested Duedate:	07/11/2013	Previous Duedate: 05/30/2013
Requested By:	James,Dale E	05/24/2013
Approved By:	James,Dale E	05/24/2013

Request Description:

This CR has been included in the root cause evaluation. The root cause report has been delayed and is scheduled to be reviewed by the CARB in mid-June. This due date is established considering this schedule and contingency for delays.

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CORRECTIVE ACTION

	Group]	Name
Assigned By:	Operations Mgmt U2 ANO		Horton, Jeffrey S
Assigned To:	Operations Mgmt U2 ANO		Jackson,Peter Micheal
Subassigned To :			
Originated By:	Jackson,Peter Micheal		4/2/2013 16:10:19
Performed By:	Zz ANO CRG **IHEA use only**		4/14/2013 09:25:37
ubperformed By:			
Approved By:			
Closed By:	Zz ANO CRG **IHEA use only**		4/14/2013 09:26:22
Current Due Date:	05/30/2013	Initial Due Date:	05/30/2013
CA Type:	GENERAL ACTION	CA Priority:	4
Plant Constraint:	NONE		
PDF will be pu	t onto eBREFLIB.	name and location	of the completed Post I ransient Review PDF. This
Inis CA was in Initiate Post Ti (1015.037-AT7	ransient Review using PCRS action [-B) and Attachment T]	2: [this will be docume	nted with Post Transient Review report
Response.			
This action has I was written to co Subresponse :	been transferred by the Corrective A ontain the Unit 2 Reactor Trip relate	ctions and Assessm d documention in C	ents Manager to CR-ANO-2-2013-0583 CA-11 which AP. JRE 04/14/13
This action has I was written to co Subresponse : Closure Commen Closed by CA&	been transferred by the Corrective A contain the Unit 2 Reactor Trip relate ts: A Manager.	ctions and Assessm d documention in C	ents Manager to CR-ANO-2-2013-0583 CA-11 which AP. JRE 04/14/13
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CORRECTIVE ACTION

-		Group		N	ame
Assigned By:	Operations Mg	gmt U2 ANO		Williams, Patrick J	
Assigned To:	Operations Mg	gmt U2 ANO		Hathcote, John Christian	
Subassigned To :					
Originated By:	Jackson,Peter	Micheal		4/2/2013 16:15:53	
Performed By:	Zz ANO CRG	**IHEA use only**		4/14/2013 09:29:09	
Subperformed By:					
Approved By:					
Closed By:	Zz ANO CRG	**IHEA use only**		4/14/2013 09:29:45	
Current Due Date:	05/30/2013		Initial Due Date:	05/30/2013	
CA Type:	GENERAL AC	CTION.	CA Priority:	4	
Plant Constraint:	NONE				
CA Description:	sient Snanshot	Assessment IAW FN	1-0P-117 Sten 5.4 fr	or the transient discussed i	n this CR
				-	
was written to co Subresponse :	ontain the Unit :	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	
was written to co Subresponse : Closure Commen Closed by CA&	ontain the Unit : ts: A Manager.	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	
was written to co Subresponse : Closure Commen Closed by CA&	ontain the Unit : ts: A Manager.	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	
was written to co Subresponse : Closure Commen Closed by CA&	ontain the Unit : ts: A Manager.	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	
was written to co Subresponse : Closure Commen Closed by CA&	ontain the Unit : ts: A Manager.	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	
was written to co Subresponse : Closure Commen Closed by CA&	ontain the Unit : ts: A Manager.	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	
was written to co Subresponse : Closure Commen Closed by CA&	ontain the Unit : ts: A Manager.	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	
was written to co Subresponse : Closure Commen Closed by CA&	ontain the Unit : ts: A Manager.	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	
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was written to co Subresponse : Closure Commen Closed by CA&	ontain the Unit : ts: A Manager.	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	
was written to co Subresponse : Closure Commen Closed by CA&	ontain the Unit : ts: A Manager.	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	· · · · · · · · · · · · · · · · · · ·
was written to co Subresponse : Closure Commen Closed by CA&	ontain the Unit : ts: A Manager.	2 Reactor Trip relate	d documention in C	AP. JRE 04/14/13	·

CORRECTIVE ACTION

	11	
	Group	Name
Assigned By:	NSA Director ANO	James, Dale E
Assigned To:	NSA Director ANO	James, Dale E
Subassigned To :		
Originated By:	Zz ANO CRG **IHEA use only**	4/3/2013 11:34:52
Performed By:	James,Dale E	7/8/2013 17:41:31
Subperformed By:		
Approved By:		
Closed By:	James,Dale E	7/8/2013 17:41:53
Current Due Date:	07/11/2013 Initial I	Due Date: 07/11/2013
СА Туре:	GENERAL ACTION CA	Priority: 4
Plant Constraint:	NONE	· · ·
Per the CRG, C that the condition	CR-ANO-1-2013-0842 was Administratively (on documented in that CR is appropriately ad	Closed to this CR. As Responsible Manager for this CR, ensure dressed within the scope of this CR's Corrective Action Plan.
* C529 SEISM Control Room * XR-8007 U1 display indicate 1 event, pe * XR-8009 SV indicates 0 events, p light indicates something less Response:	IC NETWORK CONTROL CENTER; no ev annunciation at 0.01g). SPENT FUEL POOL PEAK ACCELEROGI as ak values of X=9.7 mg, Y=17.6 mg, Z=38.2 m V PMPS PEAK RECORDER (stand alone uni- eak values of X=930 mg, Y=989 mg, Z=997 recorder warning flag is set and maintenance than 100%. Expected capacity supports 100 eport was included in the evaluation and correct	rents and no errors (this condition is supported by no reported RAPH (stand alone sensor in Unit 1 Computer Room) local mg it in Intake structure near Booster Fire Pump) local display mg, ERROR - RED LED pulsing once every 5 seconds. Error required. Likely cause is loss of AC and back up battery is hours of operation on battery power.
This condition re	÷	ective actions associate with the root cause evaluating the
This condition ro temporary lift sy comments.	stem failure and stator drop event. The Root	Cause report was approved by CARB on 7/3/13 with
This condition r temporary lift sy comments. Subresponse :	stem failure and stator drop event. The Root	Cause report was approved by CARB on 7/3/13 with
This condition retemporary lift sy comments. Subresponse :	stem failure and stator drop event. The Root	Cause report was approved by CARB on 7/3/13 with
This condition retemporary lift sy comments. Subresponse : Closure Commen	stem failure and stator drop event. The Root	Cause report was approved by CARB on 7/3/13 with
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This condition r temporary lift sy comments. Subresponse : Closure Commen	stem failure and stator drop event. The Root	Cause report was approved by CARB on 7/3/13 with
CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00011

Version:	1	Approved: 🗹
Requested Duedate:	05/30/2013	Previous Duedate: 04/17/2013
Requested By:	Eichenberger, John R	04/16/2013
Approved By:	James,Dale E	04/16/2013

Request Description:

This Corrective Action is acceptable to extend because the causal analysis is underway and the condition identified in C-2013-0842 is appropriate for conclusion in the action plan and causal analysis for C-2013-0888. Delays in correcting the condition identified in C-2013-0842 while analysis is underway in C-2013-0888 will have no adverse affects. It is necessary to extend this action because the action plan for C-2013-0888 is under development and is not complete.

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00011				
Version:	2	Approved: 🗹		
Requested Duedate:	07/11/2013	Previous Duedate: 05/30/2013		
Requested By:	James,Dale E	05/24/2013		
Approved By:	James, Dale E	05/24/2013		

Request Description:

This condition report has been addressed in the draft root cause report. A due date extension is required to accommodate the new schedule for completion of the root cause report that has been delayed.

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CORRECTIVE ACTION

CR-ANO-C-2013-00888

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CA Number:	12	
	Group	Name
Assigned By:	NSA Director ANO	James, Dale E
Assigned To:	NSA Director ANO	James, Dale E
Subassigned To :		
Originated By:	Zz ANO CRG **IHEA use only**	4/19/2013 10:39:49
Performed By:	James,Dale E	7/8/2013 17:59:42
Subperformed By:		
Approved By:		
Closed By:	James, Dale E	7/8/2013 18:00:08
Current Due Date:	07/17/2013 Initial Due Date:	: 07/17/2013
CA Type:	GENERAL ACTION CA Priority	: 4
Plant Constraint:	NONE	
CR Condition During the NR potential Unres Additional insp Program. This Condition Response: This condition v temporary lift as	Summary: C Augmented Inspection Team (AIT) Debrief (Referen solved Item (URIs) was debriefed: bection may be required for the NRC team to determine Report is being issued for administrative purposes to the vas included in the evaluation and corrective actions assessembly failure. The Root Cause report was approved to	ce NRC IR 2013-011) on April 11, 2013, the following compliance with EN-MA-119, Material Handling rack the potential URIs identified during the AIT. sociated with the root cause evaluation of the with comment by the CARB on 7/3/13.
Subresponse :		
Closure Commen	ts:	

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00012

Version:	1	Approved: 🗹
Requested Duedate:	06/12/2013	Previous Duedate: 05/16/2013
Requested By:	James,Dale E	05/08/2013
Approved By:	James, Dale E	05/08/2013

Request Description:

This issue will be addressed by the root cause team. Due to delays in accessing evidence and personnel related to the event the root cause evaluation has been delayed. The new due date corresponds with current projection for completing the root cause.

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00012				
Version:	2	Approved: 🗹		
Requested Duedate:	07/03/2013	Previous Duedate: 06/12/2013		
Requested By:	James,Dale E	06/11/2013		
Approved By:	James, Dale E	06/11/2013		

Request Description:

Due to extensive comment resolution it is necessary to extend the due dates associated with the root cause report. This is an administrative requirement only. Lessons learned from the root cause team have been incorporated into the lift plan for the refurbished stator so there is no safety issue with delaying this actions.

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CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00012

Version:	3	Approved: 🗹
Requested Duedate:	07/17/2013	Previous Duedate: 07/03/2013
Requested By:	James, Dale E	06/28/2013
Approved By:	James, Dale E	06/29/2013

Request Description:

The draft of the root cause was provided to the CARB members on 6/24/13 for their review as well as additional stakeholders. Based on the number of comments additional time is required to resolve these comments. Comments received to date have not changed the root or contributing causes. An extent of condition action has been issued to Projects requiring lessons learned from the root cause be factored into the design and plans for the lift of the refurbished stator prior to the lift. Based on the actions taken to ensure lessons learned are factored into the lift of the refurbished stator it is acceptable to extend the due date. This extension has been approved by the site Vice President.

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CORRECTIVE ACTION

CR-ANO-C-2013-00888

CA Number:	13			
	Group		Name	
Assigned By:	NSA Director ANO		James,Dale E James,Dale E	
Assigned To:	NSA Director ANO			
Subassigned To :	······			
Originated By:	Zz ANO CRG **IHEA use only**		4/23/2013 10:21:22	
Performed By:	James,Dale E		7/1/2013 17:06:26	
Subperformed By:				
Approved By:				
Closed By:	James, Dale E		7/1/2013 17:10:31	
Current Due Date:	07/10/2013	Initial Due Date:	07/10/2013	
CA Type:	GENERAL ACTION	CA Priority:	4	
Plant Constraint:	NONE			
CA Description: Per the CRG, C that the condition	R-ANO-1-2013-1062 was Adminis on documented in that CR is approp	stratively Closed to t riately addressed wi	his CR. As Responsible Manager for this CR, ensure thin the scope of this CR's Corrective Action Plan.	

CR Condition Summary:

It would appear that additional hand rail removal on the 386' elevation of the turbine building around the train bay opening was required during the attempt to transfer the old stator to the transporter in the train bay. Maintenance support had been requested to remove two sections of hand rail under WO 00254087 (Task14 for the south side and Task 15 for the Norht side hand rail) during the preparation phase. The prescribed hand rails were removed and all of the WO steps completed. It would appear that the project personnel that removed the additional protion of hand rail did not have a Work Order to remove the additional portion of hand rail.

Response:

Condition Report CR-ANO-1-2013-1062 was Administratively Closed to CR-ANO-C-2013-0888 CA-13. Following a review of the referenced work order it was determined by the root causse team that this condition had no bearing on the event and was inappropriately closed to the root cause condition report. Condition report CR-ANO-2013-01743 was initiated to reenter this condition into the corrective action system. No further action under this condition report is necessary, this CA may be closed.

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Subresponse :

Closure Comments:

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Approved: 🗸

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Corrective Action: CR-ANO-C-2013-00888 CA-00013 Version: 1

Requested Duedate: 06/26/2013		Previous Duedate: 05/30/2013		
Requested By:	James, Dale E	05/28/2013		
Approved By:	James,Dale E	05/28/2013		

Request Description:

This CR was inappropriately closed to CR-ANO-C-2013-0888. A new condition report is being written to address this issue sperately. The extension is to allow time for the new CR to be written and to close this action to that CR.

Approved Description:

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Entergy	CA DUE	DATE EXTENSION	CR-ANO-C-2013-00888
Corrective Action : C	R-ANO-C-2013-00888 CA-0	0013	
Version:	2	Аррго	oved: 🗹
Requested Duedate:	07/10/2013	Previous Due	date: 06/26/2013
Requested By:	James,Dale E	06/24/2013	

06/24/2013

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Approved By: James, Dale E

Request Description:

The CARB for the root cause is scheduled for 6/27/13. Time past this date is need to address all administrative issues.

CORRECTIVE ACTION

CR-ANO-C-2013-00888

	50				
CA Number:	14				
		Group		Name	
Assigned By:	NSA Director	ANO		James, Dale E	
Assigned To:	Eng Project N	/Igmt ANO		Bauman,David N	
Subassigned To :	Restoration P	roject Mgmt ANO		Goodson,Gary M	
Originated By:	James,Dale E			6/27/2013 07:36:34	
Performed By:	Bauman,Davi	id N		7/5/2013 20:21:03	
Subperformed By:	Philpott,Frank	klin T		7/5/2013 02:50:30	
Approved By:					
Closed By:	James,Dale E			7/5/2013 20:41:40	
Current Due Date:	07/05/2013		Initial Due Date:	07/05/2013	
СА Туре:	CAT A-EOC		CA Priority:	2	
Plant Constraint:	NONE				
?(Load and Fun ?Entergy engin ?Post load test ?Installation ve ?Conduct mana ?Vendor respon needed to supp Response: The CEM was h installation verif	nctional perform eering witness inspection rification agement challen nsible for lift to ort the lift. eld today 7/5 a fication is a spe	mance testing) of load test nge meeting focused implement exclusion at 1400 to review the ecific requirement/cri	on risk mitigating as n zone and minimize Sarens 30 procedure tical step in the Sare	pects of the critical lift to the extent possible individuals v . Also note that for the action asso ns P-3389-40 procedure for EOI En	vithin the zone ociated with the ngneering. This
Subresponse : All actions requ Sub-response W Evolutions Mee for 1400 hours of performance by will be docment Closure Commen	ired by this CA /riteup. The re ting (CEM) to on July 5, 2013 the CEM, all c ted under the re ts:	A have been complete maining action (item review Sarens Proce Once this meeting of the required action esponse section of thi	ed with one exception 10 in the attached w dure P-3389-30, whi has been verified to s will have been con is CA.	n, and are documented in the attach vriteup) concerns the completion of ch controls the stator lift. This mee have been held and the procedure c upleted and this CA may be closed.	ed CA-14 a Critical ting is scheduled leared for This verification
Attachments: Subrespo CA-1	onse Descriptic 4 Sub-respons	on e Writeup			
Subrespo Stato	onse Descriptio r Lift Exclusio	on n Plan			

Subresponse Description WO 254160 Task 41

CR-ANO-C-2013-00888

Attachments:

Subresponse Description WO 254160 Task 37

Subresponse Description D. Hughes Email Dated 7/4/13

Attachment Header

Document Name:

untitled

Document Location

Subresponse Description

Attach Title:

CA-14 Sub-response Writeup

CR-ANO-C-2013-0888 CA-14 Sub-response (Page 1 of 3)

The following actions were implemented to address the engineering documentation and oversight for the design, testing and installation of the temporary lift assembly to be used for the upcoming rigging for the ANO-1 refurbished stator:

1) Develop Engineering Change package for the lift itself (Similar to WF3 EC 8432, & Palisades EC 7189)

Response: EC-45035 (Stator Lift At Rewind Facility) has been approved. EC-45037 (Sarens Lift Rig Assembly) has been approved. (Response provided by D. Hughes in attached email dated 7/4/13.) EC-44824 (Stator Lift) was approved on 7/4/13.

2) Specify applicable code for special designed lifting device and demonstrate their application.

Response:

EC-44824 defines applicable codes and standards for special designed lifting device and validates these are appropriately applied in associated Sarens/RI documents. (Response provided by D. Hughes in attached email dated 7/4/13.)

3) Perform owner acceptance review of vendor design calculation

Response:

EC-44824 documents the owner acceptance review of vendor design calculations and drawings. (Response provided by D. Hughes in attached email dated 7/4/13.)

4) Perform independent third party modeling of vendor lift assembly

Response:

Per Report A13262-R-001 documented in the Chief Engineer's Report in EC-44824, Lucius Pitkin, Inc. performed an independent third party review of the vendor lift assembly calculations, finding the assembly adequate. Per their review methodology statement, a completely independent model was not developed but critical inputs and results were verified and simplified approach was used to the extent necessary to validate the RI model. (Response provided by D. Hughes in attached email dated 7/4/13.)

5) Specify load testing requirements

Response:

Pre-use load testing requirements were specified in Sarens load test certification LT-3389-510-01. Load test methodology was reviewed in the previously mentioned Lucius Pitkin Inc. report. (Response provided by D. Hughes in attached email dated 7/4/13.)

CR-ANO-C-2013-0888 CA-14 Sub-response

(Page 2 of 3)

6) Load and Functional performance testing

Response:

Assembled load test with partial functional testing was successfully performed on June 20, 2013 per the previously mentioned report. (Response provided by D. Hughes in attached email dated 7/4/13.)

7) Entergy engineering witness of load test

Response:

Entergy engineering witnessed load test on June 20, 2013. (Response provided by D. Hughes in attached email dated 7/4/13.)

8) Post load test inspection

<u>Response:</u>

Post load test inspections / NDE were performed on June 21, 2013 per LT-3389-510-01, with satisfactory results. (Response provided by D. Hughes in attached email dated 7/4/13.)

9) Installation verification

Response:

Installation verification is provided by signoff steps in the work order tasks used to erect the Stator Lift System in the Turbine Building, which are WO 00254160, Task 37 (Erection of Stator Lift System up to the point of installation of the Runway and Trolley assembly) and Task 41 (Installation of the Stator Lift System Runway and Trolley assembly). Both tasks contain signoffs for "Responsible Entergy Oversight" (step 4.3) and "Responsible Engineer, or his designee" (step 5.1.3) to review the completed work and ensure that no deviations or non-conforming conditions exist (step 4.3) and that the Engineering Change requirements have been followed (step 5.1.3). The "Responsible Engineer" is specified by name in step 5.1.2 and is a member of the Recovery Project Engineering team. (A copy of each WO task is attached to this sub-response for information.)

10) Conduct management challenge meeting focused on risk mitigating aspects of the critical lift

Response:

Management challenge meetings focused on risk mitigating aspects of the critical lift were held as follows:

July 2, 2013 – EQRT review of EC-44824 (Stator Lift) July 3, 2013 – OSRC review of EC-44824 (Stator Lift) July 3, 2013 – Critical Evolutions Meeting (CEM) review of Sarens Procedures P-3389-20-A and P-3389 -20-B which control the erection of the Stator Lift System

Additionally, a CEM review of Sarens Procedure P-3389-30, which controls the stator lift, is scheduled for 1400 hours on July 5, 2013.

CR-ANO-C-2013-0888 CA-14 Sub-response (Page 3 of 3)

11) Vendor responsible for lift to implement exclusion zone and minimize to the extent possible individuals within the zone needed to support the lift.

Response:

A detailed Main Generator Stator Lift Turbine Building Exclusion/Flagging Plan has been developed and approved by representatives of ANO Project Management, Siemens Project Management, Siemens Safety, Sarens/RI Project Management, Sarens/RI Safety, ANO Safety, ANO Security, ANO Fire Prevention, ANO Fire Watch, ANO Unit 1 Operations, ANO Unit 2 Operations, ANO Radiation Protection, and ANO Engineering. Among the details of this plan are assignment of specific responsibilities, specific actions, communications, area boundaries for danger flagging, and criteria for moving barriers. A copy of this plan is attached.

Prepared by:

Juanh Phipott

Frank Philpott July 5, 2013

Attachment Header

Document Name:

untitled

Document Location

Subresponse Description

Attach Title:

Stator Lift Exclusion Plan

Main Generator Stator Lift Turbine Building Exclusion /Flagging Plan

Contact # Print/Sign Date 3233 054NE 781-856-0598 251-294-3636 5033 6-29-13 2147936078 13 3525 06-29-13 4638 x 5025 a 747-5693 X 3811 29-13 6/29/13 X 3201 X5166 mch G K 5403

Department Supervisor Contact Signature Sheet

Siemens Project Manager Sarens/RI Project Manager ANO Safety Siemens Safety Sarens/RI Safety ANO Security Shift Commander ANO Fire Prevention ANO Fire Watch Supervisor Unit 1 Operations Shift Supervisor Unit 2 Operations Shift Supervisor ANO Radiation Protection Supervisor

ANO Project Manager

Main Generator Stator Lift

- Access controls during lifting and assembling main generator stator from train bay to generator pedestal on turbine deck
- Large area danger flagged during lift of runway girder and trolley assembly and stator
- Plant announcements made prior to runway girder and trolley evolution in addition to stator lift

Stator Lift Items

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- Prior to lifting the runway assembly onto the columns, who is responsible for the following?
 - Identifying no access areas, danger flagging
 - RCC/Siemens
 - Map markup
 - Name and Number on the danger signs
 - Entergy will have pre-made signs
 - Method of contact person for entry
 - Operations, Security, Fire Brigade Contact Sarens person in charge (PIC). Bill Flake for Security and Fire Brigade.
 - Post the danger flag barriers and signs
 - Siemens/SarensSafety
 - CBILaborers
 - Identify where hard barriers or a person will be stationed
 - Siemens Safety
 - Map markup
 - Walk down barriers (PIC required action)
 - Designated by Sarens project management
 - Boundary Watch performs sweep of area and must radio the designated person once complete to verify
- When will PIC walk down tape-
 - After the Keyhole is placed on the Stator trunnions and prior to tensioning rigging for the lift.
- Criteria to move barriers
 - When the Stator is set in place according to the PIC and the lift system is not under tension.
- Identify who needs to have pre-approval to enter and requirements. You must attend the IPTE to enter the danger taped area.
 - Electricians, carpenters and crane vendor. They must attend the IPTE. Boundary Watch will have copy of signed IPTE brief form
 - Special entry badges given to approved entrants
- Communications
 - Concerns from observers, project supervisors, iron workers about conditions and concerns from PIC or RI supervisor. -
 - Sarens will designate a subject matter expert (SME). All concerns will be routed through the Sarens SME.

Congested Area & Lift Areas in the Turbine Building

- The Rigging International rigging equipment/transfer assembly for the Unit 1 main generator stator is beginning to arrive at ANO. The equipment will be brought into the protected area, to the train bay, rigged, moved and assembled on the Unit 1 turbine deck. During these activities the train bay and turbine deck will be congested. Danger flag barriers and signs will be posted during these activities as appropriate for the work. This could include access to control room extension, access in front of control room extension, access to operations block house, access around U2 exciter, all train bay access, machine shop area, RP support shop and U1/U2 switchgear area on elevation 372
- During targeted Stator Replacement Project lifts, a large area will be flagged, restricting personnel access other than approved personnel "essential" to the lift evolution.
- During lifts, please do not ask for access to the areas as a matter of taking a shortcut or avoiding a longer path. This is
 essential for controlling the area and maintaining accountability for who is in the affected area.
- The flagging will be established in accordance with a specific flagging plan.
 - Targeted lifts include:
 - Installing and removing from columns Runway Girder and Trolley Assembly
 - Main Generator Stator from train bay generator pedestal
 - Evacuated areas
 - Control room extension and above control room extension
 - U2 Turbine Deck, 386 elevation (Exception: U1/U2 Control room access is via north U2 Control room door)
 - Operations block house, both levels and area west to control room extension
 - Unit 1 and Unit 2 4160 / 6900 V switchgear area on 372 elevation
 - Train bay and entrances to train bay, 354 elevation
 - U1 and U2 bowling alley access near trainbay
 - RP support shop, 354 elevation north of train bay
 - Machine shop, 354
 - North end of U1 basement and South end of U2 basement, 335 elevation

Foot Traffic

- Foot traffic will be restricted from using the stairwell just east of CA1. Personnel exiting CA1 will travel south and use one of two stairwells available south of CA-1 on the west side of the turbine building
- Personnel exiting CA2 will travel north to use either the turbine building stairs near the chemistry lab, other available stairwells in Unit 2, or the maintenance facility stairs
- No traffic will be allowed in front of the control room extension during lifts
- Access to the U2 TB personnel elevator will blocked and not accessible except for project essential personnel's use in
 preparation for the lifts. During the lifts, the elevator will not be used.
- Traffic will be restricted from the turbine deck to the basement level along the travel path during the above mentioned lifts
- These areas will be clearly marked. The flagging will be removed as soon as practical after lifts are complete and in a safe condition

Congested Areas after Assembly

- The area east of the control room extension will be congested once the equipment is staged. Control room extension doors
 open into the pathway. The area will be flagged directing employees out of the area of hazard but keep in mind, walkway is
 still going to be much smaller
- Plan to use an alternate route if practical
- Use good practices and be considerate of pedestrian traffic passing by and any material or cart movement through this area

Ask yourself, "what can you do to stay safe?"

- Use alternate routes
- Follow the postings
- Do not loiter near the lift areas
- Be aware that conditions, paths will be changing
- Be patient; don't challenge/distract the workers in the lift areas unnecessarily by asking for permission to cut through areas.

Date:	Shift: Job Description	
Superviso	rPIC	aanse see aanse see aanse see see aanse see see see see see see see see see
	P rerequisites	Owner/Status
1. Ide pri bo	entify no access areas, danger flagging, including oviding a map of for flagging/barrier placement and undary vatch stations EC 44824	Henry Construction of the second seco
2. Er	sure pre-made danger signs are complete	
3. Pu foi	rchase lights for danger boundaries & Purchase vests boundary watches	
4. Re Pr po pe	eview the plan with the Security Shift Supervisor, Fire otection and Operations to determine any boundaries tentially impacting posted or roving protective forces rsonnel	RCC InProgress
	Prior to Lift	Initials/Date
5. Ap ba	prove Authorized Boundary Entrants (Issue access dges during IPTE brief)	Siemens/Sarens
6. Po Sa	st danger flag barriers and signs (Siemens/Sarens fety and CBI Laborers)	Siemens/Sarens
7. Pe	rform radio/communication with boundary vatches	Siemens/Sarens
8. Pl	C walk down of barriers	Sarens PIC
9. Pe	rform final sweep of flagged areas to ensure no approved personnel are within the boundaries.	Siemens/Sarens



386' Elevation Danger Flagged Area For Stator lift and runway Clear personnel and NO entry in Control room extension or Operations block house



No Access in U1 or U2 4160 / 6900 Switchgear Area

372' Elevation Danger Flagged Area For Stator lift and runway



Danger Flagged Area For Stator lift and runway No access between Unit 1 and Unit 2 No access to elevator No access in Train Bay or Train Bay entry area



.

335' Elevation Danger Flagged Area For Stator lift and runway

Attachment Header

Document Name:

untitled

Document Location

Subresponse Description

Attach Title:

WO 254160 Task 41

E	EN-WM-105	Arkansas Nuclear One Un	it 1
Wo	ork Order-Task # / Package Type	00254160-41	Level-1 Package
Wo	ork Item / Equipment	K-1GENERA	
	Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013
		Kyle Jones(5661) on 07/01/2013	
		PLANNER / DATE	
	THIS TASK IS REI	LATED TO THE INVES	STIGATION AND
	RECOVERY F	ROM THE UNIT-1 STA	ATOR DROP.
		Table of Contents	
	SECTION		PAGE NO.
1.	PURPOSE AND SCOPE		2
2.	PRECAUTIONS AND LIMITATI	ONS	
3.	PREREQUISITES		5
4	WORK PLAN DETAILS		7

EN-WM-105 Arkansas Nuclear One Unit 1				
Work Order-Task # / Package Type	00254160-41	Level-1 Package		
Work Item / Equipment	K-1GENERA			
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013		

1. PURPOSE AND SCOPE

- 1.1. This task is for installation of the Stator Lift System Runway and Trolley assembly in the Turbine Bldg IAW Sarens (RI) Procedure P-3389-20B and ECN-44824.
 - 1.1.1. Removal and disassembly of the Runway and Trolley assembly and Lift System will be performed on Task 42 of this work order.
- COMPONENT HISTORY / LOCATION:
 - HISTORY:
 N/A
 - LOCATION: The area of maintenance for this work is within the Unit One Turbine building, elevation 386.

2. PRECAUTIONS AND LIMITATIONS

- 2.1. NOTES:
 - The Lead Equipment (1 TURBINE--BLDG) is listed within the Equipment Data Base (EDB) as having:

Safety Classification is :NSR Seismic Classification is : Unknown, Contact Engineering Cleanliness Classification is : Housekeeping level is : 4 Critical Equipment Indicator is : Exempt

 Guidelines for Material Handling (Rigging) are provided in Corporate Procedure EN-MA-119.

EN-WM-105 Arkansas Nuclear One Unit 1				
Work Order-Task # / Package Type	00254160-41	Level-1 Package		
Work Item / Equipment	K-1GENERA			
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013		

2.2. PRECAUTIONS:

2.2.1. SAFETY Concerns / Warnings:

- 2.2.1.1. Ensure compliance with the applicable "Entergy Industrial Safety Procedures, as personnel injury can result from unsafe work practices such as climbing on pipes, cable trays and equipment. Ensure that all required personal safety equipment is being properly worn and used.
- 2.2.1.2. Perform your job in such a manner as to ensure your personal safety as well as the safety of your co-workers. If unsafe conditions arise, stop work and make the proper notifications. Comply with the requirements set forth in all applicable plant procedures.
- 2.2.1.3. All work shall be performed in accordance with the appropriate Entergy industrial safety programs. The installation will require consideration for safety hazards such as high heat stress, limited space in work areas, working from scaffolding, and potential for dropped tools. Identification of specific hazards and means to mitigate shall be addressed in daily pre-job briefings with craftsmen stressing applicable OE. Entergy shall ensure that the Safety Plan, Fire Watch/Combustible Control Plans, and Confined Space Entry requirements are implemented on the

Plans, and Confined Space Entry requirements are implemented on the project and that appropriate coaching and field oversight are applied on a daily basis.

Job Safety Hazard Analysis (JSHA) shall be performed prior to any deviations to existing safety requirements.

2.2.2. Caution should be taken to avoid violating Transient Combustible Limits during the performance of this Task.

When non-exempt combustibles are constantly attended in Level 2 and Level 3 areas (including through breaks and shift changes), a Transient Combustible Evaluation and/or further Fire Protection evaluation is not required. [EN-DC-161]

EN-WM-105 Arkansas Nuclear One Unit 1				
Work Order-Task # / Package Type	00254160-41	Level-1 Package		
Work Item / Equipment	K-1-GENERA			
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013		

2.3. LIMITATIONS:

- 2.3.1. In Accordance with EN-OP-116, Infrequently Performed Tests or Evolutions (IPTE) screening, IPTE controls ARE required.
 - 2.3.1.1. Senior Line Manager MUST review and approve any Scope Changes or Additions that change the intent of this Work Package
 - 2.3.1.2. A crew brief shall be prepared and presented using EN-OP-116, IPTE Attachments 9.4 and 9.5, IPTE Brief Preparation Checklist and IPTE Brief Presentation Checklist.
 - 2.3.1.3. **IF** IPTE continues beyond one shift, **THEN** the oncoming shift shall be briefed.
- 2.3.2. Only the maintenance specified to be performed by this Task is allowed. <u>IF</u> any additional maintenance is required, <u>THEN</u> a Scope Change Form <u>AND</u> Work Request should be submitted and approved before the added maintenance can proceed.
- 2.3.3. A vehicle can not be left unattended in the Train Bay and untreated wood cannot be located in Train Bay or Turbine Building over one shift without fire protection approving an evaluation per EN-DC-161.

Note: Roving Fire Watch established for 1R24 does not include leaving untreated wood in Train Bay or Turbine Building.

2.3.4. <u>IF</u> supplemental personnel (Contractor or Shared Resource Personnel) are used in the completion of this task, <u>THEN</u> the requirements and controls of Nuclear Management Manual EN-MA-126 (Control of Supplement Personnel) must be observed.

Consideration needs to be given to re-planning the work if necessary.

EN-WM-105	Arkansas Nuclear One Unit 1	
Work Order-Task # / Package Type	00254160-41	Level-1 Package
Work Item / Equipment	K-1GENERA	
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013

3. PREREQUISITES

3.1. PREREQUISITES:

3.1.1. AN IPTE review has been completed by the Responsible Department Manager (Senior Line Manager). Reference the criteria of EN-OP-116, Attachment 9.2.

			1
		Signature	Date
3.1.2.	READ and understand task Instructions BEFORE the maintenance.	e performance of a	ny
			1
		Signature	Date
3.1.3.	NOTIFY Unit 1 Operations as designated by the Con	trol Room Commu	nication field
			1
		Signature	Date
3.1.4.	VERIFY Operations has notified load dispatcher.		
			1
		Signature	Date
3.1.1.	VERIFY Operations' compensatory measures require place.	ed by the Ops Impa	act are in
			1
		Signature	Date
3.1.2.	VERIFY the Crane Vendor Technician are available a	and On-site.	
			1
		Signature	Date
3.1.3.	SITE GMPO permission required prior to installing gi	rders onto the Lift	System.
			1
		Signature	Date

EN-WM-105	Arkansas Nuclear One Uni	: 1
Work Order-Task # / Package Type	00254160-41	Level-1 Package
Work Item / Equipment	K-1GENERA	
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013

Note: The Implementation of Engineering Change Document ECN#44824 / Base#22100 will constitute a Configuration Change.

3.1.4. NOTIFY the Responsible Engineer David Underwood # 5717, i.e., Phone, E-Mail, etc., during the walk-down process, or as far in advance of the performance, that this Engineering Change Document [ECN#44824/Base#22100] is to be implemented.

Notified by Signature

Date

3.1.5. ENSURE CEM (Critical Evolution Meeting) CHAIRMAN has SIGNED prior to performing this work activity.

CEM Chairman Date Signature

EN-WM-105 Arkansas Nuclear One Unit 1					
Work Order-Task # / Package Type	00254160-41	Level-1 Package			
Work Item / Equipment	K-1GENERA				
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013			

Note:	Any "Field Revisions" are to be made in accordance with EN-WM-102,
	Attachment 9.3 (Field Revision to Work Order Task(s)) and EN-HU-106
	(Procedure and Work Instruction Use and Adherence).

4. WORK PLAN DETAILS

4.1. Foreign Material Exclusion (FME).

4.1.1. The initial FME determination is that this activity DOES NOT REQUIRE any EN-MA-118 FME Zone controls for the maintenance area. However proper Housekeeping and Cleanliness controls still apply.

Note: The Stator will be lifted and installed under Task 39 of this work order in accordance with Sarens Procedure P-3389-40.

4.2. INSTALLATION OF SARENS/RI RUNWAY ASSEMBLY ON THE STATOR LIFT SYSTEM:

Note:	Lifting Runway and Trolley assembly requires IPTE brief.
Note:	Setting Runway girders on Turbine Deck requires GMPO Approval.

4.2.1. INSTALL SARENS/RI RUNWAY and Trolley ASSEMBLY ON THE STATOR LIFT SYSTEM columns, IAW Sarens Procedure P-3389-20B, ECN-44824, Base EC-22100 and the directions of the Implementing Field Supervisor (IFS).

Signature / Date

Note: Reference EN-MA-126 (CONTROL OF SUPPLEMENTAL PERSONNEL), for necessary steps to ensure that critical elements of maintenance are verified to have been performed and no non-conformances exist.

4.3. Station personnel:

Perform review of completed work and ensure no deviations or non conforming conditions exist.

Responsible Entergy Oversight

4.4. ENSURE that any Temporary Services and Equipment used during the performance of this task were removed, along with their applicable tag(s)

EN-WM-105	t 1	
Work Order-Task # / Package Type	00254160-41	Level-1 Package
Work Item / Equipment	K-1GENERA	
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013

5. RESTORATION

5.1. Post Maintenance Testing (PMT)

- 5.1.1. ALL required Post Maintenance testing will be performed and documented on task 02 of this work order.
- 5.1.2. PRIOR to this Task being Closed: Notify the Responsible Engineer David Underwood or Atwood Browning @ extension # 5717, i.e. phone, E-mail, etc, that this Engineering Document [ECN#44824, BASE EC#22100] has been implemented.



5.1.3. THE Responsible Engineer, or his designee has reviewed this Task, relative to the Engineering Change, to ensure that the Engineering Change requirements have been followed and concurs that this Task can be completed.

	1	
Responsible Engineer, or his designee		Date

Attachment Header

Document Name:

untitled

Document Location

Subresponse Description

Attach Title:

WO 254160 Task 37
EN-WM-105	Arkansas Nuclear One Unit 1	
Work Order-Task # / Package Type	00254160-37	Level-1 Package
Work Item / Equipment	K-1GENERA	
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013

Andy Gay(5578) Kyle Jones(5661) on 06-22-2013

PLANNER / DATE

THIS TASK IS RELATED TO THE INVESTIGATION AND RECOVERY FROM THE UNIT-1 STATOR DROP.

Table of Contents

SECTION

PAGE NO.

1.	PURPOSE AND SCOPE	.2
2.	PRECAUTIONS AND LIMITATIONS	.2
3.	PREREQUISITES	.4
4.	WORK PLAN DETAILS	.5
5.	RESTORATION	.6

EN-WM-105	Arkansas Nuclear One Unit	1
Work Order-Task # / Package Type	00254160-37	Level-1 Package
Work Item / Equipment	K-1GENERA	
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013

1. PURPOSE AND SCOPE

- 1.1. This task is for Erection of the Stator Lift System in the Turbine Bldg (up to the point of installation of the Runway and Trolley assembly) in accordance with Sarens (RI) Procedure P-3389-20A and ECN-45037.
 - 1.1.1. Installation of the Runway and Trolley assembly will be performed on Task 41 of this work order.
- COMPONENT HISTORY / LOCATION:
 - HISTORY: N/A
 - LOCATION: The area of maintenance for this work is within the Unit One Turbine building, elevation 386.

2. PRECAUTIONS AND LIMITATIONS

- 2.1. NOTES:
 - The Lead Equipment (1 TURBINE--BLDG) is listed within the Equipment Data Base (EDB) as having:

Safety Classification is :NSR Seismic Classification is : Unknown, Contact Engineering Cleanliness Classification is : Housekeeping level is : 4 Critical Equipment Indicator is : Exempt

• Guidelines for Material Handling (Rigging) are provided in Corporate Procedure EN-MA-119.

EN-WM-105	Arkansas Nuclear One Unit	1
Work Order-Task # / Package Type	00254160-37	Level-1 Package
Work Item / Equipment	K-1GENERA	
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013

2.2. PRECAUTIONS:

2.2.1. SAFETY Concerns / Warnings:

- 2.2.1.1. Ensure compliance with the applicable "Entergy Industrial Safety Procedures, as personnel injury can result from unsafe work practices such as climbing on pipes, cable trays and equipment. Ensure that all required personal safety equipment is being properly worn and used.
- 2.2.1.2. Perform your job in such a manner as to ensure your personal safety as well as the safety of your co-workers. If unsafe conditions arise, stop work and make the proper notifications. Comply with the requirements set forth in all applicable plant procedures
- 2.2.1.3. All work shall be performed in accordance with the appropriate Entergy industrial safety programs. The installation will require consideration for safety hazards such as high heat stress, limited space in work areas, working from scaffolding, and potential for dropped tools. Identification of specific hazards and means to mitigate shall be addressed in daily pre-job briefings with craftsmen stressing applicable OE.

Entergy shall ensure that the Safety Plan, Fire Watch/Combustible Control Plans, and Confined Space Entry requirements are implemented on the project and that appropriate coaching and field oversight are applied on a daily basis.

Job Safety Hazard Analysis (JSHA) shall be performed prior to any deviations to existing safety requirements.

2.2.2. Caution should be taken to avoid violating Transient Combustible Limits during the performance of this Task.

When non-exempt combustibles are constantly attended in Level 2 and Level 3 areas (including through breaks and shift changes), a Transient Combustible Evaluation and/or further Fire Protection evaluation is not required. [EN-DC-161]

2.3. LIMITATIONS:

- 2.3.1. Only the maintenance specified to be performed by this Task is allowed. <u>IF</u> any additional maintenance is required, <u>THEN</u> a Scope Change Form <u>AND</u> Work Request should be submitted and approved before the added maintenance can proceed.
- 2.3.2. A vehicle can not be left unattended in the Train Bay and untreated wood cannot be located in Train Bay or Turbine Building over one shift without fire protection approving an evaluation per EN-DC-161.

Note:	R in	oving Fire Watch established for 1R24 does not include leaving untreated wood Train Bay or Turbine Building.
	2.3.3.	IF supplemental personnel (Contractor or Shared Resource Personnel) are used in the completion of this task, THEN the requirements and controls of Nuclear Management Manual EN-MA-126 (Control of Supplement Personnel) must be observed. Consideration needs to be given to re-planning the work if necessary.

EN-WM-105	Arkanşas Nuclear One Uni	<u>t 1</u>
Work Order-Task # / Package Type	00254160-37	Level-1 Package
Work item / Equipment	K-1GENERA	
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013

3. PREREQUISITES

3.1. READ and understand task Instructions **<u>BEFORE</u>** the performance of any maintenance.

			/
_		Signature	Date
3.2.	NOTIFY Unit 1 Operations as designated by the Control R	toom Communication	i field.
			1
		Signature	Date
Note:	The Implementation of Engineering Change Documer Base#22100 will constitute a Configuration Change.	nt ECN#45037 /	
3.3.	NOTIFY the Responsible Engineer David Underwood # 57 the walk-down process, or as far in advance of the perform Change Document [ECN#45037/Base#22100] is to be imp	717, i.e., Phone, E-M nance, that this Engir plemented.	ail, etc., during neering
			/
	Not	ified by Signature	Date
Note:	A Critical Evolution Meeting (CEM) will be required fo	r this work.]
	3.3.1. CEM CHAIRMAN to SIGN after CEM is complete	and prior to startin	ig this work.
			1
		CEM Chairman Signature	Date

Signature Date

EN-WM-105	Arkansas Nuclear One Unit	1
Work Order-Task # / Package Type	00254160-37	Level-1 Package
Work Item / Equipment	K-1GENERA	
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013

Note: Any "Field Revisions" are to be made in accordance with EN-WM-102, Attachment 9.3 (Field Revision to Work Order Task(s)) and EN-HU-106 (Procedure and Work Instruction Use and Adherence).

4. WORK PLAN DETAILS

4.1. Foreign Material Exclusion (FME).

4.1.1. The initial FME determination is that this activity DOES NOT REQUIRE any EN-MA-118 FME Zone controls for the maintenance area. However proper Housekeeping and Cleanliness controls still apply.

Note:	The Runway and Trolley system will be lifted and installed under task 41 of this work order in accordance with Sarens Procedure P-3389- <u>20B</u> .
Note:	The Stator will be lifted and installed under Task 39 of this work order in accordance with Sarens Procedure P-3389-40.

4.2. ERECT and ASSEMBLE Sarens/RI Stator Lift System:

Note:	Setting Runway	airders on	Turbine Deck reau	ires GMPO Approval.	
		3		PP	

4.2.1. ERECT / ASSEMBLE the Sarens/RI Stator Lift System, in accordance with the steps of Sarens Procedure P-3389-20A, ECN-45037, Base EC-22100 and the directions of the Implementing Field Supervisor (IFS).

Signature

Date

Note: Reference EN-MA-126 (CONTROL OF SUPPLEMENTAL PERSONNEL), for necessary steps to ensure that critical elements of maintenance are verified to have been performed and no non-conformances exist.

4.3. Station personnel:

Perform review of completed work and ensure no deviations or non conforming conditions exist.

Responsible Entergy Oversight

4.4. ENSURE that any Temporary Services and Equipment used during the performance of this task were removed, along with their applicable tag(s)

EN-WM-105	Arkansas Nuclear One Unit 1	
Work Order-Task # / Package Type	00254160-37	Level-1 Package
Work Item / Equipment	K-1GENERA	
Discipline	PROJECT MANAGEMENT	Revised on 06-22-2013

5. RESTORATION

5.1. Post Maintenance Testing (PMT)

- 5.1.1. ALL required Post Maintenance testing will be performed and documented on task 02 of this work order.
- 5.1.2. PRIOR to this Task being Closed: Notify the Responsible Engineer David Underwood or Atwood Browning @ extension # 5717 (Dayshift contact) John McFarland (Nightshift Contact), i.e. phone, E-mail, etc., that this Engineering Document [ECN#45037, BASE EC#22100] has been implemented.

Notified by Signature Date

5.1.3. THE Responsible Engineer or his designee has reviewed this Task, relative to the Engineering Change, to ensure that the Engineering Change requirements have been followed and concurs that this Task can be completed.

Responsible Engineer, or his designee D

Date

Attachment Header

Document Name:

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Document Location

Subresponse Description

Attach Title:

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D. Hughes Email Dated 7/4/13

PHILPOTT, FRANKLIN T

From:	HUGHES, DANNY C
Sent:	Thursday, July 04, 2013 1:40 AM
То:	PHILPOTT, FRANKLIN T; Bentley, Donald E; GOODSON, GARY M
Subject:	CR-ANO-C-2013-888-CA-14 Subresponse

All items below except those in red were verified and entered in the subject CA subresponse by Danny Hughes. This email may be attached to the subresponse to document Hughes' input.

The following actions were implemented to address engineering documentation and oversight for the design, testing and installation of the temporary lift assembly to be used for the upcoming rigging for the ANO-1 refurbished stator: EC-45035 (Stator Lift At Rewind Facility) has been approved.

EC-45037 (Sarens Lift Rig Assembly) has been approved.

!!VERIFY!! EC-44824 (Stator Lift) has been approved.

EC-44824 defines applicable codes and standards for special designed lifting device and validates these are appropriately applied in associated Sarens/RI documents.

EC-44824 documents the owner acceptance review of vendor design calculations and drawings.

Per Report A13262-R-001 documented in the Chief Engineer's Report in EC-44824, Lucius Pitkin, Inc performed an independent third party review of the vendor lift assembly calculations, finding the assembly adequate. Per their review methodology statement, a completely independent model was not developed but critical inputs and results were verified and simplified approach was used to the extent necessary to validate the RI model.

Pre-use load testing requirements were specified in Sarens load test certification LT-3389-510-01. Load test methodology was reviewed in the previously mentioned Lucius Pitkin Inc report.

Assembled load test with partial functional testing was successfully performed on June 20, 2013 per the previously mentioned report.

Entergy engineering witnessed load test on June 20, 2013.

Post load test inspections / NDE were performed on June 21, 2013 per LT-3389-510-01, with satisfactory results. !!VERIFY!! Installation verification was performed by XXXXX on XXXXXX

!!VERIFY!! Management challenge meetings focused on risk mitigating aspects of the critical lift were held: XXXX on June 28, 2013, EQRT on 07/02/13, and OSRC on 07/03/13.

!!VERIFY!! Vendor responsible for lift implemented an exclusion zone and minimized to the extent possible individuals within the zone needed to support the lift.

Danny C. Hughes, PE Engineering Supervisor Recovery Project Client Design DP Engineering, Ltd. Cell: 479-970-4681 dannyhughes@dpengineering.com

> PRIVILEGED AND CONFIDENTIAL Attorney/Client Privileged Communication Attorney Work Product Prepared at the Direction of Legal Counsel

. 2

Entergy

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00014

Version:	1	Approved: 🗹
Requested Duedate:	07/02/2013	Previous Duedate: 06/30/2013
Requested By:	Ridgel, Jerry A	06/29/2013
Approved By:	James, Dale E	06/29/2013

Request Description:

It is necessary to extend this action due to additional information required to answer all elements of the action. It is acceptable as the action will be completed prior to lifting the new stator.

Approved Description:

Entergy

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

_

Corrective Action : CR-ANO-C-2013-00888 CA-00014

Version:	2	Approved: 🗹
Requested Duedate:	07/05/2013	Previous Duedate: 07/02/2013
Requested By:	Ridgel, Jerry A	07/01/2013
Approved By:	James,Dale E	07/01/2013

Request Description:

It is necessary to extend this action due to delays in preparations for lifting the new stator. It is acceptable as the action will be completed prior to lifting the new stator.

Approved Description:

DDE Approved

Enterg	sy	C	CORRECTIVE	ACTION	CR-ANO-C-2013-00888
CA Number:	15		,		
		Grou	ıp	<u> </u>	ame
Assigned By:	VP-GMPO M	gmt ANO		Chisum, Michael R	
Assigned To:	VP-GMPO M	gmt ANO		Pace,Robert D	
Subassigned To :		·····	<u> </u>		<u> </u>
Originated By:	Pace,Robert D)		7/3/2013 10:16:50	
Performed By:	Pace,Robert D)		7/3/2013 10:22:52	
Subperformed By:					
Approved By:					
Closed By:	Chisum,Micha	ael R		7/3/2013 16:13:57	
Current Due Date:	07/05/2013		Initial Due Date:	07/05/2013	
СА Туре:	GENERAL A	CTION	CA Priority:	4	
Plant Constraint:	NONE				
CA Description: Develop a plan Verify the plan	for recovery of is approved by	f the Unit 1 ele v key stake hol	ectrical system to the design ders.	n configuration.	
Action: Develop a plan f Verify the plan i Response: The plan for Ele The plan is attac Subresponse : Closure Commen Acceptable to cl Attachments: Response	For recovery of s approved by I ctrical System hed to this CA. ts: lose. M. Chisur e Description	the Unit 1 elec key stake hold Recovery has	ctrical system to the design lers. been created and approved	configuration. by key stake holders.	

Attachment Header

Document Name:

untitled

Document Location

Response Description

Attach Title:

Electrical Recovery Plan

ARKANSAS NUCLEAR ONE

ANO Unit 1 Electrical System Recovery:

Returning 4160 volt busses to original design configuration

1500 Revision 7/2/2013

Engineering

Operations

Project Management

Maintenance

Licensing

Planning, Scheduling and Outage

Jaim Mely,
Lan Sulling
Kind on
Signature and Julia
Signature
Charles HU Signature Signature

Executive Summary:

This document outlines a plan to restore the power scheme for the 4160 V vital buses at ANO Unit 1 from the current temporary configuration to original design. The plan examines compliance with 1015.048 (Shutdown Operations Protection Plan), 1015.002 (Decay Heat System and LTOP Control), EN-OP-119 (Protected Equipment Postings) and ANO-1 Technical Specifications for each configuration change during restoration.

Defense-in-depth is scrutinized at each phase. Vital 4160 volt switchgear A3 and A4 remain available for required Decay Heat Removal (DHR) Systems at all times. As allowed by Technical Specifications and the SOPP, there will be periods when only one offsite power source is available powering both trains of vital switchgear. During these periods, appropriate measures will be in place to ensure reliability and protection of the single offsite power source. Activities are organized such that the time with reduced offsite power capability is minimized. In addition, both Emergency Diesel Generators (EDG's) remain operable except for two brief periods where the associated output breaker temporary modifications are removed. This work will occur prior to draining the FTC. The Alternate AC Diesel Generator (AACDG) is restored as a functional power source early in the sequence. When the FTC is drained the EDG supporting the protected train will be aligned with auto-start, auto-connect capability.

During the restoration sequence, the non-protected vital 4160V bus will be de-energized to transfer between power sources; however, capability is maintained to immediately reenergize the bus from an operable power source using simple, procedurally controlled actions at electrical control panel C10 in the Unit 1 Control Room. When a vital bus is de-energized to transfer between power sources, the associated Decay Heat Removal train will be declared inoperable (if the train is required to be operable for current plant conditions) and then immediately restored to an operable condition as the bus power is transferred.

Draining the Fuel Transfer Canal (FTC) below elevation 390 ft (23 feet above the fuel) requires both Decay Heat Removal trains operable. All potential interfaces between the non-vital switchgear being restored and the required off-site power sources have been reviewed to verify adequate barriers exist to ensure the reliability of the off-site power sources being used or required for anticipated plant conditions. This concept is also applied to the interfaces associated with non-vital and vital switchgear to prevent inadvertent loss of Decay Heat Removal from testing or configuration changes. These comprehensive reviews have considered both restoration and testing activities. Protected train concepts are supported by this plan as clear boundaries exist between protected equipment and equipment being restored and tested.

Restoration plans for the shared Off-Site power transformer, Startup #2 (SU2), include cross unit impact reviews and applicable risk identification and challenge processes for On-Line operation.

This plan provides defense in depth such that at no point can a single failure prevent Decay Heat Removal or Spent Fuel Pool cooling.

Current Temporary Modifications

As shown in Figure 1, temporary modifications have been implemented to supply power from offsite power transformers SU1 and SU2 to the A3 and A4 vital switchgear independent of non-vital switchgear A1 and A2. Associated changes are as follows:

SU-1 Temporary supply to the A310/A410 cross-tie

This temporary modification provides qualified off-site power directly from the SU1 transformer to the cross tie between 4160 volt vital switchgear A3 and A4 via temporary cables. The temporary cables are spliced into the AACDG normal supply cables that tie into the A3/A4 cross-tie breaker (A310). This modification will be removed in phase one.

SU2 Temporary supply to the A309/A409 off-site power supply breakers

This temporary modification provides qualified off-site power from the SU2 transformer to each 4160 volt vital bus (A3 and A4) via temporary switchgear. The temporary switchgear feeds to each bus are spliced into the normal supply cables that tie the non-vital switchgear (A1 and A2) via separate supply breakers (A309 and A409). This modification will complete removal in phase four.

Emergency Diesel Generator Output Breakers (A308 and A408)

These breakers currently have a temporary modification in place to preserve an interlock to trip open the EDG output breaker should a SU-2 lock out occur with the EDG paralleled to the grid. This feature was desired in the current mode of operation to allow full load testing of the EDG's via the temporary switchgear. During normal EDG full load testing, this trip is provided as a design function to prevent EDG overload conditions. This modification also provides a degree of separation between vital and non-vital switchgear by removing the same trip function from the Startup #1 and Unit Auxiliary transformers in our current configuration.

Removal of this T-Mod requires the EDG to be inoperable. Although practical to remove this Tmod in higher SOPP conditions, the plan is to remove this Tmod before the Fuel Transfer Canal (FTC) is drained below 390'. This is acceptable as the Tmod is only required to support EDG surveillances using the Temporary Switchgear.

Normal Supply Breakers to A3 and A4 from A1 and A2 (A309 and A409)

There are two temporary modifications associated with each of these breakers. One allows closing the respective breaker with a corresponding supply bus (A1 or A2) lockout. A supply bus lockout condition normally opens or prevents closure of the associated safety bus supply breaker. The other modification bypasses a sync check circuit to allow closing A309 and/or A409 without being in sync with the associated supply bus. This allows the Temporary Switchgear to feed the applicable vital bus via dead bus transfer. Removal and required testing of these modifications will be performed during the applicable restoration phase for the normal power configuration outlined later in this document.

SOPP and Technical Specification Requirements

This document confirms the acceptability of proceeding with fuel transfer canal drain and RCS restoration as long as the electrical system configurations that prohibit operation in lowered inventory are performed prior to or after a lowered inventory condition.

The current configuration of off-site power supplies to the vital 4160 volt switchgear is very reliable and provides defense in depth beyond Technical Specification requirements for all plant configurations and beyond SOPP requirements for all plant configurations except Lowered Inventory. SOPP Lowered Inventory requirements for off-site power prevent removal of either source with Reactor Coolant System level at or below 376.5 ft (lowered Inventory).

<u>SOPP Requirements:</u> The following are the electrical requirements for each SOPP Condition:

- Condition 1 (No fuel in vessel): At least 1 EDG and at least 1 Offsite Power Source available
- Condition 2 (Fuel in vessel, no Refueling operations in progress, Canal>390'): At least 3 combined Onsite and Offsite Power Sources available, at least 1 EDG OPERABLE, at least 1 Offsite Power Source OPERABLE
- Condition 3 (Fuel in vessel, Refueling operations in progress, Canal >390'): At least 3 combined Onsite and Offsite Power Sources, at least 1 EDG OPERABLE, at least 1 Offsite Power Source OPERABLE
- Condition 4 (Fuel in vessel, RCS Intact, RCS level >376.5'): At least 3 combined Onsite and Offsite Power Sources available, at least 1 EDG OPERABLE and aligned for auto-start auto-load, at least 1 Offsite Power Source OPERABLE
- Condition 5 (Fuel in vessel, RCS open, FTC not flooded, RCS >376.5'): At least 3 combined Onsite and Offsite Power Sources available, at least 1 EDG OPERABLE and aligned for auto-start auto-load, at least 1 Offsite Power Source OPERABLE
- Condition 6 (Fuel in vessel, RCS open, RCS <376.5'): At least 2 EDG's available, at least 2 Offsite Power Sources available, at least 1 EDG OPERABLE and aligned for auto-start auto-load, at least 1 Offsite Power Source OPERABLE.

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Technical Specifications:

Applicable Technical Specifications include those for AC power sources and DHR as follows:

LCO 3.8.2 (AC Sources -Shutdown):

3.8.2 AC Sources - Shutdown

LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

- One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10, "Distribution Systems - Shutdown"; and
- One diesel generator (DG) capable of supplying one train of the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10.

APPLICABILITY: MODES 5 and 6, During movement of irradiated fuel assemblies.

ACTIONS

From the TS Bases, it is acceptable for trains to be cross tied during shutdown conditions, allowing a single offsite power circuit to supply the required equipment.

LCO 3.9.4 (Decay Heat Removal and Coolant Circulation- High Water Level):

- 3.9.4 Decay Heat Removal (DHR) and Coolant Circulation High Water Level
- LCO 3.9.4 One DHR loop shall be OPERABLE and in operation.

NOTE The required DHR loop may be removed from operation for ≤ 1 hour per 8 hour period, provided no operations are permitted that would cause introduction into the Reactor Coolant System, coolant with boron concentration less than that required to meet the minimum required boron concentration of LCO 3.9.1.

APPLICABILITY: MODE 6 with the water level \ge 23 ft above the top of the irradiated fuel seated in the reactor pressure vessel.

LCO 3.9.5 (Decay Heat Removal and Coolant Circulation- Low Water Level:

3.9.5 Decay Heat Removal (DHR) and Coolant Circulation - Low Water Level

- LCO 3.9.5 Two DHR loops shall be OPERABLE, and one DHR loop shall be in operation.
 - -----NOTE-----
 - 1. All DHR pumps may be de-energized for ≤ 15 minutes when switching from one train to another provided:
 - a. The core outlet temperature is maintained > 10 degrees F below saturation temperature;
 - b. No operations are permitted that would cause a reduction of the Reactor Coolant System boron concentration; and
 - c. No draining operations to further reduce RCS water volume are permitted.
 - One required DHR loop may be inoperable for up to 2 hours for surveillance testing, provided that the other DHR loop is OPERABLE and in operation.
 - APPLICABILITY: MODE 6 with the water level < 23 ft above the top of the irradiated fuel seated in the reactor pressure vessel.

LCO 3.4.8 (RCS Loops- MODE 5, Loops Not Filled

3.4.8 RCS Loops - MODE 5, Loops Not Filled

- LCO 3.4.8 Two decay heat removal (DHR) loops shall be OPERABLE and one OPERABLE DHR loop shall be in operation.
 - All DHR pumps may be removed from operation for ≤ 1 hour provided;
 - No operations are permitted that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1; and
 - b. No draining operations to further reduce the RCS water volume are permitted.
 - One DHR loop may be inoperable for ≤ 2 hours for surveillance testing provided that the other DHR loop is OPERABLE and in operation.

APPLICABILITY:

MODE 5 with RCS loops not filled.

Restoration Plan

The restoration plan sequences through restoration of power supplies such that defense in depth requirements are maintained. This is based on comparison of the various configurations to Technical Specification and SOPP requirements. Phases of the plan are described below and outlined in Table 1.

Preparation Phase—The preparation phase occurs before removal of the SU1 Tmod. This work de-energizes A3 to support cable pulls in a shared cable tray and pulls new cables to support future tie-ins. New cabling for the 2A9 feed to A3/A4 as well as new cabling from A1 to A3 is pulled but not terminated. As part of this activity the feed from the Temporary Switchgear (TSG) to A3 is also removed.

Separate from the time that A3 is de-energized, the preparation phase also includes removal of the temporary modification associated with A308 EDG output breaker described above. With two offsite power sources available, the #1 EDG output breaker will be removed from service to remove this temporary modification. To maintain required minimum power sources per the SOPP, the Tmod associated with A408 EDG output breaker will be removed following restoration of AACDG availability in Phase 1. During the preparation phase the FTC remains flooded with both DHR trains available. This sequence represents no risk level above minimal risk.

Phase One—removes the Startup one transformer supply to A3 and A4 4160 volt vital switchgear and restores the Alternate AC Diesel Generator supply at the same location. Defense in depth is reduced when SU1 temporary modification is removed but is restored when the AACDG becomes available. During this period the FTC remains flooded with both DHR trains available. This sequence represents no risk level above minimal risk. Lowered Inventory **is not** permitted during this phase.

Phase Two—restores the SU1 supply to A1 and A3. Defense in depth is enhanced when SU1 is made available to A3. During this period the FTC remains flooded with both DHR trains available. The last step in Phase 2 is to remove the temporary modification associated with A408 EDG output breaker after A3 is powered from A1 and the AACDG is available to both A3 and A4. This sequence represents no risk level above minimal risk. Lowered Inventory **is not** permitted during this phase. Lowered Inventory **is** permitted following this phase.

Phase Three—restores the SU1 supply to A2 and A4. This requires removal of the SU2 supply to A4. Defense in depth is reduced when SU2 is isolated from A4 and is restored when SU1 becomes available to A4. This sequence represents no risk level above minimal risk. Lowered Inventory **is not** permitted during this phase. Lowered Inventory **is not** permitted following this phase until completion of Phase four. SU2 remains unavailable as an off-site source until the completion of phase four.

Phase Four—restores the SU2 transformer to A1 and A2. Removal of SU2 from service does not change defense in depth for Unit 1 and places Unit 2 in a 72 hour time clock. SU2 return to service restores Unit 1 to the design configuration.

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The restoration and testing activities have been reviewed in detail to ensure each phase outlined above maintains defense in depth requirements.

	Major Activities	Power Sources Available to A3	Power Sources Available to A4	Protected Train
Current Configuration	N/A	 SU1 Transformer Via Temporary Breaker Through A310 SU2 Transformer Via Temporary Switchgear Through A309 #1 EDG 	 SU1 Transformer Via Temporary Breaker Through A410 SU2 Transformer Via Temporary Switchgear Through A409 #2 EDG 	Either Red or Green Train Protected
Preparation Phase (Cable Pulls to A3 Bus)	 Isolate SU#1 feed to A310/410 and TSG feed to A309 Remove and replace cable from A1 to A309 Pull new cable segment from 2A9 to A3 switchgear room Unisolate SU#1 feed to A310/A410 	 #1 EDG available SU#1 feed to A3/A4 could be restored in an emergency as this circuit is not disturbed 	 SU2 Transformer Via Temporary Switchgear Through A409 #2 EDG aligned with auto-start auto- load capability 	 SU2 Transformer Temporary Switchgear Green Train Components
Preparation Phase (A308 Tmod Removal)	Remove #1EDG output breaker A308 from service and remove control logic Tmod	 SU#1 via A310 SU#2 via A310/A410 #2 EDG via A310/A410 	 SU2 Transformer Via Temporary Switchgear Through A409 #2 EDG aligned with auto-start auto- load capability SU1 Transformer Via Temporary Breaker Through A410 	 SU2 Transformer Temporary Switchgear Green Train Components
Phase One	 Isolate SU1 Transformer Remove SU1 T-Mod Restore SU1 Links to A1 and A2 (No re-powering in this phase) Restore 2A9 Supply to A310 and A1 and perform applicable PMT 	• #1 EDG available	 SU2 Transformer Via Temporary Switchgear Through A409 #2 EDG aligned with auto-start auto- load capability 	 SU2 Transformer Temporary Switchgear Green Train Components

	Major Activities	Power Sources Available to A3	Power Sources Available to A4	Protected Train
Phase Two	 Power A3 from A4 Remove T-Mods associated with A309 and perform applicable PMT Energize A1 from SU1 Normal Supply 	 SU2 Transformer Via Temporary Switchgear Via A4 Through A409 and A410/310. #1 EDG AACDG 	 SU2 Transformer Via Temporary Switchgear Through A409 #2 EDG aligned with auto-start auto- load capability AACDG 	 SU2 Transformer Temporary Switchgear Green Train Components
	 AT Live Bus resting Power A3 from A1 (adds second off-site source) 	• SUI Transformer Via AI.	• SU1 Transformer Via A1 to A3 Via A410/310.	
Phase Two Final Step (A408 Tmod Removal)	 Remove #2EDG output breaker A408 from service and remove control logic Tmod 	 SUI Transformer Via normal A1 supply #1 EDG AACDG via A310 	 SU#1 via A310/A410 #1 EDG via A310/A410 AACDG via A410 	 SU1 Transformer A1 Switchgear Red Train Components
Phase Three	 Power A4 from A3 Disconnect Temp Switchgear to A4 Cables Reconnect A2 to A4 Cables Remove T-Mods associated with A409 and perform applicable PMT Energize A2 from SU1 Normal Supply A2 Live Bus Testing Power A4 from A2 	 SU1 Transformer Via A1. #1 EDG aligned for auto-start auto-load capability AACDG 	 SU1 Transformer Via A1 to A3 Via A410/310. #2 EDG AACDG 	 SU1 Transformer A1 Feeder Breaker from SU1 Red Train Components

	Major Activities	Power Sources Available to A3	Power Sources Available to A4	Protected Train
Phase Four	 Transition Temporary Non- Vital Loads to A1 and A2 from Temporary Switchgear Isolate SU2 Transformer Remove T-Mod Associated with SU2 Temporary Switchgear Reinstall SU2 Buswork to A1/A2 Energize SU2 Live Bus Testing With SU2 	 SUI Transformer Via A1 or A2 Via A310/410. #1 EDG AACDG 	 SU1 Transformer Via A2 or A1 Via A310/410. #2 EDG AACDG 	 SU1 Transformer Either A1 or A2 Feeder Breaker from SU1 Either Red or Green Train Components

Note: Phase I and the first portion of Phase 2 may be worked concurrently.

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CORRECTIVE ACTION

CR-ANO-C-2013-00888

CA Number: 16 Name Assigned By: NSA Director ANO James,Dale E Subassigned To: NSA Director ANO James,Dale E Subassigned To: Subassigned To: Subassigned To: Originated By: James,Dale E 7/5/2013 17:18:01 Performed By: James,Dale E 7/5/2013 17:40:00 Subperformed By: Approved By: Closed By: Closed By: James,Dale E 7/5/2013 17:40:00 Current Due Date: 07/10/2013 Initial Due Date: 07/10/2013 CA Type: CAT A-CORRECT CA Priority: 1 Plant Constraint: NONE CA Description: Document lesson learned that the root cause team provided to Projects for their consideration in preparing for the lift of the refurbished stator. Response: The lessons learned (interim corrective actions) were sent to the Projects organization for their input on the design review testing of the new temporary lift assembly for the lift of the refurbished stator on May 23, 2013 (see attached). Subresponse : Closure Comments: Attachments: Response Description Response Description Email Response Description Email	
Group Name Assigned By: NSA Director ANO James,Dale E Subassigned To: Subassigned To: James,Dale E Originated By: James,Dale E 7/5/2013 17:18:01 Performed By: James,Dale E 7/5/2013 17:40:00 Subperformed By: Approved By: Approved By: Closed By: James,Dale E 7/5/2013 17:40:00 Carrent Due Date: 07/10/2013 Initial Due Date: 07/10/2013 CA Type: CAT A-CORRECT CA Priority: 1 Plant Constraint: NONE CA Description: Document lesson learned that the root cause team provided to Projects for their consideration in preparing for the lift of the refurbished stator on May 23, 2013 (see attached). Subresponse: The lessons learned (interim corrective actions) were sent to the Projects organization for their input on the design review testing of the new temporary lift assembly for the lift of the refurbished stator on May 23, 2013 (see attached). Subresponse Description Attachments: Response Description Attachment to email Response Description Email	
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Interim Action of ANO-1 Stator lift

Actions to address the engineering documentation and oversight for the design and implementation for the upcoming rigging plan for the ANO-1 refurbished stator to include:

- Develop Engineering Change package for the lift itself (Similar to WF3 EC 8432, & Palisades EC 7189)
 - Specify applicable code for special designed lifting device and demonstrate their application
 - Perform owner acceptance review of vendor design calculation
- Perform independent third party modeling of vendor lift assembly
- Specify load testing requirements
 - (Load and Functional performance testing)
 - Entergy engineering witness of load test
 - Post load test inspection
- Installation verification
- Conduct management challenge meeting focused on risk mitigating aspects of the critical lift
- Engineering to develop personnel exclusion zone (danger flagged area) considering the stator drop at any point during the lift and resultant building damage as well as the lift assembly failure
- Vendor responsible for lift to implement exclusion zone and minimize to the extent possible individuals within the zone needed to support the lift

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Response Description

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Email

JAMES, DALEE

From:	JAMES, DALE E
Sent:	Thursday, May 23, 2013 9:37 AM
То:	HUFF, DANIEL M; JAMES, WILLIAM (WJAMES1@entergy.com); GOODSON, GARY M
Cc:	Nadeau, James (jnadea1@entergy.com)
Subject:	Interim corrective actions from Root Cause
Attachments:	Interim corrective actions.docx

Attached is the interim corrective action currently drafted in the Root Cause report to the ANO-1 stator lift.

If you have questions please let me know.

Dale

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CORRECTIVE ACTION

CR-ANO-C-2013-00888

Emerg	SY		IRRECTIVE.	ACTION	CR-ANU-C-2013-0000
CA Number:	17				
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Assigned By:	P&S Outage N	Mgmt U1 ANO		Walters, Joe Randall	
Assigned To:	P&S Outage N	Mgmt UI ANO		Walters, Joe Randall	
Subassigned To :		·····	· · · · · · · · · · · · · · · · · · ·		·····
Originated By:	Walters, Joe R	andall		7/13/2013 16:39:21	
Performed By:	Walters, Joe R	andall		7/22/2013 18:57:13	
Subperformed By:					
Approved By:					
Closed By:	Farmer,Micha	el B		7/23/2013 04:18:14	
Current Due Date:	07/23/2013		Initial Due Date:	07/23/2013	
CA Type:	GENERAL A	CTION	CA Priority:	4	
Plant Constraint:	IR24 MISC				
Summary of Fin Fleet challenge of personnel. All a Additional confe perspective of th Licensing input KV bus. This in Final decision w	al Decision: call was conductions from the crence calls we be power recover was previously put was challe as presented to	outlines the final cted on 7/13/13 we fleet challenge v re conducted with ery options. obtained related nged at the licens the Shutdown St	to entry to Tech Spec 3 vith participants from co were captured under OL n site SRC representativ to entry to Tech Spec 3 ing CFAM level and de afety Manager (reference	ry is copied below. rporate executive manage A-012-0104, corrective ac e, and INPO representativ .4.8.A during dead bus tra termined to be sound. e EN-OU-108) on 7/22/12	ment and Waterford 3 ctions 26-35. res, to obtain their ansfer of power to A-4 4160 3. The final determination
was to maintain temporary switcl RVCH is installe tensioned and Re momentary inter This transfer is n transfer should to opening A-409 t configuration me Any deviations to normal schedule	protected train hgear. This wi ed and tensione CS level raised ruption of pow necessary to tra ake ~1 minute o de-energize A eets all SOPP r hat are require risk assessmet	separation by ha Il provide redund cd. This change v out of lowered in ver as the bus feec nsition A4 off of and will be accor A4 followed by c equirements for t d from this option th processes.	ving power aligned to A lancy in offsite power so will necessitate a dead b nventory. This will requ fer is transferred from A the Temporary Switchg nplished by control room losing A-410 to re-energy he applicable SOPP com- n due to emergent issues	s from A1 via SU-1 trans purces during the lowered us transfer of A-4 to A-3 a ire entry into Tech Spec -409 (temp swgr) to A-3 l ear and back on to its nor n manipulation of feeder gize the A4 bus from A3 (dition. s or changing plant conditi	former; and to A4 via the inventory period while the after RVCH has been 3.4.8.A during the 10/410 (crosstie from A3). mal A2 supply. This breakers. Specifically, powered from SU-1). This ions will be subject to
Subresponse :					
Closure Commen	ts: accentable the	recnance has had	n reviewed by the output	e risk manager and found	to be accentable. The
action is comple	ete and may be	closed per the co	ncurrence of the Unit 1	Outage Manager.	to be acceptable. The

Response Description Power Recovery Sequence Decision

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Power Recovery Sequence Decision

Critical Decision Paper on ANO-1 Power Recovery

Summary of Final Decision:

Fleet challenge call was conducted on 7/13/13 with participants from corporate executive management and Waterford 3 personnel. All actions from the fleet challenge were captured under OLA-012-0104, corrective actions 26-35.

Additional conference calls were conducted with site SRC representative, and INPO representatives, to obtain their perspective of the power recovery options.

Licensing input was previously obtained related to entry to Tech Spec 3.4.8.A during dead bus transfer of power to A-4 4160 KV bus. This input was challenged at the licensing CFAM level and determined to be sound.

Final decision was presented to the Shutdown Safety Manager (reference EN-OU-108) on 7/22/13. The final determination was to maintain protected train separation by having power aligned to A3 from A1 via SU-1 transformer; and to A4 via the temporary switchgear. This will provide redundancy in offsite power sources during the lowered inventory period while the RVCH is installed and tensioned. This change will necessitate a dead bus transfer of A-4 to A-3 after RVCH has been tensioned and RCS level raised out of lowered inventory. This will require entry into Tech Spec 3.4.8.A during the momentary interruption of power as the bus feeder is transferred from A-409 (temp swgr) to A-310/410 (crosstie from A3). This transfer is necessary to transition A4 off of the Temporary Switchgear and back on to its normal A2 supply. This transfer should take ~1 minute and will be accomplished by control room manipulation of feeder breakers. Specifically, opening A-409 to de-energize A4 followed by closing A-410 to re-energize the A4 bus from A3 (powered from SU-1). This configuration meets all SOPP requirements for the applicable SOPP condition.

Any deviations that are required from this option due to emergent issues or changing plant conditions will be subject to normal schedule risk assessment processes.

ORIGINAL CRITICAL DECISION DOCUMENT AFTER THIS POINT!!!

OPTION – **1** Restore SU-1 to A1, then A1 to A-3 prior to FTC drain. A-3 and A-4 will be cross tied prior to draining FTC. Available power supplies will be SU-1, #1 EDG, #2 EDG and the AACDG

Positives:

- Normal power alignment of one offsite and all emergency power supplies prior to FTC drain
- Least schedule impact of the options considered
- Improves point of discovery problems associated with plant equipment that may be impacted by extended shutdown (RCP seals, PMT on major equipment)
- Improves point of discovery problems associated with stator replacement (vibration issues, ventilation test, etc.)

Negatives:

- May require dead buss transfer of A4 from A3 power to A2 normal power if Option 4 is not technically feasible. This will necessitate entry into Tech Spec 3.4.8.A due to inability to comply with SR 3.4.8.2 (copies of these Tech Specs along with the corresponding ANO-2 Tech Specs for comparison, are attached to the last three pages of this white paper).
- Loss of SU-1 transformer in this configuration will result in a temporary loss of the running DHR pump until power is restored from an available source. (Time to 200° F is greater than 2.5 hours)

Recommendation:

<u>RECOMMENDED</u> - This option improves discovery of potential problems on the primary and secondary plant that may result in further extension of the outage and challenges to plant operating staff. The suggested details for implementing this option are explained over the next 3 pages (*italicized print*)

Recovery of electrical busses per Option 1 is recommended in 4 phases.

Phase One: (FTC filled to normal refueling level)

The first phase will consist of 3 major activities:

- Removal of the temporary modification associated with SU1 supply to A3 and A4.
- Restoration of SU1 Transformer non segregated bus to the A1 and A2 Switchgear.
- Restoration of Alternate AC Diesel Generator (2A9) to A3/A4 cross tie.

Phase Two: (FTC filled to normal refueling level)

Restoration of A1 to A3 (from SU-1):

Prior to commencing this work, tags will be cleared on A310/410. To maintain A4 and P34B DH pump operable, cross-tie capability must be established between A3 and A4. During this configuration, one offsite power source remains operable (SU1 via A1 to A3, subsequently to A4 through the cross tie breakers A310/410). Both EDG's remain operable. In addition, the Alternate AC Generator is now an available power source to the safety system busses. This satisfies all SOPP Conditions.

Lowered Inventory would be permitted during this configuration per SOPP requirements. Technical Specification LCO's 3.4.8 is satisfied.

Phase Three: (RCS water level restored above lowered inventory condition following RVCH tensioning)

Restoration of A2 to A4 (from SU-1):

Prior to commencing this work, cross-tie capability will exist between A3 and A4 and will be the power supply to A4.

During this configuration, one off-site power source remains operable (SU1 via A1 to A3 through A309 and to A4 through A310/410). SU2 will no longer be available to A3 and A4 via Temporary Switchgear. Both EDG's and the AACDG remain operable. This is the portion of the restoration sequence that will require a "dead buss" transfer if the capability to verify proper phase alignment between A4 bus and the new cable coming from A201 is not technically feasible (see option 4).

Lowered Inventory would be permitted during this configuration per SOPP requirements. Technical Specification LCO's 3.4.8.A would NOT be satisfied if a "dead buss" transfer of A4 is required. This would only be required if proper electrical phase alignment cannot be verified (see Option 4). This is due to the inability to comply with SR 3.4.8.2 for the time period of the "dead buss" electrical switching operation to power A4 from A2.

Phase Four: (RCS water level restored above lowered inventory condition following RVCH tensioning)

Restoration of SU2 to A1/A2:

Prior to beginning this phase, required loads must be removed from the Temporary Switchgear and restored to normal. SU2 Transformer will be made unavailable to provide temporary power. Also, SU2 will be inoperable for Unit 2 during this phase, requiring entry into a 72 hour time clock. Prior to switching out and tagging SU2, several steps need to be completed to reduce the amount of out of service time for SU2 to Unit 2. All repairs to SU2 bus work in the machine shop must be complete. All loads that were being supplied by the Temporary Switchgear needed for shutdown operation need to be aligned to their normal power source. Bus repairs associated with A1, A2, H1, and H2 and dead bus testing must be complete and the associated breakers ready for operation. All new permanent equipment supporting the SU2 differential protection circuit must be in place with all pre-outage work complete.

SU2 Transformer needs to be switched out by Entergy Arkansas and tagged. This will require entry into an LCO for Unit 2. Once SU2 is tagged, the leads for the Temporary Switchgear need to be disconnected from the Current Limiting Reactor (CLR) and the CLR connections insulated for normal operation. The modified 4160 volt bus links to A1 and A2 need to be reconnected. The 6900 volt bus segments will be reinstalled. Required testing (i.e. DLRO, megger, high potential, etc.) will be performed at this time. Once completed satisfactory, SU2 can be untagged and returned to service for Unit 2.

Prior to calling SU2 Transformer operable for Unit 1, the following Operations test procedures will be conducted:

- 1305.029, Supplements 1 and 2 (Off-Site Power Undervoltage and Protective Relay Test)
 - 1305.005 (SU2 Load Shedding Test)

After successful completion of the above tests, SU2 Transformer will be operable as an Off-Site Power Source for Unit 1 per Technical Specification LCO 3.8.2. 2 Off-Site Power Sources can be considered operable per the SOPP and all conditions are satisfied.

<u>Summary</u>

The current plan for completing this restoration is to complete all actions through "Phase 2" prior to draining the fuel transfer canal. This allows one DHR train to be made inoperable during "dead" buss power transfers without entering any Tech Spec LCO.

Performing the restoration sequence through "Phase 2" prior to draining the canal also allows Operations to work through any potential issues, and gain experience at these evolutions to incorporate into the plan for the necessary transfers during a mode of applicability "RCS Loops- Mode 5, Loops Not Filled". The goal is to minimize the vulnerability to regulatory scrutiny associated with "dead" buss transfers when the Fuel Transfer Canal is not filled which will require entry into the "immediate restore" required action of Tech Spec 3.4.8.A
OPTION - 2 Restore SU-1 to A1/A2, then A1/A2 to A3/A4 (respectively) prior to FTC drain

Positives:

- Normal power alignment of one offsite and all emergency power supplies prior to FTC drain
- No potential for "dead buss" power transfers, therefore no Tech Spec entry.

Negatives:

- 5 day schedule impact
- Delays point of discovery on plant equipment that may be impacted by extended shutdown (RCP seals, PMT on major equipment)
- Delays point of discovery on issues associated with stator replacement (vibration issues, ventilation test, etc.)
- Longer period of time with only 1 offsite power supply (SU-1) available to ANO-1

Recommendation:

<u>NOT RECOMMENDED</u> - This option delays discovery of potential problems on the primary and secondary plant that may result in further extension of the outage and challenges to plant operating staff.

OPTION – 3 Restore SU-1 and SU-2 transformers to A1/A2, then A1/A2 to A3/A4 (respectively) prior to FTC drain. All offsite power would be restored to normal configuration.

Positives:

- Normal power alignment of both offsite and all emergency power supplies prior to FTC drain
- No potential regulatory exposure

Negatives:

- 7 day schedule impact
- Delays point of discovery on plant equipment that may be impacted by extended shutdown (RCP seals, PMT on major equipment)
- Delays point of discovery on issues associated with stator replacement (vibration issues, ventilation test, etc.)

Recommendation:

<u>NOT RECOMMENDED</u> - This option delays discovery of potential problems on the primary and secondary plant that may result in further extension of the outage and challenges to plant operating staff.

<u>OPTION – 4</u> Restore SU-1 to A1 then to A3 (same initial conditions as Option 1). Preclude dead bus transfer on A4 by performance of phase alignment check on 4160KV feed from A201 to A409 prior to closing A409. Following phase alignment verification, synchronize A2 feed to A4 and open A410 cross-tie breaker.

Positives:

- A2 to A4 feeder cable phase verification prior to transfer would allow normal synchronization of power to A4 and preclude a dead buss transfer.
- Both loops of Decay Heat Removal would remain operable during restoration of A4
- No regulatory exposure

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Negatives:

• 4160KV phase verification equipment has not been validated to ensure it would allow phase checks to be performed.

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Recommendation:

<u>RECOMMENDED</u> - This option is the <u>first recommendation</u> if phase check equipment is determined to be feasible with available equipment. Option 1 will be the second recommended option if this phase check equipment is not functional.

RCS Loops – MODE 5, Loops Not Filled 3.4.8

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.8 RCS Loops - MODE 5, Loops Not Filled

Two decay heat removal (DHR) loops shall be OPERABLE and one OPERABLE DHR loop shall be in operation. LCO 3.4.8

		NOTES							
1.	All pro	All DHR pumps may be removed from operation for ≤ 1 hour provided:							
	а.	No operations are permitted that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1; and							
	b.	No draining operations to further reduce the RCS water volume are permitted.							
2.	On tesi ope	e DHR loop may be inoperable for ≤ 2 hours for surveillance ing provided that the other DHR loop is OPERABLE and in ration.							

APPLICABILITY: MODE 5 with RCS loops not filled.

ACTIONS

ACTIONS		
CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One DHR loop inoperable.	A.1 Initiate action to restore DHR loop to OPERABLE status.	Immediately

ANO-1

3.4.8-1

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Amendment No. 215

RCS Loops - MODE 5, Loops Not Filled 3.4.8

	CONDITION		REQUIRED ACTION	COMPLETION TIME
Β.	No required DHR loop OPERABLE. <u>OR</u> Required DHR loop not in operation.	B.1	Suspend operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet SDM of LCO 3.1.1.	Immediately
		B.2	Suspend all operations involving reduction in RCS water volume.	Immediately
		AND		
		B.3	Initiate action to restore one DHR loop to OPERABLE status and operation.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.4.8.1	Verify required DHR loop is in operation.	12 hours
SR 3.4.8.2	NOTENOTENOTE	
	Verify correct breaker alignment and indicated power available to each required DHR pump.	7 days

ANO-1

Amendment No. 215

REACTOR COOLANT SYSTEM

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.3 a. At least two of the coolant loops listed below shall be OPERABLE:

- Reactor Coolant Loop (A) and its associated steam generator and at least one associated reactor coolant pump.
- Reactor Coolant Loop (B) and its associated steam generator and at least one associated reactor coolant pump.
- 3. Shutdown Cooling Loop (A) #.
- 4. Shutdown Cooling Loop (B) #.
- b. At least one of the above coolant loops shall be in operation.*

APPLICABILITY: Modes 4 and 5.

ACTION:

- a. With less than the above required coolant loops OPERABLE, immediately initiate corrective action to return the required coolant loops to OPERABLE status as soon as possible; be in COLD SHUTDOWN within 20 hours.
- b. With no coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required coolant loop to operation.

SURVEILLANCE REQUIREMENTS

- 4.4.1.3.1 The required shutdown cooling loop(s) shall be determined OPERABLE per the Inservice Testing Program.
- 4.4.1.3.2 The required reactor coolant pump(s), if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.
- 4.4.1.3.3 The required steam generator(s) shall be determined OPERABLE by verifying the secondary side water level to be ≥ 23% indicated level at least once per 12 hours.
- 4.4.1.3.4 At least one coolant loop shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

The normal or emergency power source may be inoperable in Mode 5.

ARKANSAS - UNIT 2

Amendment No. 24,29,233

^{*} All reactor coolant pumps and decay heat removal pumps may be de-energized for up to 1 hour provided (1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.







Entergy		CORRECTIVE	ACTION	CR-ANO-C-2013-00888
CA Number:	18			
		Group	N	ame
Assigned By:	NSA Director	ANO	James, Dale E	
Assigned To:	Eng Project N	/igmt ANO	Bauman,David N	
Subassigned To :				
Originated By:	McCarty,Larr	уА	7/23/2013 13:22:26	
Performed By:				
Subperformed By:				
Approved By:				
Closed By:				
Current Due Date:	10/09/2013	Initial Due Date:	10/10/2013	
CA Type:	CAT A-EOC	CA Priority:	2	
Plant Constraint:	NONE			
CA Description: Identify any cri event are factor	tical lifts to be ed into the rev	performed with vendor specialty equipmiew of the design and test plans.	ent in the fleet. Ensure le	ssons learned from the ANO
Subresponse : Closure Commen	ts:			

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CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action : CR-ANO-C-2013-00888 CA-00018Version:lApproved:Requested Duedate:10/10/2013Previous Duedate:Requested By:Gillespie,Richard D07/25/2013Approved By:James,Dale E07/27/2013

Request Description:

Entergy

Actions from the Fleet Director of Project Management have been issued in (WT-2013-005 CA133-145) to all Project Managers in the fleet and to appropriate Project Management personnel in the corporate office to identify any critical lifts to be performed with vendor specialty equipment in the fleet and to ensure lessons learned from the ANO event are factored into the review of the design and test plans.

It is necessary to extend this action to support obtaining responses to the WT actions. It is acceptable to extend this because there is no plant operability issues related to this action. The action is to share lessons learned information from the ANO IR24 Stator Drop event. This DDE is being submitted at the request of the ANO Manager of Projects.

Approved Description:

Enterg	y CORRECTIVE A			CTION	CR-ANO	-C-2013-0088
CA Number:	19				<u>_</u>	
		Group			Name	
Assigned By:	VP-GMPO M	gmt ANO		James,Dale E		
Assigned To:	Vice President	Project Mgmt HQN		Eubanks,Clifford		
Subassigned To :	Vice President	Project Mgmt HQN		James Jr, William J		
Originated By:	McCarty,Larry	A		7/23/2013 13:29:58	3	
Performed By:						
ubperformed By:						
Approved By:						
Closed By:						
Current Due Date:	09/29/2013	Initial I	Due Date:	10/01/2013		
СА Туре:	CAPR	CA	Priority:	1		
Plant Constraint:	NONE					
CA Description: Corrective Acti	on to Prevent R	ecurrence (CAPR):				
Annotate steps	implementing t	his CAPR per EN-AD-101-01	l requiremen	nts. Example: [CAP]	R-1: CR-ANO-C-20	13-00888]
Subresponse :						
Closure Comment	ts:					

CA Number:		JKRECTIVE	ACTION	CR-ANO-C-2013-00888
	20			
	Group]		Name
Assigned By: VP-	GMPO Mgmt ANO		James, Dale E	
Assigned To: Flee	et Maintenance Mgmt HQN	1	Stewart,Samuel	
Subassigned To :		<u></u>		
Originated By: McC	Carty,Larry A		7/23/2013 13:38:28	
Performed By:				
ubperformed By:				
Approved By:				
Closed By:				
Current Due Date: 08/2	29/2013	Initial Due Date:	08/30/2013	
CA Type: CAF	PR	CA Priority:	1	
Plant Constraint: NO	NE			
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CA Number:	21				
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Assigned By:	NSA Director A	NO		James, Dale E	
Assigned To:	Fleet Maintena	nce Mgmt HQN		Stewart,Samuel	
Subassigned 10 :					
Originated By:	McCarty,Larry	A		7/23/2013 13:59:49	
Performed By:					
Subperformed By:					
Approved By:					
Closed By:					
Current Due Date:	08/29/2013		Initial Due Date:	08/30/2013	
СА Туре:	CARB REVIEW	N	CA Priority:	4	
Plant Constraint:	NONE				
CA Description:	ARB in review	of changes to FN	MA-110 heing made	to address this root cause	x
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Closure Commen	ts:				
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CA Number:	22				
Assigned By: Assigned To: Subassigned To :	NSA Director Eng Project M	Group ANO Agmt ANO		James,Dale E Bauman,David N	Name
Originated By: Performed By: Subperformed By: Approved By: Closed By:	McCarty,Larr	уA		7/23/2013 14:03:46	,
Current Due Date:	09/29/2013		Initial Due Date:	09/30/2013	
CA Type:	CAT A-CC		CA Priority:	2	
Plant Constraint:	NONE		/		
Response: Subresponse : Closure Commen	ts:				

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CA Number:	23					
		Group			Name	
Assigned By: Assigned To: Subassigned To :	NSA Director Eng Project M	ANO Igmt ANO		James,Dale E Bauman,David N	Ι.	
Originated By:	McCarty,Larr	/ A		7/23/2013 14:06	:12	
Performed By:						
ubperformed By:						
Approved By:						
Closed By:						
Current Due Date:	09/29/2013	Initi	ial Due Date:	09/30/2013		
СА Туре:	CAT A-CC		CA Priority:	2		
'lant Constraint:	NONE					
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CA Number:	24	• <u></u>	·····		
		Group			Name
Assigned By:	NSA Director	ANO		James, Dale E	
Assigned To:	Eng Project N	Agmt ANO		Bauman,David N	
Subassigned To :					
Originated By:	McCarty,Larr	уА		7/23/2013 14:10:00	
Performed By:					
Subperformed By:					
Approved By:					
Closed By:				·····	
Current Due Date:	03/04/2014		Initial Due Date:	03/05/2014	
СА Туре:	CAT A-CC		CA Priority:	2	
Plant Constraint:	NONE				
 Unlikely Fai Possible Fail contributed to t 	lure Modes tha ure mode FM3 he design flaw	at need additional ar 3 - Crane Structure (7.	nalysis are FM 1 - Ma Overload needs additie	terial Failure and FM2 onal analysis to suppo	2 - Equipment Malfunction rt or refute if live loads also
Response:					
Subresponse :					
Closure Commen	ts:				

Enterg	SY.	C	ORRECTIVE A	ACTION	CR-ANO-C-201	3-00888
CA Number:	25					
		Group			Name	
Assigned By:	VP-GMPO N	Igmt ANO		James, Dale E		
Assigned To:	Eng Project N	fgmt ANO		Bauman,David N		
Subassigned To :	· · · · · · · · · · · · · · · · · · ·		······································			
Originated By:	McCarty,Larr	y A		7/23/2013 14:24:10		
Performed By:						
Subperformed By:						
Approved By:						
Closed By:						
Current Due Date:	03/13/2014		Initial Due Date:	03/14/2014		
СА Туре:	CARB REVI	EW	CA Priority:	4		
Plant Constraint:	NONE				•	
CA Description: Present to CAR	B the revised	Root Cause Repo	ort based on completing t	he Exponent Report		
Response:						
Subresponse :						
Closure Commen	ts:					
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Entergy		CORRECTIVE ACTION CR-ANO-C-2013		C-2013-00888	
CA Number: 26			····		
Assigned By: NSA Directo	Group		James.Dale E	Name	
Assigned To: Fleet Mainte	enance Mgmt HQN		Stewart,Samuel		
Subassigned To :	2				
Originated By: McCarty,La	ггу А		7/23/2013 14:25:44		
Performed By:					
ubperformed By:					
Approved By:					
Closed By:			**************************************		<u>_</u>
Current Due Date: 09/29/2013		Initial Due Date:	09/30/2013		
CA Type: CAT A-CC		CA Priority:	2		
Plant Constraint: NONE					
CA Description: Perform gap analysis on EN	-MA-119 against SOE	ER 06-01			
Response:					
Subresponse :					
Closure Comments:					·

Enterg	sy	COR	RECTIVE	ACTION	CR-ANO-C-2013-00888
CA Number:	27				• · · · · · · · · · · · · · · · · · · ·
		Group		N	ame
Assigned By:	NSA Director	ANO		James, Dale E	
Assigned To:	Vice Presiden	nt Project Mgmt HQN	1	Gordon,Robert A	
Subassigned To :	Vice Presiden	nt Project Mgmt HQN	J	James Jr, William J	
Originated By:	McCarty,Larr	уА		7/23/2013 14:28:44	
Performed By:					
Subperformed By:					
Approved By:					
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Current Due Date:	10/28/2013		Initial Due Date:	10/30/2013	
CA Type:	ENHANCEM	IENT	CA Priority:	5	
Plant Constraint:	NONE				
CA Description: Consider imple implementation	menting ANO of EN-DC-11	'Will Sheet' develop 4 process for vendor	ed to monitor and pro oversight at a fleet lo	ovide feedback to Project 1 evel.	Management on
Response:					
Subresponse :					
Closure Commen	ts:				
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Entergy		CORRECTIV	E ACTION	CR-ANO-C-2013-	D-C-2013-00888	
CA Number:	28					
		Group		Name]	
Assigned By: NS	A Director ANO		James, Dale E			
Assigned To: Vic	e President Projec	ct Mgmt HQN	Eubanks,Clifford			
Subassigned To :						
Originated By: Mc	Carty,Larry A		7/23/2013 14:31:34			
Performed By:						
Subperformed By:						
Approved By:						
Closed By:						
Current Due Date: 10/	/29/2013	Initial Due D	ate: 10/30/2013			
CA Type: EN	HANCEMENT	CA Prior	ity: 5			
Plant Constraint: NO	NE					
CA Description: Consider enhancing team composition e	the guidance in S xperience necessa	Section 4.0[6](f) of EN-DC-1 iry to assess adequacy of asso	14, Project Management, t ciated decisions related to	to include in the consideration on high consequence evolutions.	of	
Response:						
Subresponse :						
Closure Comments:						
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	SY	CORRECTIVE	C1.VANO-C-2013-008	
CA Number:	29			
Assigned By: Assigned To: Subassigned To :	G Eng Outage Mgmt ANO Eng Outage Mgmt ANO Eng Outage Mgmt ANO	roup	McCoy,Jaime H Edgell,Douglas W Butler,Paul Wayne	Name
Originated By: Performed By: Subperformed By: Approved By: Closed By:	Butler,Paul Wayne		7/26/2013 14:39:13	
Current Due Date:	08/02/2013	Initial Due Date:	08/02/2013	·····
CA Type:	GENERAL ACTION	CA Priority:	4	
Plant Constraint:	NONE			
Subresponse : Closure Commen	ts:			
Closure Commen				

ARKANSAS NUCLEAR ONE STATUS

April 29, 2013

Received FOIA from region.

Unit 1

- Mode: None
- RISK: GREEN
- SFP Temp: 89 F
- TTB: 12.3 hrs
- RCS Level: ~ 0.5 ft below vessel flange
- Both trains ECCS available
- A and B trains of spent fuel pool cooling are running
- AC Power: SU1 supplying power to vital busses A3 and A4; both EDGs available

Restoration

All debris associated with the Bigge lift rig has been removed. Plan to remove stator from the train bay either Tuesday or Wednesday.

Plan to installed radiation shields over the reactor vessel opening today to reduce dose rates for work on DH-17 check valve.

As soon as the A3 bus is powered by SU2 through the temporary switchgear (should be complete tomorrow morning), the licensee will remove the B train EDG from service to commence Green train electrical maintenance.

Completed core offload at 1905 April 28.

<u>Unit 2</u>

- Reactor Power: 29%

- RISK: GREEN

- AC Power: Restored to normal configuration

Restoration

Holding at 29% power for feedwater iron cleanup. Should achieve 100% power some time tomorrow. Criticality achieved 0920 yesterday. Resident staff observed criticality operations for about 4 hours on Sunday.

No LCOs.

April 30, 2013

Provided a hardcopy of the NSIR guidance on enforcement discretion for cyber security requirements to Stephenie Pyle.

<u>Unit 1</u>

- Mode: Defueled
- RISK: GREEN
- SFP Temp: 89 F
- TTB: 12.4 hrs
- RCS Level: Cold legs drained
- Both trains ECCS available
- A and B trains of spent fuel pool cooling are running
- AC Power: SU1 supplying power to vital busses A3 and A4; both EDGs available

Restoration

Plan to remove stator from the train bay tomorrow.

Completed installing radiation shielding over the reactor vessel opening.

As soon as the A3 bus is powered by SU2 through the temporary switchgear (should be complete in a couple days), the licensee will remove the B train EDG from service to commence Green train electrical maintenance. Ultimately, the licensee plans to power nonvital busses from the temporary switchgear instead of the temporary diesel generators.

<u>Unit 2</u>

- Reactor Power: 98%
- RISK: GREEN, yellow later today due to work in the switchyard
- AC Power: Restored to normal configuration
- RCS Leakage: 0.009 gpm

Restoration

Holding at 98% for NI calibration, should achieve 100% shortly.

No LCOs.

May 1, 2013

<u>Unit 1</u>

- Mode: Defueled
- RISK: GREEN
- SFP Temp: 96 F
- TTB: 12.5 hrs
- RCS Level: Cold legs drained
- Both trains ECCS available
- A and B trains of spent fuel pool cooling are running
- AC Power: SU1 supplying power to A4; both EDGs available. A3 is currently deenergized to facilitate testing of temporary switchgear from SU2 to A3.

Restoration

Plan to remove stator from the train bay Friday. Still waiting to have a regional call with the licensee on the details of the stator removal.

As soon as the A3 bus testing of SU2 through the temporary switchgear is completed, the licensee will remove the B train EDG from service to commence Green train electrical maintenance. The A3 bus will continue to be powered by SU1 and SU2 will only be used if all other power sources are lost. The licensee plans to power nonvital busses from the temporary switchgear instead of the temporary diesel generators as soon as the EC is completed around the 6/7th.

<u>Unit 2</u>

- Reactor Power: 100%

- RISK: GREEN, yellow later today due to work in the switchyard
- AC Power: SU2 is inoperable due to testing of the temporary switchgear to A3

- RCS Leakage: 0.009 gpm

Restoration

RCP "C" middle seal is degraded. The current differential pressure is 503 psid (nominal is 715). An ODMI is being developed, but even if the seal completely failed, there is operating experience demonstrating that the plant could continue operation with 2 seals.

Entered a 72-hr LCO this morning at 0456 due to temporary switchgear testing. Should exit LCO today after testing is complete.

May 2, 2013

<u>Unit 1</u>

- Mode: Defueled
- RISK: GREEN
- SFP Temp: 98 F
- TTB: 12 hrs
- RCS Level: Cold legs drained
- Both trains ECCS available
- A and B trains of spent fuel pool cooling are running
- AC Power: SU1 supplying power to A3 and A4; both EDGs available.

Restoration

Plan to remove stator from the train bay Friday. Still waiting to have a regional call with the licensee on the details of the stator removal.

As soon as the A3 bus testing of SU2 through the temporary switchgear is completed, the licensee will remove the B train EDG from service to commence Green train electrical maintenance. The A3 bus will continue to be powered by SU1 and SU2 will only be used if all other power sources are lost. The licensee plans to power nonvital busses from the temporary switchgear instead of the temporary diesel generators as soon as the EC is completed around the 6/7th.

<u>Unit 2</u>

- Reactor Power: 100%
- RISK: Yellow
- AC Power: All onsite and offsite power sources are opperable
- RCS Leakage: 0.026 gpm

Yellow risk due to work in the switchyard to replace the Pleasant Hill line insulators (line is deenergized).

Restoration

RCP "C" middle stage seal differential pressure has remained stable. The current differential pressure is 503 psid (nominal is 715). An ODMI is being developed, but even if the seal completely failed, there is operating experience demonstrating that the plant could continue operation with 2 seals.

May 3, 2013

<u>Unit 1</u>

- Mode: Defueled
- RISK: GREEN
- SFP Temp: 96 F
- TTB: 12 hrs
- RCS Level: Cold legs drained
- A and B trains of spent fuel pool cooling are running
- AC Power: SU1 supplying power to A3 and A4; EDG "A" available.

Restoration

Plan to remove stator from the train bay Friday or Saturday. Completed cutting out interfering concrete on the west end. Residents attended 0900 IPTE for the stator move. Residents will be observing portions of the lift/removal this weekend as directed by regional management.

Began Green train electrical maintenance window, which includes (will include) maintenance on the A-4 vital bus, B-6 non-vital bus, D06 safety-related battery, and the B EDG.

<u>Unit 2</u>

- Reactor Power: 100%
- RISK: Yellow
- AC Power: All onsite and offsite power sources are opperable
- RCS Leakage: 0.019 gpm

Yellow risk due to work in the switchyard to replace the Pleasant Hill line insulators (line is deenergized).

RCP "C" middle stage seal differential pressure has remained stable. The current differential pressure is approximately 500 psid (nominal is 715). The ODMI should be completed 5/7.

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Procedure Contains NMM REFLIB Forms: YES 🛛 NO 📋							
Effective	Procedure Own	er: J. R. Eichenb	erger	Governance Owner:		Alan Ettlinger	
Date	Title:	Mgr, CA&A M	lanager	Title:		Fleet Manager OE&CA	
05/24/13	Site:	ANO	ANO Site:			HQN	
Exception Date*	Site	Site Pro	cedure C	hampion		Title	
	ANO	J. R. Eichenberge	r j		Mg	r, CA&A	
N/A	BRP	N/A			N/A		
N/A	CNS	Linda R. Dewhirst					
	GGNS	James Nadeau			Mg	r, CA&A	
	IPEC	Ed Firth			Mg	r, CA&A	
	JAF	Ty Hunt			Mg	r, CA&A	
	PNPS	Ted Bordelon			Mg	r, CA&A	
	PLP	Andrew Notbohm			Mg	r, CA&A	
	RBS	Peg Lucky			Mg	r, CA&A	
	VY	Jon Bengtson			Mg	r, CA&A	
	W3	William McKinney			Mg	r, CA&A	
N/A	NP	N/A			N/A	\	
	HQN	Richard Courtney			Mg	r, CA&A Projects	
Site and NM	M Procedures Ca	nceled or Superse	ded By T	his Revision			

Process Applicability Exclusion: All Sites:

Specific Sites: ANO 🛛 BRP 🗍 GGNS 🖾 IPEC🖾 JAF 🖾 PLP 🖾 PNPS 🖾 RBS 🖾 VY 🖾 W3 🖾 NP 🗍

Change Statement

Editorial change to 5.9[2] to include obtaining prior concurrence for procedure changes required to address RCE causes.

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1.0 PURPOSE

- [1] This procedure provides instructions for the administration of Entergy (EN) Corrective Action process, including the identification, reporting, evaluation, and correction of a broad range of problems, areas for improvements, and standards performance deficiencies. Issues addressed in the corrective action process must include Adverse Conditions and Conditions Adverse to Quality, and can include minor problems that may be precursors to more significant events, areas for improvement and standards performance deficiencies identified during assessments and other activities. [10 CFR 50], [JAFP-91-0834], [P32648], [P33542]
- [2] This procedure provides management expectations and guidance for the implementation of the EN Condition Reporting Process.

<u>NOTE</u>

Throughout the procedure, position titles are used but are not procedural obligations. The intent is to identify functional responsibilities only. Each site will implement the intended function according to its organizational structure and position titles.

2.0 <u>REFERENCES</u>

- 2.1 References
 - (a) Title 10, Code Of Federal Regulation, Part 50, Appendix B
 - (b) ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants
 - (c) NRC Inspection Manual, Chapter 9900, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions adverse to Quality or Safety"
 - (d) ANSI 45.2.10, Quality Assurance Terms and Definitions
 - (e) Entergy Quality Assurance Program Manual (QAPM)
 - (f) SOER 02-4 Rec 3, Rx Press Vessel Head Degradation at Davis-Besse
 - (g) Nuclear Management Manual Procedure, EN-LI-104, Self-Assessment and Benchmark Process
 - (h) Nuclear Management Manual Procedure, EN-OE-100, Operating Experience Program
 - (i) North American Electrical Reliability Corporation (NERC) Standards

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	(j)	GGNS Procedure: 01-	S-06-5, Reportable	Events or Condition	ons
	(k)	WF3 Procedures: UN1	Γ-006-010, Event No	tification and Rep	orting
	(I)	Nuclear Management Rework	Manual Procedure, I	EN-MA-123, Iden	lification and Trendin
	(m)	Program Section CEP Replacements	-R&R-001, ASME Se	ection XI, Division	1- Repairs and
	(n)	Program Section CEP Containment Items	-CII-001, ASME Sec	tion XI Repairs ar	nd Replacements of
	(o)	NRC Administrative Le	etter 98-10, "Disposit Plant Safety"	tioning of Technic	al Specifications that
	(p)	NRC Inspection Manu	al, Chapter 0609, "S	ignificance Deterr	mination Process"
	(q)	NRC Information Notic Automatic Actions And Times"	ce 97-78, "Crediting (d Modifications Of O	Of Operator Actio perator Actions, Ir	ns In Place Of Icluding Response
	(r)	SOER 10-2, "Engaged	l, Thinking Organiza	tions", Rec 1	
	(s)	CAPR CR-PLP-2009-(05938		
2.2	Oblig	gations and Industry St	andards Implemente	d Overall	
	(a)	10CFR50			
	(b)	CR-HQN-2009-1107, I	NRC Order EA-09-0	60	
	(c)	QAPM A.1.d (Overall p	procedure implemen	ts)	
	(d)	ANSI N18.7 5.2.11 (O	verall procedure imp	lements)	
	(e)	ANSI N18.7 5.2.15 (O	verall procedure imp	lements)	
	(f)	ANSI N18.7 5.3.2 (Ove	erall procedure imple	ements)	
	(g)	ANSI N45.2.2 5.5 (Ove	erall procedure imple	ements)	
	(h)	ANSI N45.2.12 4.4.5 (Overall procedure in	plements)	
2.3	Oblig	gations and Industry St	andards Section Spe	ecific	
	(a)	Quality Assurance Pro	gram Manual (QAPN	Л)	

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- (b) ANSI N18.7
- (c) ANSI N45.2.4
- (d) ANSI N45.2.11
- (e) ANSI N45.2.12
- (f) ANSI N45.2.13
- (g) 10 CFR 50.72
- (h) 10 CFR 50.73
- (i) 10 CFR 73.71

3.0 **DEFINITIONS**

- [1] <u>Administrative Corrective Action</u> A Corrective Action (CA) issued to facilitate moving the CR response and CA plan through the processes identified in LI-102. These actions typically have no direct impact on actions necessary to correct the identified condition, rather they document administrative steps involved in the process (i.e., an action issued by CA&A to direct closure review of a CR, an action issued to re-evaluate closure of a CR based upon issues identified by a CA&A closure review, etc.).
- [2] <u>Adverse Condition</u> An event, defect, characteristic, state or activity that prohibits or detracts from safe, efficient nuclear plant operation or a condition that could credibly impact nuclear safety, personnel safety, plant reliability or non-compliance with federal, state, or local regulations. Adverse conditions include non-conformances, conditions adverse to quality and plant reliability concerns. Examples of adverse conditions are contained in Attachment 9.2. [P3098]
- [3] <u>Adverse Trend</u> Undesirable change in frequency of occurrence of a parameter or undesirable level of occurrence of a parameter that warrants management attention or corrective action to improve the performance. This negative change in performance is undesirable because of the adverse impact on safety or reliability or because of the large (relative) number of similar performance problems in a bin that point to more significant future problems if not addressed.
- [4] <u>Apparent Cause</u> A likely cause for a condition that is determined by less rigorous means of evaluation than a root cause.

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- [5] <u>ASME Section XI Boundary</u> The ASME Section XI boundary includes those portions of systems, components, and their supports that are classified as In-service Inspection Class 1, 2, 3, MC (Metal Containment), or CC (Concrete Containment). The ASME Section XI Boundaries are defined in site boundary drawings. With respect to ISI Classes 1, 2, and 3, these classifications include the following:
 - (a) ASME Classes 1, 2, and 3
 - (b) Quality Groups A, B, and C
 - (c) Classes T2, T3, and T3/Critical (Arkansas Nuclear One, Unit 1 only)
- [6] <u>CAR (Corrective Action Request) Condition Report</u> A type of Learning Organization document that can be written by the Supplier Quality Assurance group to document and track evaluations of vendor issues.
- [7] <u>Condition</u> An issue or discrete occurrence that warrants documentation using a Condition Report (CR).
- [8] <u>Condition Adverse to Quality (CAQ)</u> As described in 10CFR50 Appendix B, Criterion XVI, such conditions include failures, malfunctions, deficiencies, deviations, defects, and non-conformances. This is a condition of a System, Structure, Component or Software (SSC) that could potentially render the SSC degraded or inoperable.
- [9] <u>Condition Report (CR)</u> A computer generated or paper form used to document issues into the corrective action process.
- [10] <u>Condition Review Group (CRG)</u> A management group responsible for CR review, categorization and assignment of responsibilities. [P2993]
- [11] <u>Conditional Release</u> A controlled release of materials, parts, or components that have not been fully accepted under the Quality Assurance program. This type of release serves to identify and track an item until it becomes accepted or other disposition action is completed.
- [12] <u>Contributing Cause</u> An identified cause that, if corrected, would not by itself have prevented the event. This type of cause may have facilitated the event's occurrence, increased its severity, or lengthened the time to discovery.
- [13] <u>Corrective Action</u> Corrective Actions (CAs) include actions intended to preclude repetition of significant conditions (see CAPRs) and those intended to correct adverse conditions.

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[14]	<u>Corrective Actions to Preclude Repetition (CAPRs</u>) – A type of Corrective Action (CA) intended to correct the root cause(s) of a condition and thereby preclude repetition.							
[15]	<u>Corrective Action Review Board (CARB)</u> - A group, consisting of a cross section of personnel familiar with a particular Condition Report, assembled for the purpose of review and approval of cause evaluations and corrective action plans. The CARB chairman ensures that adequate representation is in attendance at meetings in accordance with CARB quorum requirements. [P23035]							
[16]	<u>Degraded Condition</u> - A degraded condition is one in which the qualification of a structure, system or component or its functional capability is reduced. Examples of degraded conditions are failures, malfunctions, deficiencies, deviations, and defective material and equipment. Examples of conditions that can reduce the capability of a system are aging, erosion, corrosion, improper operation, and maintenance							
[17]	<u>Department Performance Improvement Coordinators (DPIC)</u> - departmental personnel as defined in ENOS/GOES to functionally perform and/or implement continuous improvement programs, including the Corrective Action Program (CAP), for their organizations. [Chemistry, Engineering, Maintenance, Materials Purchasing & Contracts, Operations, Planning & Scheduling, Radiation Protection, Security, and Training]							
[18]	Deviation - A nonconformance or departure of a characteristic from specified requirements							
[19]	<u>Disposition</u> – CR Disposition is the outcome of the review of a reported problem by the CR Owner, as designated by the CRG. The disposition includes (as appropriate) the cause of the condition as determined by the CA to perform an evaluation, the extent of condition, actions to address causes, and a plan for implementing those actions that is commensurat with the significance of the problem. Completion of CR Disposition does not require the completion of all corrective actions.							
[20]	<u>Effectiveness Reviews</u> – Perfo result was achieved. Effective Responsible Manager, but ma		ormance based reviews undertaken to verify that an intended ness Reviews are normally assigned by CARB to the by be assigned to another group for evaluation. [P23038]					
[21]	<u>Employe</u> Conscio employe	ee Concerns Program ous Work Environment ee to report any type o	(ECP) – A program implemented to support a Safety (SCWE). The ECP provides an alternate means for any f problem or concern.					
[22]	<u>Enhancements</u> - Improvement items or actions that address conditions, which meet minimum acceptable criteria, or performance standards but may be less than optimum. Enhancements should be identified in the CR response because they add value, but may may not be tracked to completion by the CR process. The enhancement designation is no appropriate if the action is needed to correct the originally identified adverse condition or it the action is needed to address an identified cause.							

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- [23] <u>Extent of Condition</u> An evaluation/review to identify the total population of items that have or may have the same problem as identified in the original CR problem statement. The intent of the Extent of Condition review focuses on a determination of any potential impact to the operability/functionality of the similar components, equipment, systems, human performance traps/issues, or organizational processes/programs.
- [24] <u>Inadequate Technical Specification</u> A specific Technical Specifications requirement (parameter value or action) that may not support safety assumptions or conclusions.
- [25] <u>Industrial Safety Incident</u> An incident that results in either an OSHA Recordable or OSHA Reportable condition.
- [26] <u>Learning Organization (LO)</u> An organizational culture that embraces a never-ending drive for continuous improvement, as highlighted by people at every level in the organization continually increasing their capacity to produce good results and constantly learning from others as means to systematically and deliberately realize operational excellence.
- [27] Learning Organization (LO) Documents Documents written to provide a consolidated record of assessments, benchmark trips, CAPR effectiveness reviews, and other activities. Learning Organization documents are not processed through the Control Room, Licensing, or the CRG. LO documents are governed by EN-LI-104, Self-Assessment and Benchmark Process. (LO-WTs are NOT considered LO documents. They are ungoverned Work Tracking actions with no specific controls.)
- [28] Long Term Condition Report (LTCR) A CR that contains an approved Long Term CA.
- [29] <u>Long Term Corrective Action (LTCA)</u> Action(s) that cannot meet the timeframes established and approved in accordance with the Corrective Action Processing Guidelines (Attachment 9.4).
- [30] <u>Management</u> Defined as Supervisor and above (Supv, Supt., Manager, GMPO, V.P. etc.) or as personnel recognized as having direct reports.
- [31] A <u>Nonconforming Condition</u> is a condition of a System, Structure or Component (SSC) that involves a failure to meet the Current Licensing Basis (CLB) or a situation in which quality has been reduced because of factors such as improper design, testing, construction, or modification. The following are examples of nonconforming conditions:
 - An SSC fails to conform to one or more applicable codes or standards (e.g., the CFR, operating license, TSs, UFSAR, and/or licensee commitments).
 - An as-built or as-modified SSC does not meet the CLB.
 - Operating experience or engineering reviews identify a design inadequacy.
 - Documentation required by NRC requirements such as 10CFR50.49 is not available or deficient

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- [32] <u>Non-Significant</u> A classification for condition reports (typically, B, C, D categories) that document problems or corrective actions for which a repeat occurrence, while always undesirable, can be tolerated.
- [33] <u>OPERABLE-Degraded or Nonconforming (Operable-DNC)</u> A condition where a TS SSC is OPERABLE but a Degraded or Nonconforming Condition exists that does not require Compensatory Measures.
- [34] <u>Owner</u> (Responsible Manager) The management position within the PCRS management group that was designated by the CRG to ensure the condition is corrected in accordance with the requirements of this procedure. The Owner may be a Superintendent or above position and is equal to the term "Responsible Manager' as used in this procedure.
- [35] <u>Paperless Condition Reporting System (PCRS)</u> A computer program that tracks actions resulting from the processes described within this procedure.
- [36] <u>Repair</u> The process of restoring a nonconforming characteristic to a condition such that the capability of an item to function reliably and safely is unimpaired, even though that item still may not conform to the original requirement.
- [37] <u>Repetitive Event</u> any significant condition adverse to quality that resulted from the same identified root cause as a previous event or nonconformance. This doesn't apply to conditions classified as significant due to the frequency of the event/condition (i.e., adverse trend).
- [38] <u>Responsible Manager (RM)</u> (Owner) The management position within the PCRS management group that is designated by the CRG to ensure the condition is corrected in accordance with the requirements of this procedure. The RM may be a Superintendent or above position and is equal to the term "Owner" as used in this procedure.
- [39] <u>Rework</u> From a plant maintenance efficiency perspective, rework is the re-performance of an assigned activity, in whole or in part, because the original problem/issue was not corrected the first time resulting in a loss of time, money or quality. From a quality perspective, rework is the process by which a nonconforming item is made to conform to a prior specified requirement by completion, re-machining, reassembling, or other corrective means.
- [40] <u>Root Cause</u> The most basic cause(s) for a failure or a condition that, if corrected or eliminated, will preclude repetition of the event or condition.
- [41] <u>Root Cause Analysis (RCA)</u> Structured, formatted process that documents the root cause(s) of a condition or event. The root cause is determined using recognized methodologies. RCAs are performed in accordance LI-118, "Root Cause Analysis Process." RCAs are used for complex issues or those where the cause is not understood or readily known.
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- [42] <u>Routine Report</u> NRC reports that are generated at a fixed frequency or as required by regulations except for 10CFR50.55, 50.72, and 50.73. For example, 10CFR50.46 reports of ECCS performance modeling errors of insufficient magnitude to trigger a report under other regulations are considered routine.
- [43] <u>Safeguards Condition Report</u> A Condition Report documenting a Safeguard condition. The condition description contains as much information as possible to ensure proper prioritization within the corrective action program by the CRG without providing any safeguards information. Where additional (safeguards) information is required to describe the condition, the additional information shall be contained in a uniquely identified and referenced safeguards document. The uniquely identified safeguards document shall be maintained in a safeguards file in accordance with Safeguards requirements. [CR-HQN-2009-1107, NRC Order EA-09-060]
- [44] <u>Significance Determination Process (SDP)</u> A process by which a condition documented on a CR can be assessed in terms of its risk significance relative to objectives of reactor safety, radiation program effectiveness, emergency planning, & physical security program effectiveness.
- [45] <u>Significant Conditions Adverse to Quality (SCAQ)</u> Conditions such as failures, malfunctions, deficiencies, deviations, defective material & equipment, and nonconformances which have resulted in, or could result in, a significant degradation or challenge to nuclear safety.
- [46] <u>Significant</u> A classification for CRs determined to meet one or more of the following: [P5431]
 - Any Significant Condition Adverse to Quality. Conditions such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances which have resulted in, or could result in, a significant degradation or challenge to nuclear safety.
 - A problem recognized as having a greater than acceptable recurrence rate as determined by the CRG.
 - Any event or nonconformance that meets the definition of repetitive event.
 - An unplanned event or failure of an SSC that led or could have led to a reactor trip or plant transient.
 - A serious industrial safety incident as determined by CRG or a near miss occurred that in the judgment of the CRG could have resulted in a serious industrial safety incident.
 - A major breakdown in processes that implement QA Program Requirements as determined by the CRG.
 - An issue determined, through the NRC Significance Determination Process, to be nongreen (white, yellow, or red).
 - Events or conditions designated as significant or considered important by management for reasons other than those that fall into the above categories.

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- [47] <u>Site</u> -The term "site" is used when referring to a specific Entergy nuclear plant or Headquarters (HQN).
- [48] <u>Structures, Systems or Components (SSC) Operability</u> Structures, Systems or Components, for Operability Determinations:
 - Are those SSCs that are required to be operable by Technical Specifications (TSs). These SSCs may perform required support functions for other SSCs required to be operable by TSs (e.g., emergency diesel generators and service water).
 - Are those SSCs that are not explicitly required to be operable by TSs, but that perform required support functions (as specified by the TSs definition of operability) for SSCs that are required to be operable by TSs.
- [49] <u>Structures, Systems or Components (SSC) Functionality</u> Structures, Systems or Components, for Functionality Assessments are those that are not described in TSs, but which warrant programmatic controls to ensure that SSC availability and reliability are maintained.
 - SSCs and related controls are included in programs related to Appendix B to 10 CFR Part 50, "Quality Standards and Records," and Maintenance Rule (10 CFR 50.65).
 - Additionally, SSCs warrant functionality assessments within the processes used to address degraded and nonconforming conditions because they perform specified functions described in the Updated Final Safety Analysis Report (UFSAR), technical requirements manual, emergency plan, fire protection plan, regulatory commitments, or other elements of the current licensing basis (CLB).
- [50] <u>Trip Sensitive System</u> Any system or component that upon actuation or failure could cause a reactor trip. Trip Sensitive Systems may be specifically identified for each site.
- [51] <u>Use-As-Is</u> A disposition which may be imposed for a nonconformance when it can be established that the discrepancy will result in no adverse conditions and that the item under consideration meets all engineering functional requirements (performance, maintainability, fit and safety) originally specified or as otherwise determined to be acceptable under engineering evaluation.
- [52] <u>Verification of Acceptability Evaluation</u> An evaluation performed on a nonconforming item in the ASME Section XI Boundary to ensure that the proposed repair, rework, replacement, or modification activity appropriately corrects the nonconforming condition with due consideration to the cause of failure. This evaluation does not apply to non-conformances associated with the In-service Testing (IST) Program.

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4.0 **RESPONSIBILITIES**

- [1] All personnel working at EN facilities are responsible for: [QAPM A.6.a]
 - (a) Identifying and reporting problems. [P22828]
 - (b) Documenting problems by initiating CRs in accordance with this procedure.
 - (c) Assigning a CA Type code and matching CA Priority in PCRS in accordance with the Corrective Action to CA Type table in Attachment 9.4 when initiating a CA in PCRS.
- [2] EN Management (Supervisor and above) is responsible for: [QAPM A.6.a], [QAPM A.6.c]
 - (a) Ensuring that personnel are familiar with the requirements of this procedure.
 - (b) Ensuring that problems are reported.
 - (c) Ensuring recommendations on trend codes are provided for CRs assigned to their department prior to CRG. [QAPM A.6.e]
 - (d) Ensuring that required actions for Condition Reports are determined, implemented, and adequate to resolve the condition.
 - (e) Ensuring performance of Effectiveness Reviews when assigned.
 - (f) Ensuring that non-conforming items are segregated as appropriate and controlled as needed until dispositioning the item to be conforming <u>or</u> it is otherwise discarded after removal for testing/maintenance and through disposal or reinstallation
 - (g) Ensuring keywords and problem codes are appropriate based on investigation results.
 - (h) (For Responsible Managers) Approving RCEs, ACEs and Analysis assigned to their Department. This responsibility should only be delegated when the Responsible Manager is not available and then it should be performed by the individual that is Acting for their position in their absence.
- [3] Each Site's Manager, Corrective Actions and Assessment and the Manager CA&A Projects is responsible for: [QAPM A.2.G.7], [QAPM A.6.c]
 - (a) Administering the Corrective Action Program.
 - (b) Administering the Root Cause investigation and review process and performing effectiveness reviews for CAPRs when assigned by CARB.
- [4] Each Site's Manager, Security and the Manager Security Operations is responsible for: [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (a) Safeguards Condition Report requirements as follows:
 - (1) Ensuring when a uniquely identified safeguards document is needed that the CR references the uniquely identified safeguards document and that the safeguards document references the CR
 - (2) Maintaining and controlling the uniquely identified safeguards document in a safeguards file in accordance with Safeguards procedural requirements

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	(3)	Retaining the unic retention requirem	uely identified safegreen safegreen safegreen to be a set the Corrective set of the Corrective set of the corrective set of the set	uards document in e Action Process a	accordance with the individual site
	(4)	Ensuring a repres authorization is pr Review Group (Cl	entative of the Secur esent at the CR Pre- RG).	ity Department, wit Screening, if applic	h Safeguards cable, and at Condi
	(5)	Determining when qualified based or	CRG and CARB me the nature of the CF	embers are require R being reviewed	d to be Safeguards
[5] E	Each Sa	feguards Custodian	is responsible for: [CF	R-HQN-2009-1107, NF	C Order EA-09-060]
(a)	Safe	guards Condition Re	port requirements as	follows:	
	(1)	Maintaining and c safeguards file in	ontrolling the uniquel accordance with Safe	y identified safegua eguards procedura	ards document in a I requirements
[6] E r	Each site esponsi	e's Manager, Licensi ble for: [P21440]	ng, or as assigned by	y management at c	ff-site locations, is
(a)	Revi	ewing CRs and admi	inistering the SDP in	accordance with S	ection 5.5.
(b)	Perfo	orming Reportability	Reviews and docume	enting the results ir	PCRS.
(c)	lssui repo perfo other	ng CAs for determinant rtability. This include prmed on identified co r Indeterminate Repo	ations and evaluation s Past Operability/Fu onditions, potential or ortability items.	is that are needed inctionality Determi r actual 10 CFR 21	to determine inations or Evaluati conditions, and ar
(d)	lssui respo	ng CAs to address N onses to such CAs.	IRC violations or find	ings and performin	g closure reviews c
[7] E	ach site	e's Manager, Plannin	g and Scheduling / C	Outages is respons	ible for:
(a)	Moni	toring and reporting	to CRG the status of	WOs that have CF	Rs/CAs closed to th
[8] T	he Con	dition Review Group	(CRG),is responsible	e for: [P2993], [P2144	0], [P21439]
(a)	Revie class	ewing CRs to classif	y, categorize, and as ent 9.1.	sign responsibility.	Categories are
(b)	Appr	oving closure of CRs	to other processes.		
(c)	Dete	rmining when to app	iy Attachment 9.5 En	tergy Fleet Learnir	g Review Process
(d)	Ensu	res appropriate oper	ability/ functionality re	views are performe	ed per EN-OP-104.
(e)	Over Meas	sight of Operable-De sures conditions	egraded or Nonconfo	rming (Operable-D	NC) or Operable-C
(f)	Dete evalu	rmining when to appl ations.	y CARB oversight res	ponsibilities to App	arent Cause

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[9]	The Co	rrective Action Review	Board (CARB) is re	sponsible for: [P23	3035]	
(a)) Rev actio eval	iewing and approving on plan. Reviewing se luations and their actio	Root Cause evaluat elected Responsible on plans directing ch	ions including the Manager approve anges where nee	ir proposed correcti ed Apparent Cause ded.	ive
(b) Assi Cate	igning Effectiveness R egory "A" CRs and ma	eviews to the Response nagement selected	onsible Manager, Category "B" CRs	or appropriate grou	p, fo
(c)) Rev app for (iewing, and approving roved CAPRs. The CA CARB approved CAPF	or disapproving Dua ARB Chairperson ma Rs rather than conve	e Date Extension y approve Due D ning the full board	Requests for CARE ate Extension Requ J.	3 iests
(d) Dete alrea	ermining when to apply ady applied by CRG.	y Attachment 9.5 En	tergy Fleet Learni	ing review process	if no
(e) CAF EN-	RB members and their FAP-LI-003, Correctiv	alternates complete e Action Review Boa	a training Job Fa ard (CARB) proce	miliarization Guide ss.	, per
(f)	Rev long	iewing, and approving er be needed <u>or</u> that r	(or disapproving) re night need to be rep	quests to cancel laced.	CAPRs that may no)
[10]	The Fle	et Manager OE & CA	is responsible for ma	intenance of this	procedure.	
[11]	The Site evaluati	NSA Director (or GM	Fleet Operations Son Son Sciences Son Sciences	upport for Headqu	larters) is responsit	ole fo
[12]	Where a responsi	assigned / used, Depa ible for:	rtment Performance	Improvement Co	ordinators (DPIC) a	re
(a)) Beir impl	ng the point of contact ementation of the requ	for the Corrective Adult for the Corrective Adult devices the second sec	ction Program (CA 02.	AP) and assisting w	ith
(b)) Prov CRC	viding recommendation	ns on CR assignmer	nt and significance	e classification prior	to
(C)	Prov refe	viding recommendation rence items, etc.) for (ns on trend codes (s CRs assigned to thei	ystem, equipmen r department prio	t & component, r to CRG. [QAPM A	.6.e]
(d)) Ensi perfe	uring CRs involving hu ormance trend data is	uman performance is entered into PCRS	sues are properly	identified and hum	nan
(e)) Mair ensu	ntaining an awareness ure actions are comple	of the status of CRs eted by the due date	s & CAs owned by or extended appr	y their department t opriately.	0
(f)	Perf desi	orming Responsible M gnated by the Respon	lanager closure revi Isible Manager.	ews for Category	'C' CRs when	
(g)) Perf assi com caus	orming a final CR Qua gned to their departme plete and documented sal codes, PO&C, HU	ality check prior to ele ent as allowed by EN J. Ensure trend code Failure modes, etc.	ectronic CR closu I-LI-102 after all (s are accurately a	re review for CRs CR closure reviews assigned including	are

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- (i) Assisting others with PCRS and Corrective action program issues.
- (j) Completing a training Job Familiarization Guide, FFAM-CAA-DPIC, Department Performance Improvement Coordinator (DPIC).
- (k) Ensuring CAs initiated by their department has the proper CA Type code and matching CA Priority in accordance with Attachment 9.4.

5.0 DETAILS

- 5.1 PRECAUTIONS AND LIMITATIONS
 - [1] Safeguards information related to Safeguards CRs shall be handled in accordance with EN-NS-204; Protection of Unclassified Safeguards Information, requirements.
 - [2] Proprietary documents are not to be attached to Condition Reports or Corrective Actions. Contact Administrative Services or CA&A for guidance on proprietary documents.
- 5.2 CONDITION REPORT INITIATION [INPO930E21TP3], [INS9380TP2], [QAPM A.6.b]
 - [1] General Instructions
 - (a) Notification to management prior to, or concurrent with, initiation of a Condition Report (CR) is encouraged but not required. However, due to the potential implications of safety related issues, all conditions involving personnel and/or plant safety issues are expected to be communicated to management verbally to support timely resolution of the safety issue. These notification expectations are captured in 5.2 [1] (f) of this procedure.
 - (b) When documenting conditions on a CR, don't use names of personnel if at all possible. If necessary for clarity of the condition, use of titles is acceptable unless the CR is related to a personnel injury or illness. For CRs related to a personnel injury or illness use generic terms such as "employee" or "contractor" to refer to the injured/ill person.
 - (c) Safeguards Information is not to be placed in Condition Reports. Contact Security for guidance on safeguards information.
 - (d) Employees and contractors are encouraged to write CRs for a broad range of problems. Problems reported must include, but are not limited to, Adverse Conditions. Examples of Adverse Conditions requiring initiation of a CR are provided in Attachment 9.2.

If an employee is not satisfied with classification of a CR or if the actions are inadequate to alleviate their concern, the employee may choose to utilize Entergy's Open Door Policy and discuss the concern with higher levels of management. Employees may also choose to report their concern through the Employee Concerns Program (ECP). While the Corrective Action Process is the preferred method of reporting problems, the ECP may be utilized at any time. Neither this nor any other company policy alters an individual's right to address their concerns directly to the NRC per 10CFR19

Identifying problems within the CA Program is a Protected Activity as defined in EN-EC-100, Guidelines for Implementation of the Employee Concerns Program. [CR-PLP-2007-1243]

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- (e) Employees are required to initiate CRs for adverse conditions, and are encouraged to write CRs whenever conditions warrant.
 - (1) If there is any doubt about the decision to initiate a condition report, then employees are encouraged to discuss the condition with appropriate management.
 - (2) If doubt remains, employees should initiate the CR.
- (f) Any individual, including corporate, shared resource, or contracted personnel, who discovers an Adverse Condition, is expected to ensure the following actions are taken. [P5110], [P23978]
 - (1) Immediate actions are taken as necessary to minimize the consequence of the condition. Expected actions are commensurate with level of training, knowledge and expertise (e.g., extinguishing a fire, eliminating a safety hazard or correcting an adverse radiological condition).
 - (2) Appropriate site personnel are notified of the identified condition. If immediate action should be taken by Operations to ensure the safety of the plant or personnel, contact the Shift Manager/designee. The following information should be provided:
 - Originator's name, telephone number, and supervisor,
 - Brief description of the condition,
 - Equipment identification and location, and
 - Immediate corrective action taken, if any.
 - (3) The condition is promptly documented on a Condition Report.
 - (g) Nonconforming items are properly controlled to prevent their inadvertent test, installation, or use. When items are controlled by tagging, the tag is equivalent or similar to Attachment 9.7. [QAPM A.6.d S1], [QAPM Table 1.c.22], [QAPM B.13.b], [ANSI N18.7 5.2.14], [ANSI N45.2.4 2.6 S1 S2]
 - (1) When tags are used the stock shall be made from material which will not deteriorate during storage.
 - (h) <u>Quality related nonconforming items installed in the plant</u>, used in order to operate the plant or used to implement approved procedures requires a condition report be initiated, dispositioned and tracked per this procedure. [P22362]

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- (i) For equipment, components, assemblies, sub-assemblies that maintenance removes from the plant systems AND meet the definition of Non-Conforming Material as defined in EN-MA-101-02, Control of Material Outside Facility Warehouse, require a condition report be initiated and tracked per this procedure until under warehouse control or until scraped. The Non-Conforming Material/Item is controlled in accordance with EN-MA-101-02. This includes a condition of a System, Structure or Component (SSC) that involves a failure to meet the Current Licensing Basis (CLB) or a situation in which quality has been reduced because of factors such as improper design, testing, construction, or modification. The following are examples of nonconforming conditions:
 - (1) An SSC fails to conform to one or more applicable codes or standards (e.g., the CFR, operating license, TSs, UFSAR, and/or licensee commitments).
 - (2) An as-built or as-modified SSC does not meet the CLB.
 - (3) Operating experience or engineering reviews identify a design inadequacy.
 - (4) Documentation required by NRC requirements such as 10CFR50.49 is not available or deficient
- (j) <u>Nonconforming items within warehouse control</u> shall be controlled and tagged in accordance EN-MP-120, Material Receipt or EN-MP-115, Material Issues and Returns. Tracking per this procedure is not required. Tracking per this procedure is not required except where a condition exits as describe in Attachment 9.2.
- (k) All Safeguard conditions will be identified as a Safeguard condition report. The condition description should clearly identify the CR as being a Safeguards CR. The condition description shall contain as much information as possible to ensure proper prioritization within the corrective action program by the CRG without providing any safeguards information subject to the following: [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (1) Where additional (safeguards) information is required to describe the condition, the additional information shall be contained in a uniquely identified safeguards document
 - (2) The Condition Report shall reference the uniquely identified safeguards document and the uniquely identified safeguards document shall reference the Condition report. It shall be the responsibility of the Security Department to ensure this cross reference is made.
 - (3) The uniquely identified safeguards document shall be maintained in a safeguards file in accordance with Safeguards requirements. The Security Department (Security Manager and Safeguards Custodian) shall be responsible for maintaining this safeguards file and for developing and maintaining procedures to control this file.
 - (4) The safeguards file shall be auditable and must meet retention requirements equivalent to those of the Corrective Action Process at the individual site.

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[2] Preparation

- (a) When initiating a CR, with potential operability/functionality or reportability issues, promptly contact the Shift Manager/designee to inform Operations of the condition. [COMM-93-04786], [P22829]
 - (1) Direct notification of Operations personnel (via phone or face-to-face) is important to ensure details of the condition are sufficient and understood for the operability/functionality/immediate reportability determination. This notification is not performed using voicemail or e-mail because timeliness cannot be assured.
- (b) Determine the applicable Site:
 - (1) A Site CR should be initiated for the Site(s) impacted by the Adverse Condition.
 - (2) Consider initiating a Headquarters (HQN) CR instead of a Site CR if there is no Site impact, an Operability or Reportability Review is not required, AND if the Adverse Condition is related to a corporate program, fleet procedure, common process, or HQN activity.
 - (3) Both a Site CR and a HQN CR may be required when the site impact is associated with an Adverse Condition in a corporate program, fleet procedure, common process, or HQN activity.
- (c) Prepare the Condition Report using the PCRS application. PCRS is accessible to anyone with access to a PC containing the PCRS application.
- (d) In the unlikely event of a PCRS system outage, follow the instructions provided in Attachment 9.3 (Manual CR Initiation).
- (e) The condition description and any supporting documentation should be in sufficient detail to provide a clear understanding of the condition. If known, include details on what impact the condition has on personnel or plant safety. This information is used to perform operability/functionality/immediate reportability and reportability determinations. It is expected that the condition description identify any outside agency that identified the condition, when applicable. [P23978]
 - (1) The condition description field should provide a brief, factual statement of what the deficiency, issue, or problem is and its impact to reliability and safety, and any additional information needed to provide complete and accurate identification of the problem. The additional information should include a summary of the facts with statements detailing what happened, when and where it happened, and if known, why the event occurred.
 - (2) Include any pertinent vendor information that will assist personnel in their operability and reportability determinations.

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	(3)	Include any previou	us examples of the o	condition of which	you are aware.	
		a. If you know include thes	of previous CRs tha e in your descriptior	t documented the 1.	same issue, then	
		b. Include refer	rences to Industry O	E where applicab	le.	
	(4)	Include any pertine hydrogen concentra value of"	nt trend information ation has been incre	, such as "over the easing from a valu	e past three months, e of to the cur	
(f)	The	date & time of the occ	urrence are include	d in the Condition	Description, if pertin	
(g)	Inclu Requindus indus	ide any immediate / in uest, etc.) or to minimi strial safety concerns, ed until the industrial s	terim actions initiate ze the impact on pla describe actions ta safety concern is co	ed / completed to e ant equipment or p ken to prevent per rrected.	either correct (Work personnel. In the cas rsonnel from being	
(h)	Attac (i.e., form	ch electronic copies of computer printouts, o at. [P22829] [P23977]	any documents nee perating logs, surve	eded to understan y records, etc.) in	d or clarify the condi MS Word or PDF	
(i)	Save route oper	ave the Condition Report in PCRS using the "Init CR" button. It is then automatically uted to the appropriate departments (Operations, Licensing, and CA&A) for perability/functionality, reportability, and processing as applicable				
(j)	For e "Equ	r equipment related CRs, ensure applicable equipment information is filled out in the guipment" tab of the CR in PCRS after CR initiation.				
(k)	Infor prop PCR	mation regarding subs osed corrective action S to maintain awaren	sequent CR categor is is readily available ess of the status of t	y classification, as e in PCRS. CR in CRs they have ini	ssignment, status, an itiators can review tiated.	
[3] Ori	iginal	Condition Report Mod	lification	•		
(a) i a la v	f the language in a co administratively remov anguage is offensive, version should be prov	ndition report is dee ed without the initiat distasteful or inappr ided to Employee C	med abusive by C tor's concurrence. opriate in nature. concerns	CA&A, it may be This includes the The original unedite	
(b) li ti c e a	n addition, if the name he individual's title or concurrence. Confiden etc.) and safeguards ir appropriate wording wi	of an individual is p position for the indiv ntial information (SS oformation may also ithout the initiator's of	provided in the CR idual's name with Ns, medical detai be removed and concurrence.	t, CA&A may substitu out the initiator's ls, disciplinary action substituted with	
(c)) F s	For CRs related to a pe such as "employee" or	ersonnel injury or illi "contractor" to refer	ness CA&A may s to the injured/ill in	ubstitute generic terr ndividual as necessa	
(d) (Changes should be no	ted inside brackets	[] or an explanation	on of change provide	
(e) F ta ti ti	For information change ab of the applicable C he changes made and he CR need only be re	ed or removed witho R must annotated to I the reasons for the etained as required	ut the initiator's co describe in gene changes. The ori by (a) above.	oncurrence the admin ral terms, the nature ginal full text version	

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3 OPERAB [ER2003176 N18.7, Section	LITY, FUNCTIONALI 1_02], [ANSI N18.7 Section on 4.1]	TY, AND IMMEDIATE n 5.2.6 S20], [10 CFR 50.	EREPORTABILIT 72(b)],, [10 CFR 73.	'Ƴ [NL-98-066-C024], 71(a)(1) (b)(1) S1], [AN	ISI
[1] For En	tergy Nuclear Plant CF	Rs: [ER970230]			
(a) Wh def exi che Op Re Op	ten a CR is initiated, the remine if a potential op- sts. The CR initiation s ecked as "Potential Op- erations Department for portability screening. If erability/Functionality a erability" button should	the CR initiator is tasked perability/functionality screen has a checklist perability – Yes," the C or Operability/Functio f a CR initiator is unsu and/or Immediate Rep d be checked as "Yes	ed with screening and/or immediat t to assist in the s CR is automatical nality Determinat ure if a condition oortability concert.	the condition to reportability conc screening. If a CR is ly routed to the site tion and Immediate involves a Potential n, the "Potential	ern }
(b) The the tha the	ose CRs flagged as "P CRG to verify that Op t Operability/Functiona operability/functionality	otential Operability – perability Determinatic ality Determination is ty.	No" by the CR in on is not required, required, Operati	itiator are reviewed . If the CRG determ ons is notified to pe	by lines erforn
(c) Op are ent C02	erability/ Functionality performed in accorda ered into PCRS on the [4], [INS9620004]	and Immediate Repo ince with NMM EN-OI e Operability/ Function	rtability reviews f P-104. The result nality screen. [Ge	or CRs requiring re s of the reviews are ntletr9118R1], [NL-98-0	view))66-
[2] For He	adquarter (HQN) Nucl	ear CRs:			
(a) Wh det exi is s Re site	en a HQN CR is initiat ermine if a potential op sts. The CR initiation s creened as having a F portability concern, the e(s) so an Operability/F	ted the CR initiator is perability/functionality creen has a checklist Potential Operability/F CR initiator ensures Functionality Determir	tasked with scree and/or immediat to assist in the s functionality and/o a Site CR is writh nation can be per	ening the condition e reportability conc creening. If a HQN or Immediate ten for the affected formed.	to ern I CR
5.4 REPORT Section 4.1]	ABILITY [10 CFR 50.72(b , [10 CFR 21, 21 A and C]	o)], [10 CFR 50.73(a)(2)],	[10 CFR 73.71(a)(1)	(b)(1) S1], [ANSI N18.	7,
[1] When a initiator reporta checke Licensi involve checke	a CR is initiated where is tasked with screen ble. The CR initiation s d as "Potential Report ng Department for a re s a Potential Reportab d as "Yes"."	the PCRS Reportabi ing the condition to de screen has a checklis ability Yes", the CR is eportability review. If a ility concern, the "Pot	lity Bypass feature etermine if a cond to assist in the s automatically ro a CR initiator is u tential Reportability	re is enabled, the C dition is potentially screening. If a CR i outed to the site nsure if a condition ity" button should b	R s e
[2] The de informa	signated personnel for ition in PCRS within 5	r completing the repor working days of CR i	rtability review wi nitiation.	ll enter the appropr	iate

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- [3] Those CRs flagged as "Potential Reportability No" by the CR initiator are reviewed by the site Licensing Department in a timely manner to verify that a reportability review is not required. This may be performed by a Licensing Department representative during a CRG meeting where newly initiated CRs are reviewed. If the Licensing Department determines that reportability review is required, Licensing will perform the reportability review and enter the appropriate information in PCRS.
- [4] Reportability Reviews are performed in accordance with EN-LI-108, Event Notification and Reportability and EN-LI-108-01, 10 CFR 21 Evaluations and Reporting.
- 5.5 SIGNIFICANCE DETERMINATION PROCESS (SDP) [Gentletr9118R1], [INS9620004]
 - [1] The Plant Licensing Group (or other group as assigned by plant management) reviews CRs to determine if a Significance Determination Process (SDP) review should be done to characterize the risk significance of the issue relative to the Reactor Oversight Program strategic areas (Reactor Safety, Public Radiation Safety, Occupational Radiation Safety, Physical Protection, Emergency Preparedness). The criteria used for this selection are:
 - CRs associated with NRC Findings which have been classified as potentially being more significant than green
 - CRs for which CRG has requested Risk Significance Determination
 - Other CRs as Plant Licensing deems necessary
 - [2] CAs are assigned in PCRS to the responsible groups to complete the SDP. If further review of the condition or event necessitates additional responsibilities to complete the SDP for all affected SDP cornerstones, additional CAs are assigned in PCRS.
 - [3] SDP screening is performed and the results are entered into PCRS.
 - [4] SDP results are made available to the CRG.
- 5.6 CONDITION REVIEW GROUP (CRG) [NL-97-084-C17]. [P2993], [P13307], [P16529], [P20277], [P21439] [P13363], [QAPM B.13.a]
 - [1] Corrective Action & Assessment (CA&A) or the initiating department provides recommendations to the CRG regarding the categorization and assignment of CRs per Attachment 9.1. [P9849]
 - [2] The Chairperson for the CRG at the sites is the GMPO or designee. The Chairperson for the CRG at Headquarters is determined by the VP Operations Support. The Chairperson ensures that appropriate management representation is present.

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- [3] CRG quorum, at a minimum, should consist of a Chairperson and management representing Maintenance, Operations, Engineering and the CA&A Manager (or designee). If the chairperson is in either the CA&A, Maintenance, Operations, or Engineering organization, then he/she can be counted as the management member for their organization for the purpose of meeting minimum quorum requirements.
 - (a) If a quorum is not met, then the meeting shall be canceled or postponed until such time as a quorum can be assembled.
 - (b) If cancellation is required due to not meeting quorum requirement, then a CR is generated to document the incident.
- [4] Condition Reports are reviewed by the CRG in a timely manner.
- [5] When a Condition Report includes Safeguards information a representative of the Security Department, with Safeguards authorization shall be present at the CR Pre-Screening if applicable and at Condition Review Group (CRG). [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (a) This Security Department representative shall provide any information to the CRG that is required to classify the condition report, subject to the requirements of 10CFR73.21 Protection of Safeguards Information and EN-NS-204; Protection of Unclassified Safeguards Information.
 - (b) For some Safeguards CRs, CRG members may be required to be Safeguards qualified based on the nature of the CR being reviewed. Security shall make this determination
 - (c) These requirements shall be applicable to each site and headquarters
- [6] The CRG provides oversight of CR Operability/Functionality Determinations, Operable-Degraded or Nonconforming (Operable-DNC) or Operable-Comp Measures conditions.
 - (a) The primary responsibility for completeness and accuracy of the Operability/Functionality determinations lies with the Operations department.
 - (b) Operations ensures appropriate flags / codes are applied in PCRS to facilitate tracking of Operable-DNC or Operable-Comp Measures conditions.[NL-98-066-C024], [ER970230]
 - (c) Operations ensures that open Operable but Degraded or Nonconforming or Operable-Comp Measures conditions are tracked at the Site and presented through either the CRG or the Ops Focus meeting to meet timeliness expectations for resolution per EN-OP-104.
- [7] The CRG reviews newly initiated CRs and determines/confirms the appropriate category assignments as identified in Attachment 9.1. [P5431]
- [8] The CRG determines Responsible Manager assignments. Changes to the Responsible Manager assignment can be made without CRG approval as long as the previous Owner and new Owner both agree on the assignment change.

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[9]	The CR	G determines if an A	dverse Trend classific	cation is appropria	te for a CR.	
[10]	The CR the CR o their del	G assigns due dates category (see Attachi iberations.	for disposition and co ment 9.4). The CRG	prrective action de may assign differe	termination based or ent due dates based	
[11]	CRG me technica	embers are encourag Il disciplines regardin	ed to provide feedba g CR status, ownersł	ck to CR initiators hip, and proposed	from their respective corrective actions.	

[12] Feedback on Cat "D" closed CRs is provided to the initiating employee and their supervisor, when names are entered as recorded in PCRS, via the automatic e-mail extracted from PCRS. The email includes the closure description, closure date and individual performing the CR closure in PCRS. This informs the employee and supervisor that the CR has been closed so that if desired the originator/supervisor can review closure and if necessary request reconsideration based on new information or insight by initiation of a new CR.

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- [13] If additional information becomes available during CR processing then the CR may be presented to the CRG for re-categorization. All changes in significance or category are approved by the CRG. If the CR is re-categorized, then a new due date may be assigned based on significance of the condition.
- [14] The CRG assigns any immediate or interim actions that may be required to minimize the consequences of a condition and/or to determine extent of a condition.
- [15] In order to ensure appropriate oversight and independence, the Quality Assurance (QA) organization has the right to determine if a QA identified condition is a Condition Adverse to Quality (CAQ) or a Significant Condition Adverse to Quality (SCAQ). In cases where the CRG does not concur that a QA identified condition is a SCAQ, the Director, Oversight has authority to overrule the CRG.
- [16] The CRG determines if new CRs meet the criteria for application of Attachment 9.5 Entergy Fleet Learning Review Process.

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5.7 CORRECTIVE ACTION REVIEW BOARD (CARB)

- [1] The purpose of the Corrective Action Review Board (CARB) is to review and approve the root cause and the proposed Corrective Action Plan for significant CRs.
- [2] The Headquarters CARB membership will consist of manager- and director-level individuals as designated by the VP, Operations Support.
- [3] The Site CARB membership will consist of the following personnel or their alternates:
 - Chairperson Director level (or higher) member of site staff
 - Director, Engineering
 - Director, Nuclear Safety Assurance
 - Manager, Corrective Action & Assessment
 - Manager, Operations
 - Manager, Maintenance
 - Manager, Training
- [4] CARB quorum consists of:
 - (a) A Chairperson and:
 - At least one position designated member and
 - At least two additional position designated members or their alternates. Alternates will be designated by the Chairperson
 - (b) If a quorum is not met, then the meeting shall be canceled or postponed until such time as a quorum can be assembled.
 - (c) If cancellation is required due to not meeting quorum, then a CR is generated to document the incident.
- [5] For any CARB voting process each representative of the quorum shall have one vote.
- [6] For some Safeguards CRs, the CARB members may be required to be Safeguards qualified based on the nature of the CR being reviewed. Security shall make this determination. [CR-HQN-2009-1107, NRC Order EA-09-060]
- [7] CARB reviews proposed Root Cause CAPRs for sustainability.
- [8] CARB reviews and approves (or disapproves) proposed cancellation or replacement of Root Cause CAPRs.
- [9] CARB members and their alternates complete a training Job Familiarization Guide, per EN-FAP-LI-003, Corrective Action Review Board (CARB) process.

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 - [10] In the event a previously CARB approved root cause report requires a revision and followup CARB review, the CARB (with CAA assistance) ensures follow-up actions are assigned to appropriate organizations to review the revision. This review is to ensure that if a report was made to an outside agency (or other departments) based on the original root cause, the original outside agency report remains valid, or requires a revision. Examples of reports to external agencies (or other impacted departments) include LER to NRC, reports to INPO, etc.
 - (a) Examples of reports to other departments include departments developing modifications, tracking materials being purchased, tracking vendor destructing testing, etc.
 - [11] For CRs assigned for CARB review, the CARB assigns Effectiveness Review actions to the CR Owner, or other groups as appropriate. This assignment is made based on significance, importance, or complexity of the documented event or condition. Effectiveness reviews may be tracked and documented through the initiation of a Learning Organization document.
- 5.8 CR DISPOSITION [NL-97-084-C07], [NL-97-084-C13], [ANSI N18/7, Section 5.2.7.1 S14, S15, S16], [ANSI N45.2.12, Section 4.5.1 S1-S5 (QAPM Table 1N.10)], [QAPM B.13.a], [ANSI N45.2.13 9.2 S1a, b, c, d]
 - [1] General Instructions

<u>Caution</u>

New or revised Operability determinations / evaluations may indicate that the Reportability Review needs to be updated.

- (a) Personnel involved with the investigation and disposition of CRs are responsible for: [Gentletr9118R1], [INS9620004]
 - Informing the Shift Manager/designee immediately if a SSC previously evaluated as operable may be inoperable as determined from new information from the disposition investigation.
 - Informing the Shift Manager and Licensing Manager immediately if a condition previously thought to be not reportable is in fact reportable as determined from new information from the disposition investigation.
 - Initiating a new CR if new information or insight makes the current Operability and/or Reportability questionable or if a previous CR's identified cause is found to be incorrect.
 - Contacting CA&A if the condition or event should be reevaluated by the CRG
- (b) If at any time after a CR has been initiated and screened, information becomes available that may change previous conclusions regarding present or past operability, notify the shift manager immediately and initiate a new condition report.

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- (c) If a CR that had "Potential Operability" checked as "No" is later determined to need an Operability/Functionality Determination, the Shift Manager (SM) / designee and CA&A should be informed immediately. The SM/designee can perform an Operability/Functionality Determination even though it was originally indicated as not required.
- (d) If a CR that had "Potential Reportability" checked as "No" is later determined to need a Reportability Review, the Licensing Manager / designee and CA&A should be informed immediately. The Licensing Manager /designee can perform a Reportability Review even though it was originally indicated as not required.
- (e) During the course of investigations or completion of corrective actions for open condition reports, a new condition report shall be initiated:
 - (1) If additional issues beyond the scope of the initial problem description are identified during the problem evaluation of an event, an additional CR shall be initiated for these new issues.
 - (2) If additional issues beyond the scope of the initial problem description are identified during the initiation of a proposed correction action or the completion of an actual corrective action of an event, an additional CR shall be initiated for these new issues.
 - (3) A separate CR may be required for the following even if an initial CR was written to perform the maintenance when:
 - a. Unexpected condition (signs of overheating, damage from overstress, etc.) are identified during maintenance on safety-related SSCs; non safety-related SSCs ranked as High Critical components
 - b. An abnormal or unexpected condition on an SSC that needs further evaluation (e.g., deviations (trends) in operating parameters from normal)

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- (f) For Safeguards CRs, the assigned Department shall be responsible for performing or overseeing the required Condition Report response to meet the requirements of the Corrective Action Program. Note that this may or may not be the Security Department (i.e., Modifications, Licensing, Engineering, etc.) This would include: [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (1) Maintaining Root Cause Analysis and Apparent Cause Evaluation qualified individuals to perform such evaluations on CRs that are Safeguards related. Such evaluations shall be performed in accordance with existing corrective action procedures.
 - (2) Maintaining qualified Department Performance Improvement Coordinators (DPICs) to perform close-out reviews of Condition Reports that are Safeguards related. These reviews shall be performed in accordance with existing Entergy corrective action procedures.
 - (3) Individuals will obtain Safeguards qualifications in accordance with applicable Security procedures as needed to meet these requirements.
- (g) Corrective Action plans are reviewed / approved by management. [QAPM A.6.d S2], [QAPM A.7.a.1 S2]
 - (1) If an assignee or reviewer recognizes that a change in the intent of a Corrective Action plan is necessary, the change should be coordinated with the Responsible Manager (and CARB Chairperson, if CARB is applicable) and documented. Changes to Corrective Action plan due dates are controlled through the normal extension process described in this procedure. However, Due Date Extension Requests must be reviewed and approved/disapproved by the CARB chairperson for CAPRs that were generated as part of a CARB approved corrective action plan.
 - (2) For material related CRs, non-conforming items are reviewed for the need to classify as use-as-is, reject, repair, or rework. Items that are classified as use-as-is or repair are required to have a formal engineering evaluation with technical justification, augmented inspection and/or test requirements, and design reviews as appropriate. [QAPM B.13.b], [ANSI N18.7 5.2.14], [ANSI N45.2.4 2.6 S1 S2]
 - (3) Verification of Acceptability Evaluations are performed for the rework or repair of items within the ASME Section XI boundary.
 - (h) Effectiveness Reviews are conducted per the guidance of EN-LI-118. An Effectiveness Review that reaches a conclusion that Corrective Actions / CAPRs were ineffective should result in the initiation of a new CR to determine the need to revise the cause determination, corrective action plan, effectiveness review plan and the need for additional CARB reviews. Also, consider an additional CR to explore the potential Corrective Action Program failure.

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[2] Category A– Evaluation and Corrective Action Plan [P24458], [P24500], [P32520], [P17726], [P21887], [P21896]

All Significant Conditions are subjected to an evaluation to determine Root Cause. A Root Cause evaluation is performed and reviewed by qualified Root Cause Evaluators. Root Cause evaluations are performed in accordance with fleet Root Cause Analysis process procedures and guidance documents. In most cases, CAPRs are assigned for each Root Cause identified. The purpose of the action described in the CAPR is to preclude repetition. CAPRs receive an Effectiveness Review.

- (a) Responsible Manager must:
 - (1) Ensure that a Root Cause Analysis is performed for Category "A" CRs utilizing NMM EN-LI-118, Root Cause Analysis Process, and that appropriate CAPRs are issued. [P21896], [P21887]
 - (2) Ensure formulation of a proposed CA Plan to correct the condition and to preclude repetition. The corrective action plan specifies the responsible departments and relevant due dates for completion of the corrective actions. The Corrective Action Plan includes an action to perform an Effectiveness Review of the CAPRs.
 - (3) Approve the cause and corrective action plan that is submitted for CARB review/approval.
 - (4) Ensure the completed root cause and proposed corrective action plan are submitted to CA&A for review and for scheduling of CARB review/approval (as appropriate).
 - (5) Ensure implementation of Attachment 9.5 guidance for "Entergy Fleet Learning Review Process" specified by CRG/CARB.
 - (6) Ensure keywords and problem codes are appropriate based on investigation results

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[3] Category B – Evaluation and corrective action plan:

Category B CRs are assigned to the Responsible Manager for an Apparent Cause Evaluation as determined by the CRG. [P21886], [P21895]

- (a) Apparent Cause Evaluations (ACEs) are performed as either a Higher Tier or Lower Tier type, as assigned by CRG. Also, the CRG may direct a specific type of supporting cause analysis technique be performed in addition to ACE.
- (b) Responsible Manager must:
 - (1) Ensure an Apparent Cause Evaluation is performed utilizing NMM EN-LI-119, Apparent Cause Evaluation (ACE) Process, AND when directed by the CRG, utilizing the specific type of supporting cause analysis process indicated.
 - (2) Ensure formulation of a CA Plan to both correct the condition and to address the causes that were identified.
 - (3) Approve the cause and corrective action plan.
 - (4) Ensure keywords and problem codes are appropriate based on investigation results
- (c) Effectiveness Reviews may be performed as determined by management for this category of CR. Effectiveness Review report format and performance guidance are contained in EN-LI-118.
- (d) For Category B CRs the CRG may determine if a CARB review/approval is warranted. CRG guidance on CARB assignment is provided in Attachment 9.1.
- [4] Category C Corrective action:

Category C condition reports are assigned to a Responsible Manager for resolution of problem assigned by the CRG. A Root Cause or an Apparent Cause Evaluation is not required.

- (a) Responsible Manager must:
 - (1) Ensure actions are assigned as appropriate to correct the problem.
 - (2) Ensure the assigned corrective actions are appropriately completed within the prescribed time frame.
 - (3) If the disposition review determines that the problem is broader or more severe than initially assigned, present the information to the CRG for review and potential recategorization.
 - (4) Obtain CRG approval before closing a CR or CA to a Work Order. This requirement is not applicable if the CA was issued to track an enhancement and documented as such in PCRS with a basis for the Enhancement designation.
 - (5) Ensure keywords and problem codes are appropriate based on investigation results

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- (b) Effectiveness Reviews may be performed as determined by management for this category of Condition Report. Effectiveness Review report format and performance guidance are contained in EN-LI-118.
- [5] Category D CRs are administratively closed as directed by the CRG. [P6919]
 - (a) When a CR is closed to an existing CR:
 - (1) The existing CR must have been reviewed by the appropriate CRG and assigned to a responsible manager.
 - (2) The CR being closed is the same or lower Category level as the existing CR.
 - (3) A corrective action is assigned by CA&A to the Owner of the existing CR stating that a new CR has been closed to the existing CR and must be addressed within the existing CR.
 - (4) If the Operability/Functionality or Reportability of the existing CR is impacted by the new condition information being added, the CR Owner must take action to ensure the Operability/Functionality or Reportability as applicable is reevaluated. CRs with open Operability/Functionality or Reportability issues should <u>not</u> be closed to an existing CR at a different site or HQN until the open issues are satisfied at the affected site.
 - (5) In case of a duplicate issue, a new CA is not required.
 - (6) If immediate/interim actions are required at the site and the actions are <u>not</u> complete, then the CR should <u>not</u> be closed to an existing CR at a different site or HQN.
 - (b) For any CR closed as a Cat D based on actions already taken, a description of the actions taken is included within the CR or in the CR Closure Description field.
 - (c) CRs that identify conditions that do not rise to the level of an Adverse Condition as defined in 3.0[2] may be classified as follows:
 - (1) These CRs may be classified by the CRG as "Close Reference" referencing another process's tracking identifier (i.e. WR#, TEAR #, etc.), "Review Emerging Trend", or "Below Threshold" as appropriate.
 - (2) In some instances the CRG instead may choose to close these CRs to "Actions Taken" or "Condition Corrected" when supporting documentation is available or the CRG may choose to assign them for correction per their discretion.

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- [6] CR/CA Closure to Work Orders.
 - (a) CAPRs, Operable-DNC or Operable-Comp Measures conditions, and Category "A CR actions (except Enhancements), may not be closed to other processes and must remain open in the corrective action process until resolved.
 - (b) With CRG approval, CAs or CRs to correct Adverse Conditions, other than CAPRs and Operable-DNC or Operable-Comp Measures conditions and Category "A" CR actions may be closed to Work Orders with a Priority of 1, 2, 3 or 8.
 - (1) Additional guidance concerning classification of CRs on lower level equipment issues can be found in Attachment 9.6.
 - (c) To close a CR/CA to a Work Order the following must be completed:
 - (1) A Work Order (WO) has been generated and the WO number is listed in the CR using a site standardized format to support retrieval and tracking.
 - (2) Work Order scope or description is verified to adequately describe the issue identified in the CR/CA.
 - (3) Work Order Priority is determined to be either 1, 2, 3 or 8.
 - (4) The CR number is identified in the applicable Work Order's Attribute panel using the Fleet standardized format to support retrieval and tracking.
 - a. Add the Attribute, "CR Closed To This Item" to the applicable WO's Attribute Panel at the WO panel level.
 - b. The basis for the Fleet standardize format for the Attribute value is the CR number:
 - 1. Y-SSS-N-YEAR-######. Where Y=Yes, SSS=Station and N=Unit. For example Y-ANO-1-2012-01234.

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- (d) When the CRG designates a CR to Close to a Work Order, the CR's assigned department will check that the WO Priority is 1, 2, 3 or 8 and notify CA&A so the CR can be closed.
 - (1) If the applicable WO Priority is not a 1, 2, 3 or 8, then the CR's assigned department will ensure:
 - a. Per EN-WM-100, PS&O re-screens the challenged WR/WO for priority elevation.
 - (2) The CR's assigned department will Take Back to the CRG CRs who's WO(s) were <u>not</u> elevated to a Priority of 1, 2, 3 or 8 as a result of re-screening for final disposition by the CRG.
 - a. CRG may determine that the WO's Priority should be elevated, <u>or</u> the CR remains open to address the Adverse Condition, <u>or</u> that the problem does not meet the criteria for an Adverse Condition.
 - b. If the CRG determines the problem does not meet the criteria for an Adverse Condition, then the guidance in step 5.8[5] (c) is followed to appropriately classify the CR.
- (e) Responsibility for monitoring and reporting on the status of WOs that have CRs/CAs closed to them resides with the Planning and Scheduling/Outage organization (P&S/O). This monitoring is to ensure timely correction of the originally identified condition.
 - (1) Periodically, typically at least monthly, P&S/O will report to the CRG the status of WOs with CRs/CAs closed to them. The focus of this report should be the monitoring for timely resolution of those WOs per EN WM-100. The CRG may require additional details for any WOs not completed in a timely manner.
 - (2) If the work originally scheduled to correct the condition is transferred to another WO, P&S/O will ensure the CR reference is added to the new WO.
 - (3) Before a WO which had a CR or CA closed to it can be canceled or closed with no work to be performed, the organization requesting cancellation will present the CR and WO to the CRG for discussion. If necessary, another CR may be generated to track the issue. CRG approval is not required for canceling a WO if the work is to be performed under another WO and both WOs contain the appropriate reference to the CR.

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- [7] Work Orders being Tracked by an Open CR/CA
 - (a) Some CRs/CAs cannot be closed to a WO per 5.8[5] (6) (i.e. CAPRs and Operable-DNC or Operable-Comp Measures conditions and Category "A CR actions).
 - (b) When an Open CR/CA is tracking a WO as part of a corrective action plan, then the CR number is identified in the applicable Work Order's Attribute panel using the Feet standardized format to support retrieval and tracking.
 - (1) Add the Attribute, "CR Depends On This Item" to the applicable WO's Attribute Panel at the WO panel level.
 - (2) The Fleet standardize format for "CR Depends On This Item" Attribute value is:
 - a. The CR number; SSS-N-YEAR-#####-\$. Where SSS=Station and N=Unit and \$=applicable CR's significance level. For example ANO-1-2012-01234-A.
 - (c) If the work originally scheduled to correct the condition is transferred to another WO, P&S/O should ensure the CR reference is added to the new WO.

5.9 CORRECTIVE ACTIONS [ANSI N45.2.12, Section 4.5.1 S1-S5 (QAPM Table 1N.10)]

- [1] General Instructions
 - (a) Corrective Actions are assigned a CA Type code and matching CA Priority in PCRS in accordance with Attachment 9.4.
 - (b) Each corrective action should specify whether or not it is tracked as an operational constraint and which unit or Outage is affected.
 - (c) Any Operable-DNC or Operable-Comp Measures conditions not resolved prior to the completion of the next outage of sufficient duration shall be evaluated for continued operability into the next cycle of operation. This evaluation is reviewed and approved by the Onsite Safety Review Committee (OSRC) prior to startup from the outage. [Gentletr9118R1], [INS9620004]
 - (d) For CAPRs that are credited as being implemented by procedure actions or requirements the applicable steps in the associated procedure should be annotated or flagged as commitments in accordance with EN-AD-101 and applicable site procedures.

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(e)	Long VP.	g Term Correcti	ve Act	on (LTCA) designat	ion is approved by	y GMPO/Director or S
	(1)	Once approv	ved, the	e CR/CA is appropri	ately flagged as lo	ong term.
	(2)	CAs are elig established/ Guidelines (ible for approv Attachi	LTCA designation i ed in accordance w ment 9.4) <u>AND</u> if the	f they cannot mee ith the Corrective by meet any of the	et the timeframes Action Processing following criteria:
		a. includ plann CAs, s outag	les wor ed long such as e staffi	k requiring a plant r system/train/composite s training or meeting ng is complete.	efueling outage, p onent outage to co is, which cannot b	lant forced outage or omplete. This include of completed until pre-
		b. Requi appro	res de ved mo	velopment of a modi odification/design ch	fication and/or mo ange.	odification of an
		c. Requi compl	res tra ete.	ning that will take m	ultiple requalification	tion or training cycles
		d. Includ NRC respo	les initi (or othe nse/ap	atives dependent up er state or governme proval.	oon a Licensing su ental regulatory or	ubmittal which requires ganization)
	(3)	Attachment Its use is de addressed <u>a</u> expectation approval, in requests. Op or document	9.9 is p sired. ind the is to ca the ap otionall ted dise	provided to facilitate However, if the form guidance of 5.9[1] (apture the form <u>or</u> th plicable CA that is m y the CA marked LT cussion points in the	the LTCA review is not used all po e), (1), (2) & (4) m e discussion point narked as a LTCA CA may reference e applicable CR.	and approval process bints applicable must b hust be followed. The ts of the form, and its or one of its DDE the location of the fo
	(4)	The specific the need to or as otherw assigned at	restric use the ise refe time of	tion preventing the t Long Term CA class erenced in the CA. CA initiation (vice c	imely completion ssification, must b Long Term CA cla hanging to Long	of the item, resulting in e documented in the C assifications are norma Ferm at the due date).
(f)	CAs PCR proc	issued to track S with a basis esses without (Enhar for the CRG ap	icements as defined Enhancement desig oproval.	in 3.0[22], and do mation, may be cl	ocumented as such in osed referencing othe

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- (g) For each Corrective Action that contains safeguards information: [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (1) Where additional safeguards information is required to describe information in the Corrective Action, the additional information shall be contained in a uniquely identified safeguards document
 - (2) The Corrective Action shall reference the uniquely identified safeguards document and the uniquely identified safeguards document shall reference the Condition Report and Corrective Action. It shall be the responsibility of the Security Department to ensure this cross reference is made.
 - (3) The uniquely identified safeguards document shall be maintained in a safeguards file in accordance with Safeguards requirements. The Security department shall be responsible for maintaining this safeguards file and for developing and maintaining procedures to control this file.
 - (4) The safeguards file shall be auditable and must meet retention requirements equivalent to those of the Corrective Action Process at the individual site.
 - (h) The Change Management Process, EN-PL-155, should be used as appropriate for corrective actions that meet the complexity and risk outlined in the policy.
- [2] Corrective Action Initiation
 - (a) Corrective Actions are initiated using PCRS for all actions identified in the action plan, not documented as complete.
 - (b) Corrective Action Due Dates should be selected with consideration given toward:
 - The next potential occurrence of the problem and should ensure the action is complete prior to the next potential occurrence of the problem, if possible.
 - The potential impact to plant operation while the action completion is pending.
 - How much time is needed to complete the action
 - What are the resource availability issues that challenge the completion of the action?
 - (c) Corrective Action Due Dates should be assigned utilizing the guidance contained in Attachment 9.4. CA timeliness criteria are provided in Attachment 9.4. These criteria are to achieve CR age goals that are monitored via performance indicators. These are considered guidelines and not procedural requirements. Except as noted in Attachment 9.4 the CRG, CARB, or Responsible Manager can deviate from the criteria to appropriately manage resources. In some instances GMPO/Director or Site VP concurrence is required. Exceptions taken to the timeliness criteria do not relieve the CA/CR Owner from meeting performance indicator goals.
 - (d) Typically CA assignments to another department should be made at the management level in PCRS.

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5.9 [2] (cont (e) (f)	Typi The nece	cally CA assigners sh				
	(e) (f)	Typi The nece	cally CA assigners sh				
	(f)	The nece		ould notify assignee	s prior to assignment of an action.		
		foun	corrective action contessary, cost effective, ement and address th d in EN-LI-118.	ent should be specif and compatible, with e issue. Further guid	fic, actionable, measurable, timely, hin the capability of management to dance on each of these criteria can be		
	(g)	Corrective Actions must address the cause or resolve the deficiency. Corrective action descriptions must be worded to ensure that the corrective action is tracked to completion. Cross references to other precursor or successor CAs may help ensure successful corrective action					
	(h)	Corr issue actic on th	ective Actions directin es, or causes should b ons must also include t ne outcome of the revi	g "consideration…" be avoided where po the expectation for f ew.	or "evaluation…" to resolve conditions ossible. If needed, then these correction follow-up actions to be issued depending		
	(i)	Corr expe corre	ective Actions that rec ectations, requirement ective actions.	quire training or brief s and information m	fing, or that direct communicating ust specify the required audience for		
	(j)	The with	CRG/CARB/OSRC or out the concurrence of	senior managemen fassigned or Respo	nt or above may issue CAs for a CR Insible Manager.		
	(k)	The Operations Shift Manager/SRO may issue corrective actions on a CR, for support of Operability/Functionality Determinations or Evaluations, without the concurrence of assigned or Responsible Manager.					
	(I)	The man	CA&A group issues C agement or above and	As at the direction of as required by this	of the CRG/CARB/OSRC or senior procedure.		
	(m)	Plan dete inclu iden Inde	t Licensing may issue rmine Reportability, w des Past Operability/F tified conditions, poter terminate Reportability	CAs for determinati ithout concurrence of Functionality Determ ntial or actual 10 CF y items.	ions and evaluations that are needed to of assigned or Responsible Manager. Inations or Evaluations performed on R 21 conditions, and any other		
	(n)	Plan Man NRC also adeo	t Licensing may issue ager, to the assigned violations or findings performs a closure re juately addressed.	CAs, without concu or Responsible Man are adequately add view of these correc	rrence of assigned or Responsible agers to ensure that potential or actua ressed in corrective actions. Licensing tive actions to ensure the finding was		
	(0)	The to all revie	CA assigner has the c ow the CA assignee t w is assigned by chec	option to review the o close the action. cking the "Concurrer	Corrective Action response for closure The CA Assigner indicates that a requnce Req'd for Closure" check box.		
	(p)	The allow that "Req	CA assigner has the c v the CA assignee the due date extension ap uire Extension Approv	option to oversee du oversight to extend oproval oversight is r val" check box (see	e date extensions for a given action of the due date. The CA Assigner indica required by CA Assigner by checking t 5.9 [3] for due date extension approve		

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5.9 [2] cont

- (q) For site CRs initiated in response to an Industry Operating Experience notification, a CA is issued for the Operating Experience organization to perform a closeout on the CR.
- (r) If it is believed that an action to change to a fleet procedure, policy, or document will sufficiently address the issue, obtain prior concurrence for the change from the fleet owner or assign two CA's:
 - (1) One CA to have the fleet owner to 'evaluate' the fleet need for the change and
 - (2) Another CA to the site owner to monitor the fleet owner's CA and determine if additional site actions are required should the fleet owner reject the need for a change to the fleet procedure, policy, or document.
- [3] CA Due Date Extensions (DDEs) [NL-81-A01-C15], [NL-98-025-C02], [ER960265_02]
 - (a) Corrective Action Due Dates are met.
 - (b) When needed, due date extension requests include a basis for why the extension is acceptable (i.e., interim controls are in place, the procedure will not be used until next refueling outage, etc.) and a basis for why the extension is necessary.
 - (c) CA timeliness criteria are provided in Attachment 9.4. These criteria are to achieve CR age goals that are monitored via performance indicators. These are considered guidelines and not procedural requirements. Except as noted in Attachment 9.4 the CRG, CARB, or Responsible Manager can deviate from the criteria to appropriately manage resources. In some instances GMPO/Director or Site VP concurrence is required. Exceptions taken to the timeliness criteria do not relieve the CA/CR Owner from meeting performance indicator goals.
 - (d) Corrective Action DDE Approval for all corrective action types should be in accordance with the guidance contained in Attachment 9.4.
 - (1) The "Assigned To" origination must ensure that, if the individual identified to approve the extension in PCRS is not at the authority level designated in Attachment 9.4 for approval, then additional discussion on how approval was obtained should be recorded in the DDE Request Description by the "Assigned To" organization (group). For example, "approval obtained from Director Eng" or "approval obtained from General Manager," etc.
 - (e) When approving DDEs, impact to overall corrective action plan should be considered.

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5.9 cont

- [4] CA Closure
 - (a) Upon completion of an action item, the CA assignee documents the response in PCRS. CRG approval is required before closing the CR or a CA from the CR to a Work Order. This requirement is not applicable if the CA was issued to track an Enhancement that was not needed to correct the original condition <u>or</u> was not needed to address an identified cause. The basis for the Enhancement designation should be documented in PCRS.
 - (b) The only process that a CA or (CR) can be closed to is a Work Order with a Priority of 1, 2, 3 or 8 (with CRG concurrence reference 5.8[6]). The following additional guidance is provided concerning Training Evaluation Action Requests TEARs)
 - (1) When training performance or modification to training material is identified as corrective action in a condition report to address a cause or correct the identified condition, then the completion of the training or modification of training material must be documented in the condition report.
 - (2) When a CR/CA identifies training or training material modification as corrective action and a TEAR is written to accomplish the activity; if the TEAR process determines no training or modification is required, THEN the condition report action plan approval authority (CRG, CARB, or Responsible Manager) must approve the change to intent of the associated action plan. A new corrective action directing an alternate strategy to address the associated cause or correct the identified condition may be required.
 - (3) Performance of Training or modification to training material properly identified as an Enhancement, as defined in 3.0[22], may be addressed by referencing a TEAR and not followed to completion through the corrective action process. The Enhancement justification and TEAR number should be referenced in the closure to ensure traceability.
 - (c) When a procedure change is required per a CR's corrective action plan then the change should be tracked to completion in a CA. The procedure change is complete when the procedure is effective in eB RefLib or Merlin as applicable. This should be documented prior to CA/CR closure. With concurrence of the CR's RM a Priority 5 Enhancement CA may be closed referencing the process handling the change outside of CAP.
 - (d) CA Assigner or CA Assignee, when permitted as described in Step 5.9 [2] (o), reviews each completed action and verifies that the required action is complete and any additional actions are planned. This includes: [ANSI N45.2.12 Section 4.5.2.4], [ANSI N45.2.12, Section 3.3.7], [P7239], [CR-HQN-2009-1107, NRC Order EA-09-060]
 - Ensuring that the response is adequate, answers all aspects of the assigned action, and the intent of the action is met.

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5.9[4] (d) cont

- If a change in intent of a Corrective Action plan is necessary, the change should be coordinated with the Responsible Manager (and CARB / CARB Chairperson, if CARB is applicable) and documented.
- Evaluation of the adequacy of the response to a CA shall be performed by safeguard qualified personnel when additional safeguards information is required to describe information in the CA.
- Ensuring all the requirements of step 5.9[1] (g) are met when additional safeguards information is required to describe information in the CA.
- Issuing, in PCRS, any follow-up or additional actions that are documented in the response or documenting why the recommendation is not needed.
- Ensuring that CA closure is timely commensurate with safety significance of the identified issue
- Ensuring that the CA is not closed to a "promise" of future action.
- Ensuring that the CA is not closed to an unapproved process.
 - CRG approval is required before closing a CA to a Work Order (reference 5.8[6]).
 - CRG approval is not required if the CA was issued to track an Enhancement that was not needed to correct the original adverse condition or was not needed to address an identified cause. The Enhancement designation, with a basis should be documented in PCRS.
 - CAPRs, actions to correct Operable-DNC or Operable-Comp Measures conditions, and Category "A" CR actions (except Enhancements), may not be closed to other processes and must remain in the corrective action process until resolved.
- Ensuring any Effectiveness Review Learning Organization documents are initiated when applicable
- Ensuring that electronic copies of any documents needed to understand, clarify, or validate completion of the corrective action responses are attached to the response. (Those attachments must be in either MS Word or PDF format.)

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5.9[4] (e) cont

- (e) If the action taken is adequate, the CA is closed in PCRS.
 - (1) If the action taken is inadequate the response is revised until considered adequate for approval, or:
 - a. Process a Due Date Extension to allow sufficient time for resolution of the issues with the response or
 - b. NOTE in the closure of CA the identified changes to the response and issue a new CA to resolve the issues with the response at the appropriate management level.
 - c. Changes to actions should have the same level of review as the original actions (e.g., approval by CARB / CARB Chairperson). Once approved at the appropriate level additional actions may be issued, as needed, to complete the changes.
 - (2) If additional corrective actions are identified in the response, appropriate CAs are generated in PCRS.
- (f) Closing an open CA in one CR to another CR should be handled as described in Step 5.10 [1] (h) and 5.10 [1] (i).
- [5] CR Interim and Periodic Reviews [SOER 10-2 Rec 1]
 - (a) Each open CR associated with Safety Related equipment will be reviewed at approximately six months from initial assignment date. This review will be documented in a CA assigned to the CR owner and will include at least the following items:
 - (1) Verification that the action plan documented in PCRS will correct the condition
 - (2) Document expected CR Closure date based on remaining needed actions,
 - (3) Verification, for equipment related CRs that the documented operability/functionality position remains valid for the current condition of the equipment and is expected to remain valid for the duration of the action plan. Initiate a new CR if the current operability/functionality position is questionable.
 - (4) Verification that administrative performance within the corrective action process has been acceptable to date. (Appropriate approval levels and justifications for DDEs are documented; LTCAs are appropriately flagged, etc.)
 - (5) Verification that the risk of not correcting the condition is acceptable for the duration of the action plan,
 - (6) Approval of these reviews and approval for the CR to remain open beyond six months has been obtained and documented from a director level or above.

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5.9[5] (a) cont

- (7) Attachment 9.8 is provided to facilitate the review and approval process. It can be used if desired. The expectation is to capture the discussion points of that form in a CA, DDE request or initial CA assignment as appropriate. The form itself need not be used, but all points applicable must be addressed and the guidance of 5.9[5] (a) and (b) must be followed as applicable.
- (b) At least once per year, following the initial review, each open CR associated with Safety Related equipment will be reviewed. This review will be documented in a corrective action and will include as a minimum the same items as the interim review above, and may be accomplished by a documented verification of the previous review.
- 5.10 CONDITION REPORT CLOSURE [P15552], [P4669] [CAPR 00734434.01], [CAPR CR-PLP-2009-05938], [ANSI N45.2.13 9.2 S1a, b, c, d]
 - [1] Condition Report Closure Responsible Manager Closure Review [P9849]
 - (a) When all CR actions are complete the Responsible Manager (RM) shall approve the closure of all Category A and B CRs assigned to their department. While the department manager is ultimately accountable to ensure this closure activity is satisfactorily completed, he/she can delegate necessary tasks, as required, to support this closure to staff within their department.
 - (b) The RM or designee should perform CR closure review for Category C CRs.
 - (c) For Safeguards CRs, the Responsible Manager closure review shall be performed by safeguard qualified personnel. [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (d) Accountability for a proper and complete CR response and CR closure review remains with the Responsible Manager.
 - (e) The closure review by the Responsible Manager (or designee for Category C CRs), may be documented in the last CA closed from a CR. If the closure is not readily apparent and documented, then CA&A may notify the Responsible Manager that a closure review is necessary. This notification may be in the form of a CR Closure Review CA in PCRS. The Responsible Manager, or designee, reviews the CR to make a recommendation for closure using the following criteria as applicable: [P9849]
 - The root cause or apparent cause is valid.
 - The specific condition is corrected or resolved.
 - Overall plant safety is not inadvertently degraded.
 - Generic implications of the identified condition are considered, as appropriate, including generic applicability to other departments and Entergy Sites.
 - Actions were taken to preclude repetition, as appropriate.
 - Any potential operability/functionality or reportability issue(s) identified during the resolution of the condition has been appropriately addressed.
 - All corrective action items are completed.
 - No safeguards information or proprietary documents are contained in the CR documentation.
 - Effectiveness Review actions have been initiated, when applicable.

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5.10 [1] cont

- (f) If the CR is not adequate for closure, the Responsible Manager will issue any additional actions needed to complete the corrective action plan. Minor clarifications and editorial corrections can be documented in the RM closure review response or comments. The issuance of additional actions will take the CR out of the closure process.
- (g) If the condition report is adequate for closure the Responsible Manager recommends and documents final closure of the condition report.
- (h) When an open CR is closed to another existing CR, the following requirements should be met:
 - The CR being closed is the same or lower significance Category level than the existing CR. Otherwise CRG concurrence is required.
 - The owner of the CR to be closed will obtain concurrence from the owner (Responsible Manager) of the CR to remain open that the open CR will be allowed to resolve the condition identified in the CR that will be closed.
 - The owner of the CR to be closed should ensure a CA is assigned to the owner of the CR remaining open stating that the CR has been closed to the CR remaining open and that the CR being closed must be addressed within the CR remaining open.
- (i) Closing an open CA in one CR to another CR should be done as described in 5.10[1]
 (h).
- (j) An independent closure review is performed for all significant CRs prior to the CA&A closeout review (Quality Check) and CR closure. CA&A normally performs this independent closure review to the same standards/requirements applicable for the RM closure review, but a subject matter expert from a department (or Site) other than the Responsible Manager's may be assigned to complete this review if warranted
- (k) An independent closure review is not required for non-significant CRs prior to the DPIC / CA&A closeout review (Quality Check) and CR closure. The documented RM closure review is adequate authorization for processing and closure of the CR by DPIC / CA&A as allowed per the requirements of this section
- [2] Condition Report Closeout Review (CR Quality Check) and Closure
 - (a) DPICs are allowed to perform the CR closeout review (CR Quality check) and electronically close Non-CARB "B – Lower Tier" and "C" level CRs. Otherwise CA&A performs this function (e.g. "A" and "B-Higher Tier level CRs as well as B-Lower Tier CRs that were approved by CARB). Also, CA&A may perform this function as a backup for DPICs as required. If an RM has completed a DPIC Familiarization guide, then the RM can perform the DPIC function for Non-CARB "B – Lower Tier" and "C" level CRs.

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5.10 [2] cont							
(b)	Gen	eral requirements for	CR closeout review	and CR closure			
	(1)	For Safeguards CF qualified personne	Rs, closure / closeou l. [CR-HQN-2009-1107,	It reviews shall be NRC Order EA-09-06	performed by safe	guard	
	(2) Upon receipt of response from the Responsible Manager stating that the CR is ready for closure the Manager, CA&A (or Manager CA&A Projects at headquarters) or designee, or DPIC ensures any applicable independent review and closure reviews of the CR are performed as appropriate.					R is view	
	(3)	If the CR closeout closure, then the C	If the CR closeout review determines that the condition report is adequate for closure, then the CR is electronically closed in PCRS.				
	(4)	If the CR closeout then a CA is issued specific recommen	If the CR closeout review determines that the report is not adequate for closure, then a CA is issued using the "UNSAT RESPONSE CA&A" action type, with specific recommendations or identified discrepancies that need further review				
		a. Due dates for from the dat require the c	or "UNSAT RESPON te of issuance. "UNS concurrence of the n	NSE CA&A" action SAT RESPONSE nanager being ass	ns are usually ≤ 30 CA&A" actions do ⊧ signed the action	days not	
		b. "UNSAT RE Manager of discrepancie issued or a actions are	SPONSE CA&A" ac the CR to evaluate t es. Based on the ev documented respon necessary.	ctions are issued to the specific recom valuation results, a se is provided as t	o the Responsible mendations or ider dditional actions ar to why no additiona	ntified re al	
		c. If a satisfact CR then the	ory response canno issue is resolved at	t be obtained for a t the appropriate le	adequate closure of evel of management	f the it	
(c)	Duri eval	ng the closeout reviev uation is reviewed and	v process, the result d the associated trer	s of the root cause nd codes are adjus	e or apparent cause sted if necessary	e	
(d)	lf the appr (refe Enha addr	e CR was assigned to roval is required before erence 5.8[6]). This re ancement that was no ress an identified caus	CR was assigned to a Responsible Manager for correction of a condition, CRG val is required before closing the CR or a CA in the CR to a Work Order ince 5.8[6]). This requirement is not applicable if the CA was issued to track an cement that was not needed to correct the original condition or was not needed to as an identified cause.				
	(1)	CAPRs, actions to conditions, and Ca closed to other pro resolved.	correct Operable-Di tegory "A CR action cesses and must re	NC or Operable-C s (except Enhance main in the correc	omp Measures ements), may not b tive action process	e until	

[3] EN-LI-102-02, CR Closure Quality, is available as a closure review tool for Responsible Managers, CA&A, and DPICs.

		and the second		,				
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5.11	PROGRAM	OVERSIGHT [NL-88	-062-C02], [NL-97-134-C	:04], [NL-98-025-C02]				
[1]	CA&A re reports,	eports status of the co open corrective actio	ondition reporting pro	cess (e.g., the nuctions) monthly. [P	mber of open conditior 5085]			
[2]	A compu date rep conditio	uterized reporting too orts and queries that n reports and correct	I is provided with PC allow plant personne ive actions.	RS. This reporting el to stay abreast o	g tool provides up to of the status of their			
[3]	The corr process approxir	rective action programes. A focused self-as mately every two year	n is periodically evalu ssessment is perform rs. [P7237]	uated through aud ned on Corrective /	it & assessment Action Process			
5.12	Senior Mar is required,	nagement may reque THEN:	st a Fleet Challenge	for an ACE or RC	E. <u>IF</u> a Fleet Challenge			

- [1] The site at which the event occurred may consider the addition of independent (not from the same site as the event) Senior Managers (VP, GMPO or NSA/Engineering Director) to provide independent oversight to the RCE Team.
- [2] An independent RCE Evaluator (not from the same site as the event) should also be considered.
- [3] The Fleet Challenge should follow the Site CARB review.
- [4] The Site CARB Chair should present the RCE to the Fleet Challenge meeting.
- 5.13 Department Performance Improvement Coordinators(DPICs)
 - [1] DPICs complete a training Job Familiarization Guide, FFAM-CAA-DPIC, Department Performance Improvement Coordinator (DPIC).

6.0 INTERFACES

- [1] NMM EN-DC-153, Preventive Maintenance Component Classification
- [2] NMM EN-EC-100, Guidelines for Implementation of the Employee Concerns Program
- [3] NMM EN-HU-101, Human Performance Procedure
- [4] NMM EN-LI-102-02, CR Closure Quality
- [5] NMM EN-LI-108, Event Notification and Reportability
- [6] NMM EN-LI-108-01, 10 CFR 21 Evaluations and Reporting
- [7] NMM EN-LI-118, Root Cause Evaluation Process [SOER 83-07, Recommendation 2], [SOER 92-01 Recommended CA 4A]
- [8] NMM EN-LI-119, Apparent Cause Evaluation (ACE) Process [SOER 83-07, Recommendation 2], [SOER 92-01 Recommended CA 4A]
- [9] NMM EN-LI-119-01, Equipment Failure Evaluation

6.0 cont

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[10]	[10] NMM EN-LI-121, Entergy Trending Process							
[11]	NMM EI	N-MP-120, Material Re	eceipt					
[12]	[12] NMM EN-MP-115, Material Issues and Returns							
[13]	[13] NMM EN-OP-104, Operability Determination Process							
[14]] NMM EN-FAP-OP-009, Tagging Performance Indicator Program							
[15]	NMM EN-NS-204: Protection of Unclassified Safeguards Information							
[16]	NMM EI	N-QV-109, Audit Proce	ess					
[17]	NMM EI	N-QV-106, Escalation	of Quality Concerns	•				
[18]	NMM EI	N-QV-126, Oversight F	Follow-Up Procedure	9				
[19]	NMM EI	N-AD-101: Procedure	Process					
[20]	EN-PL-1	155, Entergy Nuclear (Change Managemer	nt				
[21]	Significa	ance Determination Pro	ocess (SDP)					
[22]	NMM EI	N-FAP-LI-003, Correct	ive Action Review B	oard (CARB) Proc	cess			
[23]	NMM EI	N-FAP-LI-001, Conditi	on Review Group (C	RG)				
[24]	NMM EN-MA-101-02, Control of Material Outside Facility Warehouse							

[25] NMM EN-AD-103, Document Control and Records Management Programs

7.0 <u>RECORDS</u>

[1] CA&A transmits closed CRs for retention in accordance with EN-AD-103. After CRs are closed and entered into the permanent document management system, they should not be re-opened. However, a CR may be administratively re-opened in PCRS to add non Quality record related information for ease of future research, in the trend section, reference section, equipment section, CA Priority, CA Type or Administrative section. Only trend coding, reference items, CA Priority, CA Type or equipment identification information can be updated / corrected. Then the CR will be immediately re-closed. Otherwise, if information becomes available that indicates additional work is required for a CR in the permanent document storage system, a new CR should be initiated. [QAPM B.15.a], [10 CFR 73.71 A.5], [P15297], [P757], [ANSI N45.2.12], [P14653]
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8.0 SITE SPECIFIC COMMITMENTS

Step	Site	Document	Commitment Number or Reference
[1]	ANO	Commitment	P4997
[2]	ANO	Commitment	P7531
[3]	ANO	Commitment	P15552
[4]	ANO	Commitment	P2993
[5]	ANO	Commitment	P5431
[6]	ANO	Commitment	P3098
[7]	ANO	Commitment	P5085
[8]	ANO	Commitment	P9849
[9]	ANO	Commitment	P7239
[10]	ANO	Commitment	P6919
[11]	ANO	Commitment	P7237
[12]	ANO	Commitment	P15414
[13]	GGNS	UFSAR 13.1.2.2 S3	P22828
[14]	GGNS	UFSAR 13.1.2.2 S4	P22829
[15]	GGNS	UFSAR 12.5.3.7 S5	P22638
[16]	GGNS	UFSAR 12.5.3.7 S6	P22639
[17]	GGNS	AECM 89/0162 89-17-02, Att I,IV.3	P24458
[18]	GGNS	AECM 90/0004 VII.A.1	P24500
[19]	GGNS	AECM 84/0062 83-43-03. Att I.IV. (1)	P23977
[20]	GGNS	AECM 84/0062 83-43-03. Att I.IV. (2)	P23978
[21]	GGNS	QDR 46-95	P32520

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[22]	GGNS	ANSI-ANS 13.6/66 4.9.1 S1	P24842
[23]	GGNS	ANSI-ANS 13.6/66 4.9.2 S2	P24843
[24]	GGNS	10CFR21.21.A.1	P17819
[25]	GGNS	10CFR21.21.A.2	P17820
[26]	GGNS	UFSAR 8.3.1.1.4.1.2.S14, S15, S16	P21886, P21887, P21888
[27]	GGNS	UFSAR 8.3.1.1.4.2.13.S3, S4	P21895, P21896, P21897
[28]	GGNS	GIN92/03494 5.6	P33542
[29]	GGNS	GNRO 96/0056 96-06	P32648
[30]	IP2	Commitment	NL-81-A01-C15
[31]	IP2	Commitment	NL-88-062-C02
[32]	IP2	Commitment	NL-97-084-C07
[33]	IP2	Commitment	NL-97-084-C13
[34]	IP2	Commitment	NL-97-137-C04
[35]	IP2	Commitment	NL-98-025-C02
[36]	IP2	Commitment	NL-98-066-C024
[37]	IP2	Commitment	NL-98-066-C040
[38]	IP2	Commitment	NL-98-066-C041
[39]	IP2	Commitment	PD-77-234-C02
[40]	IP2	Commitment	PD-88-028-C21
[41]	IP2	Commitment	PD-97-037-C03
[42]	IP2	Commitment	RA-78-A05-C06
[43]	IP3	Commitment	COMM-93-04786

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[44]	JAF	Commitment	JA	\FP-91-0834	
[45]	JAF	SOER 83-07	R	ecommendation 2	
[46]	JAF	SOER 92-01	R	ecommended Corre	ctive Action 4A
[47]	PLP	Commitment	C	APR 00734434.01	· · · · · · · · · · · · · · · · · · ·
[48]	PLP	Commitment	C	R-PLP-2007-1243	
[49]	RBS	Commitment	P	13307	
[50]	VY	Commitment	A	UDIT RPT 9617-01	
[51]	VY	Commitment	E	ER960078_02	
[52]	VY .	Commitment	E	ER960265_02	
[53]	VY	Commitment	EI	ER970230	
[54]	VY	Commitment	E	R20032022_01	
[55]	VY	Commitment	E	ER20031761_02	
[56]	VY	Commitment	E	ER20031910_12	
[57]	VY	Commitment	G	entletr9118R1	
[58]	VY	Commitment	IN	IPO93OE21TP3	
[59]	VY	Commitment	IN	IS938OTP2	
[60]	VY -	Commitment	IN	189620004	
[61]	VY	Commitment	. TI	REND92TP4	
[62]	VY	Commitment	El	R20031637_01	
[63]	VY	Commitment	IN	IF9607_01	
[64]	WF3	Commitment	P	5110	
[65]	WF3	Commitment	P'	15297	
[66]	WF3	Commitment	P	16529	

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		Correc	ctive Action Proce	SS	
8.0 cont.					
[67]	WF3	ANSI N13.6.1	.7 P1:	5005	
[68]	WF3	Commitment	P17	707	
[69]	WF3	Commitment	P17	726	
[70]	WF3	Commitment	P20)277	
[71]	WF3	Commitment	P21	439	
[72]	WF3	Commitment	P21	440	
[73]	WF3	10 CFR 21.21	IA P2 ⁻	1693	
[74]	WF3	10 CFR 21.21	C P21	1700	
[75]	WF3	Commitment	P22	2593	
[76]	WF3	Commitment	P23	3035	
[77]	WF3	Commitment	P23	3038	
[78]	WF3	10 CFR 21.51	IA P75	57	
[79]	WF3	Commitment	P46	69	
[80]	WF3	Commitment	P22	2362	

9.0 ATTACHMENTS

- 9.1 CONDITION REPORT CLASSIFICATION/CATEGORY
- 9.2 EXAMPLES OF ADVERSE CONDITIONS
- 9.3 MANUAL CR INITIATION
- 9.4 CORRECTIVE ACTION PROCESSING GUIDELINES
- 9.5 ENTERGY FLEET LEARNING REVIEW PROCESS
- 9.6 GUIDELINES FOR CLASSIFICATION OF CRs ON LOWER LEVEL EQUIPMENT ISSUES
- 9.7 TYPICAL NONCONFORMANCE TAG
- 9.8 CR INTERIM AND PERIODIC REVIEW FORM
- 9.9 LTCA CLASSIFICATION FORM
- 9.10 CR ASSIGNMENT AND LIFE CYCLE PROCESS MAP

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ATTACHMENT 9.1

CONDITION REPORT CLASSIFICATIONS / CATEGORY

Sheet 1 of 6 [P5431], [P6919], [QAPM A.6.e], [ANSI N45.2.13 9.2 S1a, b, c, d]

Assignment of Corrective Action Review Board (CARB) Oversight:

The Condition Review Group (CRG) is responsible for determining that a condition report (CR) contains an issue that warrants CARB oversight. The purpose of CARB oversight is to ensure the condition reports are evaluated in-depth and well documented. CARB oversight includes approval of the final cause determination and the corrective action plan. CARB oversight is assigned for all Category A, Significant CRs and may be assigned for Category B, Non-significant CRs. The following guidance is provided to assist CRG in the determination of CARB assignment:

- · Condition reports with cross-disciplinary (across more than one department) aspects to them.
- · Condition reports with cross human performance aspects.
- Condition reports with cross organizational aspects.
- · Condition reports important to nuclear, public, or personnel safety
- OSHA Recordable and more severe injuries
- Condition reports important to generation capability
- Condition report events with generic implications
- Condition reports on equipment reliability applicability items impacting:
 - Capability factor
 - Forced loss rate
 - Unplanned LCO entry
 - Dose
 - Maintenance rule functional failure
 - Chronic system or component failure
- CRs on training programs_which are determined to meet the criteria for a "Finding" per the Measures for Judgment" contained in the INPO Accreditation Evaluator Reference Manual. Note: A Fleet Training Assessment Challenge Board will be convened at the Training Director's discretion to review ACE or RCE results related to training assessment findings prior to their presentation to CARB.

The following classification guidance is subject to CRG discretion. The CRG maintains the authority to deviate from this guidance, as warranted, so long as resolutions of Adverse Conditions are documented in the Corrective Action program.

<u>Significant</u> classification is the highest and most important. In most cases, significant events are the result of multiple barrier failures or programmatic breakdowns. There is considerably more investigation into the cause of the identified condition.

<u>Category A</u> – An adverse condition classified as significant and requires a Root Cause and actions to preclude repetition.

Condition meets one of the "significant" definitions. Typically, the condition is viewed as applicable to 10CFR50, requiring cause determination, correction of adverse condition and corrective actions to preclude repetition. Root Cause Evaluations should be completed within 30 days.

-For Human Performance/Process issues:

1. Does the identified problem meet the Human Performance Event Criteria? (see HU-101,Attachment 9.1) If yes then the CRG should consider classifying the CR as Significant.

-For Tagging Issues (Tagging error classification is defined in EN-FAP-OP-009)

- 1. Level I Tagging issue Where no barriers were present and event is significant a Cat. "A" CR RCA may be applicable the CRG should consider classifying the CR as Significant.
- -For Training issues:
 - Condition Reports for Training Assessment Standards Performance Deficiency (SPD as defined by EN LI-104) which are determined to meet the criteria for a "Finding" against objective criteria of ACAD 02-001, per the "Measures for Judgment" contained in the INPO Accreditation Evaluator Reference Manual should be evaluated through a root cause process.

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-For Reactivity Management Events

- 1. Reactivity Management Significant Classification Level 1 Events
- Reactivity Management Significant Classification Level 2 Events (Specific Conditions may be downgraded to a CR Level 'B' if proper justification is provided).

CONDITION REPORT CLASSIFICATIONS / CATEGORY

Non-Significant condition reports document problems for which a repeat occurrence (while always undesirable) can be tolerated.

 <u>Category B</u> – An adverse condition classified as non-significant and assigned to a Responsible Manager for documentation of apparent cause, corrective actions taken to correct the condition and to address the apparent cause(s). This CR will require an Apparent Cause Evaluation (ACE) which is performed as either Higher Tier or Lower Tier type as determined by the CRG.

Condition does not meet the "significant" definition. Usually, Category B conditions are "Conditions Adverse to Quality" and 10CFR50 applicable. However, since they are not significant, 10CFR50 only requires prompt identification and correction. Notwithstanding, the CRG views a Category B condition to be more than a "broke-fix" issue. In addition to correcting the identified deficiency, the Category B Condition Report should:

- 1. Determine and document the apparent cause of deficiency.
- 2. Determine and document the action plan to eliminate identified causes of the condition thereby reducing likelihood of condition repetition.

Category B designation should be prudently used to ensure a value added resource expenditure. Apparent Cause Evaluations / Equipment Failure Evaluations should be done within 30 days.

The following guidance (for both Equipment Failure Evaluations and Human Performance/Process issues) is provided as a tool to further help differentiate "B" level CRs from "C" level CRs after a determination is made that the condition does not meet the criteria to be designated as a Significant CR ("A"). This information is only a tool and doesn't override authority of the CRG to make a final decision on classification of a CR's category.

- For Tagging Issues (Tagging error classification is defined in EN-FAP-OP-009)

- 1. Level I Tagging issue Where no barriers were present requires a minimum Cat. "B" CR, Higher Tier ACE, based on significance of the event a Cat. "A" CR RCA may be applicable.
- 2. Level II tagging issue Where one barrier was present requires a minimum a Cat. "B" CR, Lower Tier ACE based on significance of the event a Higher Tier ACE may be applicable.

-For Equipment Failure Evaluations:

- 1. For High Critical Component failures (as determined by EN-DC-345) a minimum Category "B" High Tier apparent cause and an EN-LI-119-01, Attachment 9.1 Equipment Failure Evaluation is recommended.
- 2. For Low Critical Component failures (as determined by EN-DC-345) a minimum Category "B" Lower Tier apparent cause and an EN-LI-119-01, Attachment 9.1 Equipment Failure Evaluation is recommended.

-Other Equipment Failures:

- 1. For an unexpected failure of safety related or important equipment a minimum Category "B" apparent cause is recommended. [ER20031910_12]
- 2. For equipment failures of a repeat nature if the CRG concludes it is prudent to determine why it failed and take action to preclude repetition a minimum Category "B" apparent cause is recommended.

-For INPO Area For Improvements:

1. A justification statement to support classification of a CR intended to address an INPO AFI is required if the CR is not classified Cat. B or higher.

-For Injury CRs:

- 1. For Lost Time Accidents, hospitalizations, and severe injuries that are not classified as Category "A", a minimum
- Category "B" High Tier ACE with CARB review is required.
- 2. For all other OSHA Recordable injuries a minimum Category "B" Lower Tier ACE with CARB review is required.

-For HQN CRs:

1. Perform a causal analysis for fleet issues if there's an underlying corporate contributor identified in more than one site analysis that hasn't been addressed via the sites' CRs.

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CONDITION REPORT CLASSIFICATIONS / CATEGORY

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-For Human Performance/Process issues:

- 1. Does the identified problem meet the Human Error threshold? (see HU-101, Attachment 9.2)
- 2. Is the identified problem a repetitive issue that demands a more aggressive approach to eliminate the issue? Is continuing to treat a repetitive problem as a "broke/fix" still prudent?
- 3. Is it prudent to not only fix the identified problem, but also to determine/document cause(s) of the problem and determine/document an action plan to fix cause(s)?

-For Quality Assurance Issues:

- 1. B LT classification is the minimum required response to a:
 - Quality Assurance (QA) Findings (QAF) (as defined by EN-QV-109)
 - IF the QAF has elements of O&P, then a HT ACE is required
- 2. B HT classification is the minimum required response to a:
 - QA Unsat. Follow-up (as defined by EN-QV-126)
 - QA Escalation (as defined by EN-QV-106)

-For Reactivity Management Events:

- 1. Reactivity Management Significant Classification Level 3 Events (Specific Conditions may be downgraded to a CR Level 'C' if proper justification is provided).
- <u>Category C</u> An adverse condition classified as non-significant or a non-adverse condition assigned to a Responsible Manager for investigation and correction. A condition that has or would have minimal effect on the safe or reliable operation of the plant or personnel. The safety significance of the occurrence is sufficiently minor that an ACE is not required. Required action need only return the equipment or process to an acceptable status. Conditions in this category are frequently referred to as "broke/fix". See Attachment 9.6.

A Category C condition does not meet definition of significant. However, it may be a "Condition Adverse to Quality" and 10CFR50 applicable (prompt identification and correction). The desired resolution is correction of the identified problem. While determination of cause is often required to fix a problem, no formal documentation of cause is required. Repeat occurrence of the problem is viewed as acceptable.

-For Equipment Failure Evaluations:

For High or Low Critical Component Failures (as determined by EN-DC-345) for which CRG determines <u>NO</u> causal analysis is required, a minimum Category "C" assignment and an EN-LI-119-01, Attachment 9.1 Equipment Failure Evaluation (EFE) is recommended

Additional Significance classification guidance is provided in Attachment 9.6 for equipment related CRs that do not screen as Category "A" or "B" level CRs or "C" level CRs that do not require an EFE.

-For Reactivity Management Precursors:

1. Reactivity Management Significant Classification Level 4 Precursors (Specific Conditions may be downgraded to a CR Level 'D' if proper justification is provided).

<u>Category D</u> - No tracking of corrective actions is required and the CR may be closed. For example the condition
has been corrected, closed to a Work Order, closed to an existing CR, or is below CR threshold.

Adverse Conditions (and Non-Adverse conditions at the discretion of the CRG) which would not exceed the criteria for a category "C" CR may be closed in one of the three following ways:

Category "D" Close to WMS

Category "D" Close to CR

Category "D" Condition Corrected (when supporting documentation is provided)

CRs identifying conditions which are below the level of Adverse Conditions as defined in 3.0[2] may be classified as Category "D" and closed in the following ways:

- Category "D"- Actions Taken
- Category "D" -- Close Reference
- Category "D" -- Review for Emerging Trend
- Category "D" Below Threshold

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<u>Note</u>: In order to ensure appropriate oversight and independence, the Quality Assurance (QA) organization has the right to determine if a QA identified condition is a Condition Adverse to Quality or a Significant Condition Adverse to Quality. In cases where the CRG does not concur that a QA identified condition is a Significant Condition Adverse to Quality, the Director, Oversight has the authority to overrule the CRG.

Standardize Significance Level and Classification Codes for CR Assignment Tab

Sig 🌾	CLASSIFICATION_CODE	CLASSIFICATION_DESC
Α	RCA	CRG Directs a Root Cause Analysis
В	HT-ACE CARB	CRG Directs CARB Review
В	HT-ACE	CRG Directs a Higher Tier ACE
В	LT-ACE CARB	CRG Directs CARB Review
В	LT-ACE	CRG Directs a Lower Tier ACE
С	CORRECT/ADDRESS	CRG Directs Correct/Address Identified Conditions
D	CLOSE TO CR	CRG Directs CR to Close to Another CR
D	CLOSE TO WMS	CRG Directs CR to Close to An Open Work Order
D	CONDITION CORRECTED	CRG Directs CR - Condition Corrected / Documented
D	ACTIONS TAKEN	CRG Directs CR to Close - Sufficient Actions Taken / Documented
D	REVIEW EMERG TREND	CRG Directs CR to Close – Still Reviewed As Part of Trending Process
D	CLOSE REFERENCE	CRG Directs CR to Close - Listing # to Address the Item
D	BELOW THRESHOLD	CRG Directs CR to Close - No Condition Identified/Exists or Below Threshold
D	VOID/DUPLICATE CR	CRG Directs CR to Close – Void (Cancel) or Duplicate of Another CR

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CONDITION REPORT CLASSIFICATIONS / CATEGORY

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The following is a "guidance" tool for determining the CR Categorization. It allows for more consistency in Categorization of Condition Reports. To use this tool, first select the closest fit under Severity Levels, then choose the best fit under Frequency Levels. If more than one level fits select the higher level. Finally, use the matrix to find the recommended CR categorization, recognizing that CRG discretion may be needed in final determination.

Severity Levels

- 1. Severity Level 1 Condition that:
 - Is classified as a Significant (Level 1 or 2) Reactivity Management Event,
 - Is classified as White, Yellow, or Red through the NRC Significance Determination Process,
 - Results in E-Plan declaration, regulatory intervention or significant public interest,
 - · Results in an industrial related fatality, severe injury requiring transportation off site,
 - · Results in major system, component, or structure damage or loss,
 - Affects more than one department,
 - Is deemed a near miss to catastrophic consequences,
 - Results in a loss of production (>10%),
 - Identifies a problem that meets the Human Performance Event Criteria, excluding injuries classified as events (see EN-HU-101 Attachment 9.1). When a CR identifies a Human Performance Event the CRG should consider classifying the CR as Significant.
 - Is otherwise deemed to meet one of the "significant" definitions by the CRG, including an Adverse QA Finding and/or a Significant Condition Adverse to Quality (SCAQ).
- 2. Severity Level 2 Condition that does not meet Severity Level 1 criteria, but does:
 - Result in a reportable event pursuant to 10CFR21, 50.72, 50.73, or other NRC reporting criteria
 - Identify a Operable-DNC or Operable-Comp Measures condition
 - · Result in unplanned events or failure impacting the function of a structure, system, or component
 - Identify errors that demonstrate fundamental misunderstandings of, or noncompliance with, procedural or regulatory requirements
 - Result in the loss of a High Risk Maintenance Rule function or in the failure of a High Critical or Low Critical component (as determined by EN-DC-345)
 - Result in > 1 day delay of planned LCO,
 - Identify an equipment deficiency that adversely impacts NRC or WANO Performance Indicators
 - Result in a Green NCV, Green finding, violation, or traditional enforcement from the NRC
 - Result in a reportable event pursuant to NERC Standard EOP-004-1, Attachment 2 Table 1, Item 5 [consequential physical sabotage, terrorism, or vandalism to major electrical systems].
 - Result in a reportable event pursuant to NERC Standard EOP-004-1, Attachment 2 Table 1, Item 6 [consequential cyber sabotage, terrorism, or vandalism.].
 - · Result in an injury that is classified as an OSHA Recordable or lost time accident,
 - Result in a Human Performance Clock reset (see EN-HU-101)
 - Result in an Adverse Trend designation by the CRG
 - Identify an equipment failure of repetitive nature such that it is prudent to determine why
 - Identify an Internal Oversight QA Finding (EN-QV-109, ANSI 18.7, and ANSI N45.2.12)
 - Identify a Corporate or External AFI,
 - May affect more than one department.

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CONDITION REPORT CLASSIFICATIONS / CATEGORY

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3. Severity Level 3 - Condition that does not meet Severity Level 1 or 2 criteria, but does:

- · Result in minor system damage, minor injury, or other event generally confined to one department,
- Identify a Corporate or External Negative Observation, or an Internal Self-Assessment Standards Performance Deficiency (SPD),
- Result in a reportable event pursuant to NERC Standard EOP-004-1, Attachment 2 Table 1, Item 5 [non consequential physical sabotage, terrorism, or vandalism to major electrical systems].
- Result in a reportable event pursuant to NERC Standard EOP-004-1, Attachment 2 Table 1, Item 5 [non consequential cyber sabotage, terrorism, or vandalism].
- Identify a problem that meets the Human Error threshold (see EN-HU-101 Attachment 9.2).
- Abnormal and/or long term unexplained plant conditions [SOER 2-04 Rec 3]
- 4. Severity Level 4 Less than the above.

Frequency Levels

Consider fleet implications that could indicate an Extent of Condition or Generic Implication review is needed when selecting the appropriate Frequency Level.

- I. Likely to occur often or has occurred often during the life of an individual item, system, process or very often in operation of a large number of similar items.
- II. Likely to occur several times or has occurred several times in the life of an individual item, system, process, or often in operation of a large number of similar items.
- III. Likely or possible to occur sometime in the life of an individual item, system, process, or will likely or reasonably be expected to occur in the life of a large number of similar components.
- IV. So unlikely to occur in the life of an individual item, system, or process, that it may be assumed not to be experienced, or it may be possible, but unlikely, to occur in the life of a large number of similar components.

CR Grade	Freq. I	Freq. II	Freq. III	Freq. IV
Severity 1	A	A	A	A
Severity 2	A	В	В	С
Severity 3	В	C*	C*	C*
Severity 4	C*	D	D	D

CR Category Matrix Guideline

- * Category 'D' is chosen if the condition is corrected and documented, and no further analysis or corrective actions are warranted.
- * Category 'D' is chosen for relatively straightforward conditions when it is appropriate to close them to a work order or another open condition report.
- * Attachment 9.6 contains additional guidance on when it is appropriate to close relatively straightforward equipment relate CRs to a work order OR when it is appropriate to just reference the work order.

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ATTACHMENT 9.2

EXAMPLES OF ADVERSE CONDITIONS

Sheet 1 of 3 [P3098], [ANSI N45.2.11, Section 9.2], [P7531], [P15005], [P21693], [P21700] [P22638] [P22639] [P24842] [P24843] [P17819] [P17820], [ANSI N45.2.11 9 S1-S4]

Examples of Adverse Conditions

Employees are encouraged to report a broad range of problems and potential problems. However, adverse conditions are required to be documented on CRs. The conditions described in this attachment are examples of adverse conditions. This list is not necessarily all-inclusive. Any adverse condition as defined in Section 3.0 should be documented on a Condition Report.

1. Operational Conditions

- Plant transient (per INPO, WANO guidance documents)
- Unplanned actuation of RPS, ESF, or Emergency Power Systems
- · Declaration of any emergency class in the emergency plan
- Potentially reportable conditions
- Events or conditions that could negatively impact reliability or availability
- · Unplanned conditions or events that affect reactivity
- Unplanned entry or failure to enter a LCO (includes performance outside acceptance criteria)
- Grid Disturbance including protective relay or equipment failures, or mis-operations

2. Radiological Conditions

- Any exposures that exceed allowable administrative or regulatory limits.
- Lost or missing licensed radioactive material
- Unplanned radioactive release
- Violations of procedures or policies or regulations that are intended to satisfy 10CFR19, 10CFR20 or other applicable federal regulations
- · Abnormally high radiation or airborne radioactivity levels

3. Security Conditions

- Potentially Reportable events (one hour report) per 10CFR73.71
- Programmatic failure(s), recurring events or human errors that require further management attention
- Other security events that could reduce the overall effectiveness of the security program
- Adverse trends in the number of Security events
- Potential or confirmed tampering, terrorism, vandalism or sabotage.

4. Industrial Safety Conditions

- Lost time accident
- Near miss Incident
- OSHA Recordable event
- Recurring minor injuries of similar cause judged to need further evaluation
- · Conditions which could create a significant personnel safety hazard

5. Material Conditions (not installed)

- Deficient components issued or ready-for-issue for which elements of the QA program have been applied. Deficient components are those that have not met design or procurement specifications.
- Deficiency reported by vendor bulletin when confirmed that the product has been issued or is ready for issue at the station.
- Conditional release of materials, parts, or components, for installation and testing, which have not been fully
 accepted under the Quality Assurance program.

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EXAMPLES OF ADVERSE CONDITIONS

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6. <u>Structures, Systems or Components Conditions (Installed)</u> [ER20031637_01], [QDR 200-95/RCDL 95-20, Long Term Action 2.a.1]

Conditions affecting a safety related, quality-related or trip sensitive system caused by a deficiency in characteristic, documentation or procedure that renders the quality of an item unacceptable or indeterminate. Examples include, but may not be limited to:

- Recurring or generic failure
- Item has a defect as a result of design or manufacturing process that prevents or could have prevented the component from performing its intended function
- Any Degraded or Nonconforming Condition affecting an SSC within scope of the Operability Determination Process per EN-OP-104.
- Item fails testing performed to prove environmental or seismic design conformance
- Deviation from prescribed processing or inspection
- Documentation not available to confirm required inspections or tests
- Deficiency reported by vendor bulletin
- M&TE: A condition report is required when the non-conforming condition is related to the calibration of M&TE and the following conditions exist:
 - The condition cannot be resolved through a record search.
 - It cannot be verified that plant hardware or system performance is not affected and no further action is required.
- Oil leaks or spills that could increase the potential for a plant fire or adversely affect equipment operation. The Fire Prevention Coordinator, Fire Protection Engineer, or System Engineer should be consulted to evaluate the potential impact. This includes events such as, but not limited to: oil wetted/fouled insulation or equipment, and leaks and spills involving liquids such as fuel oil, lube oil, fluid, etc. [P15414]
- Chemical or other leaks that could potentially impact plant operations or the environment.
- Missed or late preventive maintenance task required to satisfy technical specifications, environmental qualification or station commitments.
- Any code repairs on failed components that are performed to repair a component to operable status.
- Conditions where nuclear fuel defects exist or are suspected.
- Maintenance Rule "Category A1" items
- Conditions that degrade the ability of a Regulatory required installed fire protection system or component to
 perform its intended function. This includes degraded fire barriers and their sub components (penetration
 seals, fire doors and dampers), and fire detection and suppression systems. Additional components include
 Appendix R fire wrap and emergency lighting, and any Reactor Coolant Pump (PWR) oil collection system.
 [P15414]
- 7. Welding Related Conditions
 - Welds not made in accordance with applicable procedures
 - Welds made by unqualified welders
 - Welds made with improper or undocumented filler material
 - Welds on which nondestructive examination procedures are improperly performed
 - Welds on which specified hold points are bypassed
 - Welds which do not meet applicable code or job specific requirements and on which the final weld inspection and NDE have been completed/accepted

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EXAMPLES OF ADVERSE CONDITIONS

8. Deviations From Design/Licensing Basis Conditions

- Functional inaccuracies in safety-related documents (procedures, technical manuals, work plans, drawings, etc.) which could degrade plant safety [P4997], [P22593]
- Failure to comply with design or license basis commitments as described in the SAR, TS, TRM, etc.
- Inadequate Technical Specifications
- Conditions that may require written or telephone notifications to the NRC, excluding routine reports.
- SSCs or physical conditions that deviate from Design / License basis assumptions

9. Administrative or Work Practice Conditions

- Performance of activities on the wrong equipment
- Procedural noncompliance resulting in a condition adverse to quality
- Mispositioned equipment
- Errors or deficiency in the design process, including computer programs.
- Tagging errors

10. Engineering Related Conditions

An error or omission in an engineering product which, if uncorrected could result in any of the following. These criteria apply even if the error was discovered before the product was finalized or issued for use.

- significantly reduces the margin to safety as defined by Technical Specifications or the FSAR,
- renders equipment important to safety inoperable or incapable of performing intended safety functions
- would place the unit in an Unanalyzed Condition (as defined in EN-OP-104), or
- reflects a significant procedural non-compliance or programmatic breakdown.

11. Regulatory Issues

- potential or actual NRC violations
- potential or actual INPO Areas for Improvement (AFIs)
- potential or actual 10 CFR 21 conditions

12. Training Issues

- Any condition which adversely impacts training related regulatory compliance.
- Any condition which has the potential to adversely impact training program accreditation.
- Areas for Improvement, Standards Performance Deficiencies, Findings, or other weaknesses identified in self-assessments, QA audits, NRC inspections, or INPO evaluations.
- Training procedure non-compliance.
- Any adverse trends identified through routine monitoring of training-related data, condition reports, assessment findings, etc.
- Loss of electrical power to the Training Center that impacts training.
- Unplanned fire system actuations that impact training.
- Simulator downtime results in greater than 15 minutes of lost scheduled training time.
- Training facilities in disrepair for extended periods.
- A human performance event or error that results in a reset of the Training Department Human Performance Clock, or the reset of another department's clock for training-related events (for example, student absence or tardiness).
- Any condition that requires that commitments be made to an outside organization.
- Any condition or event which adversely impacts the personnel safety of the training staff or students.
- Work performed by an unqualified worker.

13. Other Issues

- Abnormal plant conditions or indications that cannot be readily explained [SOER 2-04 Rec 3]
- Long-term unexplained plant conditions [SOER 2-04 Rec 3]

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MANUAL CR INITIATION

NOTE

Sample forms used to implement this procedure are included in this attachment. It is not mandatory that the exact forms be used. Equivalent forms may be used, but they must contain the same or additional information. Any deletion of information must be accomplished by procedure revision.

This attachment provides a contingency method for generating, performing operability/functionality and immediate reportability determinations, and tracking Condition Reports when PCRS is not available. The Entergy Help Desk and CA&A staff should be called if a PCRS outage is experienced.

Manual operation of the Condition Reporting System is limited to the generation of Condition Reports and the documentation of operability/functionality and immediate reportability determinations/evaluations. Issuing and responding to Condition Report Corrective Actions will be postponed until PCRS is available. However, any actions required to place the plant in a safe condition, or any other emergency actions, can proceed.

1.0 Condition Report Generation (Form 1):

- 1.1 Any individual, who discovers a Condition, when PCRS is not available, should follow the steps of section 5.2 with the exception of writing the Condition report with PCRS.
- 1.2 The attached form should be used to document a Condition when PCRS is unavailable.
- 1.3 Take the completed form and any supporting documentation to the Control Room/Work Control Center, as appropriate. (Not applicable when generating Headquarters CRs. When generating Headquarters CRs manually, contact the Headquarters Corrective Action Coordinator).
- 2.0 Operability and Immediate Reportability Determinations (Form 3): (This section does not apply when generating CRs for offsite locations such as Headquarters. Results of Impact Applicability Reviews for CRs generated for offsite locations are documented on the Manual CR Continuation Form (Form 2)).
 - 2.1 The Shift Manager/designee ensures that the manual CRs are maintained in the Control Room for periodic retrieval by CA&A and that CA&A is informed when manual CRs are ready for CA&A to pick up.
 - 2.2 The Shift Manager/designee will perform the operability and immediate reportability.
 - 2.3 Following the completion of the operability/functionality and immediate reportability determinations the Shift Manager/designee retains the Condition Report package for CA&A pick up.
- 3.0 Conversion of manual Condition Reports to PCRS:
 - 3.1 CA&A picks up manual Condition Report packages and presents them to the CRG. CA&A communicates any immediate management actions to the affected parties.
 - 3.2 When the PCRS becomes available, CA&A informs the Control Room and then CA&A enters the manual Condition Reports into PCRS. PCRS automatically assigns the next sequential CR number to each manual CR. The original forms are then scanned into PCRS.

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Sheet 2 of 4				NUAL CR INITIATION
		ITION REPORT FORM 1	Manual CR PAGE	NO OF
	(PRINT/TY	PE, USE BLACK INK O	NLY)	
IDENTIFICATION OF P (Please Print) Originator: Organization:	ROBLEM		For Operations Use (Date Rec'd Time Rec'd	Dniy
Supervisor:			L	
Date of Discovery	Time of Discovery:			
[Include information per	tinent to operability/function	onality determination.]		
Work Document # (i.e.,	WR/WO, OD, etc.)	Oth	ner:	
IMMEDIATE ACTION D	ESCRIPTION:			
AFFECTED EQUIPMENT/DOCUMENTS/MATERIAL:				
Number/Description(s)				<u></u>
SUGGESTED CORREC	TIVE ACTION (S):	<u> </u>		
Operability/Function	ality in question?	Potentially report	able?	

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Sheet 3 of 4			MA	NUAL CR INITIATIO
	CONDITION	REPORT	CR NO.	
	FUR			:
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ONTINUATION FORM:	· · · · · · · · · · · · · · · · · · ·	····	·	
	s.			

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ATTACHMENT 9.3			Manual	
Sheet 4 of 4 Note: This section replace	es the "electronic PCRS" on	erability/functionality section	on of the CR only. The or	erability/functionality
determination process (EN	N-OP-104) is expected to be	performed & attached to t	his manual CR form as n	erability/ranetionality
		& IMMEDIATE REPOR	RTABILITY DETERMI	NATION - FORM 3
OPERABILITY/FUNCTIONALIT	Y EVALUATION REQUIRED			
IF NO - EXPLAIN WHY				
	. <u></u> , ,	<u> </u>	······································	
				······································
(IF NO THEN LEAVE OPER/ AND SIGN AS APPROVER) II. OPERABILITY DETERMINA	ABILITY/FUNCTIONALITY E TION	VALUATION SECTION B	LANK - COMPLETE RE	ORTABILITY SECTION
OPERABILITY CODE				
PLANT CONDITION/MODE:				
EFFECT OF THIS CONDITION	ON EQUIPMENT/SYSTEM/	TRAIN OPERABILITY/FU	NCTIONALITY:	
ADMIN – NA		E - OP EVAL		IONAL
		E-DNC		UNCTIONAL
		-COMP MEASURES		
		LE - OP EVAL	Time Entered	
Operability Desc: enter or atta	ach the required document	ation per EN-OP-104		
	YES LCO NO.	LCO ACTI	ON TIME	
TECH SPEC/TRM ACTIC	ON STATEMENT #	DATE ENTERED	TIME ENTERED	
IMMEDIATE ACTIONS TAKEN:				
IS IMMEDIATE NRC NOTIFICAT		7 YES		
IF YES (Mark appropriate time re	equirement and complete this	s section) 🔲 1-HR RPT[] 4-HR RPT	
			DT	
			N1.	
	NAM	E OF PERSON MAKING		·
				<u></u>
REACTOR POWER	% REACTOR F	RESSURE:	RX / RX COOL	ANT TEMP
	//	IR REACTOR LEVE	inl	
III. PERFORMANCE/APPRO	DVAL.			······································
PERFORMED BY:	······································	DATE/T	IME:	
OPERATIONS REPRESENTATI	VE APPROVAL:		DATE/T	IME:

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CORRECTIVE ACTION PROCESSING GUIDELINES

SHEET 1 OF 3 [AUDIT RPT 9617-01], [ER960078_02], [ER960265_02], [P16529] NOTES:

- 1. These guidelines should be used when setting corrective action due dates and extension requests. The target for completion of all corrective actions and closure of the CR associated with an "A", B" or "C" Condition Report is 6 months (except for those with Long Term CAs). CA timeliness criteria are provided to achieve CR age goals that are monitored via performance indicators. These criteria are considered guidelines and not procedural requirements. The CRG, CARB, or Responsible Manager can deviate from these guidelines to appropriately manage resources, except as noted below. Exceptions taken to the timeliness criteria do not relieve the CA/CR Owner from meeting performance indicator goals.
- 2. Corrective Action Due Dates should be selected with consideration given toward:
 - a. The risk to plant imposed as a result of the action not being complete.
 - b. Due Date(s) should ensure the action is complete prior to the next potential occurrence of the problem, if possible.
- 3. Document GMPO, Director, Site VP, or CARB Chairperson approval in DDE request when that approval is required per this attachment & that position is not the authority level for approval in PCRS.
- 4. The "30 day clock" for Root Cause Analysis stops when the final Cat "A" Evaluation has been approved by CARB and the CAs have been issued.
 - a. When CARB approves with comments, the 30 day clock can stop IF the comments do not require bring back to CARB, CAs from the RCA have been issued AND a CA is initiated, not to exceed 4 working days, to track the comment incorporation and approval by the CARB Chairperson.
 - b. Extension of the action to incorporate comments and obtain approval by the CARB Chairperson beyond 4 working days requires initiation of a specific Condition Report documenting the lack of timely incorporation of the comments.
- 5. The 30 day clock for Apparent Cause Evaluations stops when the Responsible Manager approves the report and corrective actions have been entered in PCRS. a. Apparent Cause Evaluations requiring CARB review are presented within 60 days of the disposition assignment.
 - b. CARB comments are addressed and report finalized within 7 working days of CARB approval. DDEs requiring time beyond 7 working days will be documented in a CR.
 - c. Apparent Cause Evaluations that receive an unsatisfactory CARB score will be revised and returned to CARB for re-review on a timeline determined appropriate by CARB. Timeline will be determined commensurate with the significance of the changes required and the risk of potentially delaying any final required changes to action plan.

Corrective Action Type	Corrective Action Due Date Guideline	Due Date Extension (DDE) Approval
Disposition	 For Cat A: ≤ 30 days from CR categorization (including CARB approval of RCE) For Cat B: ≤ 30 days from CR categorization (not including CARB approval of ACE) For Cat C: ≤ 30 days from CR categorization 	The following DDE escalation requirements apply to any action issued in a CR (all CA Types). Document appropriate concurrence in the DDE request 1 st : Supervisor 2 nd : Responsible Manager/Superintendent 3 rd : GMPO/Director 4 th . SVD
Corrective Action	 For Cat A, B, & C: ≤ 180 days from CR categorization 	<u>Note</u> : Site VP approval is required for extensions that allow disposition of Significant Root Causes including CARB approval to extend beyond 30 days.
Long Term Actions	As approved by GMPO/Director/Site VP	related extensions Note: LTCA extensions require GMPO/Director or Site VP approval
Human Performance Error Review (HPER)	 ≤ 7 days (Outage ≤ 3 days) from CRG assignment or from error classification 	

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TABLE: CORRECTIVE ACTION PRIORITY to CA TYPE

CORRECTIVE ACTION PROCESSING GUIDELINES

PRIORITY 1 ACTIONS

CA Priority	Discussion	Typical CA Types	Description
1	Conduct Root Cause Analysis	DISP-RCA	*CA&A USE ONLY** Initial disposition action for CAT A CRs
1	Corrective Action to Preclude Repetition	CAPR	**RCA ACTIONS ONLY** Corrective Actions to Preclude Recurrence
1	Correct Condition- Category A	CAT A- CORRECT	**RCA ACTIONS ONLY** Corrective Actions to address Significant Condition identified in the CAT A CRs
1	Conduct Apparent Cause Analysis	DISP-ACE/HT	**CA&A USE ONLY** Initial Disposition action for CAT B Higher Tier.
1	Conduct Apparent Cause Analysis	DISP-ACE/LT	**CA&A USE ONLY** Initial Disposition action for CAT B Lower Tier.

PRIORITY 2 ACTIONS

CA Priority	Discussion	Typical CA Types	Description
2	Correct Contributing Cause from Category A CR	CAT A-CC	Corrective Actions to address the contributing causes identified in the RCA
2	Correct Extent of Condition/Cause Category A CR	CAT A-EOC	Corrective Actions to address the extent of condition identified in the RCA
2	Correct Apparent Cause Category B	CAT B-AC	Corrective Actions that address the apparent causes identified in the B Level CR
2	Correct Original Condition Category B	CAT B-CORRECT	Additional Corrective Actions that address the original condition excluding those that are addressing the apparent causes.
PRIORITY 3 A	CTIONS		
CA Priority	Discussion	Typical CA Types	Description
3	Correct Contributing Cause Category B	CAT B-CC	CA to address contributing causes identified in B level CR
3	Correct Extent of Condition Category B	CAT B-EOC	Corrective Actions to address the extent of condition identified in the B level CR
3	Correct or Address Condition Category C	DISP-CA	*CA&A USE ONLY* Initial Disposition action for Cat C CRs.
3	Correct Original Condition Category C	CAT C-CORRECT	Corrective Actions to address Cat C conditions

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PRIORITY 4 ACTIONS

CA Priority	Discussion	Typical CA Types	Description
4	Actions to move issues through PCRS which are not corrective in nature.	CARB REVIEW	CARB review is required for this CA
4		CR CLOSURE REVIEW	Used in requesting a CR closure review
4		CA QUALITY UNSAT	Tracks correction of unsatisfactory CA closures.
4		HUMAN PERF	Action to perform HP fact finding/HPER.
4		INPO INITIAL OE SUB	INPO Initial OE Submittal
4	· · · · · · · · · · · · · · · · · · ·	OCMC	Provides oversight of the correction of issues identified as Operable with Compensatory Measures
4		ODMI	Action to develop an ODMI Action Plan (EN-OP-111]
4		ODNC	Provides oversight of the correction of issues identified as Operable but Degraded or Non-conforming
4		OPERABILITY INPUT	**OPS and Licensing Use Only** Provide current or past Operability Input.
4		REGULATORY	Provides oversight of issues identified as having regulatory importance.
4		UNSAT RESPONSE CA&A	*CA&A/DPIC only**: Tracks correction of unsatisfactory CR closures.
4		GENERAL ACTION	General Actions.
4		PERIODIC REVIEW	Action to complete a interim or periodic review

PRIORITY 5 ACTIONS

CA Priority	Discussion	Typical CA Types	Description
5	Items meeting the definition of Enhancement	ENHANCEMENT	Actions that address improvement items or actions that
	from LI-102 (item could be tracked outside of	· · · · · · · · · · · · · · · · · · ·	address conditions, which meet minimum acceptable criteria.
	CAP)		This action should not be used to correct the originally
			identified adverse condition or to address an identified cause.

CORRECTIVE ACTION PROCESSING GUIDELINES

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ATTACHMENT 9.5 Sheet 1 of 2

ENTERGY FLEET LEARNING REVIEW PROCESS

Purpose:

The Entergy Fleet Learning process enables the sharing of condition reports (CR) identifying internal significant conditions, events or issues that warrant focused sharing with other Entergy Nuclear Fleet stations using the Internal Fleet Learning Operating Experience (OE) process.

This attachment provides the Condition Review Group (CRG) and Corrective Action Review Board (CARB) the criteria and guidance for the identification of an internal significant condition, event, or issue for processing through the Internal Fleet Learning OE process.

The CRG or CARB may identify the CR for:

- a. <u>Immediate Sharing</u> CRs which need to be shared in a timely manner. There should be sufficient information provided in the CR to allow other sites to understand, and if necessary, act on the condition.
- b. <u>Site Sharing</u> condition for which the causal analysis needs to be shared
- c. <u>Fleet Learning</u> condition for which the causal analysis is significant enough to assign a Responsible Manager to review and to determine fleet impact.

This may be done by CRG during CR classification/assignment or CARB during approval review of RCAs or ACEs.

2.0 <u>Scope:</u>

- 2.1 The Fleet Learning process should include, as a minimum, the following issues identified at a Entergy Nuclear Station:
 - Each Area for Improvement (AFI) from INPO Evaluations or WANO Peer Reviews.
 - Each Unsat SOER / IER from INPO Evaluations or WANO Peer Reviews.
 - All Nuclear Regulatory Commission (NRC) Substantive Cross-Cutting Issues.
 - All NRC violations characterized as greater then GREEN.
 - Significant events, typically Category A CRs, as deemed appropriate by CRG or CARB. Not all Category A CRs are expected to be shared using this process, however those with particularly significant consequences should be shared.
 - Other issues identified by CRG or CARB of significance. Each Training program FINDING level issue identified by an INPO Accreditation Team, or by an Entergy Self-Assessment Team.
- 2.2 The Site Sharing process should include, as a minimum, any of the following issues identified at a Entergy Nuclear Station if they are not designated for Fleet Learning:
 - All green findings, violations, or traditional enforcement from the NRC.
- 2.3 Entergy's Condition Review Group (CRG) screens and classifies all condition reports and may select condition reports identifying internal significant condition, events or issues for internal fleet learning OE processing as immediate sharing and/or evaluation results sharing.

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ATTACHMENT 9.5 ENTERGY FLEET LEARNING REVIEW PROCESS
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2.4 Corrective Action Review Board (CARB) reviews/approvals all Root Cause Reports and selected Apparent Cause Evaluations and may also identify one of these condition reports not previously identified by CRG for internal fleet learning or Site Sharing OE processing as evaluation results sharing.

3.0 Details:

- 3.1 Internal Fleet OE Initiation for Fleet Learning
- 3.1.1 Once CRG or CARB has determined that a condition report (CR) should be processed through the internal fleet learning OE process, CA&A ensures a corrective action is issued within the identified CR, to the site OE Coordinator(s) as follows:
 - 3.1.1.1 <u>For CRs that require "Immediate Sharing"</u> (at CR initiation) a corrective action is issued to the OE Coordinator with a due date of ≤14 days, unless otherwise directed by CRG. The OE Coordinator will normally process in accordance with EN OE-100 as Code "B" "Useful for Site Awareness".
 - 3.1.1.2 <u>For CRs that require "SITE SHARING"</u> a corrective action is issued to the OE Coordinator with a due date of ≤60 days, unless otherwise directed by CRG or CARB. The OE Coordinator will process in accordance with EN OE-100.
 - 3.1.1.3 For CRs that require "FLEET LEARNING" a corrective action is issued to the OE Coordinator with a due date of ≤60 days, unless otherwise directed by CRG or CARB. The OE Coordinator will process in accordance with EN OE-100 as Code "A"-"Evaluation Required A2". When closed the CA will contain the following information (provided by CRG/CARB):
 - Site subject matter expert.
 - Identity of the Responsible Manager that will support the Internal Fleet OE through issuing review actions, performing closure review and determination of aggregate impact to the fleet.



- ATTACHMENT 9.6 GUIDELINES FOR CLASSIFICATION OF CR
 - GUIDELINES FOR CLASSIFICATION OF CRS ON LOWER LEVEL EQUIPMENT ISSUES

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NOTE: This guidance reflects typical classification for equipment conditions that do not screen as category 'A' or 'B' level CRs. However, it does not override the CRG's authority to apply management discretion when classifying these CRs.



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TYPICAL NONCONFORMANCE TAG

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[ANSI N18.7 5.2.14] [ANSI N45.2.4 2.6 S1 S2]

Typical Nonconformance Tag

	5arsMAR/PE/PRJ
Equipm	ant Number / Description:
	NONCONFORMANCE TAG
0	NONCONFORMING ITEM
МА	Y NOT BE REMOVED WITHOUT AUTHORIZATION

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ATTACHMENT 9.8 SHEET 1 OF 1			CR INTERIM AND P	SOER 10-2 REC
	CR Interin	n and Periodic R	eview	•
R Number:		Category Level	_ABC	
R Owner Group:				
CR Description:				
• · · · ·				
CR Review: (All No	responses require exp	lanation be included	d.)	
. Will the Interim act	ions taken to date ade	quately address the	issue until all cor	rective actions a
complete? Yes	_/ No			
	·			
. will the existing co	rrective actions docun	nented in the conditi	on report, when c	ompleted, corre
the condition repor	t issue? Yes	nented in the conditi / No	on report, when c	ompleted, corre
the condition report. What is the expect	rrective actions docun t issue? Yes ed CR Closure date b	nented in the conditi / No ased on remaining r	on report, when c needed actions?	ompleted, corre
 Will the existing co the condition repor What is the expect Determine if a new operability/function 	rrective actions docun t issue? Yes ed CR Closure date back condition currently ex	nented in the conditi / No ased on remaining r tists that potentially	on report, when c needed actions? [requires a re-eval	ompleted, corre DATE: uation of
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points applicable must be addressed.

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LTCA Classification Form

Long Term CA Classification:

CR Number:

CR Owner Group: _____

CA Number: ______ LTCA Assigned to Group: _____

LTCA Classification (check ONLY one):

RFO/FO/Planned Long System/Component Outage Req'd	Mod/Design Change Req'd
NRC Resp. Req'd	Multi-cycle Training Req'd

Provide specific details for LTCA classification selected above.

What risk to plant operation is imposed by the condition identified and how is risk reduced to an acceptable level for the duration of the action plan?

Explain impact to condition report timeliness.

Review / Approval Required:

Director/GM Title:

_____ Date: _____

LTCA CLASSIFICATION FORM

(Print name & Position title)

NOTE: The expectation is to capture the discussion points of this form in a CA, DDE request or initial CA assignment as appropriate. The form itself need not be used, but all points applicable must be addressed.



Doc 7

Miller, Geoffrey

From: Sent: To: Subject: Schaup, William Friday, May 24, 2013 8:22 AM Miller, Geoffrey FW: Requested Information

Geoff

I believe this is the rest of the information you requested. Any questions please call.

Enjoy your week end

From: McMahan, James [<u>mailto:jmcmah1@entergy.com</u>] Sent: Thursday, May 23, 2013 4:14 PM To: Schaup, William Cc: BAUMAN, DAVID N; Gresh, Evan; Marks Jr, Robert Subject: Requested Information

.

William,

Below is the requested information. Should you need anything else next week while I am gone please contact Evan Gresh 4386 (concerning information below) or Bob Marks 4408.

- 1. Bigge Crane assembly start time (based on installation of pedestal column) 2/28/13 1300
- 2. Finish assembly 3/31/13 0049
- 3. Start time of lift 3/31/13 0639

James M. McMahan Sr Project Manager Arkansas Nuclear One

PRIVILEGED AND CONFIDENTIAL

Attorney/Client Privileged Communication

Attorney Work Product

Prepared at the Direction of Legal Counsel

Baca, Bernadette

From: Sent: To: Subject: Allen, Don Monday, June 17, 2013 10:44 AM Bradley, Dan; Melfi, Jim; Tindell, Brian FW: Region IV Drop In Agenda

This is the licensee's agenda.

From: PYLE, STEPHENIE L [mailto:SPYLE@entergy.com] Sent: Monday, June 17, 2013 8:57 AM To: Allen, Don Subject: Region IV Drop In Agenda

Region IV Drop In Visit June 18, 2013

- Introductions
- Unit 1 Status
- Core Reload
- Restoration (Electrical/Structural)
- New Stator Move
- Plant Restart
- Stator Drop RCE
- AIT
- Site Challenges/Major Mods
- Concurrent NFPA 0805 and Fukushima Mods
- Cask Transfer Facility

Doc 11

Melfi, Jim

From:	Fairbanks, Abin
Sent:	Wednesday, June 26, 2013 9:05 AM
То:	Allen, Don; Melfi, Jim; Bradley, Dan; Azua, Ray; Kalyanam, Kaly
Cc:	Tindell, Brian; Schaup, William; Hatfield, Gloria
Subject:	ANO Stator Lift Rig Assembly
Attachments:	IMG_1023.jpg; IMG_1024.jpg

Pictures resent.

From: Fairbanks, Abin
Sent: Wednesday, June 26, 2013 8:36 AM
To: Allen, Don; Melfi, Jim; Azua, Ray; Bradley, Dan; Kalyanam, Kaly
Cc: Schaup, William; Hatfield, Gloria; Tindell, Brian
Subject: ANO Stator Lift Rig Assembly

The attached pictures show the vertical members (Unit 2 side of the train bay) of the Rigging International stator lift rig. Assembly of the lift rig should be complete Saturday; the stator is expected to be lifted into position on Sunday.





Melfi, Jim

From:	Fairbanks, Abin
Sent:	Thursday, June 27, 2013 9:08 AM
То:	Allen, Don; Bradley, Dan; Melfi, Jim; Azua, Ray; Kalyanam, Kaly
Cc:	Tindell, Brian; Schaup, William; Hatfield, Gloria
Subject:	ANO Stator Lift Rig Assembly
Attachments:	IMG_1029.jpg; IMG_1030.jpg; IMG_1028.jpg

The attached pictures show the lateral bracing between the vertical supports; the tripods, which will be bolted to steel plates on the turbine pedestal, are also shown.






Doc 13

Melfi, Jim

From:	Fairbanks, Abin
Sent:	Friday, June 28, 2013 8:09 AM
То:	Allen, Don; Bradley, Dan; Melfi, Jim; Azua, Ray; Kalyanam, Kaly
Cc:	Tindell, Brian; Schaup, William; Hatfield, Gloria
Subject:	ANO Stator Lift Rig Assembly
Attachments:	IMG_1070.jpg; IMG_1072.jpg

IMG 1070 - Shows the tripods secured over the turbine pedestal and the west girder resting on the 386' level.

IMG 1072 - Shows the east girder in the train bay.

r



DOC:	14	

Melfi,	Jim
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From: Sent: To: Cc: Subject:	Allen, Don Monday, July 01, 2013 7:05 AM Kennedy, Kriss Azua, Ray; Melfi, Jim; Bradley, Dan; Willoughby, Leonard FW: ANO 1 Stator Lift	
From: Tindell, Brian Sent: Monday, July 01, 2013 6 To: Allen, Don Subject: FW: ANO 1 Stator Li	5:24 AM ft	n salah dana ⁿ a nya <u>na</u> na ma
FYI again.		
From: PYLE, STEPHENIE L [m Sent: Friday, June 28, 2013 5 To: Willoughby, Leonard; Tind Subject: FW: ANO 1 Stator Li	<u>ailto:SPYLE@entergy.com]</u> 27 PM ell, Brian ft	
FYI		
Original Message From: PORTER, JAMES V Sent: Friday, June 28, 2013 To: ANO Supv. & Above Subject: ANO 1 Stator Lift	√ 05:08 PM Central Standard Time	
All,		

The stator lift planned for Sunday dayshift is currently projected to occur on Monday. Additionally, the transfer of the refurbished stator into the protected area scheduled for Saturday will push to Sunday. Document review and approval is tracking to complete Sunday and, until that process completes ensuring quality of the products, the stator lift will be postponed. If your organization is somehow involved in the lift, please inform individuals contact the Recovery Control Center at 858-5666 for further direction. Thanks for your support and patience.

Bob Gordon Director, Project Management

Melfi, Jim

From:	Tindell, Brian
Sent:	Monday, July 01, 2013 9:43 AM
То:	Allen, Don
Cc:	Melfi, Jim; Willoughby, Leonard; Fairbanks, Abin; Azua, Ray; Bradley, Dan
Subject:	ANO Stator Lift Rig
Attachments:	Stator Lift Rig 004.jpg; Stator Lift Rig 006.jpg; Stator Lift Rig 003.jpg

Don,

#3 picture gives you an idea of the size and location of one of the beams. It is on the turbine deck in front of the control room extension.

#4 shows the other side of that beam, and a piece of the other beam to the right. #6 shows one of the tripods grouted in place next to the stator base

Thanks, Brian







Doc 16

Melfi, Jim

From:Tindell, BrianSent:Tuesday, July 02, 2013 6:56 AMTo:Allen, Don; Miller, Geoffrey; Melfi, Jim; Willoughby, LeonardSubject:FW: CARB

FYI

From: PYLE, STEPHENIE L [mailto:SPYLE@entergy.com] Sent: Monday, July 01, 2013 4:31 PM To: Tindell, Brian Subject: CARB

ł

Brian,

The CARB for the stator event has been rescheduled for Wednesday at 1500.

Stephenie

and the second second

Doc 17

Melfi, Jim

From:	Melfi, Jim
Sent:	Tuesday, July 02, 2013 8:11 AM
То:	Tindell, Brian; Fairbanks, Abin; Azua, Ray; Young, Matt; Allen, Don
Cc:	Melfi, Jim; Bradley, Dan
Subject:	ANO Status

ANO Unit 1 : Mode: 6/

Risk: Contraint Stall Provide Internet

TS Action Statements: N/A

Events/conditions of interest SFP Temp 97 F; TT 200F – 29 hours; RCS Temp 94F; TTB 19.2 hours RCS Level 400 Feet.

Day 100 of the outage. Green Train Protected. Both SF trains inservice. Switchgear Recovery efforts ongoing. S/U 1 work. Stator crane assembly

ANO Unit 2 Mode: 1 / 100% Power Risk: Greensie (

TS Action Statements: No short term LCOs

Planned Maintenance and Surveillances.

Condition(s) of interest:

Licensee believes that stator lift will be on Friday (Maybe). They want to get S/U 1 back and ties from AAC generator, and believe they have enough time before stator lift occurs.

Because of NRC concerns the alternate shutdown capability, they have a continuous firewatch established in the Control Room until further notice.

and a second second

Entergy		CORRECT	CORRECTIVE ACTION		CR-ANO-C-2013-008	
CA Number: 18						
	ورو روز الحرب من را المستقور بيا المحاط ور عله	Group		و خور با ۱۹۷۰ و بر و در	Name	
Assigned By:	NSA Director	ANO		James, Dale E		
Assigned To:	Eng Project N	fgmt ANO		Bauman,David N		
Subassigned To :						
Originated By:	McCarty,Larr	y A		7/23/2013 13:22:26		
Performed By:						
Subperformed By:						
Approved By:						
Closed By:						
Current Due Date:	10/09/2013	Initia) E	Due Date:	10/10/2013		
СА Туре:	CAT A-EOC	СА	Priority :	2		
Plant Constraint:	NONE					
CA Description: Identify any cri event are factor	itical lifts to be red into the rev	performed with vendor special iew of the design and test plans	ty equipm	ent in the fleet. Ensure	lessons learned from the ANO	
Actions have be management per in the fleet. Ens	en issued in W rsonnel in the c ure lessons lea	T-2013-005 CA133-145) to all orporate offiece to identify any rned from the ANO event are f	Project M critical lif	anagers in the fleet and fts to be performed with to the review of the desi	to appropriate Project vendor specialty equipment	
			uctored int		ign and test plans.	
Subresponse : Closure Commen	ts:				gn and test plans.	
Subresponse : Closure Commen	ts:				gn and test plans.	

;

CA DUE DATE EXTENSION

CR-ANO-C-2013-00888

Corrective Action: CR-ANO-C-2013-00888 CA-00018

Version:	1	Approved: 🗹
Requested Duedate:	10/10/2013	Previous Duedate: 08/15/2013
Requested By:	Gillespie,Richard D	07/25/2013
Approved By:	James,Dale E	07/27/2013

Request Description:

Entergy

Actions from the Fleet Director of Project Management have been issued in (WT-2013-005 CA133-145) to all Project Managers in the fleet and to appropriate Project Management personnel in the corporate office to identify any critical lifts to be performed with vendor specialty equipment in the fleet and to ensure lessons learned from the ANO event are factored into the review of the design and test plans.

It is necessary to extend this action to support obtaining responses to the WT actions. It is acceptable to extend this because there is no plant operability issues related to this action. The action is to share lessons learned information from the ANO 1R24 Stator Drop event. This DDE is being submitted at the request of the ANO Manager of Projects.

Approved Description:

Enterg	<i>sy</i>	COR	CORRECTIVE ACTION		CR-ANO-C-2013-00888
CA Number:	19			<u> </u>	
Assigned By: Assigned To: Subassigned To :	VP-GMPO M Vice Presiden Vice Presiden	Group Igmt ANO t Project Mgmt HQN t Project Mgmt HQN]	Na James,Dale E Eubanks,Clifford James Jr,William J	ame
Originated By: Performed By: Subperformed By: Approved By: Closed By:	McCarty,Larr	y A		7/23/2013 13:29:58	
Current Due Date:	09/29/2013	<u></u>	Initial Due Date:	10/01/2013	······································
СА Туре:	CAPR		CA Priority:	1	
Plant Constraint: CA Description: Corrective Acti	NONE on to Prevent 1	Recurrence (CAPR):			
CAPR-1:Revise detailed engine accordance with be used.	e EN-DC-114, ering calculation h revised EN-N	Project Management, ons, quality requireme 1A-119, Material Har	, to provide guidanc ents and standards an ndling Program, who	e in specifying contract lar re provided for internal and en specially designed temp	nguage which will ensure d third party review, in horary lift assembles are to
Annotate steps Response:	implementing	this CAPR per EN-A	D-101-01 requireme	ents. Example: [CAPR-1: C	CR-ANO-C-2013-00888]
Subresponse :					
Closure Commen	ts:				

Entergy		COR	RECTIVE	CR-ANO-C-2013-008	
CA Number:	20				
		Group		<u> </u>	lame
Assigned By:	VP-GMPO N	1gmt ANO		James, Dale E	
Assigned To:	Fleet Mainter	nance Mgmt HQN		Stewart,Samuel	
Subassigned To :			· · · · · · · · · · · · · · · · · · ·		
Originated By:	McCarty,Lari	ry A		7/23/2013 13:38:28	
Performed By:					
Subperformed By:					
Approved By:					
Closed By:	<u>_</u>				
Current Due Date:	08/29/2013		Initial Due Date:	08/30/2013	
СА Туре:	CAPR		CA Priority:	1	
Plant Constraint:	NONE				
 An owner rev acceptance and Verification of Verification of Verification performed Verification 	testing of the of a third party of appropriate of 3D finite e	ance with EN-DC-14 assembly independent review code application incl lement analysis mode	of vendor calculatior uding application of eling performed if a l	appropriate safety factors oad test < 125% of the pr	ojected hook load is not
** Load an	d Functional p	erformance			
** Witness ** Specific	test ation of addition	onal safety factors wi	hen load testing is no	t possible	
 ** Witness ** Specific * Examination * Installation v * Establishmer * Identification 	test ation of addition of critical well rerification nt of an exclus of Plant Equi	onal safety factors wi lds post load test ion zone considering ipment that could be	hen load testing is no the failure of the lift damaged due to the l	t possible assembly and worst case ift assembly failure	load drop
 ** Witness ** Specific * Examination * Installation v * Establishmei * Identification (Use WF3 EC 4) 	test ation of addition of critical well verification nt of an exclus n of Plant Equi 3432, & Palisa	onal safety factors wi lds post load test ion zone considering ipment that could be des EC 7189 as exan	hen load testing is no the failure of the lift damaged due to the l nples)	t possible assembly and worst case ift assembly failure	load drop
 ** Witness ** Specific * Examination * Installation v * Establishmer * Identification (Use WF3 EC # Annotate steps 	test ation of addition of critical well verification nt of an exclus n of Plant Equi 3432, & Palisa implementing	onal safety factors wi lds post load test ion zone considering ipment that could be des EC 7189 as exan this CAPR per EN-A	hen load testing is no the failure of the lift damaged due to the l nples) AD-101-01 requireme	t possible assembly and worst case ift assembly failure ents. Example: [CAPR-2:	load drop CR-ANO-C-2013-00888]
** Witness ** Specific * Examination * Installation v * Establishmer * Identification (Use WF3 EC # Annotate steps Response:	test ation of addition of critical well verification nt of an exclus n of Plant Equi 8432, & Palisa implementing	onal safety factors will lds post load test ion zone considering ipment that could be ides EC 7189 as exan this CAPR per EN-A	hen load testing is no the failure of the lift damaged due to the l nples) AD-101-01 requireme	t possible assembly and worst case ift assembly failure ents. Example: [CAPR-2:	load drop CR-ANO-C-2013-00888]
** Witness ** Specific * Examination * Installation v * Establishmer * Identification (Use WF3 EC * Annotate steps Response: Subresponse :	test ation of addition of critical well rerification nt of an exclus n of Plant Equi 8432, & Palisa implementing	onal safety factors will lds post load test ion zone considering ipment that could be ides EC 7189 as exan this CAPR per EN-A	hen load testing is no the failure of the lift damaged due to the l nples) AD-101-01 requireme	t possible assembly and worst case ift assembly failure ents. Example: [CAPR-2:	load drop CR-ANO-C-2013-00888]
** Witness ** Specific * Examination * Installation v * Establishmen * Identification (Use WF3 EC * Annotate steps Response: Subresponse : Closure Commen	test ation of addition of critical well verification nt of an exclus n of Plant Equi 8432, & Palisa implementing	onal safety factors will lds post load test ion zone considering ipment that could be ides EC 7189 as exan this CAPR per EN-A	hen load testing is no the failure of the lift damaged due to the l nples) AD-101-01 requireme	t possible assembly and worst case ift assembly failure ents. Example: [CAPR-2:	load drop CR-ANO-C-2013-00888]
** Witness ** Specific * Examination * Installation v * Establishmen * Identification (Use WF3 EC # Annotate steps Response: Subresponse : Closure Commen	test ation of addition of critical well verification nt of an exclus n of Plant Equi 8432, & Palisa implementing ts:	onal safety factors will lds post load test ion zone considering ipment that could be ides EC 7189 as exan this CAPR per EN-A	hen load testing is no the failure of the lift damaged due to the l nples) AD-101-01 requireme	t possible assembly and worst case ift assembly failure ents. Example: [CAPR-2:	load drop CR-ANO-C-2013-00888]

Entergy		COF	CORRECTIVE ACTION		CR-ANO-C-2013-	
CA Number:	21					
		Group		N	ame	
Assigned By:	NSA Director	ANO		James,Dale E		
Assigned To:	Fleet Mainten	ance Mgmt HQN		Stewart,Samuel		
Subassigned To :						
Originated By:	McCarty,Larry	y A		7/23/2013 13:59:49		
Performed By:						
Subperformed By:						
Approved By:						
Closed By:				·····		
Current Due Date:	08/29/2013		Initial Due Date:	08/30/2013		
CA Type:	CARB REVIE	W	CA Priority:	4		
Plant Constraint:	NONE					
CA Description: Include ANO (CARB in review	v of changes to EN-	MA-119 being made	to address this root cause.		
Response:						
Subsectores						
Subresponse :						
			·			
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					· · · · · · · · · · · · · · · · · · ·	

Entergy CORRECTIVE A		ACTION CR-ANO-C-2013-	
CA Number: 22			
	Group	<u> </u>	ame
Assigned By: NSA Directo	r ANO	James, Dale E	•
Assigned To: Eng Project N	Mgmt ANO	Bauman,David N	
Subassigned To :			
Originated By: McCarty, Lan	ry A	7/23/2013 14:03:46	
Performed By:			
ubperformed By:			
Approved By:			
Closed By:			
Current Due Date: 09/29/2013	Initial Due Date:	09/30/2013	
CA Type: CAT A-CC	CA Priority:	2	
Plant Constraint: NONE			
requirements. * Specifically address that si * Project Management Response:	gnificant changes to project scope require onsibilities for establishing oversight of in	s a change to the plan nportant contract provision	1.
Subresponse : Closure Comments:			

Enterg	V	COR	RECTIVE	ACTION	CR-ANO-C-2013-00888
CA Number:	23				
-		Group]	and the state of the	Name
Assigned By: 1 Assigned To: 1 Subassigned To :	NSA Director A Eng Project Mg	ANO gmt ANO		James,Dale E Bauman,David N	
Originated By: 1	McCarty,Larry	A		7/23/2013 14:06:12	·······
Performed By:					
Subperformed By:					
Approved By:					
Closed By:		<u></u>			
Current Due Date:	09/29/2013		Initial Due Date:	09/30/2013	
Plant Constraint.	NONF		CA Priority:	2	
CA Description: Establish and im managers are imp	plement a 'Wil plementing the	I Sheet' for a one cy EN-DC-114 proces	cle period to monito ss for vendor oversig	or and provide feedbac ght.	ks to ensure that project
This actions may for each project.	be closed afte	r development of th	e 'Will Sheet' and a	formal way of insuring	g that the will sheet is completed
Response:					
Subresponse :					
Closure Comments	:				
			······································		

Enter	sy	CORRECTIVE	ACTION	CR-ANO-C-2013-0088
CA Number:	24			· · · · · · · · · · · · · · · · · · ·
		Group	-	Name
Assigned By:	NSA Director ANO	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	James, Dale E	ه «المشارطة المواد وليام المالية منه «معاد إنه في متعمد» مشارك فالمستوية عنا محيولة فالمالية المالية الم
Assigned To:	Eng Project Mgmt A	NO	Bauman,David N	
Subassigned To :	····			
Originated By:	McCarty,Larry A		7/23/2013 14:10:00)
Performed By:				
Subperformed By:				
Approved By:				
Closed By:				
Current Due Date:	03/04/2014	Initial Due Date	03/05/2014	
CA Type:	CAT A-CC	CA Priority	2	
Plant Constraint:	NONE			
Revise Root C: * Unlikely Fai * Possible Fail contributed to (ause Report based on ilure Modes that need lure mode FM3 - Crar the design flaw.	completed Exponent Report addr additional analysis are FM 1 - Ma he Structure Overload needs addit	essing unlikely or pose aterial Failure and FM ional analysis to suppo	sible failure modes. 2 - Equipment Malfunction ort or refute if live loads also
Response:				
Subresponse :				
Closure Commen	its:			

Entergy		CORRECTIVE	ACTION	CR-ANO-C-2013-00888
CA Number:	25			
Assigned By: Assigned To: Subassigned To :	VP-GMPO Mgmt ANG Eng Project Mgmt AN	Group	James,Dale E Bauman,David N	Name
Originated By: Performed By: Subperformed By: Approved By: Closed By:	McCarty,Larry A		7/23/2013 14:24:10	
Current Due Date:	03/13/2014	Initial Due Date:	03/14/2014	
СА Туре:	CARB REVIEW	CA Priority:	- 4	
Plant Constraint: CA Description: Present to CAR	NONE B the revised Root Cau	se Report based on completing t	he Exponent Report	
Response:				
Subresponse :				
				·

Entergy		СО	CORRECTIVE ACTION			C-2013-00888
CA Number:	27	▲				
Assigned By: Assigned To: Subassigned To :	NSA Director Vice Presider Vice Presider	Group r ANO nt Project Mgmt He nt Project Mgmt He	QN	James,Dale E Gordon,Robert A James Jr,William J	Name]
Originated By: Performed By: Subperformed By: Approved By: Closed By:	McCarty,Larr	гу А		7/23/2013 14:28:44		
Current Due Date:	10/28/2013		Initial Due Date:	10/30/2013		
СА Туре:	ENHANCEM	1ENT	CA Priority:	5		
Plant Constraint:	NONE		·			
Consider imple implementatior Response: Subresponse :	menting ANO 1 of EN-DC-11	' 'Will Sheet' devel 14 process for vend	oped to monitor and pro- lor oversight at a fleet l	ovide feedback to Proje evel.	et Management on	
Closure Commen	ts:					

	sy 🛛	COI	RRECTIVE A	ACTION	CR-ANO-C-2013-00888
CA Number:	28				······································
Assigned By: Assigned To: Subassigned To :	NSA Director Vice Presiden	Group ANO t Project Mgmt HQ]	James,Dale E Eubanks,Clifford	Name
Originated By: Performed By: Subperformed By: Approved By: Closed By:	McCarty,Larr	y A		7/23/2013 14:31:34	
Current Due Date:	10/29/2013		Initial Due Date:	10/30/2013	
CA Type:	ENHANCEM	ENT	CA Priority:	5	
Plant Constraint:	NONE				
CA Description: Consider enhan team compositi	icing the guidation experience	nce in Section 4.0[6 necessary to assess](f) of EN-DC-114, P adequacy of associate	roject Management, to ir d decisions related to hig	nclude in the consideration of the consequence evolutions.
Response:	•	·			
Subresponse :					

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Enter	SY	CORRECTIVE A	ACTION	C1. ANO-C-2013-0088
CA Number:	29			• • • • • • • • • • • • • • • • • • • •
Assigned By: Assigned To: Subassigned To :	G Eng Outage Mgmt ANO Eng Outage Mgmt ANO Eng Outage Mgmt ANO	roup	McCoy, Jaime H Edgell, Douglas W Butler, Paul Wayne	Name
Originated By: Performed By: Subperformed By: Approved By: Closed By:	Butler,Paul Wayne		7/26/2013 14:39:13	
Current Due Date:	08/02/2013	Initial Due Date:	08/02/2013	····
CA Type:	GENERAL ACTION	CA Priority:	4	
Plant Constraint:	NONE	•		
Senior Manage Response: Subresponse :	ment.			
Closure Commen	ts:			

ARKANSAS NUCLEAR ONE STATUS

April 29, 2013

Received FOIA from region.

<u>Unit 1</u>

- Mode: None
- RISK: GREEN
- SFP Temp: 89 F
- TTB: 12.3 hrs
- RCS Level: ~ 0.5 ft below vessel flange
- Both trains ECCS available
- A and B trains of spent fuel pool cooling are running
- AC Power: SU1 supplying power to vital busses A3 and A4; both EDGs available

Restoration

All debris associated with the Bigge lift rig has been removed. Plan to remove stator from the train bay either Tuesday or Wednesday.

Plan to installed radiation shields over the reactor vessel opening today to reduce dose rates for work on DH-17 check valve.

As soon as the A3 bus is powered by SU2 through the temporary switchgear (should be complete tomorrow morning), the licensee will remove the B train EDG from service to commence Green train electrical maintenance.

Completed core offload at 1905 April 28.

<u>Unit 2</u>

- Reactor Power: 29%

- RISK: GREEN

- AC Power: Restored to normal configuration

Restoration

Holding at 29% power for feedwater iron cleanup. Should achieve 100% power some time tomorrow. Criticality achieved 0920 yesterday. Resident staff observed criticality operations for about 4 hours on Sunday.

No LCOs.

April 30, 2013

Provided a hardcopy of the NSIR guidance on enforcement discretion for cyber security requirements to Stephenie Pyle.

<u>Unit 1</u>

- Mode: Defueled
- RISK: GREEN
- SFP Temp: 89 F
- TTB: 12.4 hrs
- RCS Level: Cold legs drained
- Both trains ECCS available
- A and B trains of spent fuel pool cooling are running
- AC Power: SU1 supplying power to vital busses A3 and A4; both EDGs available

Restoration

Plan to remove stator from the train bay tomorrow.

Completed installing radiation shielding over the reactor vessel opening.

As soon as the A3 bus is powered by SU2 through the temporary switchgear (should be complete in a couple days), the licensee will remove the B train EDG from service to commence Green train electrical maintenance. Ultimately, the licensee plans to power nonvital busses from the temporary switchgear instead of the temporary diesel generators.

<u>Unit 2</u>

- Reactor Power: 98%
- RISK: GREEN, yellow later today due to work in the switchyard
- AC Power: Restored to normal configuration
- RCS Leakage: 0.009 gpm

Restoration

Holding at 98% for NI calibration, should achieve 100% shortly.

No LCOs.

May 1, 2013

<u>Unit 1</u>

- Mode: Defueled
- RISK: GREEN
- SFP Temp: 96 F
- TTB: 12.5 hrs
- RCS Level: Cold legs drained
- Both trains ECCS available
- A and B trains of spent fuel pool cooling are running
- AC Power: SU1 supplying power to A4; both EDGs available. A3 is currently deenergized to facilitate testing of temporary switchgear from SU2 to A3.

Restoration

Plan to remove stator from the train bay Friday. Still waiting to have a regional call with the licensee on the details of the stator removal.

As soon as the A3 bus testing of SU2 through the temporary switchgear is completed, the licensee will remove the B train EDG from service to commence Green train electrical maintenance. The A3 bus will continue to be powered by SU1 and SU2 will only be used if all other power sources are lost. The licensee plans to power nonvital busses from the temporary switchgear instead of the temporary diesel generators as soon as the EC is completed around the 6/7th.

Unit 2

- Reactor Power: 100%

- RISK: GREEN, yellow later today due to work in the switchyard
- AC Power: SU2 is inoperable due to testing of the temporary switchgear to A3

- RCS Leakage: 0.009 gpm

Restoration

RCP "C" middle seal is degraded. The current differential pressure is 503 psid (nominal is 715). An ODMI is being developed, but even if the seal completely failed, there is operating experience demonstrating that the plant could continue operation with 2 seals.

Entered a 72-hr LCO this morning at 0456 due to temporary switchgear testing. Should exit LCO today after testing is complete.

May 2, 2013

<u>Unit 1</u>

- Mode: Defueled
- RISK: GREEN
- SFP Temp: 98 F
- TTB: 12 hrs
- RCS Level: Cold legs drained
- Both trains ECCS available
- A and B trains of spent fuel pool cooling are running
- AC Power: SU1 supplying power to A3 and A4; both EDGs available.

Restoration

Plan to remove stator from the train bay Friday. Still waiting to have a regional call with the licensee on the details of the stator removal.

As soon as the A3 bus testing of SU2 through the temporary switchgear is completed, the licensee will remove the B train EDG from service to commence Green train electrical maintenance. The A3 bus will continue to be powered by SU1 and SU2 will only be used if all other power sources are lost. The licensee plans to power nonvital busses from the temporary switchgear instead of the temporary diesel generators as soon as the EC is completed around the 6/7th.

<u>Unit 2</u>

- Reactor Power: 100%
- RISK: Yellow
- AC Power: All onsite and offsite power sources are opperable
- RCS Leakage: 0.026 gpm

Yellow risk due to work in the switchyard to replace the Pleasant Hill line insulators (line is deenergized).

Restoration

RCP "C" middle stage seal differential pressure has remained stable. The current differential pressure is 503 psid (nominal is 715). An ODMI is being developed, but even if the seal completely failed, there is operating experience demonstrating that the plant could continue operation with 2 seals.

May 3, 2013

<u>Unit 1</u>

- Mode: Defueled
- RISK: GREEN
- SFP Temp: 96 F
- TTB: 12 hrs
- RCS Level: Cold legs drained
- A and B trains of spent fuel pool cooling are running
- AC Power: SU1 supplying power to A3 and A4; EDG "A" available.

Restoration

Plan to remove stator from the train bay Friday or Saturday. Completed cutting out interfering concrete on the west end. Residents attended 0900 IPTE for the stator move. Residents will be observing portions of the lift/removal this weekend as directed by regional management.

Began Green train electrical maintenance window, which includes (will include) maintenance on the A-4 vital bus, B-6 non-vital bus, D06 safety-related battery, and the B EDG.

<u>Unit 2</u>

- Reactor Power: 100%
- RISK: Yellow
- AC Power: All onsite and offsite power sources are opperable
- RCS Leakage: 0.019 gpm

Yellow risk due to work in the switchyard to replace the Pleasant Hill line insulators (line is deenergized).

RCP "C" middle stage seal differential pressure has remained stable. The current differential pressure is approximately 500 psid (nominal is 715). The ODMI should be completed 5/7.

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<u>Change Statement</u> Editorial change to 5.9[2] to include obtaining prior concurrence for procedure changes required to address RCE causes.

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1.0 PURPOSE

- [1] This procedure provides instructions for the administration of Entergy (EN) Corrective Action process, including the identification, reporting, evaluation, and correction of a broad range of problems, areas for improvements, and standards performance deficiencies. Issues addressed in the corrective action process must include Adverse Conditions and Conditions Adverse to Quality, and can include minor problems that may be precursors to more significant events, areas for improvement and standards performance deficiencies identified during assessments and other activities. [10 CFR 50], [JAFP-91-0834], [P32648], [P33542]
- [2] This procedure provides management expectations and guidance for the implementation of the EN Condition Reporting Process.

NOTE

Throughout the procedure, position titles are used but are not procedural obligations. The intent is to identify functional responsibilities only. Each site will implement the intended function according to its organizational structure and position titles.

2.0 <u>REFERENCES</u>

- 2.1 References
 - (a) Title 10, Code Of Federal Regulation, Part 50, Appendix B
 - (b) ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants
 - (c) NRC Inspection Manual, Chapter 9900, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions adverse to Quality or Safety"
 - (d) ANSI 45.2.10, Quality Assurance Terms and Definitions
 - (e) Entergy Quality Assurance Program Manual (QAPM)
 - (f) SOER 02-4 Rec 3, Rx Press Vessel Head Degradation at Davis-Besse
 - (g) Nuclear Management Manual Procedure, EN-LI-104, Self-Assessment and Benchmark Process
 - (h) Nuclear Management Manual Procedure, EN-OE-100, Operating Experience Program
 - (i) North American Electrical Reliability Corporation (NERC) Standards

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	(j)	GGNS Procedure: 01-	-S-06-5, Reportable	Events or Conditio	ns		
	(k)	WF3 Procedures: UN	T-006-010, Event No	tification and Repo	orting		
	(I)	Nuclear Management Manual Procedure, EN-MA-123, Identification and Trending or Rework					
	(m)	Program Section CEP Replacements	-R&R-001, ASME S	ection XI, Division	1- Repairs and		
	(n)	Program Section CEP Containment Items	-CII-001, ASME Sec	tion XI Repairs an	d Replacements of		
	(0)	NRC Administrative Lo insufficient to Assure I	etter 98-10, "Disposi Plant Safety"	tioning of Technica	I Specifications tha		
	(p)	NRC Inspection Manu	al, Chapter 0609, "S	ignificance Determ	nination Process"		
	(q)	NRC Information Notice 97-78, "Crediting Of Operator Actions In Place Of Automatic Actions And Modifications Of Operator Actions, Including Response Times"					
	(r)	SOER 10-2, "Engaged	d, Thinking Organiza	tions", Rec 1			
	(s)	CAPR CR-PLP-2009-	05938				
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	(a)	10CFR50	·				
	(b)	CR-HQN-2009-1107,	NRC Order EA-09-0	60			
	(c)	QAPM A.1.d (Overall	procedure implemen	ts)			
	(d)	ANSI N18.7 5.2.11 (O	verall procedure imp	lements)			
	(e)	ANSI N18.7 5.2.15 (O	verall procedure imp	lements)			
	(f)	ANSI N18.7 5.3.2 (Ov	erall procedure imple	ements)			
	(g)	ANSI N45.2.2 5.5 (Ov	erall procedure imple	ements)			
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	(b)	ANSI N18.7			
	(c)	ANSI N45.2.4			

- (d) ANSI N45.2.11
- (e) ANSI N45.2.12
- (f) ANSI N45.2.13
- (g) 10 CFR 50.72
- (h) 10 CFR 50.73
- (i) 10 CFR 73.71

3.0 DEFINITIONS

- [1] <u>Administrative Corrective Action</u> A Corrective Action (CA) issued to facilitate moving the CR response and CA plan through the processes identified in LI-102. These actions typically have no direct impact on actions necessary to correct the identified condition, rather they document administrative steps involved in the process (i.e., an action issued by CA&A to direct closure review of a CR, an action issued to re-evaluate closure of a CR based upon issues identified by a CA&A closure review, etc.).
- [2] <u>Adverse Condition</u> An event, defect, characteristic, state or activity that prohibits or detracts from safe, efficient nuclear plant operation or a condition that could credibly impact nuclear safety, personnel safety, plant reliability or non-compliance with federal, state, or local regulations. Adverse conditions include non-conformances, conditions adverse to quality and plant reliability concerns. Examples of adverse conditions are contained in Attachment 9.2. [P3098]
- [3] <u>Adverse Trend</u> Undesirable change in frequency of occurrence of a parameter or undesirable level of occurrence of a parameter that warrants management attention or corrective action to improve the performance. This negative change in performance is undesirable because of the adverse impact on safety or reliability or because of the large (relative) number of similar performance problems in a bin that point to more significant future problems if not addressed.
- [4] <u>Apparent Cause</u> A likely cause for a condition that is determined by less rigorous means of evaluation than a root cause.

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- [5] <u>ASME Section XI Boundary</u> The ASME Section XI boundary includes those portions of systems, components, and their supports that are classified as In-service Inspection Class 1, 2, 3, MC (Metal Containment), or CC (Concrete Containment). The ASME Section XI Boundaries are defined in site boundary drawings. With respect to ISI Classes 1, 2, and 3, these classifications include the following:
 - (a) ASME Classes 1, 2, and 3
 - (b) Quality Groups A, B, and C
 - (c) Classes T2, T3, and T3/Critical (Arkansas Nuclear One, Unit 1 only)
- [6] <u>CAR (Corrective Action Request) Condition Report</u> A type of Learning Organization document that can be written by the Supplier Quality Assurance group to document and track evaluations of vendor issues.
- [7] <u>Condition</u> An issue or discrete occurrence that warrants documentation using a Condition Report (CR).
- [8] <u>Condition Adverse to Quality (CAQ)</u> As described in 10CFR50 Appendix B, Criterion XVI, such conditions include failures, malfunctions, deficiencies, deviations, defects, and non-conformances. This is a condition of a System, Structure, Component or Software (SSC) that could potentially render the SSC degraded or inoperable.
- [9] <u>Condition Report (CR)</u> A computer generated or paper form used to document issues into the corrective action process.
- [10] <u>Condition Review Group (CRG)</u> A management group responsible for CR review, categorization and assignment of responsibilities. [P2993]
- [11] <u>Conditional Release</u> A controlled release of materials, parts, or components that have not been fully accepted under the Quality Assurance program. This type of release serves to identify and track an item until it becomes accepted or other disposition action is completed.
- [12] <u>Contributing Cause</u> An identified cause that, if corrected, would not by itself have prevented the event. This type of cause may have facilitated the event's occurrence, increased its severity, or lengthened the time to discovery.
- [13] <u>Corrective Action</u> Corrective Actions (CAs) include actions intended to preclude repetition of significant conditions (see CAPRs) and those intended to correct adverse conditions.

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[14]	<u>Correcti</u> intende	ive Actions to Preclude d to correct the root ca	e Repetition (CAPRs iuse(s) of a condition	 A type of Correspondence and thereby precedence 	ective Action (CA)
[15]	<u>Corrective Action Review Board (CARB)</u> - A group, consisting of a cross section of personnel familiar with a particular Condition Report, assembled for the purpose of review and approval of cause evaluations and corrective action plans. The CARB chairman ensures that adequate representation is in attendance at meetings in accordance with CARB quorum requirements. [P23035]				
[16]	Degrade system conditio equipme erosion,	ed Condition - A degra or component or its fu ns are failures, malfun ent. Examples of cond , corrosion, improper o	ided condition is one nctional capability is ictions, deficiencies, itions that can reduc operation, and maint	e in which the qual reduced. Example deviations, and deviations, a	ification of a structure es of degraded efective material and a system are aging,
[17]	<u>Department Performance Improvement Coordinators (DPIC)</u> - departmental personnel as defined in ENOS/GOES to functionally perform and/or implement continuous improvement programs, including the Corrective Action Program (CAP), for their organizations. [Chemistry, Engineering, Maintenance, Materials Purchasing & Contracts, Operations, Planning & Scheduling, Radiation Protection, Security, and Training]				
[18]	<u>Deviatio</u>	on - A nonconformance	e or departure of a c	haracteristic from	specified requirement
[19]	<u>Disposition</u> – CR Disposition is the outcome of the review of a reported problem by the CR Owner, as designated by the CRG. The disposition includes (as appropriate) the cause of the condition as determined by the CA to perform an evaluation, the extent of condition, actions to address causes, and a plan for implementing those actions that is commensurate with the significance of the problem. Completion of CR Disposition does not require the completion of all corrective actions.				
[20]	<u>Effectiveness Reviews</u> – Performance based reviews undertaken to verify that an intended result was achieved. Effectiveness Reviews are normally assigned by CARB to the Responsible Manager, but may be assigned to another group for evaluation. [P23038]				
[21]	<u>Employee Concerns Program (ECP)</u> – A program implemented to support a Safety Conscious Work Environment (SCWE). The ECP provides an alternate means for any employee to report any type of problem or concern.				
[22]	Enhance minimur Enhance may not appropr the actio	ements - Improvement m acceptable criteria, o ements should be ider be tracked to complet iate if the action is nee on is needed to addres	t items or actions the or performance stan ntified in the CR resp tion by the CR proce eded to correct the o as an identified caus	at address condition dards but may be bonse because the ess. The enhancer riginally identified e.	ons, which meet less than optimum. ly add value, but may nent designation is no adverse condition or i

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- [23] <u>Extent of Condition</u> An evaluation/review to identify the total population of items that have or may have the same problem as identified in the original CR problem statement. The intent of the Extent of Condition review focuses on a determination of any potential impact to the operability/functionality of the similar components, equipment, systems, human performance traps/issues, or organizational processes/programs.
- [24] <u>Inadequate Technical Specification</u> A specific Technical Specifications requirement (parameter value or action) that may not support safety assumptions or conclusions.
- [25] <u>Industrial Safety Incident</u> An incident that results in either an OSHA Recordable or OSHA Reportable condition.
- [26] <u>Learning Organization (LO)</u> An organizational culture that embraces a never-ending drive for continuous improvement, as highlighted by people at every level in the organization continually increasing their capacity to produce good results and constantly learning from others as means to systematically and deliberately realize operational excellence.
- [27] Learning Organization (LO) Documents Documents written to provide a consolidated record of assessments, benchmark trips, CAPR effectiveness reviews, and other activities. Learning Organization documents are not processed through the Control Room, Licensing, or the CRG. LO documents are governed by EN-LI-104, Self-Assessment and Benchmark Process. (LO-WTs are NOT considered LO documents. They are ungoverned Work Tracking actions with no specific controls.)
- [28] Long Term Condition Report (LTCR) A CR that contains an approved Long Term CA.
- [29] <u>Long Term Corrective Action (LTCA)</u> Action(s) that cannot meet the timeframes established and approved in accordance with the Corrective Action Processing Guidelines (Attachment 9.4).
- [30] <u>Management</u> Defined as Supervisor and above (Supv, Supt., Manager, GMPO, V.P. etc.) or as personnel recognized as having direct reports.
- [31] A <u>Nonconforming Condition</u> is a condition of a System, Structure or Component (SSC) that involves a failure to meet the Current Licensing Basis (CLB) or a situation in which quality has been reduced because of factors such as improper design, testing, construction, or modification. The following are examples of nonconforming conditions:
 - An SSC fails to conform to one or more applicable codes or standards (e.g., the CFR, operating license, TSs, UFSAR, and/or licensee commitments).
 - An as-built or as-modified SSC does not meet the CLB.
 - Operating experience or engineering reviews identify a design inadequacy.
 - Documentation required by NRC requirements such as 10CFR50.49 is not available or deficient

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- [32] <u>Non-Significant</u> A classification for condition reports (typically, B, C, D categories) that document problems or corrective actions for which a repeat occurrence, while always undesirable, can be tolerated.
- [33] <u>OPERABLE-Degraded or Nonconforming (Operable-DNC)</u> A condition where a TS SSC is OPERABLE but a Degraded or Nonconforming Condition exists that does not require Compensatory Measures.
- [34] <u>Owner</u> (Responsible Manager) The management position within the PCRS management group that was designated by the CRG to ensure the condition is corrected in accordance with the requirements of this procedure. The Owner may be a Superintendent or above position and is equal to the term "Responsible Manager' as used in this procedure.
- [35] <u>Paperless Condition Reporting System (PCRS)</u> A computer program that tracks actions resulting from the processes described within this procedure.
- [36] <u>Repair</u> The process of restoring a nonconforming characteristic to a condition such that the capability of an item to function reliably and safely is unimpaired, even though that item still may not conform to the original requirement.
- [37] <u>Repetitive Event</u> any significant condition adverse to quality that resulted from the same identified root cause as a previous event or nonconformance. This doesn't apply to conditions classified as significant due to the frequency of the event/condition (i.e., adverse trend).
- [38] <u>Responsible Manager (RM)</u> (Owner) The management position within the PCRS management group that is designated by the CRG to ensure the condition is corrected in accordance with the requirements of this procedure. The RM may be a Superintendent or above position and is equal to the term "Owner" as used in this procedure.
- [39] <u>Rework</u> From a plant maintenance efficiency perspective, rework is the re-performance of an assigned activity, in whole or in part, because the original problem/issue was not corrected the first time resulting in a loss of time, money or quality. From a quality perspective, rework is the process by which a nonconforming item is made to conform to a prior specified requirement by completion, re-machining, reassembling, or other corrective means.
- [40] <u>Root Cause</u> The most basic cause(s) for a failure or a condition that, if corrected or eliminated, will preclude repetition of the event or condition.
- [41] <u>Root Cause Analysis (RCA)</u> Structured, formatted process that documents the root cause(s) of a condition or event. The root cause is determined using recognized methodologies. RCAs are performed in accordance LI-118, "Root Cause Analysis Process." RCAs are used for complex issues or those where the cause is not understood or readily known.
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- [42] <u>Routine Report</u> NRC reports that are generated at a fixed frequency or as required by regulations except for 10CFR50.55, 50.72, and 50.73. For example, 10CFR50.46 reports of ECCS performance modeling errors of insufficient magnitude to trigger a report under other regulations are considered routine.
- [43] <u>Safeguards Condition Report</u> A Condition Report documenting a Safeguard condition. The condition description contains as much information as possible to ensure proper prioritization within the corrective action program by the CRG without providing any safeguards information. Where additional (safeguards) information is required to describe the condition, the additional information shall be contained in a uniquely identified and referenced safeguards document. The uniquely identified safeguards document shall be maintained in a safeguards file in accordance with Safeguards requirements. [CR-HQN-2009-1107, NRC Order EA-09-060]
- [44] <u>Significance Determination Process (SDP)</u> A process by which a condition documented on a CR can be assessed in terms of its risk significance relative to objectives of reactor safety, radiation program effectiveness, emergency planning, & physical security program effectiveness.
- [45] <u>Significant Conditions Adverse to Quality (SCAQ)</u> Conditions such as failures, malfunctions, deficiencies, deviations, defective material & equipment, and nonconformances which have resulted in, or could result in, a significant degradation or challenge to nuclear safety.
- [46] <u>Significant</u> A classification for CRs determined to meet one or more of the following: [P5431]
 - Any Significant Condition Adverse to Quality. Conditions such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances which have resulted in, or could result in, a significant degradation or challenge to nuclear safety.
 - A problem recognized as having a greater than acceptable recurrence rate as determined by the CRG.
 - Any event or nonconformance that meets the definition of repetitive event.
 - An unplanned event or failure of an SSC that led or could have led to a reactor trip or plant transient.
 - A serious industrial safety incident as determined by CRG or a near miss occurred that in the judgment of the CRG could have resulted in a serious industrial safety incident.
 - A major breakdown in processes that implement QA Program Requirements as determined by the CRG.
 - An issue determined, through the NRC Significance Determination Process, to be nongreen (white, yellow, or red).
 - Events or conditions designated as significant or considered important by management for reasons other than those that fall into the above categories.

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[47]	<u>Site</u> -Th Headqu	e term "site" is used w arters (HQN).	hen referring to a sp	pecific Entergy nue	clear plant or		
[48]	<u>Structur</u> Compor	es, Systems or Components, for Operability D	onents (SSC) Opera eterminations:	a <u>bility</u> - Structures,	Systems or		
	 Are th These opera 	ose SSCs that are rec SSCs may perform ro ble by TSs (e.g., eme	uired to be operable equired support func- gency diesel genera	e by Technical Sp ctions for other SS ators and service	ecifications (TSs). Cs required to be water).		
	 Are the requirer are reprint are represereprint are reprint are reprint are reprint are r	ose SSCs that are not ed support functions (quired to be operable	t explicitly required t as specified by the by TSs.	to be operable by TSs definition of o	TSs, but that perforr perability) for SSCs		
[49]	<u>Structures, Systems or Components (SSC) Functionality</u> - Structures, Systems or Components, for Functionality Assessments are those that are not described in TSs, but which warrant programmatic controls to ensure that SSC availability and reliability are maintained.						
	 SSCs and related controls are included in programs related to Appendix B to 10 CFR Par 50, "Quality Standards and Records," and Maintenance Rule (10 CFR 50.65). 						
	 Additionally, SSCs warrant functionality assessments within the processes used to address degraded and nonconforming conditions because they perform specified functions described in the Updated Final Safety Analysis Report (UFSAR), technical requirements manual, emergency plan, fire protection plan, regulatory commitments, or other elements of the current licensing basis (CLB). 						
[50]	<u>Trip Ser</u> cause a	<u>nsitive System</u> – Any s reactor trip. Trip Sens	ystem or componen itive Systems may l	t that upon actuat be specifically ider	ion or failure could ntified for each site.		
[51]	<u>Use-As-Is</u> - A disposition which may be imposed for a nonconformance when it can be established that the discrepancy will result in no adverse conditions and that the item under consideration meets all engineering functional requirements (performance, maintainability, fit and safety) originally specified or as otherwise determined to be acceptable under engineering evaluation.						
[52]	<u>Verification of Acceptability Evaluation</u> – An evaluation performed on a nonconforming item in the ASME Section XI Boundary to ensure that the proposed repair, rework, replacement, or modification activity appropriately corrects the nonconforming condition with due consideration to the cause of failure. This evaluation does not apply to non-conformances associated with the In-service Testing (IST) Program.						

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4.0 **RESPONSIBILITIES**

- [1] All personnel working at EN facilities are responsible for: [QAPM A.6.a]
 - (a) Identifying and reporting problems. [P22828]
 - (b) Documenting problems by initiating CRs in accordance with this procedure.
 - (c) Assigning a CA Type code and matching CA Priority in PCRS in accordance with the Corrective Action to CA Type table in Attachment 9.4 when initiating a CA in PCRS.
- [2] EN Management (Supervisor and above) is responsible for: [QAPM A.6.a], [QAPM A.6.c]
 - (a) Ensuring that personnel are familiar with the requirements of this procedure.
 - (b) Ensuring that problems are reported.
 - (c) Ensuring recommendations on trend codes are provided for CRs assigned to their department prior to CRG. [QAPM A.6.e]
 - (d) Ensuring that required actions for Condition Reports are determined, implemented, and adequate to resolve the condition.
 - (e) Ensuring performance of Effectiveness Reviews when assigned.
 - (f) Ensuring that non-conforming items are segregated as appropriate and controlled as needed until dispositioning the item to be conforming <u>or</u> it is otherwise discarded after removal for testing/maintenance and through disposal or reinstallation
 - (g) Ensuring keywords and problem codes are appropriate based on investigation results.
 - (h) (For Responsible Managers) Approving RCEs, ACEs and Analysis assigned to their Department. This responsibility should only be delegated when the Responsible Manager is not available and then it should be performed by the individual that is Acting for their position in their absence.
- [3] Each Site's Manager, Corrective Actions and Assessment and the Manager CA&A Projects is responsible for: [QAPM A.2.G.7], [QAPM A.6.c]
 - (a) Administering the Corrective Action Program.
 - (b) Administering the Root Cause investigation and review process and performing effectiveness reviews for CAPRs when assigned by CARB.
- [4] Each Site's Manager, Security and the Manager Security Operations is responsible for: [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (a) Safeguards Condition Report requirements as follows:
 - (1) Ensuring when a uniquely identified safeguards document is needed that the CR references the uniquely identified safeguards document and that the safeguards document references the CR
 - (2) Maintaining and controlling the uniquely identified safeguards document in a safeguards file in accordance with Safeguards procedural requirements

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	(3)	Retaining the uniquing the retention requirements of the second s	uely identified safeguents of the Correctiv	uards document in e Action Process a	accordance with t at the individual site
	(4)	Ensuring a represe authorization is pre Review Group (CR	ntative of the Secur sent at the CR Pre- G).	ity Department, wi Screening, if appli	th Safeguards cable, and at Cond
	(5)	Determining when qualified based on	CRG and CARB me the nature of the CF	mbers are require R being reviewed	d to be Safeguards
[5] E	ach Sa	feguards Custodian is	responsible for: [CF	R-HQN-2009-1107, NF	RC Order EA-09-060]
(a)	Safe	guards Condition Rep	ort requirements as	follows:	
	(1)	Maintaining and co safeguards file in a	ntrolling the uniquel ccordance with Safe	y identified safegu eguards procedura	ards document in a Il requirements
[6] E re	ach site sponsil	e's Manager, Licensin ble for: [P21440]	g, or as assigned by	y management at o	off-site locations, is
(a)	Revie	ewing CRs and admir	nistering the SDP in	accordance with S	Section 5.5.
(b)	Perfo	orming Reportability R	eviews and docume	enting the results in	n PCRS.
(c)	lssuir repor perfo other	ng CAs for determinat tability. This includes rmed on identified co Indeterminate Repor	tions and evaluation Past Operability/Fu nditions, potential or tability items.	s that are needed nctionality Determ r actual 10 CFR 2′	to determine inations or Evaluat I conditions, and a
(d)	lssuii respo	ng CAs to address NF onses to such CAs.	RC violations or findi	ings and performir	ig closure reviews
[7] E	ach site	e's Manager, Planning	and Scheduling / C	outages is respons	ible for:
(a)	Moni	toring and reporting to	CRG the status of	WOs that have Cl	Rs/CAs closed to t
[8] T	he Con	dition Review Group ((CRG),is responsible	e for: [P2993], [P214	40], [P21439]
(a)	Revie class	ewing CRs to classify, ified as per Attachme	, categorize, and as nt 9.1.	sign responsibility.	Categories are
(b)	Appro	oving closure of CRs	to other processes.		
(c)	Deter	rmining when to apply	Attachment 9.5 En	tergy Fleet Learnii	ng Review Process
(d)	Ensu	res appropriate opera	bility/ functionality re	views are perform	ed per EN-OP-104
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- (e) Oversight of Operable-Degraded or Nonconforming (Operable-DNC) or Operable-Comp Measures conditions
- (f) Determining when to apply CARB oversight responsibilities to Apparent Cause evaluations.

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[9]	The Co	prrective Action Review	Board (CARB) is re	sponsible for: [P23	035]	
(a	i) Re act eva	viewing and approving ion plan. Reviewing se iluations and their actio	Root Cause evaluat elected Responsible on plans directing ch	ions including the Manager approve anges where need	ir proposed correcti d Apparent Cause ded.	ve
(比	o) Ass Cat	signing Effectiveness R tegory "A" CRs and ma	eviews to the Response nagement selected	onsible Manager, (Category "B" CRs	or appropriate grou	p, for
(0	(c) Reviewing, and approving approved CAPRs. The CA for CARB approved CAPF		or disapproving Du RB Chairperson ma s rather than conve	e Date Extension ly approve Due Da ning the full board	Requests for CARE ate Extension Requ	ests
(c	l) Del alre	ermining when to apply ady applied by CRG.	y Attachment 9.5 En	tergy Fleet Learni	ng review process i	f not
(6	e) CA EN	RB members and their -FAP-LI-003, Corrective	alternates complete e Action Review Boa	a training Job Fa ard (CARB) proce	miliarization Guide, ss.	per
(f) Re [.] Ion	viewing, and approving ger be needed <u>or</u> that r	(or disapproving) re night need to be rep	equests to cancel (laced.	CAPRs that may no)
[10]	The Fle	et Manager OE & CA i	is responsible for ma	aintenance of this	procedure.	
[11]	The Sit evaluat	e NSA Director (or GM ing Anonymous CRs fo	Fleet Operations So or SCWE issues.	upport for Headqu	arters) is responsib	le foi
[12]	Where response	assigned / used, Depa sible for:	rtment Performance	Improvement Co	ordinators (DPIC) a	re
(a	ı) Bei imp	ng the point of contact lementation of the requ	for the Corrective Adult Ad	ction Program (CA 02.	P) and assisting with the second s	th
(b) Pro CR	viding recommendation G.	ns on CR assignmer	nt and significance	e classification prior	to
(0	:) Pro refe	viding recommendation erence items, etc.) for C	ns on trend codes (s CRs assigned to thei	ystem, equipment r department prior	t & component, to CRG. [QAPM A	.6.e]
(d	l) Ens per	suring CRs involving hu formance trend data is	iman performance is entered into PCRS	ssues are properly	identified and hum	an
(e	e) Mai ens	intaining an awareness ure actions are comple	of the status of CR ted by the due date	s & CAs owned by or extended appr	v their department to opriately.	0
(f)) Per des	forming Responsible N ignated by the Respon	lanager closure revi sible Manager.	ews for Category	'C' CRs when	
(g) Per ass con cau	forming a final CR Qua igned to their departmented and documented sal codes, PO&C, HU,	lity check prior to el ent as allowed by EN I. Ensure trend code Failure modes, etc.	ectronic CR closu N-LI-102 after all C es are accurately a	re review for CRs CR closure reviews assigned including	are
(h) Act	ing as the cause analys	sis point of contact f	or their departmer	it.	

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- (i) Assisting others with PCRS and Corrective action program issues.
- (j) Completing a training Job Familiarization Guide, FFAM-CAA-DPIC, Department Performance Improvement Coordinator (DPIC).
- (k) Ensuring CAs initiated by their department has the proper CA Type code and matching CA Priority in accordance with Attachment 9.4.

5.0 DETAILS

- 5.1 PRECAUTIONS AND LIMITATIONS
 - [1] Safeguards information related to Safeguards CRs shall be handled in accordance with EN-NS-204; Protection of Unclassified Safeguards Information, requirements.
 - [2] Proprietary documents are not to be attached to Condition Reports or Corrective Actions. Contact Administrative Services or CA&A for guidance on proprietary documents.
- 5.2 CONDITION REPORT INITIATION [INPO930E21TP3], [INS9380TP2], [QAPM A.6.b]
 - [1] General Instructions
 - (a) Notification to management prior to, or concurrent with, initiation of a Condition Report (CR) is encouraged but not required. However, due to the potential implications of safety related issues, all conditions involving personnel and/or plant safety issues are expected to be communicated to management verbally to support timely resolution of the safety issue. These notification expectations are captured in 5.2 [1] (f) of this procedure.
 - (b) When documenting conditions on a CR, don't use names of personnel if at all possible. If necessary for clarity of the condition, use of titles is acceptable unless the CR is related to a personnel injury or illness. For CRs related to a personnel injury or illness use generic terms such as "employee" or "contractor" to refer to the injured/ill person.
 - (c) Safeguards Information is not to be placed in Condition Reports. Contact Security for guidance on safeguards information.
 - (d) Employees and contractors are encouraged to write CRs for a broad range of problems. Problems reported must include, but are not limited to, Adverse Conditions. Examples of Adverse Conditions requiring initiation of a CR are provided in Attachment 9.2.

If an employee is not satisfied with classification of a CR or if the actions are inadequate to alleviate their concern, the employee may choose to utilize Entergy's Open Door Policy and discuss the concern with higher levels of management. Employees may also choose to report their concern through the Employee Concerns Program (ECP). While the Corrective Action Process is the preferred method of reporting problems, the ECP may be utilized at any time. Neither this nor any other company policy alters an individual's right to address their concerns directly to the NRC per 10CFR19

Identifying problems within the CA Program is a Protected Activity as defined in EN-EC-100, Guidelines for Implementation of the Employee Concerns Program. [CR-PLP-2007-1243]

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- (e) Employees are required to initiate CRs for adverse conditions, and are encouraged to write CRs whenever conditions warrant.
 - (1) If there is any doubt about the decision to initiate a condition report, then employees are encouraged to discuss the condition with appropriate management.
 - (2) If doubt remains, employees should initiate the CR.
- (f) Any individual, including corporate, shared resource, or contracted personnel, who discovers an Adverse Condition, is expected to ensure the following actions are taken. [P5110], [P23978]
 - (1) Immediate actions are taken as necessary to minimize the consequence of the condition. Expected actions are commensurate with level of training, knowledge and expertise (e.g., extinguishing a fire, eliminating a safety hazard or correcting an adverse radiological condition).
 - (2) Appropriate site personnel are notified of the identified condition. If immediate action should be taken by Operations to ensure the safety of the plant or personnel, contact the Shift Manager/designee. The following information should be provided:
 - Originator's name, telephone number, and supervisor,
 - Brief description of the condition,
 - Equipment identification and location, and
 - Immediate corrective action taken, if any.
 - (3) The condition is promptly documented on a Condition Report.
 - (g) Nonconforming items are properly controlled to prevent their inadvertent test, installation, or use. When items are controlled by tagging, the tag is equivalent or similar to Attachment 9.7. [QAPM A.6.d S1], [QAPM Table 1.c.22], [QAPM B.13.b], [ANSI N18.7 5.2.14], [ANSI N45.2.4 2.6 S1 S2]
 - (1) When tags are used the stock shall be made from material which will not deteriorate during storage.
 - (h) <u>Quality related nonconforming items installed in the plant</u>, used in order to operate the plant or used to implement approved procedures requires a condition report be initiated, dispositioned and tracked per this procedure. [P22362]

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- (i) For equipment, components, assemblies, sub-assemblies that maintenance removes from the plant systems AND meet the definition of Non-Conforming Material as defined in EN-MA-101-02, Control of Material Outside Facility Warehouse, require a condition report be initiated and tracked per this procedure until under warehouse control or until scraped. The Non-Conforming Material/Item is controlled in accordance with EN-MA-101-02. This includes a condition of a System, Structure or Component (SSC) that involves a failure to meet the Current Licensing Basis (CLB) or a situation in which quality has been reduced because of factors such as improper design, testing, construction, or modification. The following are examples of nonconforming conditions:
 - (1) An SSC fails to conform to one or more applicable codes or standards (e.g., the CFR, operating license, TSs, UFSAR, and/or licensee commitments).
 - (2) An as-built or as-modified SSC does not meet the CLB.
 - (3) Operating experience or engineering reviews identify a design inadequacy.
 - (4) Documentation required by NRC requirements such as 10CFR50.49 is not available or deficient
- (j) <u>Nonconforming items within warehouse control</u> shall be controlled and tagged in accordance EN-MP-120, Material Receipt or EN-MP-115, Material Issues and Returns. Tracking per this procedure is not required. Tracking per this procedure is not required except where a condition exits as describe in Attachment 9.2.
- (k) All Safeguard conditions will be identified as a Safeguard condition report. The condition description should clearly identify the CR as being a Safeguards CR. The condition description shall contain as much information as possible to ensure proper prioritization within the corrective action program by the CRG without providing any safeguards information subject to the following: [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (1) Where additional (safeguards) information is required to describe the condition, the additional information shall be contained in a uniquely identified safeguards document
 - (2) The Condition Report shall reference the uniquely identified safeguards document and the uniquely identified safeguards document shall reference the Condition report. It shall be the responsibility of the Security Department to ensure this cross reference is made.
 - (3) The uniquely identified safeguards document shall be maintained in a safeguards file in accordance with Safeguards requirements. The Security Department (Security Manager and Safeguards Custodian) shall be responsible for maintaining this safeguards file and for developing and maintaining procedures to control this file.
 - (4) The safeguards file shall be auditable and must meet retention requirements equivalent to those of the Corrective Action Process at the individual site.

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[2] Preparation

- (a) When initiating a CR, with potential operability/functionality or reportability issues, promptly contact the Shift Manager/designee to inform Operations of the condition. [COMM-93-04786], [P22829]
 - (1) Direct notification of Operations personnel (via phone or face-to-face) is important to ensure details of the condition are sufficient and understood for the operability/functionality/immediate reportability determination. This notification is not performed using voicemail or e-mail because timeliness cannot be assured.
- (b) Determine the applicable Site:
 - (1) A Site CR should be initiated for the Site(s) impacted by the Adverse Condition.
 - (2) Consider initiating a Headquarters (HQN) CR instead of a Site CR if there is no Site impact, an Operability or Reportability Review is not required, AND if the Adverse Condition is related to a corporate program, fleet procedure, common process, or HQN activity.
 - (3) Both a Site CR and a HQN CR may be required when the site impact is associated with an Adverse Condition in a corporate program, fleet procedure, common process, or HQN activity.
- (c) Prepare the Condition Report using the PCRS application. PCRS is accessible to anyone with access to a PC containing the PCRS application.
- (d) In the unlikely event of a PCRS system outage, follow the instructions provided in Attachment 9.3 (Manual CR Initiation).
- (e) The condition description and any supporting documentation should be in sufficient detail to provide a clear understanding of the condition. If known, include details on what impact the condition has on personnel or plant safety. This information is used to perform operability/functionality/immediate reportability and reportability determinations. It is expected that the condition description identify any outside agency that identified the condition, when applicable. [P23978]
 - (1) The condition description field should provide a brief, factual statement of what the deficiency, issue, or problem is and its impact to reliability and safety, and any additional information needed to provide complete and accurate identification of the problem. The additional information should include a summary of the facts with statements detailing what happened, when and where it happened, and if known, why the event occurred.
 - (2) Include any pertinent vendor information that will assist personnel in their operability and reportability determinations.

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	(3)	Include any previor	us examples of the o	condition of which	you are aware.	
		a. If you know include thes	of previous CRs tha e in your descriptior	t documented the	same issue, then	
		b. Include refe	rences to Industry C	E where applicab	le.	
	(4)	Include any pertine hydrogen concentr value of"	ent trend information ation has been incre	, such as "over the easing from a valu	e past three month e of to the c	s, :urrent
(f)	The	date & time of the occ	urrence are include	d in the Condition	Description, if pert	inent.
(g)	(g) Include any immediate / interim actions initiated / completed to either correct (Work Request, etc.) or to minimize the impact on plant equipment or personnel. In the case of industrial safety concerns, describe actions taken to prevent personnel from being injured until the industrial safety concern is corrected.					
(h)	Atta (i.e. form	ch electronic copies o , computer printouts, c nat. [P22829] [P23977]	f any documents ne perating logs, surve	eded to understan y records, etc.) in	d or clarify the con MS Word or PDF	dition
(i)	Sav rout ope	e the Condition Repor ed to the appropriate o rability/functionality, re	t in PCRS using the departments (Opera portability, and proc	"Init CR" button. tions, Licensing, a æssing as applical	It is then automatic ind CA&A) for ble.	ally
(i)	For "Equ	equipment related CR upment" tab of the CR	s, ensure applicable in PCRS after CR i	e equipment inform initiation.	nation is filled out ir	n the
(k)	Info prop PCF	rmation regarding sub loosed corrective action RS to maintain awaren	sequent CR categor is is readily available ess of the status of	y classification, as e in PCRS. CR in CRs they have init	ssignment, status, a itiators can review tiated.	and
[3] Or	iginal	Condition Report Mod	lification	-		
(a	i) i i	If the language in a co administratively remov anguage is offensive, version should be prov	ndition report is dee ed without the initia distasteful or inappi rided to Employee C	med abusive by C tor's concurrence. opriate in nature. Concerns	A&A, it may be This includes the The original unedi	ted
(b)) 	In addition, if the name of an individual is provided in the CR, CA&A ma the individual's title or position for the individual's name without the initia concurrence. Confidential information (SSNs, medical details, disciplina etc.) and safeguards information may also be removed and substituted appropriate wording without the initiator's concurrence		R, CA&A may subst out the initiator's Is, disciplinary actions substituted with	itute ons,	
(c) ;	For CRs related to a p such as "employee" or	ersonnel injury or ill "contractor" to refe	ness CA&A may s r to the injured/ill in	ubstitute generic te ndividual as necess	erms sary.
(d) (Changes should be no	ted inside brackets	[] or an explanation	on of change provid	ded.
(e	r) 1 1 1	For information change ab of the applicable C the changes made and the CR need only be re	ed or removed withon R must annotated to the reasons for the etained as required	out the initiator's co o describe in gene o changes. The ori by (a) above.	oncurrence the adr ral terms, the natu ginal full text version	nin re of on of

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5.3	OPER/ [ER2003 ⁻ N18.7, Se	ABIL 1761_ ectior	ITY, FUNCTIONALIT _02], [ANSI N18.7 Section 1 4.1]	Y, AND IMMEDIATE 5.2.6 S20], [10 CFR 50.	E REPORTABILIT 72(b)],, [10 CFR 73.7	Y [NL-98-066-C024], 71(a)(1) (b)(1) S1], [AN	
[1]	For	Ente	ergy Nuclear Plant CR	s: [ER970230]			
	(a)	Whe dete exist chec Ope Rep Ope Ope	n a CR is initiated, the rmine if a potential op s. The CR initiation so ked as "Potential Ope rations Department fo ortability screening. If rability/Functionality a rability" button should	e CR initiator is task erability/functionality creen has a checklis erability – Yes," the C r Operability/Functio a CR initiator is unsu nd/or Immediate Re be checked as "Yes	ed with screening and/or immediate t to assist in the s CR is automaticall nality Determinati ure if a condition i portability concern "	the condition to e reportability conce creening. If a CR is y routed to the site ion and Immediate nvolves a Potential n, the "Potential	
	(b)	Those CRs flagged as "Potential Operability – No" by the CR initiator are reviewed by the CRG to verify that Operability Determination is not required. If the CRG determines that Operability/Functionality Determination is required, Operations is notified to perfort the operability/functionality.					
	(c)	Operability/ Functionality and Immediate Reportability reviews for CRs requiring reviews are performed in accordance with NMM EN-OP-104. The results of the reviews are entered into PCRS on the Operability/ Functionality screen. [Gentletr9118R1], [NL-98-066 C024], [INS9620004]					
[2]	For	Hea	dquarter (HQN) Nucle	ear CRs:			
	(a)	Whe dete exist is sc Repo site(n a HQN CR is initiate rmine if a potential op s. The CR initiation so reened as having a P ortability concern, the s) so an Operability/Fi	ed the CR initiator is erability/functionality creen has a checklis otential Operability/F CR initiator ensures unctionality Determin	tasked with scree and/or immediate t to assist in the s functionality and/o a Site CR is writt nation can be perf	ning the condition t e reportability conce creening. If a HQN or Immediate en for the affected formed.	
5.4	REPOF Section	RTAI 4.1],	BILITY [10 CFR 50.72(b) 10 CFR 21, 21 A and C]], [10 CFR 50.73(a)(2)],	[10 CFR 73.71(a)(1)	(b)(1) S1], [ANSI N18.7	
[1]	Whe	en a ator i	CR is initiated where s tasked with screenir	the PCRS Reportabing the condition to de	lity Bypass featur etermine if a cond	e is enabled, the Cl lition is potentially	

- initiator is tasked with screening the condition to determine if a condition is potentially reportable. The CR initiation screen has a checklist to assist in the screening. If a CR is checked as "Potential Reportability Yes", the CR is automatically routed to the site Licensing Department for a reportability review. If a CR initiator is unsure if a condition involves a Potential Reportability concern, the "Potential Reportability" button should be checked as "Yes"."
- [2] The designated personnel for completing the reportability review will enter the appropriate information in PCRS within 5 working days of CR initiation.

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- [3] Those CRs flagged as "Potential Reportability No" by the CR initiator are reviewed by the site Licensing Department in a timely manner to verify that a reportability review is not required. This may be performed by a Licensing Department representative during a CRG meeting where newly initiated CRs are reviewed. If the Licensing Department determines that reportability review is required, Licensing will perform the reportability review and enter the appropriate information in PCRS.
- [4] Reportability Reviews are performed in accordance with EN-LI-108, Event Notification and Reportability and EN-LI-108-01, 10 CFR 21 Evaluations and Reporting.
- 5.5 SIGNIFICANCE DETERMINATION PROCESS (SDP) [Gentletr9118R1], [INS9620004]
 - [1] The Plant Licensing Group (or other group as assigned by plant management) reviews CRs to determine if a Significance Determination Process (SDP) review should be done to characterize the risk significance of the issue relative to the Reactor Oversight Program strategic areas (Reactor Safety, Public Radiation Safety, Occupational Radiation Safety, Physical Protection, Emergency Preparedness). The criteria used for this selection are:
 - CRs associated with NRC Findings which have been classified as potentially being more significant than green
 - CRs for which CRG has requested Risk Significance Determination
 - Other CRs as Plant Licensing deems necessary
 - [2] CAs are assigned in PCRS to the responsible groups to complete the SDP. If further review of the condition or event necessitates additional responsibilities to complete the SDP for all affected SDP cornerstones, additional CAs are assigned in PCRS.
 - [3] SDP screening is performed and the results are entered into PCRS.
 - [4] SDP results are made available to the CRG.
- 5.6 CONDITION REVIEW GROUP (CRG) [NL-97-084-C17]. [P2993], [P13307], [P16529], [P20277], [P21439] [P13363], [QAPM B.13.a]
 - [1] Corrective Action & Assessment (CA&A) or the initiating department provides recommendations to the CRG regarding the categorization and assignment of CRs per Attachment 9.1. [P9849]
 - [2] The Chairperson for the CRG at the sites is the GMPO or designee. The Chairperson for the CRG at Headquarters is determined by the VP Operations Support. The Chairperson ensures that appropriate management representation is present.

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- [3] CRG quorum, at a minimum, should consist of a Chairperson and management representing Maintenance, Operations, Engineering and the CA&A Manager (or designee). If the chairperson is in either the CA&A, Maintenance, Operations, or Engineering organization, then he/she can be counted as the management member for their organization for the purpose of meeting minimum quorum requirements.
 - (a) If a quorum is not met, then the meeting shall be canceled or postponed until such time as a quorum can be assembled.
 - (b) If cancellation is required due to not meeting quorum requirement, then a CR is generated to document the incident.
- [4] Condition Reports are reviewed by the CRG in a timely manner.
- [5] When a Condition Report includes Safeguards information a representative of the Security Department, with Safeguards authorization shall be present at the CR Pre-Screening if applicable and at Condition Review Group (CRG). [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (a) This Security Department representative shall provide any information to the CRG that is required to classify the condition report, subject to the requirements of 10CFR73.21 Protection of Safeguards Information and EN-NS-204; Protection of Unclassified Safeguards Information.
 - (b) For some Safeguards CRs, CRG members may be required to be Safeguards qualified based on the nature of the CR being reviewed. Security shall make this determination
 - (c) These requirements shall be applicable to each site and headquarters
- [6] The CRG provides oversight of CR Operability/Functionality Determinations, Operable-Degraded or Nonconforming (Operable-DNC) or Operable-Comp Measures conditions.
 - (a) The primary responsibility for completeness and accuracy of the Operability/Functionality determinations lies with the Operations department.
 - (b) Operations ensures appropriate flags / codes are applied in PCRS to facilitate tracking of Operable-DNC or Operable-Comp Measures conditions.[NL-98-066-C024], [ER970230]
 - (c) Operations ensures that open Operable but Degraded or Nonconforming or Operable-Comp Measures conditions are tracked at the Site and presented through either the CRG or the Ops Focus meeting to meet timeliness expectations for resolution per EN-OP-104.
- [7] The CRG reviews newly initiated CRs and determines/confirms the appropriate category assignments as identified in Attachment 9.1. [P5431]
- [8] The CRG determines Responsible Manager assignments. Changes to the Responsible Manager assignment can be made without CRG approval as long as the previous Owner and new Owner both agree on the assignment change.

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[9]	The CR	G determines if an Ad	dverse Trend classific	cation is appropria	te for a CR.
[10]	The CR the CR of their del	G assigns due dates category (see Attachi iberations.	for disposition and co ment 9.4). The CRG	prrective action de may assign differe	termination based on ent due dates based or

- [11] CRG members are encouraged to provide feedback to CR initiators from their respective technical disciplines regarding CR status, ownership, and proposed corrective actions.
- [12] Feedback on Cat "D" closed CRs is provided to the initiating employee and their supervisor, when names are entered as recorded in PCRS, via the automatic e-mail extracted from PCRS. The email includes the closure description, closure date and individual performing the CR closure in PCRS. This informs the employee and supervisor that the CR has been closed so that if desired the originator/supervisor can review closure and if necessary request reconsideration based on new information or insight by initiation of a new CR.
- [13] If additional information becomes available during CR processing then the CR may be presented to the CRG for re-categorization. All changes in significance or category are approved by the CRG. If the CR is re-categorized, then a new due date may be assigned based on significance of the condition.
- [14] The CRG assigns any immediate or interim actions that may be required to minimize the consequences of a condition and/or to determine extent of a condition.
- [15] In order to ensure appropriate oversight and independence, the Quality Assurance (QA) organization has the right to determine if a QA identified condition is a Condition Adverse to Quality (CAQ) or a Significant Condition Adverse to Quality (SCAQ). In cases where the CRG does not concur that a QA identified condition is a SCAQ, the Director, Oversight has authority to overrule the CRG.
- [16] The CRG determines if new CRs meet the criteria for application of Attachment 9.5 Entergy Fleet Learning Review Process.

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5.7 CORRECTIVE ACTION REVIEW BOARD (CARB)

- [1] The purpose of the Corrective Action Review Board (CARB) is to review and approve the root cause and the proposed Corrective Action Plan for significant CRs.
- [2] The Headquarters CARB membership will consist of manager- and director-level individuals as designated by the VP, Operations Support.
- [3] The Site CARB membership will consist of the following personnel or their alternates:
 - Chairperson Director level (or higher) member of site staff
 - Director, Engineering
 - Director, Nuclear Safety Assurance
 - Manager, Corrective Action & Assessment
 - Manager, Operations
 - Manager, Maintenance
 - Manager, Training
- [4] CARB quorum consists of:
 - (a) A Chairperson and:
 - At least one position designated member and
 - At least two additional position designated members or their alternates. Alternates will be designated by the Chairperson
 - (b) If a quorum is not met, then the meeting shall be canceled or postponed until such time as a quorum can be assembled.
 - (c) If cancellation is required due to not meeting quorum, then a CR is generated to document the incident.
- [5] For any CARB voting process each representative of the quorum shall have one vote.
- [6] For some Safeguards CRs, the CARB members may be required to be Safeguards qualified based on the nature of the CR being reviewed. Security shall make this determination. [CR-HQN-2009-1107, NRC Order EA-09-060]
- [7] CARB reviews proposed Root Cause CAPRs for sustainability.
- [8] CARB reviews and approves (or disapproves) proposed cancellation or replacement of Root Cause CAPRs.
- [9] CARB members and their alternates complete a training Job Familiarization Guide, per EN-FAP-LI-003, Corrective Action Review Board (CARB) process.

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 - [10] In the event a previously CARB approved root cause report requires a revision and followup CARB review, the CARB (with CAA assistance) ensures follow-up actions are assigned to appropriate organizations to review the revision. This review is to ensure that if a report was made to an outside agency (or other departments) based on the original root cause, the original outside agency report remains valid, or requires a revision. Examples of reports to external agencies (or other impacted departments) include LER to NRC, reports to INPO, etc.
 - (a) Examples of reports to other departments include departments developing modifications, tracking materials being purchased, tracking vendor destructing testing, etc.
 - [11] For CRs assigned for CARB review, the CARB assigns Effectiveness Review actions to the CR Owner, or other groups as appropriate. This assignment is made based on significance, importance, or complexity of the documented event or condition. Effectiveness reviews may be tracked and documented through the initiation of a Learning Organization document.
- 5.8 CR DISPOSITION [NL-97-084-C07], [NL-97-084-C13], [ANSI N18/7, Section 5.2.7.1 S14, S15, S16], [ANSI N45.2.12, Section 4.5.1 S1-S5 (QAPM Table 1N.10)], [QAPM B.13.a], [ANSI N45.2.13 9.2 S1a, b, c, d]
 - [1] General Instructions

Caution

New or revised Operability determinations / evaluations may indicate that the Reportability Review needs to be updated.

- (a) Personnel involved with the investigation and disposition of CRs are responsible for: [Gentletr9118R1], [INS9620004]
 - Informing the Shift Manager/designee immediately if a SSC previously evaluated as operable may be inoperable as determined from new information from the disposition investigation.
 - Informing the Shift Manager and Licensing Manager immediately if a condition previously thought to be not reportable is in fact reportable as determined from new information from the disposition investigation.
 - Initiating a new CR if new information or insight makes the current Operability and/or Reportability questionable or if a previous CR's identified cause is found to be incorrect.
 - Contacting CA&A if the condition or event should be reevaluated by the CRG
- (b) If at any time after a CR has been initiated and screened, information becomes available that may change previous conclusions regarding present or past operability, notify the shift manager immediately and initiate a new condition report.

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- (c) If a CR that had "Potential Operability" checked as "No" is later determined to need an Operability/Functionality Determination, the Shift Manager (SM) / designee and CA&A should be informed immediately. The SM/designee can perform an Operability/Functionality Determination even though it was originally indicated as not required.
- (d) If a CR that had "Potential Reportability" checked as "No" is later determined to need a Reportability Review, the Licensing Manager / designee and CA&A should be informed immediately. The Licensing Manager /designee can perform a Reportability Review even though it was originally indicated as not required.
- (e) During the course of investigations or completion of corrective actions for open condition reports, a new condition report shall be initiated:
 - (1) If additional issues beyond the scope of the initial problem description are identified during the problem evaluation of an event, an additional CR shall be initiated for these new issues.
 - (2) If additional issues beyond the scope of the initial problem description are identified during the initiation of a proposed correction action or the completion of an actual corrective action of an event, an additional CR shall be initiated for these new issues.
 - (3) A separate CR may be required for the following even if an initial CR was written to perform the maintenance when:
 - a. Unexpected condition (signs of overheating, damage from overstress, etc.) are identified during maintenance on safety-related SSCs; non safety-related SSCs ranked as High Critical components
 - b. An abnormal or unexpected condition on an SSC that needs further evaluation (e.g., deviations (trends) in operating parameters from normal)

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- (f) For Safeguards CRs, the assigned Department shall be responsible for performing or overseeing the required Condition Report response to meet the requirements of the Corrective Action Program. Note that this may or may not be the Security Department (i.e., Modifications, Licensing, Engineering, etc.) This would include: [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (1) Maintaining Root Cause Analysis and Apparent Cause Evaluation qualified individuals to perform such evaluations on CRs that are Safeguards related. Such evaluations shall be performed in accordance with existing corrective action procedures.
 - (2) Maintaining qualified Department Performance Improvement Coordinators (DPICs) to perform close-out reviews of Condition Reports that are Safeguards related. These reviews shall be performed in accordance with existing Entergy corrective action procedures.
 - (3) Individuals will obtain Safeguards qualifications in accordance with applicable Security procedures as needed to meet these requirements.
- (g) Corrective Action plans are reviewed / approved by management. [QAPM A.6.d S2], [QAPM A.7.a.1 S2]
 - (1) If an assignee or reviewer recognizes that a change in the intent of a Corrective Action plan is necessary, the change should be coordinated with the Responsible Manager (and CARB Chairperson, if CARB is applicable) and documented. Changes to Corrective Action plan due dates are controlled through the normal extension process described in this procedure. However, Due Date Extension Requests must be reviewed and approved/disapproved by the CARB chairperson for CAPRs that were generated as part of a CARB approved corrective action plan.
 - (2) For material related CRs, non-conforming items are reviewed for the need to classify as use-as-is, reject, repair, or rework. Items that are classified as use-as-is or repair are required to have a formal engineering evaluation with technical justification, augmented inspection and/or test requirements, and design reviews as appropriate. [QAPM B.13.b], [ANSI N18.7 5.2.14], [ANSI N45.2.4 2.6 S1 S2]
 - (3) Verification of Acceptability Evaluations are performed for the rework or repair of items within the ASME Section XI boundary.
 - (h) Effectiveness Reviews are conducted per the guidance of EN-LI-118. An Effectiveness Review that reaches a conclusion that Corrective Actions / CAPRs were ineffective should result in the initiation of a new CR to determine the need to revise the cause determination, corrective action plan, effectiveness review plan and the need for additional CARB reviews. Also, consider an additional CR to explore the potential Corrective Action Program failure.

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[2] Category A– Evaluation and Corrective Action Plan [P24458], [P24500], [P32520], [P17726], [P21887], [P21896]

All Significant Conditions are subjected to an evaluation to determine Root Cause. A Root Cause evaluation is performed and reviewed by qualified Root Cause Evaluators. Root Cause evaluations are performed in accordance with fleet Root Cause Analysis process procedures and guidance documents. In most cases, CAPRs are assigned for each Root Cause identified. The purpose of the action described in the CAPR is to preclude repetition. CAPRs receive an Effectiveness Review.

- (a) Responsible Manager must:
 - (1) Ensure that a Root Cause Analysis is performed for Category "A" CRs utilizing NMM EN-LI-118, Root Cause Analysis Process, and that appropriate CAPRs are issued. [P21896], [P21887]
 - (2) Ensure formulation of a proposed CA Plan to correct the condition and to preclude repetition. The corrective action plan specifies the responsible departments and relevant due dates for completion of the corrective actions. The Corrective Action Plan includes an action to perform an Effectiveness Review of the CAPRs.
 - (3) Approve the cause and corrective action plan that is submitted for CARB review/approval.
 - (4) Ensure the completed root cause and proposed corrective action plan are submitted to CA&A for review and for scheduling of CARB review/approval (as appropriate).
 - (5) Ensure implementation of Attachment 9.5 guidance for "Entergy Fleet Learning Review Process" specified by CRG/CARB.
 - (6) Ensure keywords and problem codes are appropriate based on investigation results

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[3] Category B – Evaluation and corrective action plan:

Category B CRs are assigned to the Responsible Manager for an Apparent Cause Evaluation as determined by the CRG. [P21886], [P21895]

- (a) Apparent Cause Evaluations (ACEs) are performed as either a Higher Tier or Lower Tier type, as assigned by CRG. Also, the CRG may direct a specific type of supporting cause analysis technique be performed in addition to ACE.
- (b) Responsible Manager must:
 - (1) Ensure an Apparent Cause Evaluation is performed utilizing NMM EN-LI-119, Apparent Cause Evaluation (ACE) Process, AND when directed by the CRG, utilizing the specific type of supporting cause analysis process indicated.
 - (2) Ensure formulation of a CA Plan to both correct the condition and to address the causes that were identified.
 - (3) Approve the cause and corrective action plan.
 - (4) Ensure keywords and problem codes are appropriate based on investigation results
- (c) Effectiveness Reviews may be performed as determined by management for this category of CR. Effectiveness Review report format and performance guidance are contained in EN-LI-118.
- (d) For Category B CRs the CRG may determine if a CARB review/approval is warranted. CRG guidance on CARB assignment is provided in Attachment 9.1.
- [4] Category C Corrective action:

Category C condition reports are assigned to a Responsible Manager for resolution of problem assigned by the CRG. A Root Cause or an Apparent Cause Evaluation is not required.

- (a) Responsible Manager must:
 - (1) Ensure actions are assigned as appropriate to correct the problem.
 - (2) Ensure the assigned corrective actions are appropriately completed within the prescribed time frame.
 - (3) If the disposition review determines that the problem is broader or more severe than initially assigned, present the information to the CRG for review and potential recategorization.
 - (4) Obtain CRG approval before closing a CR or CA to a Work Order. This requirement is not applicable if the CA was issued to track an enhancement and documented as such in PCRS with a basis for the Enhancement designation.
 - (5) Ensure keywords and problem codes are appropriate based on investigation results

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- (b) Effectiveness Reviews may be performed as determined by management for this category of Condition Report. Effectiveness Review report format and performance guidance are contained in EN-LI-118.
- [5] Category D CRs are administratively closed as directed by the CRG. [P6919]
 - (a) When a CR is closed to an existing CR:
 - (1) The existing CR must have been reviewed by the appropriate CRG and assigned to a responsible manager.
 - (2) The CR being closed is the same or lower Category level as the existing CR.
 - (3) A corrective action is assigned by CA&A to the Owner of the existing CR stating that a new CR has been closed to the existing CR and must be addressed within the existing CR.
 - (4) If the Operability/Functionality or Reportability of the existing CR is impacted by the new condition information being added, the CR Owner must take action to ensure the Operability/Functionality or Reportability as applicable is reevaluated. CRs with open Operability/Functionality or Reportability issues should <u>not</u> be closed to an existing CR at a different site or HQN until the open issues are satisfied at the affected site.
 - (5) In case of a duplicate issue, a new CA is not required.
 - (6) If immediate/interim actions are required at the site and the actions are <u>not</u> complete, then the CR should <u>not</u> be closed to an existing CR at a different site or HQN.
 - (b) For any CR closed as a Cat D based on actions already taken, a description of the actions taken is included within the CR or in the CR Closure Description field.
 - (c) CRs that identify conditions that do not rise to the level of an Adverse Condition as defined in 3.0[2] may be classified as follows:
 - (1) These CRs may be classified by the CRG as "Close Reference" referencing another process's tracking identifier (i.e. WR#, TEAR #, etc.), "Review Emerging Trend", or "Below Threshold" as appropriate.
 - (2) In some instances the CRG instead may choose to close these CRs to "Actions Taken" or "Condition Corrected" when supporting documentation is available or the CRG may choose to assign them for correction per their discretion.

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- [6] CR/CA Closure to Work Orders.
 - (a) CAPRs, Operable-DNC or Operable-Comp Measures conditions, and Category "A CR actions (except Enhancements), may not be closed to other processes and must remain open in the corrective action process until resolved.
 - (b) With CRG approval, CAs or CRs to correct Adverse Conditions, other than CAPRs and Operable-DNC or Operable-Comp Measures conditions and Category "A" CR actions may be closed to Work Orders with a Priority of 1, 2, 3 or 8.
 - (1) Additional guidance concerning classification of CRs on lower level equipment issues can be found in Attachment 9.6.
 - (c) To close a CR/CA to a Work Order the following must be completed:
 - (1) A Work Order (WO) has been generated and the WO number is listed in the CR using a site standardized format to support retrieval and tracking.
 - (2) Work Order scope or description is verified to adequately describe the issue identified in the CR/CA.
 - (3) Work Order Priority is determined to be either 1, 2, 3 or 8.
 - (4) The CR number is identified in the applicable Work Order's Attribute panel using the Fleet standardized format to support retrieval and tracking.
 - a. Add the Attribute, "CR Closed To This Item" to the applicable WO's Attribute Panel at the WO panel level.
 - b. The basis for the Fleet standardize format for the Attribute value is the CR number:
 - 1. Y-SSS-N-YEAR-#####. Where Y=Yes, SSS=Station and N=Unit. For example Y-ANO-1-2012-01234.

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- (d) When the CRG designates a CR to Close to a Work Order, the CR's assigned department will check that the WO Priority is 1, 2, 3 or 8 and notify CA&A so the CR can be closed.
 - (1) If the applicable WO Priority is not a 1, 2, 3 or 8, then the CR's assigned department will ensure:
 - a. Per EN-WM-100, PS&O re-screens the challenged WR/WO for priority elevation.
 - (2) The CR's assigned department will Take Back to the CRG CRs who's WO(s) were <u>not</u> elevated to a Priority of 1, 2, 3 or 8 as a result of re-screening for final disposition by the CRG.
 - a. CRG may determine that the WO's Priority should be elevated, <u>or</u> the CR remains open to address the Adverse Condition, <u>or</u> that the problem does not meet the criteria for an Adverse Condition.
 - b. If the CRG determines the problem does not meet the criteria for an Adverse Condition, then the guidance in step 5.8[5] (c) is followed to appropriately classify the CR.
- (e) Responsibility for monitoring and reporting on the status of WOs that have CRs/CAs closed to them resides with the Planning and Scheduling/Outage organization (P&S/O). This monitoring is to ensure timely correction of the originally identified condition.
 - (1) Periodically, typically at least monthly, P&S/O will report to the CRG the status of WOs with CRs/CAs closed to them. The focus of this report should be the monitoring for timely resolution of those WOs per EN WM-100. The CRG may require additional details for any WOs not completed in a timely manner.
 - (2) If the work originally scheduled to correct the condition is transferred to another WO, P&S/O will ensure the CR reference is added to the new WO.
 - (3) Before a WO which had a CR or CA closed to it can be canceled or closed with no work to be performed, the organization requesting cancellation will present the CR and WO to the CRG for discussion. If necessary, another CR may be generated to track the issue. CRG approval is not required for canceling a WO if the work is to be performed under another WO and both WOs contain the appropriate reference to the CR.

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- [7] Work Orders being Tracked by an Open CR/CA
 - (a) Some CRs/CAs cannot be closed to a WO per 5.8[5] (6) (i.e. CAPRs and Operable-DNC or Operable-Comp Measures conditions and Category "A CR actions).
 - (b) When an Open CR/CA is tracking a WO as part of a corrective action plan, then the CR number is identified in the applicable Work Order's Attribute panel using the Feet standardized format to support retrieval and tracking.
 - (1) Add the Attribute, "CR Depends On This Item" to the applicable WO's Attribute Panel at the WO panel level.
 - (2) The Fleet standardize format for "CR Depends On This Item" Attribute value is:
 - a. The CR number; SSS-N-YEAR-#####-\$. Where SSS=Station and N=Unit and \$=applicable CR's significance level. For example ANO-1-2012-01234-A.
 - (c) If the work originally scheduled to correct the condition is transferred to another WO, P&S/O should ensure the CR reference is added to the new WO.

5.9 CORRECTIVE ACTIONS [ANSI N45.2.12, Section 4.5.1 S1-S5 (QAPM Table 1N.10)]

- [1] General Instructions
 - (a) Corrective Actions are assigned a CA Type code and matching CA Priority in PCRS in accordance with Attachment 9.4.
 - (b) Each corrective action should specify whether or not it is tracked as an operational constraint and which unit or Outage is affected.
 - (c) Any Operable-DNC or Operable-Comp Measures conditions not resolved prior to the completion of the next outage of sufficient duration shall be evaluated for continued operability into the next cycle of operation. This evaluation is reviewed and approved by the Onsite Safety Review Committee (OSRC) prior to startup from the outage. [Gentletr9118R1], [INS9620004]
 - (d) For CAPRs that are credited as being implemented by procedure actions or requirements the applicable steps in the associated procedure should be annotated or flagged as commitments in accordance with EN-AD-101 and applicable site procedures.

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(e)	Long VP.	g Term Corrective Ac	tion (LTCA) designat	ion is approved by	/ GMPO/Director or S
	(1)	Once approved, the	ne CR/CA is appropr	iately flagged as ic	ong term.
	(2)	CAs are eligible fo established/appro Guidelines (Attacl	or LTCA designation ved in accordance w nment 9.4) <u>AND</u> if the	if they cannot mee ith the Corrective ay meet any of the	t the timeframes Action Processing following criteria:
		a. Includes wo planned lon CAs, such a outage staf	ork requiring a plant r g system/train/comp as training or meeting fing is complete.	efueling outage, p onent outage to co gs, which cannot b	lant forced outage or omplete. This include e completed until pre
		b. Requires de approved m	evelopment of a mod nodification/design ch	ification and/or mo ange.	dification of an
		c. Requires tra complete.	aining that will take n	nultiple requalificat	ion or training cycles
		d. Includes ini NRC (or otł response/a	tiatives dependent up ner state or governme oproval.	oon a Licensing su ental regulatory or	ıbmittal which require ganization)
	(3)	Attachment 9.9 is Its use is desired. addressed <u>and</u> the expectation is to c approval, in the ap requests. Optiona or documented dis	provided to facilitate However, if the form e guidance of 5.9[1] (apture the form <u>or</u> th oplicable CA that is n Ily the CA marked LT scussion points in the	the LTCA review a n is not used all po e), (1), (2) & (4) m e discussion point narked as a LTCA CA may reference applicable CR.	and approval process ints applicable must l bust be followed. The s of the form, and its or one of its DDE the location of the fo
	(4)	The specific restri the need to use th or as otherwise re assigned at time o	ction preventing the t e Long Term CA clas ferenced in the CA. f CA initiation (vice c	imely completion osification, must be Long Term CA cla Changing to Long T	of the item, resulting i e documented in the ssifications are norm ferm at the due date)
(f)	CAs PCR proce	issued to track Enha S with a basis for the esses without CRG a	ncements as defined Enhancement design pproval.	l in 3.0[22], and do gnation, may be cl	ocumented as such in osed referencing othe

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- (g) For each Corrective Action that contains safeguards information: [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (1) Where additional safeguards information is required to describe information in the Corrective Action, the additional information shall be contained in a uniquely identified safeguards document
 - (2) The Corrective Action shall reference the uniquely identified safeguards document and the uniquely identified safeguards document shall reference the Condition Report and Corrective Action. It shall be the responsibility of the Security Department to ensure this cross reference is made.
 - (3) The uniquely identified safeguards document shall be maintained in a safeguards file in accordance with Safeguards requirements. The Security department shall be responsible for maintaining this safeguards file and for developing and maintaining procedures to control this file.
 - (4) The safeguards file shall be auditable and must meet retention requirements equivalent to those of the Corrective Action Process at the individual site.
 - (h) The Change Management Process, EN-PL-155, should be used as appropriate for corrective actions that meet the complexity and risk outlined in the policy.
- [2] Corrective Action Initiation
 - (a) Corrective Actions are initiated using PCRS for all actions identified in the action plan, not documented as complete.
 - (b) Corrective Action Due Dates should be selected with consideration given toward:
 - The next potential occurrence of the problem and should ensure the action is complete prior to the next potential occurrence of the problem, if possible.
 - The potential impact to plant operation while the action completion is pending.
 - How much time is needed to complete the action
 - What are the resource availability issues that challenge the completion of the action?
 - (c) Corrective Action Due Dates should be assigned utilizing the guidance contained in Attachment 9.4. CA timeliness criteria are provided in Attachment 9.4. These criteria are to achieve CR age goals that are monitored via performance indicators. These are considered guidelines and not procedural requirements. Except as noted in Attachment 9.4 the CRG, CARB, or Responsible Manager can deviate from the criteria to appropriately manage resources. In some instances GMPO/Director or Site VP concurrence is required. Exceptions taken to the timeliness criteria do not relieve the CA/CR Owner from meeting performance indicator goals.
 - (d) Typically CA assignments to another department should be made at the management level in PCRS.

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(e)	Турі	cally CA assigners sho	ould notify assignee	s prior to assignm	ent of an action.
(f)	The nece imple foun	corrective action conte essary, cost effective, a ement and address the d in EN-LI-118.	ent should be specif and compatible, with e issue. Further guid	ic, actionable, me hin the capability of tance on each of t	asurable, timely, of management to these criteria can be
(g)	Corr desc com succ	ective Actions must ac riptions must be word pletion. Cross referen essful corrective actio	Idress the cause or ed to ensure that the ces to other precurs n.	resolve the deficie e corrective action sor or successor C	ency. Corrective action is tracked to CAs may help ensure
(h)	Corr issue actio on th	ective Actions directin es, or causes should b ons must also include t ne outcome of the revi	g "consideration…" e avoided where po he expectation for f ew.	or "evaluation…" f ossible. If needed ollow-up actions to	to resolve conditions, , then these corrective o be issued dependin
(i)	Corr expe corre	ective Actions that req ectations, requirements ective actions.	uire training or brief s and information m	fing, or that direct ust specify the rec	communicating quired audience for
(j)	The witho	CRG/CARB/OSRC or out the concurrence of	senior managemen assigned or Respo	t or above may is: nsible Manager.	sue CAs for a CR
(k)	The of O assig	Operations Shift Mana perability/Functionality gned or Responsible M	ager/SRO may issue Determinations or l lanager.	e corrective action Evaluations, witho	s on a CR, for support out the concurrence o
(I)	The man	CA&A group issues C agement or above and	As at the direction of as required by this	f the CRG/CARB/ procedure.	OSRC or senior
(m)	Plan dete inclu ident Indei	t Licensing may issue rmine Reportability, wi des Past Operability/F tified conditions, poten terminate Reportability	CAs for determinati thout concurrence of functionality Determ tial or actual 10 CFI v items.	ons and evaluation of assigned or Res inations or Evalua R 21 conditions, a	ns that are needed to sponsible Manager. T itions performed on nd any other
(n)	Plan Mana NRC also adeq	t Licensing may issue ager, to the assigned of violations or findings performs a closure requately addressed.	CAs, without concu or Responsible Man are adequately add view of these correc	rrence of assigned agers to ensure th ressed in correctiv tive actions to ens	d or Responsible nat potential or actual /e actions. Licensing sure the finding was
(0)	The to all revie	CA assigner has the o ow the CA assignee to w is assigned by chec	ption to review the close the action. king the "Concurrer	Corrective Action The CA Assigner ince Req'd for Clos	response for closure, ndicates that a requir sure" check box.
(q)	The allow that "Req	CA assigner has the o the CA assignee the due date extension ap uire Extension Approv	ption to oversee du oversight to extend proval oversight is r val" check box (see	e date extensions the due date. The equired by CA As 5.9 [3] for due da	for a given action or e CA Assigner indicat signer by checking th te extension approva
					· .

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5.9 [2] cont

- (q) For site CRs initiated in response to an Industry Operating Experience notification, a CA is issued for the Operating Experience organization to perform a closeout on the CR.
- (r) If it is believed that an action to change to a fleet procedure, policy, or document will sufficiently address the issue, obtain prior concurrence for the change from the fleet owner or assign two CA's:
 - (1) One CA to have the fleet owner to 'evaluate' the fleet need for the change and
 - (2) Another CA to the site owner to monitor the fleet owner's CA and determine if additional site actions are required should the fleet owner reject the need for a change to the fleet procedure, policy, or document.
- [3] CA Due Date Extensions (DDEs) [NL-81-A01-C15], [NL-98-025-C02], [ER960265_02]
 - (a) Corrective Action Due Dates are met.
 - (b) When needed, due date extension requests include a basis for why the extension is acceptable (i.e., interim controls are in place, the procedure will not be used until next refueling outage, etc.) and a basis for why the extension is necessary.
 - (c) CA timeliness criteria are provided in Attachment 9.4. These criteria are to achieve CR age goals that are monitored via performance indicators. These are considered guidelines and not procedural requirements. Except as noted in Attachment 9.4 the CRG, CARB, or Responsible Manager can deviate from the criteria to appropriately manage resources. In some instances GMPO/Director or Site VP concurrence is required. Exceptions taken to the timeliness criteria do not relieve the CA/CR Owner from meeting performance indicator goals.
 - (d) Corrective Action DDE Approval for all corrective action types should be in accordance with the guidance contained in Attachment 9.4.
 - (1) The "Assigned To" origination must ensure that, if the individual identified to approve the extension in PCRS is not at the authority level designated in Attachment 9.4 for approval, then additional discussion on how approval was obtained should be recorded in the DDE Request Description by the "Assigned To" organization (group). For example, "approval obtained from Director Eng" or "approval obtained from General Manager," etc.
 - (e) When approving DDEs, impact to overall corrective action plan should be considered.

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5.9 cont

- [4] CA Closure
 - (a) Upon completion of an action item, the CA assignee documents the response in PCRS. CRG approval is required before closing the CR or a CA from the CR to a Work Order. This requirement is not applicable if the CA was issued to track an Enhancement that was not needed to correct the original condition <u>or</u> was not needed to address an identified cause. The basis for the Enhancement designation should be documented in PCRS.
 - (b) The only process that a CA or (CR) can be closed to is a Work Order with a Priority of 1,
 2, 3 or 8 (with CRG concurrence reference 5.8[6]). The following additional guidance is provided concerning Training Evaluation Action Requests TEARs)
 - (1) When training performance or modification to training material is identified as corrective action in a condition report to address a cause or correct the identified condition, then the completion of the training or modification of training material must be documented in the condition report.
 - (2) When a CR/CA identifies training or training material modification as corrective action and a TEAR is written to accomplish the activity; if the TEAR process determines no training or modification is required, THEN the condition report action plan approval authority (CRG, CARB, or Responsible Manager) must approve the change to intent of the associated action plan. A new corrective action directing an alternate strategy to address the associated cause or correct the identified condition may be required.
 - (3) Performance of Training or modification to training material properly identified as an Enhancement, as defined in 3.0[22], may be addressed by referencing a TEAR and not followed to completion through the corrective action process. The Enhancement justification and TEAR number should be referenced in the closure to ensure traceability.
 - (c) When a procedure change is required per a CR's corrective action plan then the change should be tracked to completion in a CA. The procedure change is complete when the procedure is effective in eB RefLib or Merlin as applicable. This should be documented prior to CA/CR closure. With concurrence of the CR's RM a Priority 5 Enhancement CA may be closed referencing the process handling the change outside of CAP.
 - (d) CA Assigner or CA Assignee, when permitted as described in Step 5.9 [2] (o), reviews each completed action and verifies that the required action is complete and any additional actions are planned. This includes: [ANSI N45.2.12 Section 4.5.2.4], [ANSI N45.2.12, Section 3.3.7], [P7239], [CR-HQN-2009-1107, NRC Order EA-09-060]
 - Ensuring that the response is adequate, answers all aspects of the assigned action, and the intent of the action is met.

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5.9[4] (d) cont

- If a change in intent of a Corrective Action plan is necessary, the change should be coordinated with the Responsible Manager (and CARB / CARB Chairperson, if CARB is applicable) and documented.
- Evaluation of the adequacy of the response to a CA shall be performed by safeguard qualified personnel when additional safeguards information is required to describe information in the CA.
- Ensuring all the requirements of step 5.9[1] (g) are met when additional safeguards information is required to describe information in the CA.
- Issuing, in PCRS, any follow-up or additional actions that are documented in the response or documenting why the recommendation is not needed.
- Ensuring that CA closure is timely commensurate with safety significance of the identified issue
- Ensuring that the CA is not closed to a "promise" of future action.
- Ensuring that the CA is not closed to an unapproved process.
 - CRG approval is required before closing a CA to a Work Order (reference 5.8[6]).
 - CRG approval is not required if the CA was issued to track an Enhancement that was not needed to correct the original adverse condition or was not needed to address an identified cause. The Enhancement designation, with a basis should be documented in PCRS.
 - CAPRs, actions to correct Operable-DNC or Operable-Comp Measures conditions, and Category "A" CR actions (except Enhancements), may not be closed to other processes and must remain in the corrective action process until resolved.
- Ensuring any Effectiveness Review Learning Organization documents are initiated when applicable
- Ensuring that electronic copies of any documents needed to understand, clarify, or validate completion of the corrective action responses are attached to the response. (Those attachments must be in either MS Word or PDF format.)

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5.9[4] (e) cont

- (e) If the action taken is adequate, the CA is closed in PCRS.
 - (1) If the action taken is inadequate the response is revised until considered adequate for approval, or:
 - a. Process a Due Date Extension to allow sufficient time for resolution of the issues with the response or
 - b. NOTE in the closure of CA the identified changes to the response and issue a new CA to resolve the issues with the response at the appropriate management level.
 - c. Changes to actions should have the same level of review as the original actions (e.g., approval by CARB / CARB Chairperson). Once approved at the appropriate level additional actions may be issued, as needed, to complete the changes.
 - (2) If additional corrective actions are identified in the response, appropriate CAs are generated in PCRS.
- (f) Closing an open CA in one CR to another CR should be handled as described in Step 5.10 [1] (h) and 5.10 [1] (i).
- [5] CR Interim and Periodic Reviews [SOER 10-2 Rec 1]
 - (a) Each open CR associated with Safety Related equipment will be reviewed at approximately six months from initial assignment date. This review will be documented in a CA assigned to the CR owner and will include at least the following items:
 - (1) Verification that the action plan documented in PCRS will correct the condition
 - (2) Document expected CR Closure date based on remaining needed actions,
 - (3) Verification, for equipment related CRs that the documented operability/functionality position remains valid for the current condition of the equipment and is expected to remain valid for the duration of the action plan. Initiate a new CR if the current operability/functionality position is questionable.
 - (4) Verification that administrative performance within the corrective action process has been acceptable to date. (Appropriate approval levels and justifications for DDEs are documented; LTCAs are appropriately flagged, etc.)
 - (5) Verification that the risk of not correcting the condition is acceptable for the duration of the action plan,
 - (6) Approval of these reviews and approval for the CR to remain open beyond six months has been obtained and documented from a director level or above.

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5.9[5] (a) cont

- (7) Attachment 9.8 is provided to facilitate the review and approval process. It can be used if desired. The expectation is to capture the discussion points of that form in a CA, DDE request or initial CA assignment as appropriate. The form itself need not be used, but all points applicable must be addressed and the guidance of 5.9[5] (a) and (b) must be followed as applicable.
- (b) At least once per year, following the initial review, each open CR associated with Safety Related equipment will be reviewed. This review will be documented in a corrective action and will include as a minimum the same items as the interim review above, and may be accomplished by a documented verification of the previous review.
- 5.10 CONDITION REPORT CLOSURE [P15552], [P4669] [CAPR 00734434.01], [CAPR CR-PLP-2009-05938], [ANSI N45.2.13 9.2 S1a, b, c, d]
 - [1] Condition Report Closure Responsible Manager Closure Review [P9849]
 - (a) When all CR actions are complete the Responsible Manager (RM) shall approve the closure of all Category A and B CRs assigned to their department. While the department manager is ultimately accountable to ensure this closure activity is satisfactorily completed, he/she can delegate necessary tasks, as required, to support this closure to staff within their department.
 - (b) The RM or designee should perform CR closure review for Category C CRs.
 - (c) For Safeguards CRs, the Responsible Manager closure review shall be performed by safeguard qualified personnel. [CR-HQN-2009-1107, NRC Order EA-09-060]
 - (d) Accountability for a proper and complete CR response and CR closure review remains with the Responsible Manager.
 - (e) The closure review by the Responsible Manager (or designee for Category C CRs), may be documented in the last CA closed from a CR. If the closure is not readily apparent and documented, then CA&A may notify the Responsible Manager that a closure review is necessary. This notification may be in the form of a CR Closure Review CA in PCRS. The Responsible Manager, or designee, reviews the CR to make a recommendation for closure using the following criteria as applicable: [P9849]
 - The root cause or apparent cause is valid.
 - The specific condition is corrected or resolved.
 - Overall plant safety is not inadvertently degraded.
 - Generic implications of the identified condition are considered, as appropriate, including generic applicability to other departments and Entergy Sites.
 - Actions were taken to preclude repetition, as appropriate.
 - Any potential operability/functionality or reportability issue(s) identified during the resolution of the condition has been appropriately addressed.
 - All corrective action items are completed.
 - No safeguards information or proprietary documents are contained in the CR documentation.
 - Effectiveness Review actions have been initiated, when applicable.

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5.10 [1] cont

- (f) If the CR is not adequate for closure, the Responsible Manager will issue any additional actions needed to complete the corrective action plan. Minor clarifications and editorial corrections can be documented in the RM closure review response or comments. The issuance of additional actions will take the CR out of the closure process.
- (g) If the condition report is adequate for closure the Responsible Manager recommends and documents final closure of the condition report.
- (h) When an open CR is closed to another existing CR, the following requirements should be met:
 - The CR being closed is the same or lower significance Category level than the existing CR. Otherwise CRG concurrence is required.
 - The owner of the CR to be closed will obtain concurrence from the owner (Responsible Manager) of the CR to remain open that the open CR will be allowed to resolve the condition identified in the CR that will be closed.
 - The owner of the CR to be closed should ensure a CA is assigned to the owner of the CR remaining open stating that the CR has been closed to the CR remaining open and that the CR being closed must be addressed within the CR remaining open.
- Closing an open CA in one CR to another CR should be done as described in 5.10[1]
 (h).
- (j) An independent closure review is performed for all significant CRs prior to the CA&A closeout review (Quality Check) and CR closure. CA&A normally performs this independent closure review to the same standards/requirements applicable for the RM closure review, but a subject matter expert from a department (or Site) other than the Responsible Manager's may be assigned to complete this review if warranted
- (k) An independent closure review is not required for non-significant CRs prior to the DPIC / CA&A closeout review (Quality Check) and CR closure. The documented RM closure review is adequate authorization for processing and closure of the CR by DPIC / CA&A as allowed per the requirements of this section
- [2] Condition Report Closeout Review (CR Quality Check) and Closure
 - (a) DPICs are allowed to perform the CR closeout review (CR Quality check) and electronically close Non-CARB "B – Lower Tier" and "C" level CRs. Otherwise CA&A performs this function (e.g. "A" and "B-Higher Tier level CRs as well as B-Lower Tier CRs that were approved by CARB). Also, CA&A may perform this function as a backup for DPICs as required. If an RM has completed a DPIC Familiarization guide, then the RM can perform the DPIC function for Non-CARB "B – Lower Tier" and "C" level CRs.

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(b)	Gen	eral requirements for	CR closeout review	and CR closure		
	(1)	For Safeguards Cl qualified personne	Rs, closure / closeou l. [CR-HQN-2009-1107,	it reviews shall be NRC Order EA-09-06	performed by safe	guard
	(2)	Upon receipt of res ready for closure to headquarters) or d and closure review	sponse from the Res he Manager, CA&A (lesignee, or DPIC er /s of the CR are perf	ponsible Manager (or Manager CA&/ isures any applica formed as appropr	r stating that the CI A Projects at ble independent re iate.	२ is view
	(3)	If the CR closeout closure, then the C	review determines t CR is electronically cl	hat the condition related in PCRS.	eport is adequate f	or
	(4)	If the CR closeout then a CA is issued specific recommen	review determines t d using the "UNSAT idations or identified	hat the report is no RESPONSE CA8 discrepancies tha	ot adequate for clos A" action type, with it need further revie	sure, n ew
		a. Due dates f from the dat require the	or "UNSAT RESPON te of issuance. "UNS concurrence of the n	NSE CA&A" action SAT RESPONSE nanager being ass	is are usually ≤ 30 CA&A" actions do i signed the action	days not
		b. "UNSAT RE Manager of discrepancie issued or a actions are	SPONSE CA&A" ac the CR to evaluate t es. Based on the ev documented respon- necessary.	tions are issued to the specific recom valuation results, a se is provided as f	o the Responsible mendations or ider dditional actions ar to why no additiona	ntified re 11
		c. If a satisfac CR then the	tory response canno issue is resolved at	t be obtained for a the appropriate le	adequate closure of evel of management	f the It
(c)	Duri eval	ng the closeout review uation is reviewed and	w process, the result d the associated trer	s of the root cause nd codes are adjus	e or apparent cause sted if necessary	9
(d)	lf the appr (refe Enha addr	e CR was assigned to roval is required befor erence 5.8[6]). This re ancement that was no ress an identified caus	a Responsible Man e closing the CR or a equirement is not app of needed to correct se.	ager for correctior a CA in the CR to olicable if the CA v the original condit	n of a condition, CR a Work Order was issued to track ion or was not need	:G an ded to
	(1)	CAPRs, actions to conditions, and Ca closed to other pro resolved.	correct Operable-Dl tegory "A CR action cesses and must re	NC or Operable-C s (except Enhance main in the correc	omp Measures ements), may not b tive action process	e until

[3] EN-LI-102-02, CR Closure Quality, is available as a closure review tool for Responsible Managers, CA&A, and DPICs.

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1	5.11	PROGRAM	OVERSIGHT [NL-88-(062-C02], [NL-97-134-C	04], [NL-98-025-C02]		
	[1]	CA&A re reports,	eports status of the co open corrective action	ndition reporting pro ns, late corrective ac	cess (e.g., the nur tions) monthly. [P5	mber of open condi 085]	ition
	[2]	A compu date rep condition	uterized reporting tool orts and queries that a n reports and correctiv	is provided with PCI allow plant personne re actions.	RS. This reporting I to stay abreast c	y tool provides up to If the status of their	O r
	[3]	The corr process approxir	rective action program es. A focused self-ass nately every two years	is periodically evalu sessment is perform s. [P7237]	ated through audi ed on Corrective A	t & assessment Action Process	
:	5.12	Senior Mar is required,	nagement may request <u>THEN:</u>	t a Fleet Challenge f	or an ACE or RCE	E. <u>IF</u> a Fleet Challe	enge
	[1]] The site at which the event occurred may consider the addition of independent (not from the same site as the event) Senior Managers (VP, GMPO or NSA/Engineering Director) to provide independent oversight to the RCE Team.					m the
	[2]	An inder consider	pendent RCE Evaluato red.	or (not from the same	e site as the event	i) should also be	
	[3]	The Flee	et Challenge should fo	llow the Site CARB	review		
	[4]	The Site	e CARB Chair should p	present the RCE to the	he Fleet Challeng	e meeting.	
;	5.13	Departmen	t Performance Improv	ement Coordinators	(DPICs)		
	[1]	DPICs c Perform	complete a training Job ance Improvement Co	Familiarization Gui ordinator (DPIC).	de, FFAM-CAA-D	PIC, Department	
6.0	<u>IN</u>	TERFACES	<u>.</u>				
	[1]	NMM EI	N-DC-153, Preventive	Maintenance Comp	onent Classificatio	on	
	[2]	NMM EI	N-EC-100, Guidelines	for Implementation of	of the Employee C	oncerns Program	
	[3]	NMM EI	N-HU-101, Human Per	formance Procedure	9		
	[4]	NMM EN	N-LI-102-02, CR Closu	ire Quality			
	[5]	NMM EN	N-LI-108, Event Notific	ation and Reportabi	lity		
	[6]	NMM EN	N-LI-108-01, 10 CFR 2	1 Evaluations and F	Reporting		
	[7]	NMM EN [SOER 9	N-LI-118, Root Cause 2-01 Recommended (Evaluation Process CA 4A]	[SOER 83-07, Re	commendation 2],	
	[8]	NMM EN Recomm	N-LI-119, Apparent Ca nendation 2], [SOER 9	use Evaluation (ACI 2-01 Recommended	E) Process [SOEF I CA 4A]	8 83-07,	
	[9]	NMM EN	N-LI-119-01, Equipmer	nt Failure Evaluation	I		
(6.0 con	t					

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[10]	NMM EN-LI-121, Entergy Trending Process						
[11]		N-MP-120, Material R	eceipt				
[12]		N-MP-115, Material Is	sues and Returns				
[13]		N-OP-104, Operability	Determination Proc	ess			
[14]	NMM E	N-FAP-OP-009, Tagg	ing Performance Ind	icator Program			
[15]		N-NS-204: Protection	of Unclassified Safe	guards Information	n		
[16]		N-QV-109, Audit Proc	ess				
[17]	NMM EN	N-QV-106, Escalation	of Quality Concerns	5			
[18]	NMM EN	N-QV-126, Oversight	Follow-Up Procedure	e			
[19]		N-AD-101: Procedure	Process				
[20]	EN-PL-1	55, Entergy Nuclear	Change Managemer	nt			
[21]	Significa	ince Determination Pi	rocess (SDP)				
[22]	NMM EN	N-FAP-LI-003, Correc	tive Action Review E	Board (CARB) Proc	ess		
[23]	NMM EN	N-FAP-LI-001, Condit	ion Review Group (C	CRG)			
[24]					-		

[25] NMM EN-AD-103, Document Control and Records Management Programs

7.0 <u>RECORDS</u>

[1] CA&A transmits closed CRs for retention in accordance with EN-AD-103. After CRs are closed and entered into the permanent document management system, they should not be re-opened. However, a CR may be administratively re-opened in PCRS to add non Quality record related information for ease of future research, in the trend section, reference section, equipment section, CA Priority, CA Type or Administrative section. Only trend coding, reference items, CA Priority, CA Type or equipment identification information can be updated / corrected. Then the CR will be immediately re-closed. Otherwise, if information becomes available that indicates additional work is required for a CR in the permanent document storage system, a new CR should be initiated. [QAPM B.15.a], [10 CFR 73.71 A.5], [P15297], [P757], [ANSI N45.2.12], [P14653]
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8.0 SITE SPECIFIC COMMITMENTS

Step	Site	Document	Commitment Number or Reference
[1]	ANO	Commitment	P4997
[2]	ANO	Commitment	P7531
[3]	ANO	Commitment	P15552
[4]	ANO	Commitment	P2993
[5]	ANO	Commitment	P5431
[6]	ANO	Commitment	P3098
[7]	ANO	Commitment	P5085
[8]	ANO	Commitment	P9849
[9]	ANO	Commitment	P7239
[10]	ANO	Commitment	P6919
[11]	ANO	Commitment	P7237
[12]	ANO	Commitment	P15414
[13]	GGNS	UFSAR 13.1.2.2 S3	P22828
[14]	GGNS	UFSAR 13.1.2.2 S4	P22829
[15]	GGNS	UFSAR 12.5.3.7 S5	P22638
[16]	GGNS	UFSAR 12.5.3.7 S6	P22639
[17]	GGNS	AECM 89/0162 89-17-02, Att LIV 3	P24458
[18]	GGNS	AECM 90/0004 VII.A.1	P24500
[19]	GGNS	AECM 84/0062 83-43-03. Att I.IV. (1)	P23977
[20]	GGNS	AECM 84/0062 83-43-03. Att I.IV. (2)	P23978
[21]	GGNS	QDR 46-95	P32520

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[22] GGNS ANSI-ANS 13.6/66 4.9.1 S1		P24	842			
[23]	GGNS	ANSI-ANS 13 S2	6.6/66 4.9.2	P24	843	
[24]	GGNS	10CFR21.21	.A.1	P17	819	
[25]	GGNS	10CFR21.21	.A.2	P17	820	
[26]	GGNS	UFSAR 8.3.1 \$15, \$16	.1.4.1.2.S14,	P21	886, P21887, P21	888
[27]	GGNS	UFSAR 8.3.1	.1.4.2.13.S3,	P21	895, P21896, P21	897
[28]	GGNS	GIN92/03494	5.6	P33	542	
[29]	GGNS	GNRO 96/00	56 96-06	P320	648	
[30]	IP2	Commitment		NL-8	31-A01-C15	
[31]	IP2	Commitment	, , <u>, , , , , , , , , , , , , , , , , </u>	NL-8	38-062-C02	
[32]	IP2	Commitment		NL-9	97-084-C07	
[33]	IP2	Commitment		NL-9	97-084-C13	
[34]	IP2	Commitment		NL-9	97-137-C04	
[35]	IP2	Commitment		NL-9	98-025-C02	
[36]	IP2	Commitment		NL-9	98-066-C024	
[37]	IP2	Commitment		NL-9	98-066-C040	
[38]	IP2	Commitment	<u></u>	NL-9	98-066-C041	
[39]	IP2	Commitment		PD-7	77-234-C02	
[40]	IP2	Commitment		PD-8	38-028-C21	
[41]	IP2	Commitment		PD-9	97-037-C03	
[42]	IP2	Commitment		RA-7	78-A05-C06	
[43]	IP3	Commitment		CON	/M-93-04786	

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[44]	JAF	Commitment	JAF	JAFP-91-0834	
[45]	JAF	SOER 83-07	Rec	Recommendation 2	
[46]	JAF	SOER 92-01	Rec	Recommended Corrective Action 4	
[47]	PLP	Commitment	CAF	CAPR 00734434.01	
[48]	PLP	Commitment	CR-	PLP-2007-1243	

[45]	JAF	SOER 83-07	Recommendation 2
[46]	JAF	SOER 92-01	Recommended Corrective Action 4A
[47]	PLP	Commitment	CAPR 00734434.01
[48]	PLP	Commitment	CR-PLP-2007-1243
[49]	RBS	Commitment	P13307
[50]	VY	Commitment	AUDIT RPT 9617-01
[51]	VY	Commitment	ER960078_02
[52]	VY	Commitment	ER960265_02
[53]	VY	Commitment	ER970230
[54]	VY	Commitment	ER20032022_01
[55]	VY	Commitment	ER20031761_02
[56]	VY	Commitment	ER20031910_12
[57]	VY	Commitment	Gentletr9118R1
[58]	VY	Commitment	INPO93OE21TP3
[59]	VY	Commitment	INS938OTP2
[60]	VY	Commitment	INS9620004
[61]	VY	Commitment	TREND92TP4
[62]	VY	Commitment	ER20031637_01
[63]	VY	Commitment	INF9607_01
[64]	WF3	Commitment	P5110
[65]	WF3	Commitment	P15297
[66]	WF3	Commitment	P16529

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·		Согге	ctive Action Proce	ss	
3.0 cont.					
[67]	WF3	ANSI N13.6.1	1.7 P15	005	
[68]	WF3	Commitment	P17	707	<u> </u>
[69]	WF3	Commitment	P17	726	
[70]	WF3	Commitment	P20	277	<u></u>
[71]	WF3	Commitment	P21	439	
[72]	WF3	Commitment	P21	440	
[73]	WF3	10 CFR 21.2	1 A P21	693	
[74]	WF3	10 CFR 21.2	1 C P21	700	
[75]	WF3	Commitment	P22	593	
[76]	WF3	Commitment	P23	035	
[77]	WF3	Commitment	P23	038	
[78]	WF3	10 CFR 21.5	1 A P75	7	
[79]	WF3	Commitment	P46	69	
[80]	WF3	Commitment	P22	362	

9.0 ATTACHMENTS

- 9.1 CONDITION REPORT CLASSIFICATION/CATEGORY
- 9.2 EXAMPLES OF ADVERSE CONDITIONS
- 9.3 MANUAL CR INITIATION
- 9.4 CORRECTIVE ACTION PROCESSING GUIDELINES
- 9.5 ENTERGY FLEET LEARNING REVIEW PROCESS
- 9.6 GUIDELINES FOR CLASSIFICATION OF CRs ON LOWER LEVEL EQUIPMENT ISSUES
- 9.7 TYPICAL NONCONFORMANCE TAG
- 9.8 CR INTERIM AND PERIODIC REVIEW FORM
- 9.9 LTCA CLASSIFICATION FORM
- 9.10 CR ASSIGNMENT AND LIFE CYCLE PROCESS MAP

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ATTACHMENT 9.1

CONDITION REPORT CLASSIFICATIONS / CATEGORY

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Assignment of Corrective Action Review Board (CARB) Oversight:

The Condition Review Group (CRG) is responsible for determining that a condition report (CR) contains an issue that warrants CARB oversight. The purpose of CARB oversight is to ensure the condition reports are evaluated in-depth and well documented. CARB oversight includes approval of the final cause determination and the corrective action plan. CARB oversight is assigned for all Category A, Significant CRs and may be assigned for Category B, Non-significant CRs. The following guidance is provided to assist CRG in the determination of CARB assignment:

- · Condition reports with cross-disciplinary (across more than one department) aspects to them.
- · Condition reports with cross human performance aspects.
- · Condition reports with cross organizational aspects.
- · Condition reports important to nuclear, public, or personnel safety
- OSHA Recordable and more severe injuries
- Condition reports important to generation capability
- Condition report events with generic implications
- Condition reports on equipment reliability applicability items impacting:
 - Capability factor
 - Forced loss rate
 - Unplanned LCO entry
 - Dose
 - Maintenance rule functional failure
 - Chronic system or component failure
- CRs on training programs_which are determined to meet the criteria for a "Finding" per the Measures for Judgment" contained in the INPO Accreditation Evaluator Reference Manual. Note: A Fleet Training Assessment Challenge Board will be convened at the Training Director's discretion to review ACE or RCE results related to training assessment findings prior to their presentation to CARB.

The following classification guidance is subject to CRG discretion. The CRG maintains the authority to deviate from this guidance, as warranted, so long as resolutions of Adverse Conditions are documented in the Corrective Action program.

<u>Significant</u> classification is the highest and most important. In most cases, significant events are the result of multiple barrier failures or programmatic breakdowns. There is considerably more investigation into the cause of the identified condition.

<u>Category A</u> – An adverse condition classified as significant and requires a Root Cause and actions to preclude repetition.

Condition meets one of the "significant" definitions. Typically, the condition is viewed as applicable to 10CFR50, requiring cause determination, correction of adverse condition and corrective actions to preclude repetition. Root Cause Evaluations should be completed within 30 days.

-For Human Performance/Process issues:

1. Does the identified problem meet the Human Performance Event Criteria? (see HU-101,Attachment 9.1) If yes then the CRG should consider classifying the CR as Significant.

-For Tagging Issues (Tagging error classification is defined in EN-FAP-OP-009)

- 1. Level I Tagging issue Where no barriers were present and event is significant a Cat. "A" CR RCA may be applicable the CRG should consider classifying the CR as Significant.
- -For Training issues:
 - Condition Reports for Training Assessment Standards Performance Deficiency (SPD as defined by EN LI-104) which are determined to meet the criteria for a "Finding" against objective criteria of ACAD 02-001, per the "Measures for Judgment" contained in the INPO Accreditation Evaluator Reference Manual should be evaluated through a root cause process.

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CONDITION REPORT CLASSIFICATIONS / CATEGORY

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-For Reactivity Management Events

- 1. Reactivity Management Significant Classification Level 1 Events
- 2. Reactivity Management Significant Classification Level 2 Events (Specific Conditions may be downgraded to a CR Level 'B' if proper justification is provided).

Non-Significant condition reports document problems for which a repeat occurrence (while always undesirable) can be tolerated.

 <u>Category B</u> – An adverse condition classified as non-significant and assigned to a Responsible Manager for documentation of apparent cause, corrective actions taken to correct the condition and to address the apparent cause(s). This CR will require an Apparent Cause Evaluation (ACE) which is performed as either Higher Tier or Lower Tier type as determined by the CRG.

Condition does not meet the "significant" definition. Usually, Category B conditions are "Conditions Adverse to Quality" and 10CFR50 applicable. However, since they are not significant, 10CFR50 only requires prompt identification and correction. Notwithstanding, the CRG views a Category B condition to be more than a "broke-fix" issue. In addition to correcting the identified deficiency, the Category B Condition Report should:

- 1. Determine and document the apparent cause of deficiency.
- 2. Determine and document the action plan to eliminate identified causes of the condition thereby reducing likelihood of condition repetition.

Category B designation should be prudently used to ensure a value added resource expenditure. Apparent Cause Evaluations / Equipment Failure Evaluations should be done within 30 days.

The following guidance (for both Equipment Failure Evaluations and Human Performance/Process issues) is provided as a tool to further help differentiate "B" level CRs from "C" level CRs after a determination is made that the condition does not meet the criteria to be designated as a Significant CR ("A"). This information is only a tool and doesn't override authority of the CRG to make a final decision on classification of a CR's category.

- For Tagging Issues (Tagging error classification is defined in EN-FAP-OP-009)

- 1. Level I Tagging issue Where no barriers were present requires a minimum Cat. "B" CR, Higher Tier ACE, based on significance of the event a Cat. "A" CR RCA may be applicable.
- 2. Level II tagging issue Where one barrier was present requires a minimum a Cat. "B" CR, Lower Tier ACE based on significance of the event a Higher Tier ACE may be applicable.

-For Equipment Failure Evaluations:

- 1. For High Critical Component failures (as determined by EN-DC-345) a minimum Category "B" High Tier apparent cause and an EN-LI-119-01, Attachment 9.1 Equipment Failure Evaluation is recommended.
- 2. For Low Critical Component failures (as determined by EN-DC-345) a minimum Category "B" Lower Tier apparent cause and an EN-LI-119-01, Attachment 9.1 Equipment Failure Evaluation is recommended.

-Other Equipment Failures:

- 1. For an unexpected failure of safety related or important equipment a minimum Category "B" apparent cause is recommended. [ER20031910_12]
- 2. For equipment failures of a repeat nature if the CRG concludes it is prudent to determine why it failed and take action to preclude repetition a minimum Category "B" apparent cause is recommended.

-For INPO Area For Improvements:

 A justification statement to support classification of a CR intended to address an INPO AFI is required if the CR is not classified Cat. B or higher.

-For Injury CRs:

- 1. For Lost Time Accidents, hospitalizations, and severe injuries that are not classified as Category "A", a minimum
- Category "B" High Tier ACE with CARB review is required.
- 2. For all other OSHA Recordable injuries a minimum Category "B" Lower Tier ACE with CARB review is required.

-For HQN CRs:

1. Perform a causal analysis for fleet issues if there's an underlying corporate contributor identified in more than one site analysis that hasn't been addressed via the sites' CRs.

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CONDITION REPORT CLASSIFICATIONS / CATEGORY

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-For Human Performance/Process issues:

- 1. Does the identified problem meet the Human Error threshold? (see HU-101, Attachment 9.2)
- 2. Is the identified problem a repetitive issue that demands a more aggressive approach to eliminate the issue? Is continuing to treat a repetitive problem as a "broke/fix" still prudent?
- 3. Is it prudent to not only fix the identified problem, but also to determine/document cause(s) of the problem and determine/document an action plan to fix cause(s)?

-For Quality Assurance Issues:

- 1. B LT classification is the minimum required response to a:
 - Quality Assurance (QA) Findings (QAF) (as defined by EN-QV-109)
 - IF the QAF has elements of O&P, then a HT ACE is required
- 2. B HT classification is the minimum required response to a:
 - QA Unsat. Follow-up (as defined by EN-QV-126)
 - QA Escalation (as defined by EN-QV-106)

-For Reactivity Management Events:

- 1. Reactivity Management Significant Classification Level 3 Events (Specific Conditions may be downgraded to a CR Level 'C' if proper justification is provided).
- <u>Category C</u> An adverse condition classified as non-significant or a non-adverse condition assigned to a Responsible Manager for investigation and correction. A condition that has or would have minimal effect on the safe or reliable operation of the plant or personnel. The safety significance of the occurrence is sufficiently minor that an ACE is not required. Required action need only return the equipment or process to an acceptable status. Conditions in this category are frequently referred to as "broke/fix". See Attachment 9.6.

A Category C condition does not meet definition of significant. However, it may be a "Condition Adverse to Quality" and 10CFR50 applicable (prompt identification and correction). The desired resolution is correction of the identified problem. While determination of cause is often required to fix a problem, no formal documentation of cause is required. Repeat occurrence of the problem is viewed as acceptable.

-For Equipment Failure Evaluations:

For High or Low Critical Component Failures (as determined by EN-DC-345) for which CRG determines <u>NO</u> causal analysis is required, a minimum Category "C" assignment and an EN-LI-119-01, Attachment 9.1 Equipment Failure Evaluation (EFE) is recommended

Additional Significance classification guidance is provided in Attachment 9.6 for equipment related CRs that do <u>not</u> screen as Category "A" or "B" level CRs or "C" level CRs that do not require an EFE.

-For Reactivity Management Precursors:

1. Reactivity Management Significant Classification Level 4 Precursors (Specific Conditions may be downgraded to a CR Level 'D' if proper justification is provided).

<u>Category D</u> - No tracking of corrective actions is required and the CR may be closed. For example the condition
has been corrected, closed to a Work Order, closed to an existing CR, or is below CR threshold.

Adverse Conditions (and Non-Adverse conditions at the discretion of the CRG) which would not exceed the criteria for a category "C" CR may be closed in one of the three following ways:

Category "D" Close to WMS

Category "D" Close to CR

Category "D" Condition Corrected (when supporting documentation is provided)

CRs identifying conditions which are below the level of Adverse Conditions as defined in 3.0[2] may be classified as Category "D" and closed in the following ways:

- Category "D"- Actions Taken
- Category "D" -- Close Reference
- Category "D" -- Review for Emerging Trend
- Category "D" Below Threshold

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<u>Note</u>: In order to ensure appropriate oversight and independence, the Quality Assurance (QA) organization has the right to determine if a QA identified condition is a Condition Adverse to Quality or a Significant Condition Adverse to Quality. In cases where the CRG does not concur that a QA identified condition is a Significant Condition Adverse to Quality, the Director, Oversight has the authority to overrule the CRG.

	Standardize Significance Level and Classification Codes for CR Assignment Tab					
Sig	CLASSIFICATION_CODE	CLASSIFICATION_DESC				
A	RCA	CRG Directs a Root Cause Analysis				
В	HT-ACE CARB	CRG Directs CARB Review				
В	HT-ACE	CRG Directs a Higher Tier ACE				
В	LT-ACE CARB	CRG Directs CARB Review				
В	LT-ACE	CRG Directs a Lower Tier ACE				
С	CORRECT/ADDRESS	CRG Directs Correct/Address Identified Conditions				
D	CLOSE TO CR	CRG Directs CR to Close to Another CR				
D	CLOSE TO WMS	CRG Directs CR to Close to An Open Work Order				
D	CONDITION CORRECTED	CRG Directs CR - Condition Corrected / Documented				
D	ACTIONS TAKEN	CRG Directs CR to Close - Sufficient Actions Taken / Documented				
D	REVIEW EMERG TREND	CRG Directs CR to Close – Still Reviewed As Part of Trending Process				
D	CLOSE REFERENCE	CRG Directs CR to Close - Listing # to Address the Item				
D	BELOW THRESHOLD	CRG Directs CR to Close - No Condition Identified/Exists or Below Threshold				
D	VOID/DUPLICATE CR	CRG Directs CR to Close – Void (Cancel) or Duplicate of Another CR				

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The following is a "guidance" tool for determining the CR Categorization. It allows for more consistency in Categorization of Condition Reports. To use this tool, first select the closest fit under Severity Levels, then choose the best fit under Frequency Levels. If more than one level fits select the higher level. Finally, use the matrix to find the recommended CR categorization, recognizing that CRG discretion may be needed in final determination.

Severity Levels

- 1. Severity Level 1 Condition that:
 - Is classified as a Significant (Level 1 or 2) Reactivity Management Event,
 - Is classified as White, Yellow, or Red through the NRC Significance Determination Process,
 - Results in E-Plan declaration, regulatory intervention or significant public interest,
 - · Results in an industrial related fatality, severe injury requiring transportation off site,
 - · Results in major system, component, or structure damage or loss,
 - Affects more than one department,
 - Is deemed a near miss to catastrophic consequences,
 - Results in a loss of production (>10%),
 - Identifies a problem that meets the Human Performance Event Criteria, excluding injuries classified as events (see EN-HU-101 Attachment 9.1). When a CR identifies a Human Performance Event the CRG should consider classifying the CR as Significant.
 - Is otherwise deemed to meet one of the "significant" definitions by the CRG, including an Adverse QA Finding and/or a Significant Condition Adverse to Quality (SCAQ).
- 2. Severity Level 2 Condition that does not meet Severity Level 1 criteria, but does:
 - Result in a reportable event pursuant to 10CFR21, 50.72, 50.73, or other NRC reporting criteria
 - Identify a Operable-DNC or Operable-Comp Measures condition
 - Result in unplanned events or failure impacting the function of a structure, system, or component
 - Identify errors that demonstrate fundamental misunderstandings of, or noncompliance with, procedural or regulatory requirements
 - Result in the loss of a High Risk Maintenance Rule function or in the failure of a High Critical or Low Critical component (as determined by EN-DC-345)
 - Result in > 1 day delay of planned LCO,
 - Identify an equipment deficiency that adversely impacts NRC or WANO Performance Indicators
 - Result in a Green NCV, Green finding, violation, or traditional enforcement from the NRC
 - Result in a reportable event pursuant to NERC Standard EOP-004-1, Attachment 2 Table 1, Item 5 [consequential physical sabotage, terrorism, or vandalism to major electrical systems].
 - Result in a reportable event pursuant to NERC Standard EOP-004-1, Attachment 2 Table 1, Item 6 [consequential cyber sabotage, terrorism, or vandalism.].
 - · Result in an injury that is classified as an OSHA Recordable or lost time accident,
 - Result in a Human Performance Clock reset (see EN-HU-101)
 - Result in an Adverse Trend designation by the CRG
 - Identify an equipment failure of repetitive nature such that it is prudent to determine why
 - Identify an Internal Oversight QA Finding (EN-QV-109, ANSI 18.7, and ANSI N45.2.12)
 - Identify a Corporate or External AFI,
 - May affect more than one department.

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CONDITION REPORT CLASSIFICATIONS / CATEGORY

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3. Severity Level 3 - Condition that does not meet Severity Level 1 or 2 criteria, but does:

- Result in minor system damage, minor injury, or other event generally confined to one department,
- Identify a Corporate or External Negative Observation, or an Internal Self-Assessment Standards Performance Deficiency (SPD),
- Result in a reportable event pursuant to NERC Standard EOP-004-1, Attachment 2 Table 1, Item 5 [non consequential physical sabotage, terrorism, or vandalism to major electrical systems].
- Result in a reportable event pursuant to NERC Standard EOP-004-1, Attachment 2 Table 1, Item 5 [non consequential cyber sabotage, terrorism, or vandalism].
- Identify a problem that meets the Human Error threshold (see EN-HU-101 Attachment 9.2).
- Abnormal and/or long term unexplained plant conditions [SOER 2-04 Rec 3]
- 4. Severity Level 4 Less than the above.

Frequency Levels

Consider fleet implications that could indicate an Extent of Condition or Generic Implication review is needed when selecting the appropriate Frequency Level.

- I. Likely to occur often or has occurred often during the life of an individual item, system, process or very often in operation of a large number of similar items.
- II. Likely to occur several times or has occurred several times in the life of an individual item, system, process, or often in operation of a large number of similar items.
- III. Likely or possible to occur sometime in the life of an individual item, system, process, or will likely or reasonably be expected to occur in the life of a large number of similar components.
- IV. So unlikely to occur in the life of an individual item, system, or process, that it may be assumed not to be experienced, or it may be possible, but unlikely, to occur in the life of a large number of similar components.

CR Grade	Freq. I	Freq. II	Freq. III	Freq. IV
Severity 1	A	A	A	А
Severity 2	A	В	В	С
Severity 3	В	C*	C*	C*
Severity 4	C*	D	D	D

CR Category Matrix Guideline

- * Category 'D' is chosen if the condition is corrected and documented, and no further analysis or corrective actions are warranted.
- * Category 'D' is chosen for relatively straightforward conditions when it is appropriate to close them to a work order or another open condition report.
- * Attachment 9.6 contains additional guidance on when it is appropriate to close relatively straightforward equipment relate CRs to a work order OR when it is appropriate to just reference the work order.

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ATTACHMENT 9.2

EXAMPLES OF ADVERSE CONDITIONS

Sheet 1 of 3 [P3098], [ANSI N45.2.11, Section 9.2], [P7531], [P15005], [P21693], [P21700] [P22638] [P22639] [P24842] [P24843] [P17819] [P17820], [ANSI N45.2.11 9 S1-S4]

Examples of Adverse Conditions

Employees are encouraged to report a broad range of problems and potential problems. However, adverse conditions are required to be documented on CRs. The conditions described in this attachment are examples of adverse conditions. This list is not necessarily all-inclusive. Any adverse condition as defined in Section 3.0 should be documented on a Condition Report.

1. Operational Conditions

- Plant transient (per INPO, WANO guidance documents)
- Unplanned actuation of RPS, ESF, or Emergency Power Systems
- Declaration of any emergency class in the emergency plan
- Potentially reportable conditions
- · Events or conditions that could negatively impact reliability or availability
- Unplanned conditions or events that affect reactivity
- Unplanned entry or failure to enter a LCO (includes performance outside acceptance criteria)
- · Grid Disturbance including protective relay or equipment failures, or mis-operations

2. <u>Radiological Conditions</u>

- Any exposures that exceed allowable administrative or regulatory limits.
- Lost or missing licensed radioactive material
- Unplanned radioactive release
- Violations of procedures or policies or regulations that are intended to satisfy 10CFR19, 10CFR20 or other applicable federal regulations
- Abnormally high radiation or airborne radioactivity levels

3. Security Conditions

- Potentially Reportable events (one hour report) per 10CFR73.71
- Programmatic failure(s), recurring events or human errors that require further management attention
- Other security events that could reduce the overall effectiveness of the security program
- Adverse trends in the number of Security events
- Potential or confirmed tampering, terrorism, vandalism or sabotage.

4. Industrial Safety Conditions

- Lost time accident
- Near miss Incident
- OSHA Recordable event
- Recurring minor injuries of similar cause judged to need further evaluation
- · Conditions which could create a significant personnel safety hazard

5. <u>Material Conditions (not installed)</u>

- Deficient components issued or ready-for-issue for which elements of the QA program have been applied.
 Deficient components are those that have not met design or procurement specifications.
- Deficiency reported by vendor bulletin when confirmed that the product has been issued or is ready for issue at the station.
- Conditional release of materials, parts, or components, for installation and testing, which have not been fully accepted under the Quality Assurance program.

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EXAMPLES OF ADVERSE CONDITIONS

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6. <u>Structures, Systems or Components Conditions (Installed)</u> [ER20031637_01], [QDR 200-95/RCDL 95-20, Long Term Action 2.a.1]

Conditions affecting a safety related, quality-related or trip sensitive system caused by a deficiency in characteristic, documentation or procedure that renders the quality of an item unacceptable or indeterminate. Examples include, but may not be limited to:

- Recurring or generic failure
- Item has a defect as a result of design or manufacturing process that prevents or could have prevented the component from performing its intended function
- Any Degraded or Nonconforming Condition affecting an SSC within scope of the Operability Determination Process per EN-OP-104.
- Item fails testing performed to prove environmental or seismic design conformance
- Deviation from prescribed processing or inspection
- Documentation not available to confirm required inspections or tests
- Deficiency reported by vendor bulletin
- M&TE: A condition report is required when the non-conforming condition is related to the calibration of M&TE and the following conditions exist:
 - The condition cannot be resolved through a record search.
 - It cannot be verified that plant hardware or system performance is not affected and no further action is required.
- Oil leaks or spills that could increase the potential for a plant fire or adversely affect equipment operation. The Fire Prevention Coordinator, Fire Protection Engineer, or System Engineer should be consulted to evaluate the potential impact. This includes events such as, but not limited to: oil wetted/fouled insulation or equipment, and leaks and spills involving liquids such as fuel oil, lube oil, fluid, etc. [P15414]
- Chemical or other leaks that could potentially impact plant operations or the environment.
- Missed or late preventive maintenance task required to satisfy technical specifications, environmental qualification or station commitments.
- Any code repairs on failed components that are performed to repair a component to operable status.
- Conditions where nuclear fuel defects exist or are suspected.
- Maintenance Rule "Category A1" items
- Conditions that degrade the ability of a Regulatory required installed fire protection system or component to
 perform its intended function. This includes degraded fire barriers and their sub components (penetration
 seals, fire doors and dampers), and fire detection and suppression systems. Additional components include
 Appendix R fire wrap and emergency lighting, and any Reactor Coolant Pump (PWR) oil collection system.
 [P15414]
- 7. Welding Related Conditions
 - Welds not made in accordance with applicable procedures
 - Welds made by unqualified welders
 - Welds made with improper or undocumented filler material
 - Welds on which nondestructive examination procedures are improperly performed
 - Welds on which specified hold points are bypassed
 - Welds which do not meet applicable code or job specific requirements and on which the final weld inspection and NDE have been completed/accepted

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EXAMPLES OF ADVERSE CONDITIONS

8. Deviations From Design/Licensing Basis Conditions

- Functional inaccuracies in safety-related documents (procedures, technical manuals, work plans, drawings, etc.) which could degrade plant safety [P4997], [P22593]
- Failure to comply with design or license basis commitments as described in the SAR, TS, TRM, etc.
- Inadequate Technical Specifications
- Conditions that may require written or telephone notifications to the NRC, excluding routine reports.
- SSCs or physical conditions that deviate from Design / License basis assumptions

9. Administrative or Work Practice Conditions

- Performance of activities on the wrong equipment
- Procedural noncompliance resulting in a condition adverse to quality
- Mispositioned equipment
- Errors or deficiency in the design process, including computer programs.
- Tagging errors

10. Engineering Related Conditions

An error or omission in an engineering product which, if uncorrected could result in any of the following. These criteria apply even if the error was discovered before the product was finalized or issued for use.

- significantly reduces the margin to safety as defined by Technical Specifications or the FSAR,
- renders equipment important to safety inoperable or incapable of performing intended safety functions
- would place the unit in an Unanalyzed Condition (as defined in EN-OP-104), or
- reflects a significant procedural non-compliance or programmatic breakdown.

11. Regulatory Issues

- potential or actual NRC violations
- potential or actual INPO Areas for Improvement (AFIs)
- potential or actual 10 CFR 21 conditions

12. Training Issues

- Any condition which adversely impacts training related regulatory compliance.
- Any condition which has the potential to adversely impact training program accreditation.
- Areas for Improvement, Standards Performance Deficiencies, Findings, or other weaknesses identified in self-assessments, QA audits, NRC inspections, or INPO evaluations.
- Training procedure non-compliance.
- Any adverse trends identified through routine monitoring of training-related data, condition reports, assessment findings, etc.
- Loss of electrical power to the Training Center that impacts training.
- Unplanned fire system actuations that impact training.
- Simulator downtime results in greater than 15 minutes of lost scheduled training time.
- Training facilities in disrepair for extended periods.
- A human performance event or error that results in a reset of the Training Department Human Performance Clock, or the reset of another department's clock for training-related events (for example, student absence or tardiness).
- Any condition that requires that commitments be made to an outside organization.
- Any condition or event which adversely impacts the personnel safety of the training staff or students.
- Work performed by an unqualified worker.

13. Other Issues

- Abnormal plant conditions or indications that cannot be readily explained [SOER 2-04 Rec 3]
- Long-term unexplained plant conditions [SOER 2-04 Rec 3]

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ATTACHMENT 9.3 Sheet 1 of 4

MANUAL CR INITIATION

NOTE

Sample forms used to implement this procedure are included in this attachment. It is not mandatory that the exact forms be used. Equivalent forms may be used, but they must contain the same or additional information. Any deletion of information must be accomplished by procedure revision.

This attachment provides a contingency method for generating, performing operability/functionality and immediate reportability determinations, and tracking Condition Reports when PCRS is not available. The Entergy Help Desk and CA&A staff should be called if a PCRS outage is experienced.

Manual operation of the Condition Reporting System is limited to the generation of Condition Reports and the documentation of operability/functionality and immediate reportability determinations/evaluations. Issuing and responding to Condition Report Corrective Actions will be postponed until PCRS is available. However, any actions required to place the plant in a safe condition, or any other emergency actions, can proceed.

1.0 Condition Report Generation (Form 1):

- 1.1 Any individual, who discovers a Condition, when PCRS is not available, should follow the steps of section 5.2 with the exception of writing the Condition report with PCRS.
- 1.2 The attached form should be used to document a Condition when PCRS is unavailable.
- 1.3 Take the completed form and any supporting documentation to the Control Room/Work Control Center, as appropriate. (Not applicable when generating Headquarters CRs. When generating Headquarters CRs manually, contact the Headquarters Corrective Action Coordinator).
- 2.0 Operability and Immediate Reportability Determinations (Form 3): (This section does not apply when generating CRs for offsite locations such as Headquarters. Results of Impact Applicability Reviews for CRs generated for offsite locations are documented on the Manual CR Continuation Form (Form 2)).
 - 2.1 The Shift Manager/designee ensures that the manual CRs are maintained in the Control Room for periodic retrieval by CA&A and that CA&A is informed when manual CRs are ready for CA&A to pick up.
 - 2.2 The Shift Manager/designee will perform the operability and immediate reportability.
 - 2.3 Following the completion of the operability/functionality and immediate reportability determinations the Shift Manager/designee retains the Condition Report package for CA&A pick up.
- 3.0 Conversion of manual Condition Reports to PCRS:
 - 3.1 CA&A picks up manual Condition Report packages and presents them to the CRG. CA&A communicates any immediate management actions to the affected parties.
 - 3.2 When the PCRS becomes available, CA&A informs the Control Room and then CA&A enters the manual Condition Reports into PCRS. PCRS automatically assigns the next sequential CR number to each manual CR. The original forms are then scanned into PCRS.

<i> ₹Entergy</i>			EN-LI-1	02 REV. 21
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	<u> </u>	· · · · · · · · · · · · · · · · · · ·	- <u> </u>	
Sheet 2 of 4	·····			
	CONE	DITION REPORT	Man	ual CR NO.
		FORM 1	PAG	EOF
	CONDITIC (PRINT/TY	ON IDENTIFICATION FO	RM NLY)	
IDENTIFICATION OF P	ROBLEM		For Operatio	ons Use Only
(Please Print) Originator	Ext.:		Date Rec'd	
Organization			Time Beeld	
Supervisor:			Time Rec d	
	tinent to operability/function	onality determination 1		
[Include information per	tinent to operability/function	onality determination.]	er.	
[Include information per Work Document # (i.e.,	tinent to operability/function WR/WO, OD, etc.)	onality determination.] Oth	er:	
[Include information per Work Document # (i.e., IMMEDIATE ACTION D	tinent to operability/function WR/WO, OD, etc.) ESCRIPTION:	onality determination.] Oth	er:	
[Include information per Work Document # (i.e., IMMEDIATE ACTION D	tinent to operability/function WR/WO, OD, etc.) ESCRIPTION:	onality determination.] Oth	er:	
[Include information per Work Document # (i.e., IMMEDIATE ACTION D	tinent to operability/function WR/WO, OD, etc.) ESCRIPTION:	onality determination.] Oth	er:	
[Include information per Work Document # (i.e., IMMEDIATE ACTION D	tinent to operability/function WR/WO, OD, etc.) ESCRIPTION: AFFECTED EQUI	onality determination.] Oth	er:	
[Include information per Work Document # (i.e., IMMEDIATE ACTION D	tinent to operability/function WR/WO, OD, etc.) ESCRIPTION: AFFECTED EQUI	onality determination.] Oth	er:	
[Include information per Work Document # (i.e., IMMEDIATE ACTION D	tinent to operability/function WR/WO, OD, etc.) ESCRIPTION: AFFECTED EQUI	onality determination.] Oth	er:	
[Include information per Work Document # (i.e., IMMEDIATE ACTION D	tinent to operability/function WR/WO, OD, etc.) ESCRIPTION: AFFECTED EQUI	onality determination.] Oth	er:	

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			MAL	
neet 3 of 4				
	CONDITION	REPORT	CR NO.	
		n 2	PAGE OF	······································
		EPORT CONTINUATIO	N FORM	
		_,		
TINUATION FORM	A:			

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ATTACHMENT 9.3	· ••••••••••••••••••••••••••••••••••••		Manual	CR INITIATION
Sheet 4 of 4	es the "electronic PCRS" on	erability/functionality section	on of the CR only. The or	perability/functionality
determination process (EN	N-OP-104) is expected to be	performed & attached to the	his manual CR form as n	eeded.
		& IMMEDIATE REPOR	RTABILITY DETERMI	NATION - FORM 3
OPERABILITY/FUNCTIONALIT	Y EVALUATION REQUIRED			
	<u> </u>			
·····				
(IF NO THEN LEAVE OPER/ AND SIGN AS APPROVER) II. OPERABILITY DETERMINA	ABILITY/FUNCTIONALITY E	VALUATION SECTION BI	LANK – COMPLETE RE	PORTABILITY SECTION
OPERABILITY CODE	<u></u>		·	
PLANT CONDITION/MODE:				
EFFECT OF THIS CONDITION	ON EQUIPMENT/SYSTEM/	TRAIN OPERABILITY/FU	NCTIONALITY:	
		- OP EVAL [IONAL
NOT REQUIRED		-DNC	EQUIPMENT NON- I	FUNCTIONAL
		-COMP MEASURES		
		LE - OP EVAL	Time Entered	
Operability Desc: enter or atta	ach the required document	ation per EN-OP-104		
,,,		· · · ·		
	YES LCO NO.	LCO ACTIO	ON TIME	
TECH SPEC/TRM ACTIC	ON STATEMENT #	DATE ENTERED	TIME ENTERED	<u></u>
IMMEDIATE ACTIONS TAKEN:				·····
				<u> </u>
IF YES (Mark appropriate time re	equirement and complete this	section) 1-HR RPT	4-HR RPT	
8-HR RPT 24-HR RPT	•			
DATE:	AND TIME:	OF REPO	RT.	
NAME OF PERSON REPORT N	IADE TO:			
CFR REQUIREMENT:	NAM	E OF PERSON MAKING		
NRC EVENT NO.				
REACTOR POWER:	% REACTOR F	PRESSURE:	RX / RX COOL	
(BWR ONLY) CORE FLO	OW X 10 ⁶ lbm/⊢	IR REACTOR LEVEL	. in]	
	VTA6	пател		
OPERATIONS REPRESENTATI	VE APPROVAL:		DATE/T	ÎME:

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ATTACHMENT 9.4

CORRECTIVE ACTION PROCESSING GUIDELINES

SHEET 1 OF 3 [AUDIT RPT 9617-01], [ER960078_02], [ER960265_02], [P16529] NOTES:

- 1. These guidelines should be used when setting corrective action due dates and extension requests. The target for completion of all corrective actions and closure of the CR associated with an "A", B" or "C" Condition Report is 6 months (except for those with Long Term CAs). CA timeliness criteria are provided to achieve CR age goals that are monitored via performance indicators. These criteria are considered guidelines and not procedural requirements. The CRG, CARB, or Responsible Manager can deviate from these guidelines to appropriately manage resources, except as noted below. Exceptions taken to the timeliness criteria do not relieve the CA/CR Owner from meeting performance indicator goals.
- 2. Corrective Action Due Dates should be selected with consideration given toward:
 - a. The risk to plant imposed as a result of the action not being complete.
 - b. Due Date(s) should ensure the action is complete prior to the next potential occurrence of the problem, if possible.
- 3. Document GMPO, Director, Site VP, or CARB Chairperson approval in DDE request when that approval is required per this attachment & that position is not the authority level for approval in PCRS.
- 4. The "30 day clock" for Root Cause Analysis stops when the final Cat "A" Evaluation has been approved by CARB and the CAs have been issued.
 - a. When CARB approves with comments, the 30 day clock can stop IF the comments do not require bring back to CARB, CAs from the RCA have been issued AND a CA is initiated, not to exceed 4 working days, to track the comment incorporation and approval by the CARB Chairperson.
 - b. Extension of the action to incorporate comments and obtain approval by the CARB Chairperson beyond 4 working days requires initiation of a specific Condition Report documenting the lack of timely incorporation of the comments.
- 5. The 30 day clock for Apparent Cause Evaluations stops when the Responsible Manager approves the report and corrective actions have been entered in PCRS. a. Apparent Cause Evaluations requiring CARB review are presented within 60 days of the disposition assignment.
 - b. CARB comments are addressed and report finalized within 7 working days of CARB approval. DDEs requiring time beyond 7 working days will be documented in a CR.
 - c. Apparent Cause Evaluations that receive an unsatisfactory CARB score will be revised and returned to CARB for re-review on a timeline determined appropriate by CARB. Timeline will be determined commensurate with the significance of the changes required and the risk of potentially delaying any final required changes to action plan.

Corrective Action Type	Corrective Action Due Date Guideline	Due Date Extension (DDE) Approval
Disposition	 For Cat A: ≤ 30 days from CR categorization (including CARB approval of RCE) For Cat B: ≤ 30 days from CR categorization (not including CARB approval of ACE) For Cat C: ≤ 30 days from CR categorization 	The following DDE escalation requirements apply to any action issued in a CR (all CA Types). Document appropriate concurrence in the DDE request 1 st : Supervisor 2 nd : Responsible Manager/Superintendent 3 rd : GMPO/Director
Corrective Action	 For Cat A, B, & C: ≤ 180 days from CR categorization 	4 th : SVP <u>Note</u> : Site VP approval is required for extensions that allow disposition of Significant Root Causes including CARB approval to extend beyond 30 days. Note: CARB Chaimerson approval required for ANY CARB approved CAPR
Long Term Actions	As approved by GMPO/Director/Site VP	related extensions
Human Performance Error Review (HPER)	 ≤ 7 days (Outage ≤ 3 days) from CRG assignment or from error classification 	

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CORRECTIVE ACTION PROCESS						

ATTACHMENT 9.4

SHEET 2 OF 3

TABLE: CORRECTIVE ACTION PRIORITY to CA TYPE

CORRECTIVE ACTION PROCESSING GUIDELINES

CA&A USE ONLY Initial Disposition action for Cat C CRs.

Corrective Actions to address Cat C conditions

PRIORITY 1 ACTIONS

CA Priority	Discussion	Typical CA Types	Description	
1	Conduct Root Cause Analysis	DISP-RCA	*CA&A USE ONLY** Initial disposition action for CAT A CRs	
1	Corrective Action to Preclude Repetition	CAPR	**RCA ACTIONS ONLY** Corrective Actions to Preclude Recurrence	
1	Correct Condition- Category A	CAT A- CORRECT	**RCA ACTIONS ONLY** Corrective Actions to address Significant Condition identified in the CAT A CRs	
1	Conduct Apparent Cause Analysis	DISP-ACE/HT	**CA&A USE ONLY** Initial Disposition action for CAT B Higher Tier.	
1	Conduct Apparent Cause Analysis	DISP-ACE/LT	**CA&A USE ONLY** Initial Disposition action for CAT B Lower Tier.	

PRIORITY 2 ACTIONS

3

3

Correct or Address Condition Category C

Correct Original Condition Category C

CA Priority	Discussion	Typical CA Types	Description
2	Correct Contributing Cause from Category A CR	CAT A-CC	Corrective Actions to address the contributing causes identified in the RCA
2	Correct Extent of Condition/Cause Category A CR	CAT A-EOC	Corrective Actions to address the extent of condition identified in the RCA
2	Correct Apparent Cause Category B	gory B CAT B-AC Corrective Actions that address the apparent causes ide in the B Level CR	
2	Correct Original Condition Category B	CAT B-CORRECT	Additional Corrective Actions that address the original condition excluding those that are addressing the apparent causes.
PRIORITY 3 A	CTIONS		
CA Priority	Discussion	Typical CA Types	Description
3	Correct Contributing Cause Category B	CAT B-CC	CA to address contributing causes identified in B level CR
3	Correct Extent of Condition Category B	CAT B-EOC	Corrective Actions to address the extent of condition identified

DISP-CA

CAT C-CORRECT

in the B level CR

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CORRECTIVE ACTION PROCESSING GUIDELINES

ATTACHMENT 9.4

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PRIORITY 4 ACTIONS						
CA Priority	Discussion	Typical CA Types	Description			
4	Actions to move issues through PCRS which are not corrective in nature.	CARB REVIEW	CARB review is required for this CA			
4		CR CLOSURE REVIEW	Used in requesting a CR closure review			
4		CA QUALITY UNSAT	Tracks correction of unsatisfactory CA closures.			
4		HUMAN PERF	Action to perform HP fact finding/HPER.			
4		INPO INITIAL OE SUB	INPO Initial OE Submittal			
4		OCMC	Provides oversight of the correction of issues identified as Operable with Compensatory Measures			
4		ODMI	Action to develop an ODMI Action Plan (EN-OP-111]			
4		ODNC	Provides oversight of the correction of issues identified as Operable but Degraded or Non-conforming			
4		OPERABILITY INPUT	**OPS and Licensing Use Only** Provide current or past Operability Input.			
4		REGULATORY	Provides oversight of issues identified as having regulatory importance.			
4 .		UNSAT RESPONSE CA&A	*CA&A/DPIC only**: Tracks correction of unsatisfactory CR closures.			
4		GENERAL ACTION	General Actions.			
4		PERIODIC REVIEW	Action to complete a interim or periodic review			

PRIORITY 5 ACTIONS

CA Priority	Discussion	Typical CA Types	Description
5	Items meeting the definition of Enhancement	ENHANCEMENT	Actions that address improvement items or actions that
	from LI-102 (item could be tracked outside of	, ·	address conditions, which meet minimum acceptable criteria.
	CAP)		This action should not be used to correct the originally
			identified adverse condition or to address an identified cause.

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ATTACHMENT 9.5 Sheet 1 of 2

ENTERGY FLEET LEARNING REVIEW PROCESS

Purpose:

The Entergy Fleet Learning process enables the sharing of condition reports (CR) identifying internal significant conditions, events or issues that warrant focused sharing with other Entergy Nuclear Fleet stations using the Internal Fleet Learning Operating Experience (OE) process.

This attachment provides the Condition Review Group (CRG) and Corrective Action Review Board (CARB) the criteria and guidance for the identification of an internal significant condition, event, or issue for processing through the Internal Fleet Learning OE process.

The CRG or CARB may identify the CR for:

- a. <u>Immediate Sharing</u> CRs which need to be shared in a timely manner. There should be sufficient information provided in the CR to allow other sites to understand, and if necessary, act on the condition.
- b. <u>Site Sharing</u> condition for which the causal analysis needs to be shared
- c. <u>Fleet Learning</u> condition for which the causal analysis is significant enough to assign a Responsible Manager to review and to determine fleet impact.

This may be done by CRG during CR classification/assignment or CARB during approval review of RCAs or ACEs.

2.0 <u>Scope</u>;

- 2.1 The Fleet Learning process should include, as a minimum, the following issues identified at a Entergy Nuclear Station:
 - Each Area for Improvement (AFI) from INPO Evaluations or WANO Peer Reviews.
 - Each Unsat SOER / IER from INPO Evaluations or WANO Peer Reviews.
 - All Nuclear Regulatory Commission (NRC) Substantive Cross-Cutting Issues.
 - All NRC violations characterized as greater then GREEN.
 - Significant events, typically Category A CRs, as deemed appropriate by CRG or CARB. Not all Category A CRs are expected to be shared using this process, however those with particularly significant consequences should be shared.
 - Other issues identified by CRG or CARB of significance. Each Training program FINDING level issue identified by an INPO Accreditation Team, or by an Entergy Self-Assessment Team.
- 2.2 The Site Sharing process should include, as a minimum, any of the following issues identified at a Entergy Nuclear Station if they are not designated for Fleet Learning:
 - All green findings, violations, or traditional enforcement from the NRC.
- 2.3 Entergy's Condition Review Group (CRG) screens and classifies all condition reports and may select condition reports identifying internal significant condition, events or issues for internal fleet learning OE processing as immediate sharing and/or evaluation results sharing.

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ATTACHMENT 9.5	·	ENTERGY FLEET LEARNING REVIEW PROCESS
Sheet 2 of 2		

2.4 Corrective Action Review Board (CARB) reviews/approvals all Root Cause Reports and selected Apparent Cause Evaluations and may also identify one of these condition reports not previously identified by CRG for internal fleet learning or Site Sharing OE processing as evaluation results sharing.

3.0 Details:

- 3.1 Internal Fleet OE Initiation for Fleet Learning
- 3.1.1 Once CRG or CARB has determined that a condition report (CR) should be processed through the internal fleet learning OE process, CA&A ensures a corrective action is issued within the identified CR, to the site OE Coordinator(s) as follows:
 - 3.1.1.1 <u>For CRs that require "Immediate Sharing"</u> (at CR initiation) a corrective action is issued to the OE Coordinator with a due date of ≤14 days, unless otherwise directed by CRG. The OE Coordinator will normally process in accordance with EN OE-100 as Code "B" "Useful for Site Awareness".
 - 3.1.1.2 <u>For CRs that require "SITE SHARING"</u> a corrective action is issued to the OE Coordinator with a due date of ≤60 days, unless otherwise directed by CRG or CARB. The OE Coordinator will process in accordance with EN OE-100.
 - 3.1.1.3 For CRs that require "FLEET LEARNING" a corrective action is issued to the OE Coordinator with a due date of ≤60 days, unless otherwise directed by CRG or CARB. The OE Coordinator will process in accordance with EN OE-100 as Code "A"-"Evaluation Required A2". When closed the CA will contain the following information (provided by CRG/CARB):
 - Site subject matter expert.
 - Identity of the Responsible Manager that will support the Internal Fleet OE through issuing review actions, performing closure review and determination of aggregate impact to the fleet.



The identified problem is not an Adverse Condition. The condition report may be screened as CAT "D" "Close Reference" the Work Request number and/or Work Order number generated for repair. Additional tracking per this procedure is not required. The identified problem is an Adverse Condition and should be screened as higher than CAT "C" when other significance guidance in this procedure is applicable. Otherwise, it should be screened as Cat "C". However, if completion of the Work Order (WO) is the only action needed, then the CR may be screened as CAT "D" subject to the requirements of Section 5.8[6] of this procedure.

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ATTACHMENT 9.7

TYPICAL NONCONFORMANCE TAG

Sheet 1 of 1

[ANSI N18.7 5.2.14] [ANSI N45.2.4 2.6 S1 S2]

Typical Nonconformance Tag

0	NONCONFORMANCE TAG NONCONFORMANCE TAG ITEM
Noncon	

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ATTACHMENT 9.8			CR INTERIM AND P	ISOER 10-2 REC 11
SHEETTOPT	CR Interin	n and Periodic R	eview	[30EK 10-2 Kec 1]
CR Number				
		Category Lever	_^	
CK Owner Group:				
CR Description:				
CP Paviour (All No.		Innotion has included	4 \	<u></u>
CK Review: (All No	responses require exp	bianation be included	1.)	
1. Will the Interim act	ions taken to date ade	equately address the	issue until all cor	rective actions are
	_/ 140			
2. Will the existing co the condition repor	rrective actions docur t issue? Yes	nentea in the conditi / No	on report, when c	ompleted, correct
3. What is the expect	ed CR Closure date b	ased on remaining r	eeded actions?	DATE
4. Determine if a new		viste that notasticily		vetien of
operability/function	ality? Yes / N	lo /N/A	equires a re-evan	Jation of
If the answer is `	Yes, then initiate a ne	w CR to document t	ne concern; CR #	
5. Are all LI-102 requi justifications for Du approved CAPRs in	irements for corrective le Date Extensions va dentified, and appropr	e action administratio lid, Long Term Corre iate approvals obtai	on and control bein active Actions ider ned for all?	ng met, i.e. ntified, CARB
169/	NU			
6. What activity is "pro	eventing" the condition	n report from being r	esolved and close	∋d?
7. What risk to plant c acceptable level fo	operation is imposed b r the duration of the a	y the condition iden ction plan?	lified and how is ri	sk reduced to an
Review / Approval Re	quired:			
Director/GM Title:			Date [.]	
(Print n	ame & Position title)			
NOTE: The expectation is points applicable must be	to capture the discussion addressed.	points of this form in a (CA. The form itself ne	ed not be used, but all

,

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ATTACHMENT	9.9

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LTCA Classification Form

Long Term CA Classification:

CR Number:

CR Owner Group: _____

CA Number: ______ LTCA Assigned to Group: _____

LTCA Classification (check ONLY one):

RFO/FO/Planned Long System/Component Outage Req'd	Mod/Design Change Req'd
NRC Resp. Req'd	Multi-cycle Training Req'd

Provide specific details for LTCA classification selected above.

What risk to plant operation is imposed by the condition identified and how is risk reduced to an acceptable level for the duration of the action plan?

Explain impact to condition report timeliness.

Review / Approval Required:

Director/GM Title:

_____ Date: _____

LTCA CLASSIFICATION FORM

(Print name & Position title)

NOTE: The expectation is to capture the discussion points of this form in a CA, DDE request or initial CA assignment as appropriate. The form itself need not be used, but all points applicable must be addressed.



Miller, Geoffrey

From:Schaup, WilliamSent:Friday, May 24, 2013 8:22 AMTo:Miller, GeoffreySubject:FW: Requested Information

Geoff

I believe this is the rest of the information you requested. Any questions please call.

Enjoy your week end

From: McMahan, James [<u>mailto:jmcmah1@entergy.com</u>] Sent: Thursday, May 23, 2013 4:14 PM To: Schaup, William Cc: BAUMAN, DAVID N; Gresh, Evan; Marks Jr, Robert Subject: Requested Information

William,

Below is the requested information. Should you need anything else next week while I am gone please contact Evan Gresh 4386 (concerning information below) or Bob Marks 4408.

- 1. Bigge Crane assembly start time (based on installation of pedestal column) 2/28/13 1300
- 2. Finish assembly 3/31/13 0049
- 3. Start time of lift 3/31/13 0639

James M. McMahan Sr Project Manager Arkansas Nuclear One

PRIVILEGED AND CONFIDENTIAL

Attorney/Client Privileged Communication

Attorney Work Product

Prepared at the Direction of Legal Counsel

Baca, Bernadette

From: Sent: To: Subject: Allen, Don Monday, June 17, 2013 10:44 AM Bradley, Dan; Melfi, Jim; Tindell, Brian FW: Region IV Drop In Agenda

This is the licensee's agenda.

From: PYLE, STEPHENIE L [<u>mailto:SPYLE@entergy.com</u>] Sent: Monday, June 17, 2013 8:57 AM To: Allen, Don Subject: Region IV Drop In Agenda

Region IV Drop In Visit June 18, 2013

- Introductions
- Unit 1 Status
- Core Reload
- Restoration (Electrical/Structural)
- New Stator Move
- Plant Restart
- Stator Drop RCE
- AIT
- Site Challenges/Major Mods
- Concurrent NFPA 0805 and Fukushima Mods
- Cask Transfer Facility

Doc 11

Melfi, Jim

From:	Fairbanks, Abin	
Sent:	Wednesday, June 26, 2013 9:05 AM	
То:	Allen, Don; Melfi, Jim; Bradley, Dan; Azua, Ray; Kalyanam, Kaly	
Cc:	Tindell, Brian; Schaup, William; Hatfield, Gloria	
Subject:	ANO Stator Lift Rig Assembly	
Attachments:	IMG_1023.jpg; IMG_1024.jpg	

Pictures resent.

From: Fairbanks, Abin
Sent: Wednesday, June 26, 2013 8:36 AM
To: Allen, Don; Melfi, Jim; Azua, Ray; Bradley, Dan; Kalyanam, Kaly
Cc: Schaup, William; Hatfield, Gloria; Tindell, Brian
Subject: ANO Stator Lift Rig Assembly

The attached pictures show the vertical members (Unit 2 side of the train bay) of the Rigging International stator lift rig. Assembly of the lift rig should be complete Saturday; the stator is expected to be lifted into position on Sunday.

Melfi, Jim

From:	Tindell, Brian
Sent:	Tuesday, July 02, 2013 8:21 AM
То:	Allen, Don
Cc:	Azua, Ray; Melfi, Jim; Bradley, Dan; Fairbanks, Abin; Willoughby, Leonard
Subject:	ANO Outage Risk
Attachments:	signed report.PDF
Follow Up Flag:	Follow up
Flag Status:	Completed
Categories:	Red Category

Don,

This is the overall risk assessment for the rest of the outage. It contains some information on the new stator lift.

المراهبين برابي فستنفذ ومحتبيا فارده برابيته المراجع والمحابيين

I still plan on sending you the individual risk assessment for the stator lift when I receive it.

Thanks, Brian

From: CLARK, ROBERT W [mailto:RCLARK@entergy.com] Sent: Tuesday, July 02, 2013 8:10 AM To: Tindell, Brian; Fairbanks, Abin Cc: PYLE, STEPHENIE L Subject: ORAT Report

Good morning gentlemen. My name is Bob Clark and I work in the ANO Licensing Department. Stephenie informed me last week that you wanted to see a copy of the latest Outage Risk Assessment Team (ORAT) report. Attached is Supplement 2. This addresses the outage schedule up to and through the stator lift. This report was reviewed and approved by the OSRC yesterday and I received the approval signatures this morning. Please let me know if you have any questions regarding this information.

....

Bob Clark X4663

1R24 OUTAGE RISK ASSESSMENT TEAM REPORT, SUPPLEMENT 2

1519

ANO-1 Manager, Outage

Approved by:

Approved by:

Approved by:

ANO Manager, Operations

1 23574

Date

7/2/13

7/2/13

Date

13 2

Date

ANO General Manager, Plant Operations

OLA-2013-00065, CA 4

PRIVILEGED AND CONFIDENTIAL Attorney/Client Privileged Communication Attorney Work Product Prepared at the Direction of Legal Counsel

1R24 Outage Risk Assessment Team Report, Supplement 2

INTRODUCTION

This is Supplement 2 of the ANO-1 1R24 Outage Risk Assessment Team (ORAT) report. The purpose of this revision is to document the review of a portion of the revised schedule that was developed post-stator lift assembly collapse. Supplement 1 addressed the schedule from the beginning of the reload of the core until the fuel transfer canal is scheduled to be drained. This report addresses the schedule from the end of the core reload until the refurbished stator has been lifted into place.

This report supplements Revision 2 of the 1R24 ORAT report (OLA-2013-00059, CA 2) and Supplement 1 (OLA-2013-00065, CA 1).

Two of the original ORAT members that performed the review of this revised schedule are the same ones (Mark Gohman and Bob Clark) that performed the previous reviews of the outage schedule. The other two members (James Keys and Chip Garbe) were not able to attend this review due to vacation. Their positions were filled by Ernest Christian and Don Phillips. Both of the gentlemen meet the requirements of EN-OU-108 and OP-1015.048 for being members of the ORAT.

BACKGROUND

ANO-1 Outage Management provided the schedule to the ORAT to review on June 25, 2013. The team met June 26, 2013, to perform a review of the schedule that was provided. The calendar time shown on the schedule started at June 17, 2013, 0700 with "INSPECT BREAKERS FROM A-2 SWITCHGEAR" to August 4, 2013 at 0146 when "POWER LEVEL CHECKS" are scheduled to be performed after the unit is operating at 100% rated thermal power. This schedule was of sufficient detail to show the relationship among the significant work activities and the availability status of safety systems.

The team limited the scope of the schedule from the beginning as noted above until the schedule showed THE REMOVAL OF THE t-Mod for temporary power to breaker A-309 switchgear A3 (July 8, 2013, 1800). This time period addresses the stator lift and the preparations for returning the electrical system back to its normal configuration only (Shutdown Operations Protection Plan (SOPP) Conditions 2, or 3).

The team believes the schedule beyond this time frame is not firm enough to perform an adequate risk assessment at this time. The ORAT recommends that it reviews the remaining schedule through the restart of the unit when the schedule is stable.

The schedule that was reviewed was of those activities that were denoted with a "Y" (activities that effect risk) in the Primavera RISK-ASSESSMENT-PRG code. Another sort of the outage schedule was provided to the ORAT. This sort was of the activities that were denoted with an "N" (activities that do not affect risk) in the RISK-ASSESSMENT-PRG code. The logic of the schedule was the same as was previously presented in Revisions 1 and 2 of the schedule for the most part. The ORAT did review the schedule sort of activities denoted with an "N".

The EOOS model was not required to be revised for this schedule review. The requirements of the SOPP were confirmed to be met during this time frame. This does not mean risk is at its lowest level. The SOPP provides the minimum set of equipment needed for that particular plant condition's safety function.

For the schedule period reviewed, the only period of elevated risk is during the remaining portion of the core reload and the rigging and lifting of the lift rig and stator. During which time ANO-1 will be in Acceptable Risk.

Attachment 9.1 of EN-OU-108 "Shutdown Safety Management Program (SSMP)" provides qualitative risk guidelines. Based on no protected equipment or trains being under or in the vicinity of the load path, no specific risk mitigation actions are required for the Replacement Stator Lift. As a prudency measure, however, several mitigation actions are planned and are discussed further below in this report. The plant is taking specific risk mitigation actions for the Heavy Load Lift per EN-MA-119, and OP-1005.002. Per the Qualitative Risk Evaluation itself, there is no requirement to elevate the designated risk category. All Key Safety Functions are met (Green or Minimal Risk).

Although all Key Safety Functions meet the "N+1 " philosophy during the replacement stator lift, the evolution is considered a High Risk Evolution (HRE), and per EN-OU-108, this requires the Outage Safety Status to be elevated to a non-Green status. Outage Safety Status will be elevated to "Yellow" or "Acceptable" during the replacement Stator rigging and Lift evolutions.

It should be noted that the EOOS model does not account explicitly for weather. Prior to taking any equipment out of service, the weather conditions should be considered. Typically, there are indications as to the weather conditions for the duration of the maintenance period. If the plant condition is vulnerable to external factors that could increase the risk, a qualitative decision should be made to elevate the risk. If conditions change unexpectedly, then the plant will address this as an emergent issue (the same as would be done during online maintenance) (COPD-024).

Procedure OP-1015.048, "Shutdown Operations Protection Plan", Revision 11 was reviewed by the ORAT and no revisions were identified during the review. No revisions to this procedure had been identified during the outage.

The methodology used in performing this review was the same as the one discussed in Revision 1 of the ORAT report. As a result of this review, comments were made by the team. The comments and their resolutions are provided in Attachment 1.

FUEL MOVEMENT

The schedule that was reviewed starts with the finishing of the core reload (SOPP Condition 3, moving into SOPP Condition 2). A review of OP-1015.048, SOPP Condition 3 for handling of irradiated fuel indicates that all of the required equipment needed for fuel handling to ensure that the defense in depth criteria for this evolution is met is present.

The risk assessment of fuel movement was discussed in Supplement 1 of this report. That assessment has not changed during this time period. This is includes a discussion of the time to boil in the RCS and to reach 200 F in the spent fuel pool.

It should be noted that if the stator lift portion of the schedule is revised to an earlier time and the core reload is still progress, one of the two activities will be paused long enough to complete the other. No fuel movement in either the core or in the spent fuel pool will be allowed while the stator is being lifted and moved into place. This includes any core verification, core alignment checks or potential moves to reconfigure the spent fuel pool into a B.5.b configuration. This requirement is contained in the Operational Impact Statement associated with the stator lift.

The RCS and the fuel transfer canal will remain flooded during this time frame and both Decay Heat Removal Pumps will be in operation. This requirement is contained in the Operational Impact Statement associated with the stator lift.

RCS INVENTORY

The Fuel Transfer Canal will remain flooded >390' during the Replacement Stator Rigging and Lift Evolution. This requirement is contained in the Operational Impact Statement associated with the stator lift.

CONTAINMENT CLOSURE

The risk assessment of containment closure was discussed in Supplement 1 of this report. That assessment has not changed during this time period.

The fuel transfer tube isolation valve (SF-45) will be closed or the tilt pit gate will be installed prior to the lift. This requirement is contained in the Operational Impact Statement associated with the stator lift.

ADDITIONAL COMMENTS

The time period in question addresses the stator lift and what is called the preparation phase of the electrical system recovery plan.

During this review, HREs were identified. They were coded into the schedule. During the review, the HREs were identified and then justified. The lift and moving of the stator and moving of the stator lift system are considered to be HREs.

These are Heavy Load Lifts. Table 3 of Attachment 9.1 of EN-OU-108 provides possible risk mitigation actions. Compensatory risk mitigation actions are contained in EN-MA-119, Material Handling Program. These lifts will be addressed in IPTE briefs and will contain compensatory measures to limit risk.

Some of the contingencies that Operations is performing include:

• Requirement to ensure hydrogen isolated to the train bay at locations far away from the train bay prior to lift. Requirement to isolate firewater to the train bay.

- NO personnel in the control room extension during lift (upstairs or downstairs).
- For Unit 2 only, an extra RO and SRO stationed in at least Control Room during lift.
- Communicators in the control rooms.
- Alternate shutdown contingencies taken for Unit 2 prior to restricting access to control room via normal path (equipment removed from extension and in possession of watchstanders).
- Only personnel involved with lift on 386 elevation of Unit 2 Turbine Deck with watches / postings at entrances to turbine deck due to the potential impact to an 1800 rpm turbine (flying debris/shrapnel).
- Unit 2 crew review SPTA's and LOOP prior to stator lift.
- Lift to not occur during shift change. Specific permission to perform lift obtained from both Unit 1 and Unit 2 Shift Managers immediately prior to lift. If delays are encountered that would stretch lift across turnover time of the Operations crew or rigging crew, the lift will be delayed until adequate time is obtained to perform lift.

OFFSITE POWER

SU 1 is currently out of service. The ORAT reviewed the aspect of SU 1 being out of service in detail and concluded there is no additional risk based on SU 1 being out of service. The cabling from SU 2 does not run through or under the travel path of the stator and both diesel generators are available if needed.

SPENT FUEL POOL COOLING

It was identified that during the stator drop event that ANO-1 lost Instrument Air due to damaged air lines. While the lines that were damaged have not been restored yet, a crosstie header between Unit 1 and Unit 2 exists in the northern portion of the Trainbay that was not impacted during the stator drop, but was in close proximity. Loss of Instrument Air on Unit 1 will result in the loss of (jre1) remote indication of Spent Fuel Pool Level in the Control Room, and closure of ICW cross-tie valves that may impact ICW cooling to the Spent Fuel Coolers. To address these potential issues, local monitoring of the SFP level will always be possible, and the Control Room will be briefed on ICW pump manipulations if necessary to ensure adequate ICW flow is provided to the Spent Fuel Coolers.

Loss of Instrument Air on Unit 2 would ultimately result in a Plant Shutdown. Unit 2 has multiple means of isolating Instrument Air from Unit 1 including local and remote isolation capability that are not in proximity of the stator lift area.

The ORAT has reviewed the restraints listed in PCRS. Current there are no restraints associated with the evaluated time period.

The ORAT has reviewed the resolution to the issues identified during this review.
The team concludes the schedule that was presented to it has been optimized to reduce risk and provides for a safe outage

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ATTACHMENT 1

1R24 ISSUES REQUIRING RESOLUTION

(OLA-2013-00065, CA 3)

1. The stator lift as shown in the schedule does not match up with the summary provided by Project Management. The summary discussion has the lift being performed early compared to the schedule.

The schedule has been revised.

2. The sequence of activities associated with the stator lift appeared to be out of order.

The schedule has been revised.

3. Provide a hard tie in the schedule to prevent the preparation phase of the recovery efforts associated with the electrical distribution system from being performed in parallel with the stator lift.

Activity 30768, Set Generator on Foundation, has been tied as a predecessor to activity A1150, De-energize A-3.

Activities A2190, A2200 and A2210 have been tied as successors to setting the generator stator.

Doc 19

Melfi, Jim

From:	Tindell, Brian
Sent:	Tuesday, July 02, 2013 10:50 AM
То:	Allen, Don
Cc:	Fairbanks, Abin; Azua, Ray; Bradley, Dan; Melfi, Jim; Willoughby, Leonard
Subject:	ANO Stator Risk Assessment Part 2
Attachments:	Operational Impact.doc

Don,

FYI – this is the other piece of the risk assessment. We are taking a risk assessment baseline inspection sample for this.

Thanks, Brian

From: CLARK, ROBERT W [mailto:RCLARK@entergy.com] Sent: Tuesday, July 02, 2013 10:45 AM To: Tindell, Brian Cc: PYLE, STEPHENIE L Subject: Requested Information

I believe this is what you requested. I would like to note that it is signed and what you pull up with the Work Order. The Work Order itself is not "ready", so it could change depending on the review of it at the Critical Evolution Meeting today. Operations has told me that if they make any changes to the document that they will provide you with a copy of the revised document. Please let me know if this is not what you were looking for and I will continue my search.

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Bob Clark X 4663

ENLYNA 105 AHERE 100

	EN-WM-105 Attachment 9.3
"Dous	ble Glick to Populate Impact"
	OPERATIONAL IMPACT
Technical Specifications	
YES 🗌 NO	\boxtimes
Is there a reactivity impact?	
	A should the lift evotor feilt up to and including By trip
Potential reactivity impact to Unit 2	should the lift system fail; up to and including RX trip.
Potential System/Component	Effects?
YES 🖂 NO	
This impact statement covers the la supports) and the stator lift and pla Potential damage to both units non construction and lift.	ast stage of crane construction (placing the runway and trolley on the acement. wital switchgear should the lift system fail at any point during
Actual or Potential Contingen	cv Measures Required?
See risk assessment below.	
Is there a potential for a loss of	of offsite power?:
YES 🕅 NO	
Potential damage to both units non power sources. Unit 1 is not as vul transformer yard.	vital switchgear should the lift system fail. This could include offsite Inerable since power is being supplied by the temporary switchgear in the
Is power reduction required?	
YES 🗌 NO	\boxtimes
Infrequently Performed Tests	or Evolutions? (IPTE) (EN-OP-116)
YES NO	prior to the stator lift. Contact RCC for date and time.
Risk Model Affected? List C	omponents
YES NO See risk assessment below.	
STATOR LIFT RISK AS	SESSMENT

THIS TASK IS RELATED TO THE USE OF A MOBILE CRANE. Completed on 11/22/2013

EN-WM-105 Attachment 9.3

COPD-024 Attachment 9 Should be used to determine potential risk for crane activity which could impact Q/F/S equipment/structures.

If a mobile crane is required to assist in staging material then verify risk assessment has been performed. If an extend a boom lift is required in the Train Bay to assist in staging material then verify risk assessment has been performed.

MOBILE CRANE USED FOR:

Stator lift from the train bay and placement on the Unit 1 turbine deck. This assessment includes setting / removal of the runway and trolley system of the crane on the turbine deck.

Information

- If crane use will be in the switchyard or transformer yard, refer to additional requirements in 1015.033 (Switchyard Controls) and EN IS 123 (Electrical Safety).
- If crane use will be under high voltage lines, refer to additional requirements in EN IS 123 (Electrical Safety).
- Crane risk assessments must be evaluated for crane movement near risk significant components in addition to when the crane is actively involved in lifting loads (this includes setting counter weights, crane load cell testing, etc.).
- Crane boom radius is the distance the boom is expected to travel during the course of the crane activity. For example, if the crane has a boom that can extend to 50 ft, but will only be extended 25 ft for the lift, then the distance assumed in the risk assessment would be 25 ft.
- Mobile Crane Risk Assessments are applicable in ALL modes.
- EOOS risk assessments are performed to determine potential risk if the crane were to damage plant equipment. This information is used to determine restrictions on crane use. Plant equipment is not made unavailable by crane use unless it is actually damaged.
- If no Q/F/S equipment/structures could be impacted, then crane use may be authorized and only page 2 performed.
- Consider the consequences on plant/switchyard equipment when moving heavy equipment not only reaches the intended destination.
- The use of Genie Manlifts and bucket trucks for personnel access only does not require a mobile crane risk assessment. The use of other types of vehicles will require mobile crane risk assessments until determined otherwise.

Risk Assessment

- 1.0 Refer to Attachment 2 Table 9 for performing risk assessment for crane use.
- 2.0 Based on assessment performed, list any limitations on crane use and document these limitations on page 2 of this attachment.

ATTACHMENT 9 Page 2 of 2 MOBILE CRANE RISK ASSESSMENT

Instructions (only perform if crane usage allowed)

- Notify affected unit Shift Manager of proposed crane activity and limitations.
- If dual unit impact, such as SU#2 or Fire Water for Unit 1 intake structure, ensure both control rooms are notified.
- Ensure crane operator has a copy of this page.

EN-WM-105 Attachment 9.3

- If crane operation will commence within 24 hours, then communicate completion of risk assessment to SM.
- Contact name and contact number of responsible person for crane use:
- Records retention is not required.

Risk Assessment Performed by:Mike Fields / Steve Wolfe7-01-13/1200(Signature)(Date/Time)

Crane Operator Instructions and additional Unit 1 and 2 items;

Crane Location: Crane location will be on the turbine deck spanning the train bay.

Unit 1:

- Crane erection on the turbine deck poses no additional risk to unit one other than potential equipment damage should a heavy component fall.
- Prior to lifting the stator, all unit 1 emergency diesels must be operable and Startup #2 must be operable.
- Temporary switch gear supplying A3 and A4 as well as other auxiliaries via Startup #1 or Startup #2 transformers during stator lift.
- Unit 1Control Room access will be via the north Unit 2 control room door or the South Unit 1 Control Room door depending on danger flagging while the large cross beams are being lifted into place and during stator lift and set. This requirement may be modified with Unit 1 /2 shift manager permission.
- All unnecessary personnel on elevation 386' and below on the north and south sides of the train bay shall remain clear of the areas during the stator lift and cross beam (runway) placement.
- Outage Risk will be elevated to Yellow or will be as dictated by the ORAT during stator lift.
- The RCS and the Fuel Transfer Canal will remain flooded >390' during stator lift.
- Both DH Removal Pumps will remain in Operation during stator lift.
- Both SFP Cooling Trains will remain in Operation including two ICW pumps in service during stator lift.
- The Fuel Transfer Tube Isolation valve (SF-45) will be closed or the tilt pit gate installed prior to the lift.
- No Fuel Movement in either the core or in the spent fuel pool while the stator is being lifted and moved into place. This includes any core verification, core alignment checks or potential moves to reconfigure the Spent Fuel Pool into a B.5.b configuration.

Unit 2:

- Prior to lifting and setting the long cross beams and during the stator lift, Unit 2 will be in Yellow Acceptable risk PSI 9.3 both the swyd slider bar (Offsite power availability COPD-024 table 5) and Rx trip bar (Heavy load COPD-024 table 9) slider bars slide to high risk
- No other trip initiator / event mitigator maintenance activities should be performed while the cross beams are set and during stator lift and set.
- All unnecessary personnel on elevation 386' and below on the north and south sides of the train bay shall remain clear of the areas during cross beam placement and stator lift.

EN-WM-105 Attachment 9.3

- Prior to lifting the stator, all unit 2 emergency diesels must be operable and Startup #2/3 must be operable.
- The AAC diesel generator must be operable prior to stator lift as well.
- Unit 2 Control Room access will be via the north Unit 2 control room door while the large cross beams are being lifted into place and during stator lift and set. This requirement may be modified with Unit 1 /2 shift manager permission.
- Disable turbine high vibration trip prior to setting large cross beams on the turbine deck.
- Alternate shutdown contingencies taken for Unit 2 prior to restricting access to control room via normal path (equipment removed from extension and in possession of watchstanders).
- Both 2P-40A/B Spent Fuel Cooling Pumps will be in service. (Time to boil as of 6/28/13 is approximately 24 hours; Initial SFP temp = 117.5 degrees).
- Unit 2 crew review SPTA's and LOOP prior to stator lift.

Common Unit Items:

- Hydrogen isolated to the train bay at the hydrogen house during the lift.
- Firewater in the train bay isolated.
- NO personnel in the control room extension during lift (upstairs or downstairs).
- Extra RO and SRO stationed in at least U2 Control Room during lift.
- Communicators in the control rooms during the lift.
- An Assistant Operations Manager in the Control Room envelope.
- Only personnel involved with lift on 386 elevation of Unit 2 Turbine Deck with watches / postings at entrances to turbine deck due to the potential impact to an 1800 rpm turbine (flying debris/shrapnel).
- Lift to not occur during shift change. Specific permission to perform lift obtained from both Unit 1 and Unit 2 Shift Managers immediately prior to lift. If delays are encountered that would stretch lift across turnover time of the Operations crew or rigging crew, the lift will be delayed until adequate time is obtained to perform lift.
- No discretionary Switchyard Maintenance will be allowed.
- Abide by the risk assessment limitations below (otherwise, N/A):
- The crane operator will operate the crane in accordance with approved procedures.
- When mobile cranes are not in use they should be parked in their designated parking area north of the Central Support Building (CSB).
- A spotter with an orange vest should be used when moving mobile cranes inside the Protected Area.
- When the crane is not attended, then the crane boom shall be secured in the cradle. Locate the boom and hook to avoid inadvertent contact with other equipment that may drive by the crane.
- Mobile Crane keys are issued from the Control Room.
- When Mobile Crane scope of work which was authorized by the Shift Manager is complete return the key back to the Control Room.
- Additional requirements can be found in EN MA 119, Material Handling Program.

Doc 20

Melfi, Jim

From:Tindell, BrianSent:Wednesday, July 03, 2013 8:10 AMTo:Willoughby, Leonard; Melfi, Jim; Bradley, Dan; Azua, Ray; Fairbanks, AbinSubject:FW: ANO Stator LiftAttachments:contingencies.docx

FYI

From: CLARK, ROBERT W [mailto:RCLARK@entergy.com] Sent: Wednesday, July 03, 2013 7:54 AM To: Tindell, Brian; Allen, Don Cc: JAMES, DALE E; PYLE, STEPHENIE L Subject: ANO Stator Lift

Good morning gentlemen.

Attached is a list of the prerequisites, contingencies, and other actions needed to support the stator lift. This consolidated list was developed pulled this from the Outage Risk Assessment Team (ORAT) report, the Engineering Change associated with the stator lift and the Operational Impact Statement. If you have any questions concerning this information, please let me know.

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Bob Clark 479 858 4663

> PRIVILEGED AND CONFIDENTIAL Attorney/Client Privileged Communication Attorney Work Product Prepared at the Direction of Legal Counsel

PREREQUISITES/PRECAUTIONS/CONTINGENCIES:

The following activities have been identified as recommended actions to be completed prior to lifting the stator from the transporter in the Unit 1 Turbine Building train bay. These requirements also apply to activities associated with lifting and placing the runway girder/trolley assembly.

PREREQUISITES/PRECAUTIONS/CONTINGENCIES	TRACKING TOOL
Verify with Operations that required powers sources are available / operable.	
Verify that firewater to the train bay is isolated	
Verify the hydrogen system is isolated at the hydrogen house as required by Operations	
Verify that Operations has stationed operators outside the Control Room as needed	
Conduct IPTE brief in accordance with EN-OP-116 prior to any work activities	
Coordinate with Unit 1 and Unit 2 Operations prior to any lifts to ensure Operations compensatory measures are in place	
Before the stator is lifted, advise the Unit 2 Control Room to consider disabling the Turbine Supervisory Instrumentation (TSI) to prevent turbine trip in the unlikely event that the lifting evolution creates vibration	
Prior to use, verify rigging system equipment meets the requirements EN-MA-119-01	
Establish personnel access controls in the lift area. As a minimum, the boundaries should be established in the area east of column line 6, north of Unit 1 Turbine Building column line F, and south of Unit 2 Turbine Building column line B2 for all elevations including the Control Room Extension Facility. Prior to any lifting, all personnel who are not required to support the rigging activities shall be removed from these areas. Walkways just east of column line 6 may be established for access to CA-1, CA-2, Control Rooms, etc. These requirements also apply while lifting and placing the runway girder/trolley assembly. The "bowling alley" may remain open	
Ensure Entergy review and approval of Sarens lifting procedures is completed prior to use	
Notify Unit 1 and Unit 2 Control Rooms	

Verify that no movement activated fuel is in progress or planned for the duration of the lift	
Conduct a pre-job brief for all personnel necessary to start work	
Verify all necessary equipment is properly staged and is ready for use	
Verify stator is in correct position and orientation in the train bay	
Verify there are no high wind conditions forecast for the scheduled lifting operation. If sustained winds are forecast to exceed 20 mph, consult project Design Engineering for additional guidance. Conducting lifts with winds in excess of 20 mph in the train bay is expressly prohibited by this EC	
Verify good housekeeping practices are in place prior to lifting operations	
Verify Entergy has approved all changes (if any) to equipment and rigging plan	
Stage/issue fall protection as needed to support lifting operations	
Verify that all aspects of the lift meet or exceed the applicable requirements provided in EN-MA-119	
The Fuel Transfer Canal will remain flooded >390' during the Replacement Stator Rigging and Lift Evolution.	
The fuel transfer tube isolation valve (SF-45) will be closed or the tilt pit gate will be installed prior to the lift.	
Prior to lifting the stator, all unit 1 and unit 2 emergency diesels must be operable and Startup #2 must be operable	
Temporary switch gear supplying A3 and A4 as well as other auxiliaries via Startup #1 or Startup #2 transformers during stator lift.	
Unit 1 Control Room access will be via the north Unit 2 control room door or the South Unit 1 Control Room door depending on danger flagging while the large cross beams are being lifted into place and during stator lift and set. This requirement may be modified with Unit 1 /2 shift manager permission.	
Unit 2 Control Room access will be via the north Unit 2 control room door while the large cross beams are being lifted into place and during stator lift and set. This requirement may be modified with Unit 1 /2 shift manager permission	

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All unnecessary personnel on elevation 386' and below on the north and south sides of the train bay shall remain clear of the areas during the stator lift and cross beam (runway) placement	
Both DH Removal Pumps will remain in Operation during stator lift	
Both SFP Cooling Trains will remain in Operation including two ICW pumps in service during stator lift.	
Unit 2 only - No other trip initiator / event mitigator maintenance activities should be performed while the cross beams are set and during stator lift and set.	
The AAC diesel generator must be operable prior to stator lift as well	
Alternate shutdown contingencies taken for Unit 2 prior to restricting access to control room via normal path (equipment removed from extension and in possession of watchstanders).	
Both 2P-40A/B Spent Fuel Cooling Pumps will be in service	
Unit 2 crew review SPTA's and LOOP prior to stator lift	
NO personnel in the control room extension during lift (upstairs or downstairs).	
Extra RO and SRO stationed in at least U2 Control Room during lift	
Communicators in the control rooms during the lift	
An Assistant Operations Manager in the Control Room envelope	
Lift to not occur during shift change. Specific permission to perform lift obtained from both Unit 1 and Unit 2 Shift Managers immediately prior to lift. If delays are encountered that would stretch lift across turnover time of the Operations crew or rigging crew, the lift will be delayed until adequate time is obtained to perform lift.	
No discretionary Switchyard Maintenance will be allowed	

The following instructions apply during lifting operation of the stator from the transporter in the Unit 1 Turbine Building train bay.

PREREQUISITES/PRECAUTIONS/CONTINGENCIES	DOCUMENTED COMPLETE
Movement the stator is only permitted in one direction. I.e., raising/lowering, sliding trolley, side-shifting, and rotating the stator shall not be performed simultaneously. Only one movement activity may be performed at any given time during lifting operations.	-
Horseshoe shims shall be installed and removed on the main trolley lifting jacks during raising and lowering operations. The maximum permitted gap between the bottom of the yoke and top of the shims is 2"	
When the stator is first lifted, conduct a 5 minute hold to verify all rigging is in good order	
Sufficient spotters shall be positioned to identify any potential impacts with the nearby SSCs	
Prior to and immediately after lifting of the stator (during the 5-minute hold period) from the KAMAG SPMT, surveys shall be done to make sure that the displacements at both ends of the top of the long-bent column girders are less than that were measured during the load test. This will verify plumbness and levelness of the long bent columns and girder and that there are no anomalies at the start of the lift	

The following instructions apply to activities associated with installing and removing the runway girder/trolley assembly.

PREREQUISITES/PRECAUTIONS/CONTINGENCIES	DOCUMENTED COMPLETE
Movement the runway girder/trolley assembly is only permitted in one direction. I.e., raising/lowering or traveling the runway girder/trolley assembly shall not be performed simultaneously. Only one movement activity may be performed at any given time during lifting operations	
When the runway girder/trolley assembly is first lifted, conduct a 5 minute hold to verify all rigging is in good order	

Sufficient spotters shall be positioned to identify any potential impacts with the nearby		
SSCs		

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Doc 21

Melfi, Jim

From:	Melfi, Jim
Sent:	Wednesday, July 03, 2013 8:58 AM
To:	Azua, Ray; Bradley, Dan; Allen, Don; Tindell, Brian
Cc:	Melfi, Jim; Fairbanks, Abin; Young, Matt
Subject:	ANO Status 7/3/2013

ANO Unit 1 : Mode: 6/ Risk: Green Solf Condition 2

TS Action Statements: N/A

Events/conditions of interest SFP Temp 97 F; TT 200F – 29.1 hours; RCS Temp 94F; TTB 19.4 hours RCS Level 400 Feet.

Day 101 of the outage. Green Train Protected. Both SFP trains inservice. A3 is de-energized for a cable pull, which means 1 DHR pump (P34A) out. Switchgear Recovery efforts ongoing. S/U 1 work.

ANO Unit 2 Mode: 1 / 100% Power Risk: Green 10.0

TS Action Statements: No short term LCOs

Planned Maintenance and Surveillances.

Condition(s) of interest:

Stator move date slipped a little. Licensee believes that stator lift will be on Saturday (Maybe). Because of NRC concerns the alternate shutdown capability, they have a continuous firewatch established in the Control Room until further notice. Doc

ATTACHMENT 9.6 TEST PROCEDURE COVER SHEET
Sheet 1 of 1

TEST COVER SHEET			
TEST TYPE: 🛛 ECT Procedure 🔲 ECT WO 🗌 STI Procedure Page 1 of 17			
TEST #: 44312-01 REV. #: 0 Quality Class: Q R NQR TEST TITLE: A-1 Functional Dead-Bus Testing, Miscellaneous Controls			
REVIEW (Print/Sign/Date) Test Engineer (TE): Susan Mitchell / Strown W Tetul 17/3/13			
Technical Reviewer: Alan Smith / UCCM (JMUC / 1/3/1)			
CROSS-DISCIPLINE REVIEW Kann Medical Operations Department: KTu-Nlull / 7/4/13 Mark Stans Organization Maintenance Maintenance Organization Organization Organization Organization			
ADDITIONAL STI (ONLY) PROCEDURE REQUIREMENTS NIA EN-LI-100 Review: Attached Other 10CFR50.59 Evaluation: Not Required Attached Other 0SRC Approval Not Required Mtg No. Date: Chairman:			
APPROVAL (Print/Sign/Date) DAVIDN, MCKEANTRY (a) ///////////////////////////////////			
TEST COMPLETION REVIEW / ACCEPTANCE Summary of Test Results:			
Responsible Engineer (RE)*:/			
Test Engineer (TE):/			
Technical Reviewer/			
TE Supervisor: //			

*If required for confirmation of assumptions made in the development of the EC.

Note: Signatures may be obtained via electronic processes (e.g., AS)

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1.0 <u>Objectives</u>

- 1.1 This ECT provides functional testing of Switchgear A-1, miscellaneous controls associated with breakers A-102 through A-110 and A-114 through A-116. Testing is being performed as a result of reconstruction due to damage which occurred during the ANO-1 Stator Drop Event.
- 1.2 Testing performed per this ECT will be done with **BUS A-1 AND BUS A-2 DE-**ENERGIZED.
- 1.3 This testing does not include system or performance testing of the loads supplied by A-1.

2.0 <u>References</u>

2.1	EC-44312,	A-1 SWITCHGEAR CHILD EC, STATOR RECONSTRUCTION
2.2	EN-DC-117,	Post Modification Testing and Special Instructions
2.3	E-4 Sh. 1,	Single Line Meter & Relay Diagram, 4160 Volt System, Main Supply
2.4	E-76 Sh. 1,	Schematic Diagram, Typical Circuit Breaker 6900V & 4160V Switchgear
2.5	E-79 Sh. 2,	Schematic Diagram, Typical Internal Wiring Diagram, Load Center Trans. Fdr. Protection
2.6	E-93 Sh. 2,	Schematic Diagram, Switchgear Bus Lockout and Undervoltage Relays
2.7	E-104 Sh. 2	Schematic Diagram Load Center Transformer X14 Feeder A-104
2.8	E-304 Sh. 1,	Schematic Diagram, Heater Drain Pumps
2.9	E-306 Sh. 2,	Schematic Diagram, Condensate Pump P2B
2.10	E-386 Sh. 1,	Schematic Diagram, Sodium Bromide/Sodium Hypochlorite, Control Panel C165
2.11	E-505 Sh. 2,	Connection Diagram, 4160 Volt Switchgear (Non-ES), Units A108 through A104
2.12	E-505 Sh. 4,	Connection Diagram, 4160 Volt Switchgear (Non-ES), Units A201 through A205
2.13	E-507 Sh. 7,	Connection Diagram, Load Center B14, Transformer X14
2.14	E-531 Sh. 42,	Connection Diagram, Terminal Boxes
2.15	E-560 Sh. 1,	Connection Diagram, Main Control Panel C20, Plant Protective Relay & Gen Recorder BDS
2.16	E-572 Sh. 5,	Connection Diagram, Control Panel C30
2.17	E-582 Sh. 1,	Connection Diagram, Control Panel C165
2.18	M-201-110	Wiring Diagram for Balance of Plant Relay Control Panel C30
2.19	VP E-8-AC-83 Sh. 2,	Metalclad Switchgear Connection Diagram (Unit A104)
2.20	VP E-8-AC-89,	Metalclad Switchgear Connection Diagram (Units A204, A205, A206, A207, A208)
2.21	VP E-8-AC-94,	Metalclad Switchgear Interconnection Diagram (Units A110, A109, A108 & A107)

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2.22	VP E-8-AC-95,	Metalclad Switchgear Interconnection Diagram (Units A106, A105, A104 & A103)
2.23	VP E-8-AC-98,	Metalclad Switchgear Interconnection Diagram (Units A205, A206, A207 & A208)
2.24	VP E-8-AC-161,	Metalclad Switchgear Connection Diagram (Units A105, A106, A107, A108, A114)
2.25	VP 223955 Sh. 1,	Dwg. Notes-New Chiller Load Center B14
2.26	VP 223955 Sh. 2,	XFMR Dimensions- New Chiller Load Center B14
2.27	VP M-47-68 Sh. 2,	Internal Wiring Diagram, Control Panel C165
2.28	WO 354186.	A-1 Miscellaneous Controls, Dead Bus Functional Testing

3.0 <u>Test Equipment</u>

- 3.1 Multi-meter
- 3.2 Temporary test jumpers with switch and configured for attachment so that terminals do not need to be disturbed to insert jumper.
- 3.3 Wrench for manual operation of the STA switch.

4.0 Precautions and Limitations

- 4.1 Circuit Breakers associated with this testing have high levels of potential energy. Exercise caution when working in the area if equipment is energized.
- 4.2 All testing shall be done with the A-1 and A-2 buses DE-ENERGIZED.
- 4.3 Test steps shall be performed in order unless authorized by the Test Engineer and the sequence change documented in the Test Log.
- 4.4 Any leads lifted or jumpers installed shall be controlled using a Lifted Lead and Jumper Sheet.
- 4.5 All M&TE equipment used during testing shall be recorded in section 10.0.
- 4.6 All personnel performing test steps in this ECT shall complete the appropriate sections of the Signature Identification Log in section 12.0.
- 4.7 The Test Engineer or designee shall maintain the Test Log in Section 12.0 per the requirements of EN-DC-117, Section 5.2 [11](b).
- 4.8 All test discrepancies shall be documented in the Test Deficiency Log in Section 12.0, including evaluation and resolution of each discrepancy.
- 4.9 The Test Engineer shall provide a post-test summary, including evaluation of test results, in Section 11.0.

5.0 <u>Prerequisites</u>

- 5.1 Verify that affected A-1 connection diagrams have been yellow-lined or as-built as required.
- 5.2 Verify A-1 switchgear inspection complete satisfactory IAW OP-1416.001 and PMs are current.

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- 5.3 Verify that the Implementing Field Supervisor has signed the Return to Service Forms and verified A-1 is ready for testing.
- 5.4 Verify that the A-1 Testing Work Order Task for this test has been authorized.
- 5.5 Perform a Pre-test Brief per EN-DC-117, Attachment 9.12, Pre-Test Briefing Guidelines.
- 5.6 Verify A-1 is available and has control power available.
- 5.7 Verify A-205 is available for handswitch manipulation.
- 5.8 Ensure that test personnel are on the appropriate Clearances as required.

6.0 Instrumentation

6.1 No instrumentation is required.

7.0 <u>Test Instructions</u>

- 7.1 Cable A104E2, Load Center X14 Protection (E-79-2)
 - 7.1.1 Verify 4160 V Fused Disconnect Switch S-14 is tagged OPEN.
 - 7.1.2 Verify B14 supply breaker to B87 Tagged Open.
 - 7.1.3 Cable A104E2, wires 2P and 9.
 - 7.1.3.1 Verify DC control power, 4160 Volt Switchgear A1 (D11-03) available.
 - 7.1.3.2 Verify A-104 DC Control Power Breaker (BA) located inside A-104 Cabinet CLOSED.
 - 7.1.3.3 Verify fuses UB, UC, UR, UT located inside A-104 Cabinet ON.
 - 7.1.3.4 Verify Breaker A-104 is RACKED UP or in the test position.
 - 7.1.3.5 Close Breaker A-104 using local control switch.
 - 7.1.3.6 Manually actuate the 51G/B14 (neutral ground) relay located in B14. Reference VP 223955 sh. 1 & 2.

7.1.3.6.1 Check A-104 breaker trips.

7.1.3.6.2 Check 51G/B14 relay target operates.

- 7.1.3.7 Reset the relay target indicator.
- 7.1.4 Cable A104E2, wires 11 and 12 (E-79-2).
 - 7.1.4.1 Verify Breaker A-104 is RACKED DOWN.
 - 7.1.4.2 OPEN A-104 DC Control Power Breaker (BA) located inside A-104 Cabinet.
 - 7.1.4.3 In A-104, lift the internal wire landed at TB BB terminal 12, opposite cable A104E2 Green wire. Reference E-8-AC-83 & E-505 sh. 2.

- 7.1.4.3.1 In A-104, verify continuity on the internal side of TB BB through terminals 11 and 12.
- 7.1.4.4 At B14, Unit A, lift internal wire 12 at TB TC, opposite cable A104E2 Green wire. Reference E-507-7.
 - 7.1.4.4.1 In A-104, verify no continuity on the internal side of TB BB through terminals 11 and 12.
- 7.1.4.5 At B14, re-term wire 12 at TB TC.
 - 7.1.4.5.1 In A-104, verify continuity on the internal side of TB BB through terminals 11 and 12.
- 7.1.4.6 At B14, install jumper with momentary test switch from TB TB wire #10 to TB TC wire #11 on terminal 5 opposite cable A104E2 Red wire.
 Reference E-507 sh. 7.

7.1.4.6.1 CLOSE A-104 DC breaker BA

NOTE

Do Not hold the test jumper closed longer than 3 seconds to prevent possible damage to the lockout relay coil.

7.1.4.6.2 Momentarily close test jumper switch in B14.

7.1.4.6.2.1 Check lockout relay 86FP on A-104 trips.

7.1.4.6.3 Reset lockout relay 86FP

- 7.1.4.7 OPEN A-104 DC breaker BA.
- 7.1.4.8 Remove jumper with momentary test switch from B14.
- 7.1.4.9 In A-104, re-term wire at TB BB terminal 12.
- 7.1.4.10 In A-104 CLOSE DC breaker BA unless otherwise directed by U1 Operations.
- 7.2 Cable A105M wires 18 and 20 and cable A105N wires 17 and 20, P2A Auto Start Aux Relays.(E-306-1)

NOTE

GE HGA11 control relay CR-A105 in C30 will require its plastic cover be removed to visually check whether the relay is picked up or not picked up. Reference V/P M-201-101 and M-201-110 for location of relay.

- 7.2.1 If relays CR-A105 or CR-A106 in C30 have plastic covers installed, then remove covers.
- 7.2.2 Verify A-105 breaker RACKED DOWN.

- 7.2.3 Verify A-105 DC control power breaker BA CLOSED
- 7.2.4 Verify fuses UB, UC, UR, UT located inside A-105 Cabinet in the ON position.
- 7.2.5 Verify A-106 breaker RACKED DOWN.
- 7.2.6 Verify A-106 DC control power Breaker BA OPEN.
- 7.2.7 Verify A-205 is RACKED DOWN.
- 7.2.8 Verify A-205 DC control power Breaker BA OPEN.
- 7.2.9 Verify P-8A Heater Drain Pump (A-107) handswitch HS-2808 on C12 in Normal-After-Stop or Pull-To-Lock position.
- 7.2.10 Verify P-8B Heater Drain Pump (A-207) handswitch HS-2810 on C12 in Normal-After-Stop or Pull-To-Lock position.
- 7.2.11 Take P-2A handswitch HS-2886 on C02 to STOP and release.
- 7.2.12 Take P-2B handswitch HS-2893 on CO2 to STOP and release.
- 7.2.13 Take P-2C handswitch HS-2897 on C02 to STOP and release.
 - 7.2.13.1 Visually check relay CR-A105 in C30 Pan O not picked up. Reference M201-110.
- 7.2.14 Take P-2B handswitch HS-2893 on CO2 to START and release.

7.2.14.1 Visually check relay CR-A105 in C30 Pan O picked up.

7.2.15 Take P-2B handswitch HS-2893 on C02 to STOP and release.

7.2.15.1 Visually check relay CR-A105 in C30 Pan O not picked up.

7.2.16 Take P-2C handswitch HS-2897 on C02 to START and release.

7.2.16.1 Visually check relay CR-A105 in C30 Pan O picked up.

7.2.17 Take P-2C handswitch HS-2897 on C02 to STOP and release.

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7.2.17.1 Visually check relay CR-A105 in C30 Pan O not picked up.

7.3 Cable A106M wires 17 and 20 and cable A106N wires 18 and 20, P2C Auto Start Aux Relays. (E-306-3)

NOTE

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GE HGA11 control relay CR-A106 in C30 will require its plastic cover be removed to visually check whether the relay is picked up or not picked up. Reference V/P M-201-101 and M-201-110 for location of relay.

- 7.3.1 Verify A-105 breaker RACKED DOWN.
- 7.3.2 Verify A-105 DC control power Breaker BA OPEN.
- 7.3.3 Verify A-106 breaker RACKED DOWN.
- 7.3.4 Verify A-106 DC control power breaker BA CLOSED
- 7.3.5 Verify fuses UB, UC, UR, UT located inside A-106 Cabinet in the ON position.

- 7.3.6 Verify A-205 breaker RACKED DOWN.
- 7.3.7 Verify A-205 DC control power Breaker BA OPEN.
- 7.3.8 Verify P-8A Heater Drain Pump (A-107) handswitch HS-2808 on C12 in Normal-After-Stop or Pull-To-Lock position.
- 7.3.9 Verify P-8B Heater Drain Pump (A-207) handswitch HS-2810 on C12 in Normal-After-Stop or Pull-To-Lock position.
- 7.3.10 Take P-2A handswitch HS-2886 on C02 to STOP and release.
- 7.3.11 Take P-2B handswitch HS-2893 on C02 to STOP and release.
- 7.3.12 Take P-2C handswitch HS-2897 on C02 to STOP and release.
 - 7.3.12.1 Visually check relay CR-A106 in C30 Pan O not picked up. Reference M201-110.
- 7.3.13 Take P-2A handswitch HS-2886 on C02 to START and release.
 - 7.3.13.1 Visually check relay CR-A106 in C30 Pan O picked up.
- 7.3.14 Take P-2A handswitch HS-2886 on C02 to STOP and release.

7.3.14.1 Visually check relay CR-A106 in C30 Pan O not picked up.

7.3.15 Take P-2B handswitch HS-2893 on C02 to START and release.

7.3.15.1 Visually check relay CR-A106 in C30 Pan O picked up.

7.3.16 Take P-2B handswitch HS-2893 on C02 to STOP and release.

7.3.16.1 Visually check relay CR-A106 in C30 Pan O not picked up.

- 7.3.17 If covers for relays CR-A105 or CR-A106 were removed for this test, then reinstall covers.
- 7.4 Cable A107D wires 29, 31, 2P, and 21 and cable A107K wires 2P and 29, Heater Drain Pump P8A Start and Stop (E-304-1)

NOTE

Test Switch TS-286T-1 is the last two test switches (switches 9 and 10) of TS-186-ST1-1.

- 7.4.1 Verify Test Switch TS-186-ST1-1 (TS-286T-1), SW #9 at Control Room panel C20 is in the OPEN position.
- 7.4.2 Verify Test Switch TS1-111, SW D in A-111 is in the OPEN position. (E-93-2)
- 7.4.3 Verify A-107 Local/Remote Handswitch in LOCAL.
- . 7.4.4 Verify A-107 DC control power Breaker (BA) OPEN.
- 7.4.5 Remove bulb from RED ON indicating light for local control at A-107 cubicle.
- 7.4.6 In terminal box TB1089 (Reference E-531 sh. 42):
 - 7.4.6.1 Lift the cable A107F 2P RED wire from terminal block scheme A107,

- 7.4.6.2 Without lifting existing leads, install a test switch jumper with switch OPEN across terminal block scheme A107 terminal 29 (cable A107F BLACK wire) and onto RED wire 2P lifted above.
- 7.4.6.3 Without lifting existing leads, install a test switch jumper with switch OPEN across terminal block scheme A107 terminals 31 and 21 on the terminal board side opposite cable A107F WHITE wire number 2P and GREEN wire number 21.
- 7.4.7 In C20, without lifting existing leads, install a test switch jumper with switch OPEN across terminal block scheme A107 terminals 2P and 29 on the terminal board side opposite cable A107K BLACK wire number 2P and WHITE wire number 29. Reference E-560 sh. 1.
- 7.4.8 At A-107, verify no continuity between the cabinet internal side of TB CC terminals
 3 and 12 opposite cable A107D RED wire number 2P and BLACK wire number 29.
 Reference 505 sh. 2
- 7.4.9 At TB1089, place the test switch jumper across 2P and 29 in the CLOSED position.
 - 7.4.9.1 At A-107, observe a change to continuity measured between the cabinet internal side of TB CC terminals 3 and 12 opposite cable A107D RED wire number 2P and BLACK wire number 29.
- 7.4.10 At TB1089, place the test switch jumper across terminals 2P and 29 back in the OPEN position.
 - 7.4.10.1 At A-107, observe a change to no continuity measured between the cabinet internal side of terminal board CC terminals 3 and 12 opposite cable A107D RED wire number 2P and BLACK wire number 29.
- 7.4.11 At C20, place the test switch jumper in the CLOSED position.
 - 7.4.11.1 At A-107, observe a change to continuity measured between the cabinet internal side of TB CC terminals 3 and 12 opposite cable A107K BLACK wire number 2P and WHITE wire number 29.
- 7.4.12 At C20, place the test switch jumper back in the OPEN position.
 - 7.4.12.1 At A-107, observe a change to no continuity measured between the cabinet internal side of TB CC terminals 3 and 12 opposite cable A107K BLACK wire number 2P and WHITE wire number 29.
- 7.4.13 At A-107, verify no continuity between the cabinet internal side of TB BB terminals 10 and 11 opposite cable A107D GREEN wire number 21 and WHITE wire number 31.
- 7.4.14 At TB1089, place the test switch jumper across terminals 31 and 21 in the CLOSED position.
 - 7.4.14.1 At A-107, observe a change to continuity measured between the cabinet internal side of TB BB terminals 10 and 11 opposite cable A107D GREEN wire number 21 and WHITE wire number 31.

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- 7.4.15 At TB1089, place the test switch jumper across terminals 31 and 21 back in the OPEN position.
 - 7.4.15.1 At A-107, observe a change to no continuity measured between the cabinet internal side of TB BB terminals 10 and 11 opposite cable A107D GREEN wire number 21 and WHITE wire number 31.
- 7.4.16 Re-term lifted cable A107F 2P RED wire to terminal block scheme A107 in TB1089 per the Lifted Lead Log.
 - 7.4.16.1 At A-107, observe continuity measured between TB CC terminals 3 and 12 opposite cable A107D RED wire number 2P and BLACK wire number 29.
- 7.4.17 Remove both test switch jumpers installed at terminal box TB1089.
- 7.4.18 Remove the test switch jumper installed at panel C20.
- 7.4.19 Restore test switch TS-186-ST1-1 (TS-286T-1), SW #9 to the as-found position or as directed by Unit 1 Operations.
- 7.4.20 Restore test switch TS1-111, SW D to the as-found position or as directed by Unit 1 Operations.
- 7.4.21 Reinstall bulb into RED ON indicating light for local control at A-107 cubicle.
- 7.4.22 Place A-107 Local/Remote Handswitch in REMOTE or as directed by Unit 1 Operations.
- 7.4.23 CLOSE A-107 DC control power Breaker BA or leave as directed by Unit 1 Operations.
- 7.5 Cables I302K1, wires 9 and 10, A-110 input to NaBr/NaOCI (E-386-1)
 - 7.5.1 Verify A-110 DC Control Power Breaker (BA) OPEN.
 - 7.5.2 Verify A-110 RACKED DOWN.
 - 7.5.3 Manual actuate A-110 STA switch to simulate breaker closed and hold.
 - 7.5.3.1 Verify LED on I/O module address 115 is LIT on UY-8232 in cabinet C165 (Note: The referenced I/O module is the last module on 1st row of the I/O tracks. This is a dual address module for address 115 and 116. The LED for address 115 is on the left side of the module).
 - 7.5.4 Release the A-110 STA switch and allow to return to breaker open position.
 - 7.5.4.1 Verify LED on I/O module address 115 is NOT LIT on UY-8232 in cabinet C165 (Note: The referenced I/O module is the last module on 1st row of the I/O tracks. This is a dual address module for address 115 and 116. The LED for address 115 is on the left side of the module).
- 7.6 Cables I302M1, wires 8A1 and 8A2, A-109 input to NaBr/NaOCI, (E-386-1)
 - 7.6.1 Verify A-109 DC Control Power Breaker (BA) OPEN.
 - 7.6.2 Verify A-109 RACKED DOWN.
 - 7.6.3 Manual actuate A-109 STA switch to simulate breaker closed and hold.

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- 7.6.3.1 Verify LED on I/O module address 117 is LIT on UY-8232 in cabinet C165 (Note: The referenced I/O module is the first module on 2nd row of the I/O tracks. This is a dual address module for address 117 and 118. The LED for address 117 is on the left side of the module).
- 7.6.4 Release the A-109 STA switch and allow to return to breaker open position.
 - 7.6.4.1 Verify LED on I/O module address 117 is NOT LIT on UY-8232 in cabinet C165 (Note: The referenced I/O module is the first module on 2nd row of the I/O tracks. This is a dual address module for address 117 and 118. The LED for address 117 is on the left side of the module).

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8.0 Restoration

8.1 Verify removal of test switches and restoration of lifted leads.

9.0 Test Results and Evaluation

9.1 No test data sheets are required for this test. See section 11.0 for discussion of test results / summary.

10.0 <u>M&TE Instrumentation</u>

Record the appropriate information for all M&TE equipment used in the following table.

Record the applicable M&TE Information (e.g. instrument #, cal due date, instrument range, etc.)	Record Test Step for which the M&TE was used	Recorded By / Date

11.0 <u>Summary Information</u>

11.1 Test Summary

Record any additional pertinent information obtained during testing not recorded in section 7 or the Test Log and provide a post test summary.

Test Step #	Summary or Additional Information	Recorded By / Date
		· · ·

11.2 Test Deficiencies

Record any test deficiencies and document the evaluation / resolution of the deficiency in the Test Deficiency Log in section 12.0.

ECT-44312-01 Rev 000 A-1 Functional Dead-Bus Testing, Miscellaneous Controls Page 14 of 17

12.0 <u>Attachments:</u>

- 12.1 EN-DC-117 Attachment 9.11 Signature Identification Log
- 12.2 EN-DC-117 Attachment 9.9 Test Log
- 12.3 EN-DC-117 Attachment 9.10 Test Deficiency Log
- 12.4 Test Change Notices

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ECT-44312-01 Rev 000 A-1 Functional Dead-Bus Testing, Miscellaneous Controls Attachment 12.1

Attachment 9.11	SIGNATURE IDENTIFICATION LOG
SHEET 1 OF 1	

Test Number: ECT/STI: 44312-01 Rev 000 A-1Functional Dead-Bus Testing, Mlsc. Page____of____

Name	Title	Signature	Initials
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ECT-44312-01 Rev 000 <u>A-1 Functional Dead-Bus Testing, Miscellaneous Controls</u> Attachment 12.2

[1] ATTACHMENT 9.9

SHEET 1 OF 1

Date	Entry	Initials
		
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A-1 Functional Dead-Bus Testing, Miscellaneous Controls ECT-44312-01 Rev 000 Attachment 12.3

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[2] ATTAC ATTACHMENT 9.10

Test Number: ECT/STI:	44312-01 Rev 000 A-1	Functional Dead-Bus Testing

Page__of____

TEST DEFICIENCY LOG

	DEFICIENCY DESCRIPTION	DATE/TIME
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TEST PROCEDURE COVER SHEET

ATTACHMENT 9.6 Sheet 1 of 1

TEST COVER SHEET	<u></u>
TEST TYPE: 🛛 ECT Procedure 🗌 ECT WO 🔲 STI Procedure Page 1	of 20
TEST #: <u>ECT-44312-05</u> REV. #: <u>0</u> Quality Class:	
TEST TITLE: Functional Testing of Start-up Transformer #2 A-1 Feeder Breaker A	<u>-111</u>
REVIEW (Print/Sign/Date) Test Engineer (TE): Chris Shively Technical Beviewer: Pat Biedmueller	17/8/13
Kenne merkenell Operations Department: K7MWlall/ 1/8/13	14 1
Maint Mark. Spirit 13 Organization	14 1
Organization Organization	14-1
ADDITIONAL STI (ONLY) PROCEDURE REQUIREMENTS EN-LI-100 Review: 10CFR50.59 Evaluation: Not Required OSRC Approval Not Required Mtg No. Date: Chairr	See EC44313 man:
APPROVAL(Print/Sign/Date)	
TE Supervisor: DAVID N. MCKENNEY NUM	> , $7 8 $
TEST COMPLETION REVIEW / ACCEPTANCE	
Summary of Test Results:	
······································	
Responsible Engineer (RE)*:	/
Test Engineer (TE):	1
Technical Reviewer	1
	,

*If required for confirmation of assumptions made in the development of the EC.

Note: Signatures may be obtained via electronic processes (e.g., AS)

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11.	Summary Information	16
12.	Attachments:	17

1. <u>Objectives</u>

- 1.1. This ECT provides functional testing of Switchgear Cubicle A-111, 4160 v feed from Startup 2 transformer. Testing is being performed as a result of switchgear reconstruction due to damage which occurred during the ANO-1 Stator Drop Event.
- 1.2. The A-1 bus testing is limited to functions that are coordinated with external components to address the cables and wires impacted by the damage zone. Breaker interconnecting wiring and internal cubicle wiring is not functionally tested. Therefore, bus undervoltage and synch permits and feeder undervoltage trip within A-111 is not tested. A-1 load shed is tested in ECT-44313-03 (A-211), AAC diesel trip is tested in ECT-44312-03 (2A-9 to A-1), A-308 EDG trip is tested with EC-43758 removal and Unit Auxiliary Transformer Failure Protection testing is with ECT-44312-07 (A-113), A-111 synchronization circuit tested in ECT-44313-03 (A-211).
- 1.3. <u>UAT Differential Current Transformers (8000/5 in A-111 bus compartment) Reference E-34 and E-8-AC-84 device "ZA".</u>

Differential Current Transformer testing will be completed under the currently installed Temporary Modification removal testing per EC 43763 and EC 43758 due to the Unit 1 reconnection and the Unit 2 Startup Transformer 2 coordination scheduling.

- 1.4. Damaged SIS wiring (reference Electrical Recovery Master List)
 - 1.4.1. A111 SIS #1; wire labeled with A112X running between A-111 and A-112 from terminal strip XL in A-111 to terminal strip XL in A-112. Per E-8-AC-93, wire is daisy chained to A-113 TB XL terminals 1 and 2. Wire function is power to fuse UL (remote control trip and elevator mechanism) and to spring operation. Checked during OP-1416.001 PM and this ECT remote manual operation.
 - 1.4.2. A111 SIS #2; wire from device UC, which provides remote close power. Tested during A-111 remote operation.
- 1.5. Testing performed per this ECT will be done with bus A-1 DE-ENERGIZED.

2. <u>References</u>

2.1.	EN-DC-117	Post Modification Testing and Special Instructions
2.2.	EC-44312	A1 SWITCHGEAR CHILD EC, STATOR RECONSTRUCTION
2.3.	EC 43763	DISCONNECT SU # 2 4.16 KV AND 6.9 KV BUSSES FROM UNIT 1 TO ASSURE RELIABILITY OF THE FEED TO UNIT 2
 2.4.	EC 43758	PROVIDE TEMPORARY POWER TO FIRE PUMP P-6A, MAIN CHILLER VCH-1B, CIRC WATER PUMPS P-3A & P-3D, SWGR A-3 & A-4, AND LOAD CENTERS B1, B2, AND B3 [REV-1 / PHASE-1&2]
2.5.	E-4 Sh 1	Single Line Meter & Relay Diagram, 4160 Volt System, Main Supply (TMEC 43686, ST1 disconnect; TMEC 43758, Temp power from ST2; TMEC 43763, ST2 disconnected from bus)
2.6.	E-17 Sh 1	Red Train Vital AC & 125 VDC Single Line & Distribution
2.7.	E-31 Sh 1	System Phasing & Synchronizing Diagram (EC 43758, Temp power from ST2; TMEC 43763, ST2 disconnected from bus)
2.8.	E-33 Sh 1	Schematic Meter & Relay Diagram, 6900 Volt System (EC 43758, Temp power from ST2; TMEC 43763, ST2 disconnected from bus)
2.9.	E-34	Schematic Meter & Relay Diagram, 4160V System, Main Supply (EC 43758, Temp power from ST2; TMEC 43763, ST2 disconnected from bus)

2.10.	E-38 Sh 2	Logic Diagram, Electrical Systems, 6.9 KV & 4.16 KV Bus Undervoltage Relays
2.11.	E-76 Sh 1	Schematic Diagram, Typical Circuit Breaker 6900V & 4160V Switchgear
2.12.	E-87	Schematic Diagram, Unit Auxiliary Trans. 6900V ACB's
2.13.	E-90	Schematic Diagram, Unit Auxiliary Trans. 4160V ACB's
2.14.	E-91 Sh 1	Schematic Diagram, Startup Transformer No 1, 4160V Air Circuit Breakers
2.15.	E-92 Sh 1	Schematic Diagram, Startup Trans No 2, 4160v ABC
2.16.	E-93 Sh 2	Schematic Diagram, Switchgear Bus Lockout and Undervoltage Relays (EC 43258, no effect)
2.17.	E-94 Sh 1	Schematic Diagram, Startup Transformers No. 1 & No. 2, Lockout Relays
2.18.	E-95	Schematic Diagram, Transformer Undervoltage Relays
2.19.	E-100 Sh 1	Schematic Diagram, Diesel Generator DG1 ACB (TMEC 43758, disconnected)
2.20.	E-100 Sh 1A	Schematic Diagram, Diesel Generator ACB (EC 43758, Temp power from ST2; disabled EDG interconnect)
2.21.	E-118	Schematic Diagram, Load Shedding on Fast Transfer to Startup Transformer ST2
2.22.	E-136 Sh 1	Schematic Diagram, Generator Protection and Lockout Relays - Generator
2.23.	E-138 Sh 1	Schematic Diagram, Generator Protection and Lockout Relays – Turb. And Reactor
2.24.	E-271 Sh 1	Schematic Diagram, Circulation Water Pumps (EC 22630, no effect; TMEC 43758, P3A/D out of service)
2.25.	E-271 Sh 3	Schematic Diagram, Circulation Water Pumps
2.26.	E-304 Sh 1	Schematic Diagram, Heater Drain Pumps
2.27.	E-306 Sh 3	Schematic Diagram, Condensate Pump P2C
2.28.	E-372 Sh 1	Schematic Diagram, Main Chiller (EC 43758, Temp power from ST2)
2.29.	E-418 Sh 7	Schematic Diagram, 4.16KV Bus Feeder Breaker Trip, Reflash Annunciator
2.30.	E-452 Sh 2	Schematic Diagram, Annunciator K02, (On Panel C10)
2.31.	E-452 Sh 3	Schematic Diagram, Annunciator K02, (On Panel C10)
 2.32.	E-452 Sh 4	Schematic Diagram, Annunciator K02, (On Panel C10) (EC 27204 & 27205, no effect)
2.33.	E-482 Sh 7	Computer Digital I/O Signals
2.34.	E-482 Sh 16	Computer Digital I/O Signals
2.35.	E-482 Sh 19	Computer Digital I/O Signals
2.36.	E-482 Sh 60	Connection Schedule, Computer Digital Inputs
2.37.	E-505 Sh 1	Connection Diagram, 4160 Volt Switchgear (Non-ES), Units A113 Through A109 (TMEC 43763; ST2 disconnected)
2.38.	E-505 Sh 6	Connection Diagram, 4160 Volt Switchgear (Non-ES), Units A211 Through A501 (EC 21171, EC 43979 & EC 5000114654, no effect)

EC	ECT-44312-05 Rev 000		SWGR A-111, ST2 Feeder	Page 5 of 20	
	2.39.	E-506 Sh 9A	Connection Diagram, 4160 Volt Switchgear (GE UNIT A309) ESF Bus A3 Feeder (EC 43758, Temp power from ST2; EC EC 5000115631, no effect)	ACB A309 5000116443 &	
	2.40.	E-506 Sh 9C	Connection Diagram, 4160 Volt Switchgear (GE UNIT A309)	ACB A309	
	2.41.	E-560 Sh 1,	1, Connection Diagram, Main Control Panel C20, Plant Protective R Generator Recorder BDS (TMEC 43763, TB850 add)		
	2.42.	E-560 Sh 2,	Connection Diagram, Main Control Panel C20, Plant Protect Generator Recorder BDS (EC 43758, Temp power from ST2 43763, terminal box; EC 11038, EC 12923, EC33142, EC 44 5000107429, no effect)	ive Relay & 1; TMEC 1585 & EC	
	2.43.	E-561 Sh 4	Connection Diagram, Main Control Panel C10, Electrical Aux (EC 5000118050, no effect)	kiliary System	
	2.44.	E-2034 Sh 1	Schematic Meter & Relay Diagram, 4160V System, Main Su 43763, TB850 add)	pply (TMEC	
	2.45.	E-2042 Sh 2	Logic Diagram, AAC Generator System, 4.16KV Tie Breaker	'S	
	2.46. E-2116 Sh9 Schematic Diagram, AAC Generator System, 4160V FDR Bl & Control Ckt (EC 5000117962, no effect)		KR 903 Power		
	2.47.	E-2600 Sh 11	Connection Diagram, AAC Generator System, Control Panel 45220, Restoration cable replacement, not issued)	2C436 (EC	
	2.48.	E-8-AC-2	Metalclad Switchgear		
	2.49.	E-8-AC-14	Section Views (EC 5000117605, no effect)		
	2.50.	E-8-AC-84	Metalclad Switchgear, Connection Diagram (EC 428, EC 500 EC 500011896, no effect)	00109807 &	
	2.51.	E-8-AC-90	Metalclad Switchgear, Connection Diagram (Condition Repo 2013-01496, minor drawing error corrected by EC 43258; EC & EC 5000118335, no effect)	rt CR-ANO-C- C 5000111897	
	2.52.	E-8-AC-91	Metalclad Switchgear, Connection Diagram (EC 21171, EC EC 5000117602, no effect)	5000114687 &	
	2.53.	E-8-AC-93	Metalclad Switchgear, Interconnection Diagram (EC 428, no	effect)	
	2.54.	E-8-AC-94	Metalclad Switchgear, Interconnection Diagram		
	2.55.	E-8-AC-98	Metalclad Switchgear, Interconnection Diagram		
	2.56.	E-8-AC-99	Metalclad Switchgear, Interconnection Diagram	· · · · · · · · · · · · · · · · · · ·	
	2.57.	E-8-AC-100	Metalclad Switchgear, Interconnection Diagram (EC 21171;	no effect)	
	2.58.	E-8-AC-161	Metalclad Switchgear, Connection Diagram		
	2.59.	M-201-57	Wiring Diagram for Plant Protective Relays & Generator Red C20 (EC 19839, EC 41747, EC 5000109569 & EC 50001173	order Board 330; no effect)	
	2.60.	M-201-59	Wiring Diagram for Plant Protective Relays & Generator Red C20 (EC 39987, EC 41547, EC 5000108443 & EC 5000109	order Board 571; no effect)	
	2.61.	M-201-62	Wiring Diagram for Plant Protective Relays & Generator Rec C20 (EC 5000108438 & EC 5000109577; no effect)	order Board	

3. Test Equipment

3.1. multimeter
3.2. Four (4) temporary test jumpers configured for attachment so that terminals do not need to be disturbed to insert jumper.

4. <u>Precautions and Limitations</u>

- 4.1. Circuit Breakers associated with this testing have high levels of potential energy. Exercise caution when working in the area if equipment is energized.
- 4.2. Testing will be done with the A-1 Bus DE-ENERGIZED and grounded.
- 4.3. Test steps shall be performed in order unless authorized by the Test Engineer and the sequence change documented in the Test Log.
- 4.4. Any leads lifted or jumpers installed shall be controlled using a Lifted Lead and Jumper Sheet.
- 4.5. M&TE equipment used during testing shall be recorded in section 10.0.
- 4.6. Personnel performing test steps in this ECT shall complete the appropriate sections of the Signature Identification Log in section 12.0.
- 4.7. The Test Engineer or designee shall maintain the Test Log in Section 12.0 per requirements of EN-DC-117 section 5.2 [11] (b).
- 4.8. Test discrepancies shall be documented in the Test Deficiency Log in Section 12.0, including evaluation and resolution of each discrepancy.
- 4.9. The Test Engineer shall provide a post test summary, including evaluation of test results, in Section 11.0.

5. Prerequisites

- 5.1. Verify that breaker A-111 impacted connection diagrams have been yellow lined or asbuilt as required.
- 5.2. Verify A-111 relay calibrations are current.
- 5.3. Verify that 125VDC control Power is available to A1 switchgear; breaker D11-03 closed (reference E-17 Sh 1).
- 5.4. Verify Implementing Field Supervisor has signed the Return to Service form for EC-44312 and EC-44987 to confirm A-111 is ready for testing.
- 5.5. Verify that the A-111 Testing Work Order WO 00354186 task 02 has been authorized (set to working).
- 5.6. Ensure that test personnel are on the appropriate clearances.
- 5.7. Due to terminology differences between groups reviewing and performing this ECT, the following definitions will be utilized:
 - CHECK means to verify an expected condition exists without taking any further action to make it so.
 - VERIFY will mean if a breaker, switch, etc. is not in the desired position; place it in the desired position.
 - TRIP and OPEN have the same meaning when verifying or placing a breaker, switch, etc. in a desired position.
 - When a breaker is placed in the closed or trip position, it is understood that the switch handle will be released unless stated to hold in a position.

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6. <u>Instrumentation</u>

6.1. No instrumentation is required.

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7. <u>Test Instructions</u>

- 7.1. DC Power Check
 - 7.1.1. Verify DC Control Power breaker (BA) located inside A-111 breaker cubicle is CLOSED (reference E-8-AC-84).
 - 7.1.2. Verify breaker A-111 is racked up and open.
 - 7.1.3. Check nominal 125 vDC at load side of fuses "UAA" points 2 (-) and 4 (+) at A-111.
 - 7.1.4. Check nominal 125 vDC at load side of fuses "UA" points 2 (-) and 4 (+) at A-111.
 - 7.1.5. Check nominal 125 vDC at load side of fuses "UT" points 2 (-) and 4 (+) at A-111.
 - 7.1.6. Check nominal 125 vDC at load side of fuses "UC" points 2 (-) and 4 (+) at A-111.
 - 7.1.7. Check nominal 125 vDC at load side of fuses "UB" points 2 (-) and 4 (+) at A-111.
 - 7.1.8. Check nominal 125 vDC at load side of fuses "UR" points 2 (-) and 4 (+) at A-111.
 - 7.1.9. Check nominal 125 vDC at load side of fuses "UL" points 2 (-) and 4 (+) at A-111.
 - 7.1.10. Verify that 125 VDC control power is available to A-112.
 - 7.1.11. Verify that 125 VDC control power is available to A-113.
 - 7.1.12. Verify breaker A-112 is racked up and open.
 - 7.1.13. Verify breaker A-113 is racked up and open.
- 7.2. DC OPS CHECK Remote Manual Operation
 - 7.2.1. Permissives Setup
 - 7.2.1.1. Place A-111 handswitch (152-111/CS) on C10 in PULL TO LOCK.
 - 7.2.1.2. Verify test switch TS1-111 switch F open in A-111 to disable feeder undervoltage trip.
 - 7.2.1.3. Verify test switch TS1-112 switch G open in A-112 to disable bus lockout trip.
 - 7.2.1.4. Verify test switch TS-186-ST2-1 switch #3 open in C20 to disable Startup #2 Feed to A-1 (A-111) lockout trip.
 - 7.2.1.5. Request Relay technician remove glass cover and open the following knife switches for Loss of Field relay (240) in C20 (reference E-136 Sh 1 and OP-1305.029).
 - 7.2.1.5.1. Red knife switch open.
 - 7.2.1.5.2. Black knife switches open.
 - 7.2.1.6. At C20, open the following test switches:
 - 7.2.1.6.1. TS-286T switch 6 Generator Lockout
 - 7.2.1.6.2. TS-286-G1-2 switch 9 Reactor Trip
 - 7.2.1.6.3. TS-286-G1-3 switch 2 Generator Lockout 286 G1-1 and 2
 - 7.2.1.7. Reset Generator Lockout Relay 286-G1-1
 - 7.2.1.8. Reset Generator Lockout Relay 286-G1-2

- 7.2.1.9. Install jumper in A-111 at TB B terminal 2 to terminal 4 to simulate no ST2 undervoltage at relay 127-111-1/X contacts 11 to 12 closed, (reference E-95 and E-8-AC-84)].
- 7.2.1.10. Verify test switch TS-286-G1-2 switch #8 open in C20 to disable Unit Aux Trans Prot to L.O. A-1 (reference E-93).
- 7.2.1.11. Check ST2 NOT locked out at 186-ST2-2 in C20.
- 7.2.1.12. IF ST2 locked out at 186-ST2-2,

<u>THEN</u> RESET or jumper 186-ST2-2 contacts 10 to 10C in C20 at scheme A111 terminal 11 to terminal 21 (references E-92, E-94, M-201-62 & E-560 Sheet 1).

7.2.1.13. Check ST1 NOT locked out at 186-ST1-1 in C20.

IF ST1 locked out at 186-ST1-1,

THEN RESET 186-ST1-1 (references E-92, E-94)

7.2.1.14. Check bus A1 NOT locked out at 186-A1 in A-112.

IF bus A1 locked out at 186-A1,

THEN reset 186-A1 (references E-92, E-93 sheet 2).

- 7.2.1.15. Remove connection plug (pie plate) for A-1 bus Undervoltage Load Tripping relay 127-A1-1 in A-112, to defeat the undervoltage load trip condition.
- 7.2.1.16. Verify undervoltage auxiliary relay 127-A1-1/X1 in A-111 deenergized.
- 7.2.1.17. Install jumper A1 bus undervoltage relay 127-A1-1/X1 contacts 11 to 12 in A-111 at TB F terminal 9 to TB B terminal 5 for automatic transfer undervoltage permissive (reference E-93 & E-8-AC-84)].
- 7.2.2. Place breaker LOCAL/REMOTE handswitch at A-111 in LOCAL.
 - 7.2.2.1. Check amber LOCAL indicating light at panel C10 is ON.
- 7.2.3. Place breaker LOCAL/REMOTE handswitch at A-111 in REMOTE.
 - 7.2.3.1. Check A-111 white CHARGED indicating light at panel C10 is ON.
 - 7.2.3.2. Check A-111 amber LOCAL indicating light at panel C10 is OFF.
 - 7.2.3.3. Check A-111 amber LOCAL indicating light at panel A-111 is OFF.
- 7.2.4. Place Synchronization switch 152-111/SS ON at C10.
- 7.2.5. Place A-111 CONTROL SWITCH (152-111/CS) at C10 in CLOSE.
 - 7.2.5.1. Check red CLOSED light at C10 is ON.
 - 7.2.5.2. Check green TRIPPED light at C10 is OFF.
 - 7.2.5.3. Check breaker A-111 CLOSED per local indication.
- 7.2.6. Place Synchronization switch 152-111/SS OFF at C10.
- 7.2.7. Trip A-111 using handswitch 152-111/CS on C10
 - 7.2.7.1. Check green TRIPPED light at C10 is ON.
 - 7.2.7.2. Check red CLOSED light at C10 is OFF.
 - 7.2.7.3. Check breaker A-111 TRIPPED per local indication.

- 7.3. Relay 152X-111 Test (Ref E-92, E-561 Sh 4)
 - 7.3.1. Verify approximately 125 VDC in C10 at TBB1 between terminal A111 N3 and terminal 31.
 - 7.3.2. Place A-111 handswitch (152-111/CS) on C10 in PULL TO LOCK.
 - 7.3.3. Verify approximately 0 VDC in C10 at TBB1 between terminal A111 N3 and terminal 31.
- 7.4. DC OPS CHECK Automatic Transfer Unit Auxiliary Transformer Trip A-111 Close

NOTE

Test conditions required are:

Simulated Generator trip with ST1 not available (A-113 open).

- 7.4.1. Verify A-111 handswitch (152-111/CS) in PULL TO LOCK on C10.
- 7.4.2. Select ST2 as the preferred standby power source at 143-1 on C10 (reference E-87).
- 7.4.3. Verify Unit Auxiliary Transformer NOT locked out at 286-G1-2 on C20.
- 7.4.4. Install jumper C20 scheme A111 in C20 at terminal 51 to terminal 61 to simulate Generator locked out (generator tripped) at 286-G1-2 for A-111 close permissive (reference E-138, E-560 Sheet 1 & M-201-62).
- 7.4.5. Verify ESAS bypassed or ESAS Digital Subsystem No. 1 shutdown such that relay ESX-A3 is de-energized. When energized, ESX-A3 relay provides a trip signal to A-112 (reference OP-1105.003, E-102 Sh 1, and E-90 Sh 1).
- 7.4.6. Place breaker LOCAL/REMOTE handswitch at A-112 in LOCAL.
- 7.4.7. Place local control switch at A-112 in CLOSE position (to open 152-112/b contact 7-7T).
- 7.4.8. Verify A-112 Unit Auxiliary Transformer feeder breaker closed.
- 7.4.9. Verify test switch TS1-111 switch E open in A-111 to disable the A-113 feeder undervoltage trip.
- 7.4.10. Verify test switch TS1-112 switch E open in A-112 to disable the A-113 bus lockout trip.
- 7.4.11. Verify test switch TS-186-ST1-1 switch #3 open in C20 to disable the A-113 Startup #1 Feed to A-1 lockout trip.
- 7.4.12. Place breaker LOCAL/REMOTE handswitch at A-113 in LOCAL.
- 7.4.13. Place local control switch at A-113 in CLOSE position.
- 7.4.14. Verify A-113 Startup Transformer #1 (ST1) feeder breaker closed.
- 7.4.15. Place A-111 handswitch (152-111/CS) on C10 in CLOSE position.
- 7.4.16. Verify A-111 feeder breaker remains OPEN.
- 7.4.17. Verify PDS point ZS1A111 "4.16KV ACB ST2/BUS 1A1" TRIP
- 7.4.18. Trip A-113 using local control switch.
- 7.4.19. Verify A-111 closes.
- 7.4.20. Verify PDS point ZS1A111 "4.16KV ACB ST2/BUS 1A1" NORMAL

- 7.4.21. Remove jumper C20 wire scheme A111 in C20 at terminal 51 to terminal 61 installed at 286-G1-2 on C20 (reference E-138, E-560 Sh 1 & M-201-62).
- 7.5. DC OPS CHECK Automatic Transfer SUT #1 not Available or Tripped (+ Annunciator + Computer)

NOTE

Test conditions required are:

Simulated ST1 disconnect with Auxiliary Transformer not available (A-112 open).

- 7.5.1. Place A-111 handswitch (152-111/CS) on C10 in PULL TO LOCK.
- 7.5.2. Verify ST2 Selected as the preferred standby power source at 143-1 on C10.
- 7.5.3. Install jumper C20 scheme A111 in C20 at terminal 51 to terminal 52 to simulate ST1 Transformer locked out at 186-ST1-1 for A-111 close permissive (reference E-94, E-560 Sheet 1 & M-201-62).
- 7.5.4. Place local control switch at A-113 in CLOSE position (to open 152-113/b contact 1-1T).
- 7.5.5. Verify A-113 Startup Transformer #1 (ST1) feeder breaker closed.
- 7.5.6. Verify A-112 Unit Auxiliary Transformer feeder breaker closed.
- 7.5.7. Take A-111 handswitch (152-111/CS) on C10 to TRIP.
- 7.5.8. Verify A-111 feeder breaker remains OPEN.
- 7.5.9. Verify Annunciator K02/F7 "A1/A2 AUTO TRANSFER" not lit.
- 7.5.10. Verify PDS point YS1A111 "AUTO CLOSE ACB 152-111" NO
- 7.5.11. Verify SPDS point Z1A111 "4160V SYS ST2 TO A1 BKR STAT" TRIPPED
- 7.5.12. Trip A-112 using local control switch.
- 7.5.13. Verify A-111 closes.
- 7.5.14. Verify Annunciator K02/F7 "A1/A2 AUTO TRANSFER" lit.
- 7.5.15. Verify PDS point YS1A111 "AUTO CLOSE ACB 152-111" YES
- 7.5.16. Verify SPDS point Z1A111 "4160V SYS ST2 TO A1 BKR STAT" NORMAL
- 7.5.17. Trip A-113 using local control switch.
- 7.5.18. Remove jumper C20 scheme A111 in C20 at terminal 51 to terminal 52 (reference E-94, E-560 Sh 1 & M-201-62).
- 7.6. DC OPS CHECK Manual Transfer to ST #1
 - 7.6.1. Verify A-111 closed
 - 7.6.2. Take A-111 handswitch (152-111/CS) on C10 to CLOSE (to establish Normal after Close contact).

NOTE

K1629 is a reflash unit located inside panel C10.

- 7.6.3. Verify Annunciator K1629/1 "A111 Breaker Trip" not lit.
- 7.6.4. Verify Annunciator K02/F6 "A1/A2/A3/A4 FEEDER BRKR TRIP" not lit.
- 7.6.5. Take A-113 Local Control Switch to CLOSE and release.
- 7.6.6. Check breaker A-113 Closed.

- 7.6.7. Verify A-113 remote Control Switch on C10 in Normal-After-Close.
- 7.6.8. Take A-113 Sync Switch to ON.
- 7.6.9. Verify A-111 trips.

NOTE

K1629 is a reflash unit located inside panel C10.

- 7.6.10. Verify Annunciator K1629/1 "A111 Breaker Trip" lit.
- 7.6.11. Verify Annunciator K02/F6 "A1/A2/A3/A4 FEEDER BRKR TRIP" lit.
- 7.6.12. Take A-113 Sync Switch to OFF.

7.6.13. Trip A-113 using local control switch.

7.7. DC OPS CHECK -- Manual Transfer to Auxiliary Transformer

7.7.1. Place Synchronization Switch 152-111/SS ON at C10.

- 7.7.2. Close A-111 using handswitch 152-111/CS on C10.
- 7.7.3. Verify A-111 closes.
- 7.7.4. Place Synchronization Switch 152-111/SS OFF at C10.
- 7.7.5. Take A-112 Local Control Switch to CLOSE and release.
- 7.7.6. Check breaker A-112 Closed.
- 7.7.7. Verify A-112 remote Control Switch on C10 in Normal-After-Close.
- 7.7.8. Take A-112 Sync Switch to ON.
- 7.7.9. Verify A-111 trips.
- 7.7.10. Take A-112 Sync Switch to OFF.
- 7.7.11. Trip A-112 using local control switch.
- 7.8. DC OPS CHECK Trip Transformer Lockout
 - 7.8.1. Place Synchronization switch 152-111/SS ON at C10.
 - 7.8.2. Close A-111 using handswitch 152-111/CS on C10.
 - 7.8.3. Verify A-111 closed.
 - 7.8.4. Place Synchronization Switch 152-111/SS OFF at C10.
 - 7.8.5. IF 186-ST2-1 is TRIPPED,
 - THEN perform the following:
 - 7.8.5.1. Place test switch TS-186-ST2-1 switch #3 in C20 CLOSE.

- 7.8.5.2. Verify A-111 trips.
- 7.8.6. IF 186-ST2-1 is NOT TRIPPED,

<u>THEN</u> perform the following:

- 7.8.6.1. Install jumper C20 scheme A111 terminal 2P to terminal 29 to simulate ST2 Transformer locked out at 186-ST2-1 on C20. (reference E-94, E-560 Sh 1 & M-201-62).
- 7.8.6.2. Verify A-111 trips.
- 7.8.6.3. Remove jumper C20 scheme A111 terminal 2P to terminal 29.

- 7.9. Damaged SIS wiring (reference Electrical Recovery Master List)
 - 7.9.1. A111 SIS #3; wire from A-111 TB F terminal #7 to A-107 TB C terminal #4. Per E-8-AC-93 & E-304, this circuit provides undervoltage trip to the P-8A Heater Drain Pump. Test as follows:
 - 7.9.1.1. Verify undervoltage auxiliary relay 127-A1-1/X1 in A-111 deenergized.
 - 7.9.1.2. OPEN TS1-111 switch D.
 - 7.9.1.3. Verify open contact by checking continuity in A-107 at TB CC3 to CC12 (reference E-304 sheet 1, E-8-AC-84, E-8-AC-93, E-8-AC-95 and E-8-AC-161).
 - 7.9.1.4. Install connection plug (pie plate) for A-1 bus Undervoltage Load Tripping relay 127-A1-1 in A-112, to activate the undervoltage load trip condition.
 - 7.9.1.5. Verify undervoltage auxiliary relay 127-A1-1/X1 in A-111 energized (undervoltage condition).
 - 7.9.1.6. Verify closed contact by checking continuity in A-107 at TB CC3 to CC12 (reference E-304 sheet 1, E-8-AC-84 and E-8-AC-93).
 - 7.9.1.7. CLOSE TS1-111 switch D.

8. <u>Restoration</u>

- 8.1. Verify breaker A-111 is tripped and racked down, or as directed by Operations.
- 8.2. Place test switch TS1-111 switch F closed in A-111 or as directed by Operations.
- 8.3. Verify test switch TS1-112 switch G closed in A-112 or as directed by Operations.
- 8.4. Verify test switch TS-186-ST2-1 switch #3 closed in C20 or as directed by Operations.
- 8.5. Place test switch TS-286-G1-2 switch #8 closed in C20 or as directed by Operations.
- 8.6. At C20, verify the following test switches are closed unless otherwise directed by Unit 1 Operations (ref. E-138 sh. 1):

NOTE: Closing the following test switches will likely result in tripping Generator Lockout Relays 286-G1-1 and 286-G1-2.

- TS-286T switch 6 Turbine Trip Generator Lockout
- TS-286-G1-2 switch 9 Reactor Trip Generator Lockout
- TS-286-G1-3 switch 2 Lockout Trip Generator Lockout
- 8.7. At C20, verify the following switches in Loss of Field relay 240 are closed and glass cover reinstalled unless otherwise directed by Unit 1 Operations:
 - Red knife switch
 - Black knife switches
- 8.8. Place test switch TS1-111 switch E closed in A-111 or as directed by Operations.
- 8.9. Verify test switch TS1-112 switch E closed in A-112 or as directed by Operations.
- 8.10. Place test switch TS-186-ST1-1 switch #3 closed in C20 or as directed by Operations.
- 8.11. Remove jumper in A-111 at TB F terminal 9 to TB B terminal 5 (reference E-93 & E-8-AC-84)].
- 8.12. Remove jumper in A-111 at TB B terminal 2 to terminal 4 (reference E-95 and E-8-90)].
- 8.13. IF 186-ST2-2 jumpered,

<u>THEN</u> remove 186-ST2-2 jumper from contacts 10 to 10C in C20 at scheme A111 terminal 11 to terminal 21 (references E-92, E-94, M-201-62 & E-560 Sheet 1).

9. <u>Test Results and Evaluation</u>

9.1. No test data sheets are required for this test. See section 11.0 for discussion of test results / summary.

10. <u>M&TE Instrumentation</u>

.

Record the appropriate information for all M&TE equipment used in the following table.

Record the applicable M&TE Information (e.g. instrument #, cal due date, instrument range, etc.)	Record Test Step for which the M&TE was used	Recorded By / Date	

11. <u>Summary Information</u>

Test Summary

Record any additional pertinent information obtained during testing not recorded in section 7 or the Test Log and provide a post test summary.

	Test Step #	Summary or Additional Information	Recorded By / Date]
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Test Deficiencies

Record any test deficiencies and document the evaluation / resolution of the deficiency in the Test Deficiency Log in section 12.0.

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12. <u>Attachments:</u>

- 12.1. EN-DC-117 Attachment 9.11 Signature Identification Log
- 12.2. EN-DC-117 Attachment 9.9 Test Log
- 12.3. EN-DC-117 Attachment 9.10 Test Deficiency Log
- 12.4. Test Change Notices

ATTACHMENT 9.11

SIGNATURE IDENTIFICATION LOG

SHEET 1 OF 1

Test Number: ECT/STI: 44312-05 Rev 000 SWGR A-111, Startup Transformer 2 Feeder Page___of____

	Name	Title	Signature	Initials	
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Page 19 of 20

TEST LOG

[1] ATTACHMENT 9.9

SHEET 1 OF 1

Test Number: ECT/STI: 44312-05 Rev 000 SWGR A-111, STARTUP TRANSFORMER 2 FEEDER Page_of____

Date	Entry	Initials
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TEST DEFICIENCY LOG

[2] ATTACHMENT 9.10

SHEET 1 OF 1

Test Number: ECT/STI: 44312-05 Rev 000 SWGR A-111, STARTUP TRANSFORMER 2 FEEDER Page____Of_____

DEFICIENCY	DEFICIENCY DESCRIPTION	DATE/TIME
NUMBER		
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Doc 24

Melfi, Jim

From:	Tindell, Brian
Sent:	Friday, July 12, 2013 12:02 PM
То:	Kennedy, Kriss
Cc:	Allen, Don; Azua, Ray; Fairbanks, Abin; Bradley, Dan; Hatfield, Gloria; Melfi, Jim;
	Willoughby, Leonard
Subject:	FW: Stator Incident RCE

Kriss,

I know you were interested in this. FYI

Thanks, Brian

From: PYLE, STEPHENIE L [mailto:SPYLE@entergy.com] Sent: Friday, July 12, 2013 11:49 AM To: Tindell, Brian; Allen, Don; Willoughby, Leonard Subject: Stator Incident RCE

Brian,

Just letting you know that they have decided to have another CARB to review the changes to the RCE that have been made since the original CARB last week. Dale is in the process of scheduling and I will let you know as soon as it is scheduled.

a second second

Stephenie

PRIVILEGED AND CONFIDENTIAL Attorney/Client Privileged Communication Attorney Work Product Prepared at the Direction of Legal Counsel

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TEST PROCEDURE COVER SHEET

ATTACHMENT 9.6 Sheet 1 of 1

		TEST COV	ER SHEET		
TEST TYPE:	🛛 ECT Procedure		STI Procedure	e Page	1 of 12
TEST #: 1	ECT-44312-03	REV. #: 0_	Quality	y Class:	
TEST TITLE:	Functional testing for	or breaker 2A-90	<u>3</u>		
REVIEW (Prin Test Engineer	nt/Sign/Date) (TE): A. Spencer	1. kca	~~	·	17/2
Technical Rev	viewer: <u>P Riedmeull</u>	er ap his	Smith		17-1
CROSS-DISC			·····		
Kenson Operations D	mensain Kime N	15 11 17 HIL	hit2012	. MB	22663
Operations Di	epartment. <u>John Ch</u>		Organization		and the
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organization			Organization		
ADDITIONAL	STI (ONLY) PROCE		MENTS		
EN-LI-100 Re	view:	🗌 Atta	iched [] Other	
10CFR50.59	Evaluation: 🗌 Not Re	quired 🗌 Atta	ached [] Other	
OSRC Approv	Val Not Re	quired Mtg No	D Date:	Chair	man:
APPNOVAL		111.1	Al -lal	_	
TE Superviso	: <u>Vincent D</u>	ma / /mant	<u>Lona 1/9/1.</u>	3	<u> </u>
TEST COMPI	ETION REVIEW / AC	CEPTANCE			
Summary of T	est Results: SPP	ottaclas	1		
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		111			
Responsible E	Engineer (RE)*:	NIA	1	<u> </u>	/
Test Engineer	(TE)://M(que ISM	3		/7//*
Technical Rev	viewer 7	nen			17/
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*If required for confirmation of assumptions made in the development of the EC.

Note: Signatures may be obtained via electronic processes (e.g., AS)

ATTACHMENT 9.8	<u></u>	······	· · · · · · · · · · · · · · · · · · ·		TEST CHANGE NOTICE
Sheet 1 of 1					
	······································	TEST CHANG			
1					
TEST TYPE: DECT	🗌 ЕСТ WO	🗆 STI		Page 1 of	
TEST #: ECT-44	32-03	_ Change Notice N	10.: 0 <u>01</u>	Quality Class:	
TEST TITLE:					_
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by Step 7.5.1	so umper	did not per	Form Fu	yction Re-	landed Lead
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List Page(s) being Added	(N/A, if not applicable):	n		
List Page(s) being Deleted	I (N/A, if not applicabl	$\frac{\Theta}{2}$	<u>A</u>	<u> </u>	
Test Engineer:	clitt	The courses	1/14/12		
Technical Beviewer:	AIA	<u> </u>	01 01	Non Intent Char	ING
	(Signature not requi	red for Non-intent C	nanges, mark N/	A and check box)	.90
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STI Original EN-LI-100, pr	ocess Applicability D	etermination:	impacted: 🗆 ir	npacted and Revise	d
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TE Supervisor	cent Bond	Uncers	t (Smd	7/14/12	
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Note: Signatures may be c	obtained via electronic	processes (e.g. A)	3)		
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2.0 References	
3.0 Test Equipment	
4.0 Precautions and Limitations	
5.0 Prerequisites	
6.0 Instrumentation	5
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7.2 A-112 Trip To 2A-903	
7.3 A-113 Trip To 2A-903	
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7.7 186-ST1-2 Startup Transformer 1 (ST1) Lockout to 2A-903	
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2.0

Objectives

This ECT provides functional testing of the control cables for Switchgear Cubicle 2A-903 that were damaged by the stator drop. 2A-903 ties the Unit 1 A1 bus to the 2K9 (AAC) generator. This testing is being performed to ensure proper repair of the damage that occurred due to the ANO-1 Stator Drop Event.

This testing does not include system or performance testing of the load supplied by 2A-903.

This testing does not tie the 2A-903 breaker to a live bus.

<u>Refere</u>	nces	
(2)	EC-44312	A1 SWITCHGEAR CHILD EC, STATOR RECONSTRUCTION
22	EN-DC-117	Post Modification Testing and Special Instructions
2.5	E-4	Single Line Meter & Relay Diagram 4160 Volt Main Supply
2.3	E-90	Schematic Diagram Unit Auxiliary Trans. 4160V ACB
25	, E-91 Sh 1	Schematic Diagram, Typical Startup Transformer No 1 4160 Air Circuit Breakers
20	E-92 Sh 1	Schematic Diagram Startup No 2 4160 ACB'S
À	E93 Sh 2	Schematic Diagram Switchgear Bus Lockout And Undervoltage Relays
(2.8)	_ E94 Sh 1	Schematic Diagram Startup Transformers No. 1 & No. 2 Lockout Relays
29	E-138	Schematic Diagram Generator Protection And Lockout Relay
8-10	E-505 Sh 1	Connection Diagram 4160 Volt Switchgear (non ES Units A 109 through A113
E	E-560 Sh 2	Connection Diagram Main Control Panel C20 Plant Protective Relay & Gen Recorder BDS
2.12	E-2600 Sh 11	Connection Diagram AAC Generator System Control Panel 2C436
873	E-2042 Sh 2	Logic Diagram AAC Generator System Tie Breakers
2.13	09040369-444	Circuit Schematic PLC-C Inputs
ET3	09040369-445	Circuit Schematic PLC-C Inputs
<u>Test E</u>	quipment	
62		

Multi-meter

<u>A</u>

Precautions and Limitations

Test Jumpers

- Circuit Breakers associated with this testing have high levels of potential energy. Exercise caution when working in the area if equipment is energized.
- Testing shall be done with the A-1 and A-2 Bus de-energized.
- Testing shall be done with the breaker 2A-903 racked out.

and a president

- Test steps shall be performed in order unless authorized by the Test Engineer and the sequence change documented in the Test Log.
- 5 Any leads lifted or jumpers installed shall be controlled using a Lifted Lead and Jumper Sheet.

All M&TE equipment used during testing shall be recorded in section 10.0.

All personnel performing test steps in this ECT shall complete the appropriate sections of the Signature Identification Log in section 12.0.



The Test Engineer or designee shall maintain the Test Log in Section 12.0 per prequirements of EN-DC-117 section 5.2 [11] (b).

All test discrepancies shall be documented in the Test Deficiency Log in Section 12.0, _including evaluation and resolution of each discrepancy.



The Test Engineer shall provide a post test summary, including evaluation of test results, in Section 11.0.



Due to terminology differences between groups reviewing this ECT, the word Check means to verify an expected condition exists without taking any further action to make it so.



Due to terminology differences between groups reviewing this ECT, the word VERIFY will mean if a breaker, switch, etc. is not in the desired position, place it in the desired position.



Due to terminology differences between groups reviewing this ECT, the words trip and open have the same meaning when verifying or placing a breaker, switch, etc. in a desired position.



Due to terminology differences between groups reviewing this ECT, when a breaker is placed in the closed or trip position, it is understood that the switch handle will be released unless stated to hold in a position.



When installing jumpers, place tape on the adjacent terminals as a precaution against shorting.



Whenever possible, jumpers should be installed in a manner so as not to disturb terminations (i.e. gator clips, ez-hooks, etc.)

When racking up breakers, use the following sequence to charge the breaker springs:

7.1 Verify DC control breaker (BA) in the OPEN position.

Pull the racking handle forward.

Place DC control breaker (BA) in the CLOSED position.

7.4 Release racking handle and check that springs charge.



Prerequisites

5,1 Verify that the following connection diagrams have been yellowlined for cables listed:

	DRAWING
5.1.1	_E-2600 sh 11
5.1,2	E-2600 sh 11
5.1.3	E-505 sh 1
5.1.9	E-560 sh 2
Via de la	

CABLE 2C436C 2C436B (Note: this cable is being relabeled as 2C436B1 2C436C 2C436B

Verify all construction testing has been completed.

Verify that the Implementing Field Supervisor has signed the Return to Service Form and
2A-903 is ready for testing.



- Perform a Pre-test Brief per EN-DC-117, Attachment 9.12, Pre-Test Briefing Guidelines.
- 5/ Verify that personnel are on the appropriate clearances.
- Verify breaker D11-03 is closed (125 VDC control power to A1).

Obtain permission from the Unit 1 Shift Manager prior to commencing testing.

Obtain permission from the Unit 2 Shift Manager prior to commencing testing.

Verify A-1 (186-A1) lockout is reset.

Verify 2A-903 is racked out.

Check the following breakers are racked up/open, springs charged with the Breaker BA closed (125 VDC control power):

Instrumentation

NONE

Test Instructions

A-111 Trip To 2A-903 (Ref. E-2600 Sh 11, E-2042 Sh 2)

At A-111, verify TS1-111 switch F is in the open position.

At A-112, verify TS1-112 switch G is in the open position.

At C20, If SU-2 Lockout Relay (186-ST2-1) is tripped, then place TS-186-ST2-1, switch 3 in the open position.

At A-111, place local/remote handswitch (152/SEL) in the local position.

At A-111, place the local handswitch (152/CS) in the TRIP position.

Check breaker A-111 is TRIPPED.

At 2C436, check approximately 0 VDC present from terminal 1 to terminal 2, indicating a CLOSED contact.

At A-111, place the local handswitch (152/CS) in the close position.

Check breaker A-111 is CLOSED.

No At 2C436, check approximately 125 VDC present from terminal 1 to terminal 2 indicating an OPEN contact.

At A-111, place the local handswitch (152/CS) in the TRIP position.

At A-111, restore TS1-111 switch F to it's original position.

THE At A-112, restore TS1-112 switch G to it's original position.

At C20, if TS-186-ST2-1, switch 3 position was changed by this testing, then restore to it's original position.

A-112 Trip To 2A-903 (Ref. E-2600 Sh 11, E-2042 Sh 2)

At A-112, verify TS1-112 switch F is in the open position.

At C20, verify TS-286-G1-2 switch 1 is in the open position.

At C20, verify TS-286-G1-1 switch 6 is in the open position.

At A-112, remove the "pie plate" from relay 127-A1-1.

At A-112, measure voltage from terminal block DD terminal 3 to terminal 12.

SWGR 2A-903

Page 6 of 12



 $\cancel{4}$ At A-112, place local/remote handswitch (152/SEL) in the local position.

At A-112, place the local handswitch (152/CS) in the TRIP position.

2.9 Check breaker A-112 is TRIPPED.

At 2C436, check approximately 0 VDC present from terminal 3 to terminal 4, *WDC* indicating a CLOSED contact.

At A-112, place the local handswitch (152/CS) in the close position.

2.72 Check breaker A-112 is CLOSED.

At 2C436, check approximately 125 VDC present from terminal 3 to terminal 4 indicating an OPEN contact.

At A-112, place the local handswitch (152/CS) in the TRIP position.

.275 At A-112, restore the "pie plate" in relay 127-A1-1.

2.16 At A-112, restore TS1-112 switch F to it's original position.

2 17 At A-112, if internal lead was lifted from terminal block DD, terminal 3, reterm the lead. Otherwise N/A this step.

278 At C20, restore TS-286-G1-2 switch 1 to it's original position.

2.79 At C20, restore TS-286-G1-1 switch 6 to it's original position.

A-113 Trip To 2A-903 (Ref. E-2600 Sh 11, E-2042 Sh 2)

NOTE: This testing is duplicated in ECT 44312-07. If ECT 44312-07 has completed this testing, then this test section can be marked N/A.

At A-111, verify TS1-111 switch E, is in the open position.

At A-112, verify TS1-112 switch E, is in the open position.

ACH-At C20, if SU-1 Lockout Relay (186-ST1-1) is tripped, then verify TS-186-ST1-1 switch 3, is in the open position.

At A-113, place local/remote handswitch (152/SEL) in the local position.

A:5 At A-113, place the local handswitch (152/CS) in the TRIP position.

3.8 Check breaker A-113 is TRIPPED.

At 2C436, check approximately 0 VDC present from terminal 5 to terminal 6, indicating a CLOSED contact.

At A-113, place the local handswitch (152/CS) in the close position.

At 2C436, check approximately 125 VDC present from terminal 5 to terminal 6 indicating an OPEN contact. 125V

At A-113, place the local handswitch (152/CS) in the TRIP position.

3.12 At A-111, restore TS1-111 switch E, to its original position.

7,3.13) At A-112, restore TS1-112 switch E, to its original position.

Pase 7A

SWGR 2A-903



SWGR 2A-903



ECT-44312 Rev. 000

SWGR24-403

Mage 7.4 of 12

286-G1-2 Generator Lockout Trip to 2A-903

Keep 7.5.1 and 7.5.2 as performed.

Delete 7.5.3 through 7.5.5.

Step 7.5.6 becomes 7.5.3.

7.5.3 At C20, if black lead in cable 2C436B was lifted from TB-3, terminal block 2C436, terminal I13, then re-term the lifted lead.

indicating a CLOSED contact.

PUDC

At C20, if the red lead in cable 2C436B was lifted from TB-3, terminal block 2C436, terminal 115, then reterm the lifted lead.

186-ST1-2 Start up Transformer 1 (ST1) Lockout to 2A-903 (E-2042 Sh 2, E-2600 Sh 11, E-560 Sh 2)

At C20, If ST1 lockout 186-ST1-2 is tripped, then lift the orange lead in cable 2C436B from TB-3, terminal block 2C436, terminal 117.

27.2 At 2C436, check approximately 125 VDC present from terminal 41 to terminal 42,)25 V indicating an OPEN contact.

7.7.3 At C20, place a hand held jumper from TB-3 Terminal block 2C436, terminal 117 to 118.

7.7.4 At 2C436, check approximately 0 VDC present from terminal 41 to terminal 42, $\partial \bigvee$ indicating a CLOSED contact.

At C20, remove the hand held jumper from TB-3 Terminal block 2C436, terminal

At C20, if the ORANGE lead in cable 2C436B was lifted from TB-3, terminal block 2C436, terminal 117, then reterm the lifted lead.

Restoration

Verify that all lifted leads have been reterminated.

Verify the following breakers are in the OPEN position.

- 8.24 A-11
 - 22 A-112
 - 238 A-113

Test Results and Evaluation

9.1 Verify all test steps have been completed satisfactory.

M&TE Instrumentation

NONE OL DMM 254 Due date 10/15/13

Summary Information

11.1 Record any test deficiencies and their resolution in the test deficiency log.

Attachments:

EN-DC-117 Attachment 9.8 – Test Change Notice

EN-DC-117 Attachment 9.9 – Test Log

EN-DC-117 Attachment 9.10 - Test Deficiency Log

EN-DC-117 Attachment 9.11 - Signature Identification Log

ATTACHMENT 9.9 SHEET 1 OF 1 TEST LOG

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Date		
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7/14/10 1/20	Harvel APIESTI	
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7/10/10 7 W1	Had H-116 Addred up	DAR
7/10/13 201	Some Til Complete - Sat	Da
7/12/13200	Star 7 2 6 4 da Ap April BKW	00
11213 - 41	down to not to TBDD tofu 3	
	Thomas ne (two (2) wines on each	
*****	side of TBat DD Kerm, 3. Litting.	
	Both wires on Field Side.	RAC
9/13/13 2/50	Completed Section 7.2 - Set	De
7/13/13 2158	Had to Rack Down BALR A HIZDE	
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· · · · · · · · · · · · · · · · · · ·	Step 7. H. 3 - Unit 2 received	
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·	Teston Hold to investigate	
	Ground, (Ground on 20-13) 118 1/4/13	NE
113/13/240	Reconnence Jesting at Step	ander of the second
·	1.4.3. Rock A-1/2 Down	
MIL / 225	toplace Jumper	and
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	STEP SHOWLY 1, JAG - VIOL /VOL	
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<u> </u>	B) D more to T-13	DA
	- VIOCN WIVE IV + IV	

ATTACHMENT 9.9 SHEET 1 OF 1

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TEST LOG

Date Entry Initials TRID 2250 Completed Section 7.7.5at. 1040 7/13/132255 Completed Section 7.7.5at. Der 7/14/13020 Ection 7.5. Alr 7/14/130215 Performed Step 7.5.4 of TCN-02 on Page 7.Arsat. Der 7/14/130220 ECT Completed Sat. Der 7/14/130220 ECT Completed Sat. Der 7/14/130220 ECT Completed Sat. Der	Test Number: ECT/S	STI: ECT-443/2-03	Page_2_of_2_
7/16/12 2250 Completed Section 7, 7-Sat. 104e 7/13/13 2255 Completed Section 7, 7-Sat. Der 7/14/13 0130 Bar Wrote TCN-001 For Der 7/14/13 0215 Performed St+p 7.5.4 of Der 7/14/13 0216 Performed St+p 7.5.4 of Der 7/14/13 0216 Section 7,5 5 at Der 7/14/13 0220 Section 7,5 5 at Der 7/14/13 0220 ECT (completed Sat- Der 7/14/13 0220 ECT (completed Sat- Der 1 Der Der 1 Der Der Der <tr< td=""><td>Date</td><td>Entry</td><td>Initials</td></tr<>	Date	Entry	Initials
7/13/132255 Completed Section 7.7-Set. Der 7/14/130130 Gove Wrote TCN-001 For Section 7.5. Nr 7/14/130216 Performed Step 7.5.4 of TCN-01 on Page 7Ar-Sat. Der 11/1/130216 Section 7.5 5 at. Der 11/1/130220 ECT Completed Sat. Der 11/1/130220 ECT Completed Sat. Der 11/14/130220 ECT Completed Sat. Der 11/14/130220 ECT Completed Sat. Der 11/14/130220 ECT Completed Sat. Der 11/15 Interview Interview 11/15 Interview Interview 11/13 Interview Interview 11/13 Interview Interview 11/13 Interview Interview 11/14/13 Interview Interview 11/14/14 Interview Interview 11/14/14 Interview Interview <td>7/31132250</td> <td>CEMPleter Section 7,6- Sat.</td> <td>idde</td>	7/31132250	CEMPleter Section 7,6- Sat.	idde
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1 <td></td> <td>TCN-01 on Page 7Ar Sati</td> <td>RAC</td>		TCN-01 on Page 7Ar Sati	RAC
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ATTACHMENT 9.10

TEST DEFICIENCY LOG

SHEET 1 OF 1

Test Number: ECT/STI: ECT-44312-03 Rev. 000 Page fof

DEFICIENCY	DEFICIENCY DESCRIPTION	DATE/TIME	
001	Performed Step 7.5. 3 as written and	7/13/1322.55	
	did not get specified results of OVDC.	7/14/13 0300	On-
	Pecided to re-land litted cable to place		
	circuits in a sate condition to		
	turther research problem	1/13/13 2300	
	Respondent showed that C20 immon should	7/14/130100	
	have been placed between black litted	<u> </u>	
	lead removed from TB-3, terminal block 2C436]
	terminal I13 to TB-3, terminal & lock 25430	,	
	terminal I14.	[
	when	N 1 - 1	Į
	The intent was to prove OVDC. 8.	1/14/13 0/00	ł
	mpasured at Cabinet 2 C436 Berween		
	terminals 31 and 30. This proves	<u></u>	ł
	This was the RECET contact of		1
	286-G1-2	• • • • • • • • • • • • • • • • • • •	Í
	Performedate		
	Wrote TCN-001 and performed	7/14/13013	ļ
	measurement step at Cabinet 20436		
	and measured QVDC.		ł
		<u> </u>	
			1

ATTACHMENT 9.11 SHEET 1 OF 1 SIGNATURE IDENTIFICATION LOG

Test Number: ECT/STI: ECT-44312-03 Rev. 000 Page _ of 1

Name	Title	Signature	Initials
Durward Clark	Test Engineer	Durward Plank	Dec
Chris Shirely	Test Engineer	Chel Shure	đ
John Rossmaid	Test Engineer	John Porsimai	GRR
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TEST PROCEDURE SUMMARY

All anticipated test results were obtained except one. A TCN was performed to modify the test, fulfilling the original intent of the uncompleted test step and obtaining the expected result. No other deficiencies were encountered. Breaker A-112 had to be racked down to access Terminal Blocks CC and DD, but this had no effect on any steps performed or results obtained from this procedure.

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TACHMENT 9.6				TEST PROCEDU	IRE COVER SHE
eet 1 of 1					
		TEST COVE	REFT		
TEST TYPE: 🛛 EC	Procedure	🗌 ECT WO	🔲 STI Procedu	re Page 1 of	23
TEST #: 44313-06	R	EV. #: 0	Qual	ity Class:	
					· · · · · ·
TEST TITLE: <u>A-501</u>	-unctional Dea	D-BUS LESTING, C	control Hod Drive	ransformer X8 F	eeder
REVIEW (Print/Sign/D	ate)		Alara		
Test Engineer (TE):	Susan Mitchell	<u>1 Juran Ti</u>	/ settle		7 <i></i> 7 <i></i>
Technical Reviewer:	<u>Chris</u> S	nively (Chin Shu	<u>i</u> 2	11/13
CROSS-DISCIPLINE	EVIEW		_		·
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ADDITIONAL STI (ON	LY) PROCEDU		ENTS		
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APPROVAL(Print/Sign	/Date)		\sim		
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Summary of Test nesu	15.				
Rosponsible Engineer					,
	ne) :	<u></u>			· <u> </u>
Test Engineer (TE):	<u></u>				/
Technical Reviewer					
TE Supervisor:					

*If required for confirmation of assumptions made in the development of the EC.

Note: Signatures may be obtained via electronic processes (e.g., AS)

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1.0 Objectives

- 1.1 This ECT provides functional testing of Switchgear Cubicle A-501, which supplies Control Rod Drive System Transformer X8. Testing is being performed as a result of cubicle replacement due to damage which occurred during the ANO-1 Stator Drop Event.
- 1.2 Testing performed per this ECT will be done with **BUSES A-1 and A-2 DE-ENERGIZED**.
- 1.3 This testing does not include system or performance testing of the load supplied by A-501.

2.0 <u>References</u>

2.1	EC-44313,	A2 SWITCHGEAR CHILD EC, STATOR RECONSTRUCTION
2.2	EN-DC-117,	Post Modification Testing and Special Instructions
2.3	E-4 Sh 1,	Single Line Meter & Relay Diagram, 4160 Volt System, Main Supply
2.4	E-61 Sh 22	Panel Schedule, 10LA (P30)
2.5	E-76 Sh 1,	Schematic Diagram, Typical Circuit Breaker 6900V & 4160V Switchgear
2.6	E-79 Sh 1,	Schematic Diagram, Typical internal Wiring Diagram, Load Center Trans FDR Protection
2.7	E-34,	Schematic Meter & Relay Diagram, 4160V System, Main Supply
2.8	E-94 Sh 1,	Schematic Diagram, Startup Transformers No. 1 & No. 2, Lockout Relays
2.9	E-104 Sh 1G,	Schematic Diagram, Load Center Trans Feeder, Main Supply ACB
2.10	E-480 Sh 1,	Schematic Diagram, Computer Digital Inputs, Schemes C9814, C9815 & C9828
2.11	E-505 Sh 6,	Connection Diagram, 4160V Switchgear (Non-ES) Units A211 through A501
2.12	E-557 Sh 3,	Connection Diagram, Control Panel C03
2.13	E-560 Sh 2,	Connection Diagram, Main Control Panel C20, Plant Protective Relay & Gen Recorder BDS
2.14	E-561 Sh 2,	Connection Diagram, Main Control Panel C10, Electrical Auxiliary System
2.15	VP E-8-AC-164,	Power & Control Circuits, 480 L.C. Trans Feeders - Unit A501
2.16	VP E-8-AC-167,	Metal Clad Switchgear Connection Diagram
2.17	VP E-8-AC-100,	Metal Clad Switchgear Connection Diagram
2.18	VP E8-AC-14,	Section Views
2.19	WO 354198	A-501 Dead Bus Functional Testing

3.0 <u>Test Equipment</u>

3.1 Multi-meter

- 3.2 Lamp connection test setup for CT testing capable of supplying 1 to 2 Amps from a nominal 120 VAC source suggest a series light bulb for a current limited supply with alligator clips for connecting to the CT circuit.
- 3.3 Temporary test jumper with momentary switch and alligator clips or mini-grabber ends so that terminals do not need to be disturbed to insert jumper.
- 3.4 Three (3) GE relay test plugs with three (3) digital ammeters connected from stud 3 to stud 5.

4.0 <u>Precautions and Limitations</u>

- 4.1 Circuit Breakers associated with this testing have high levels of potential energy. Exercise caution when working in the area if equipment is energized.
- 4.2 All testing shall be done with the **A-2 Bus DE-ENERGIZED** and Differential Current Transformer testing shall also be done with **A-1 Bus DE-ENERGIZED**.
- 4.3 Test steps shall be performed in order unless authorized by the Test Engineer and the sequence change documented in the Test Log.
- 4.4 Any leads lifted or jumpers installed shall be controlled using a Lifted Lead and Jumper Sheet.
- 4.5 All M&TE equipment used during testing shall be recorded in section 10.0.
- 4.6 All personnel performing test steps in this ECT shall complete the appropriate sections of the Signature Identification Log in section 12.0.
- 4.7 The Test Engineer or designee shall maintain the Test Log in Section 12.0 per the requirements of EN-DC-117, Section 5.2 [11](b).
- 4.8 All test discrepancies shall be documented in the Test Deficiency Log in Section 12.0, including evaluation and resolution of each discrepancy.
- 4.9 The Test Engineer shall provide a post-test summary, including evaluation of test results, in Section 11.0.
- 4.10 Due to terminology differences between groups, the word CHECK means to verify an expected condition exists without taking any further action to make it so.
- 4.11 Due to terminology differences between groups, the word VERIFY means if a breaker, switch, etc. is not in the desired position, place it in the desired position.
- 4.12 Due to terminology differences between groups, the words TRIP and OPEN have the same meaning when verifying or placing a breaker, switch, etc. in a desired position.
- 4.13 Due to terminology differences between groups, when a breaker is placed in the closed or trip position, it is understood that the switch handle will be released unless stated to hold in a position.
- 4.14 When installing jumpers, place tape on the adjacent terminals as a precaution against shorting.
5.0 <u>Prerequisites</u>

- 5.1 Verify that affected A-501 connection diagrams have been yellow-lined or as-built as required.
- 5.2 Verify Cubicle A-501 switchgear inspection complete satisfactory IAW OP-1416.501 and all A-501 relays and meter calibrations are current for the components listed below:
 - 5.2.1 150/151 A
 - 5.2.2 150/151 B
 - 5.2.3 150/151 C
 - 5.2.4 150GS
 - 5.2.5 Local Ammeter
- 5.3 Verify that the Implementing Field Supervisor has signed the Return to Service Forms and verified A-501 is ready for testing.
- 5.4 Verify that the A-501 Testing Work Order 354198, Task 01 has been authorized.
- 5.5 Perform a Pre-test Brief per EN-DC-117, Attachment 9.12, Pre-Test Briefing Guidelines.
- 5.6 Verify A-501 is available or at least as a minimum has control power available.
- 5.7 Ensure that DC Control Power available to the A2 switchgear.
- 5.8 Ensure that test personnel are on the appropriate Clearances as required.
- 5.9 Verify that the A-501 CT shorting bars/jumpers are removed at Terminal Blocks D, E and F, as required, when field circuits are completed. Reference E-8-AC-167 and E-79 sh. 1.

6.0 Instrumentation

6.1 No instrumentation is required.

7.0 <u>Test Instructions</u>

- 7.1 Fuse Checks
 - 7.1.1 Verify the following fuses installed in A-501 and are of the proper amperage:
 - UB (15A)
 - UC (15A)
 - UR (35A)
 - UT (35A)
- 7.2 DC Power
 - 7.2.1 Verify Breaker A-501 is racked down.
 - 7.2.2 Verify 4160 Volt Switchgear A2 DC Control Power breaker (D21-03) is open.
 - 7.2.3 Verify A-501 DC Control Power Breaker (BA) located inside A-501 Cabinet open.
 - 7.2.3.1 Verify all other DC input Control Power Breakers open in A2 as required.
 - 7.2.3.2 Check nominal 0 VDC at line side of A-501 DC Control Power Breaker (BA) located inside A-501.

- 7.2.4 Close 4160 Volt Switchgear A2 DC Control Power breaker (D21-03).
 - 7.2.4.1 Check nominal 125 VDC at line side of A-501 DC Control Power Breaker (BA) located inside A-501Cabinet.
 - 7.2.4.2 Check polarity for the 125 VDC is correct at breaker BA line side (terminal 1-, terminal 3 +) (Reference drawing 6600-E-8-167)
 - 7.2.4.3 Check nominal 0 VDC at load side of A-501 DC Control Power Breaker (BA) at A-501.
 - 7.2.4.4 Check nominal 0 VDC at line side of fuses "UB" (pts. 1 and 3) at A-501.
 - 7.2.4.5 Check nominal 0 VDC at line side of fuses "UC" (pts. 1 and 3) at A-501.
 - 7.2.4.6 Check nominal 0 VDC at line side of fuses "UR" (pts. 1 and 3) at A-501.
 - 7.2.4.7 Check nominal 0 VDC at line side of fuses "UT" (pts. 1 and 3) at A-501.
- 7.2.5 Close A-501 DC Control Power Breaker (BA) located inside A-501 Cabinet.
 - 7.2.5.1 Check nominal 125 VDC at load side of A-501 DC Control Power Breaker (BA) at A-501.
 - 7.2.5.2 Check polarity and nominal 125 VDC at load side of fuses "UB" (pts. 2 (-) and 4 (+)) at A-501.
 - 7.2.5.3 Check polarity and nominal 125 VDC at load side of fuses "UC" (pts. 2 (-) and 4 (+)) at A-501.
 - 7.2.5.4 Check polarity and nominal 125 VDC at load side of fuses "UR" (pts. 2 (-) and 4 (+)) at A-501.
 - 7.2.5.5 Check polarity and nominal 125 VDC at load side of fuses "UT" (pts. 2 (-) and 4 (+)) at A-501.
- 7.3 Local Control
 - 7.3.1 Verify A-501 breaker installed and fully inserted but not racked up into A-501 cubicle.
 - 7.3.2 Check Breaker A-501 OPEN flag visible on front of breaker.
 - 7.3.3 Check A-501 breaker springs discharged by observing white DISCHARGED flag on front of breaker mechanism.
 - 7.3.4 Open Test Switch TS-186-ST1-1, SW #5 at C20.
 - 7.3.5 Verify A-501 DC Control Power Breaker (BA) located inside A-501 Cabinet CLOSED.
 - 7.3.6 Verify LOCAL/REMOTE handswitch at A-501 is in LOCAL.
 - 7.3.7 Rack up Breaker A-501. Refer to OP-1107.001 Exhibit C.
 - 7.3.7.1 Check A-501 spring charging motor operates (audible indication).
 - 7.3.7.2 Check A-501 breaker springs charged by observing yellow CHARGED flag on front of breaker mechanism.
 - 7.3.7.3 Check auxiliary contact disconnect block fully engaged.

- 7.3.7.4 Check breaker auxiliary switch plunger gap exists and <1/8".
- 7.3.7.5 Check red CLOSED indicating light at A-501 is off.
- 7.3.7.6 Check green TRIPPED indicating light at A-501 is ON.
- 7.3.7.7 Check white BRKR SPRINGS CHARGED indicating light at A-501 is ON.
- 7.3.7.8 Check amber BREAKER ON LOCAL indicating light at A-501 is ON.
- 7.3.8 Monitor the white BRKR SPRINGS CHARGED indicating light at A-501 while performing the following:
 - 7.3.8.1 Place local control switch at A-501 in the CLOSE position.
 - 7.3.8.2 Check Breaker A-501 closes.
 - 7.3.8.3 Check white BRKR SPRINGS CHARGED indicating light momentarily goes OFF.
 - 7.3.8.4 Check red CLOSED indicating light at A-501 is ON.
 - 7.3.8.5 Check green TRIPPED indicating light at A-501 is OFF.
- 7.3.9 Place local control switch at A-501 in the TRIP position.

7.3.9.1 Check Breaker A-501 trips.

- 7.3.9.2 Check red CLOSED indicating light at A-501 is OFF.
- 7.3.9.3 Check green TRIPPED indicating light at A-501 is ON.
- 7.3.10 Place LOCAL/REMOTE handswitch at A-501 in REMOTE.
 - 7.3.10.1 Check green TRIPPED indicating light at A-501 is ON.
 - 7.3.10.2 Check red CLOSED indicating light at A-501 is OFF.
- 7.3.11 Place local control switch at A-501 in the CLOSE position.

7.3.11.1 Check Breaker A-501 does not close.

7.3.12 Place LOCAL/REMOTE handswitch at A-501 in LOCAL.

7.3.13 Place local control switch at A-501 in the CLOSE position.

7.3.13.1 Check Breaker A-501 closes.

- 7.3.14 Place LOCAL/REMOTE handswitch at A-501 in REMOTE.
 - 7.3.14.1 Check red CLOSED indicating light at A-501 is ON.
 - 7.3.14.2 Check green TRIPPED indicating light at A-501 is OFF.
 - 7.3.14.3 Check white BRKR SPRINGS CHARGED indicating light at A-501 is ON.
 - 7.3.14.4 Check amber BREAKER ON LOCAL indicating light at A-501 is OFF.
- 7.3.15 Place local control switch at A-501 in the TRIP position.

7.3.15.1 Check Breaker A-501 trips.

- 7.4 Protective Relay Trip Functional Check
 - 7.4.1 Verify Test Switch TS-186-ST1-1, SW #5 at C20 is open.
 - 7.4.2 Relay A-501 150/151A
 - 7.4.2.1 Verify Breaker A-501 is closed.
 - 7.4.2.2 Manually actuate the IOC (instantaneous) unit and check Breaker A-501 trips and relay target operates.
 - 7.4.2.3 Close Breaker A-501.
 - 7.4.2.4 Reset the relay target indicator.
 - 7.4.2.5 Manually actuate the TOC (overcurrent induction) unit and check Breaker A-501 trips and relay target operates.
 - 7.4.2.6 Close Breaker A-501.
 - 7.4.2.7 Reset the relay target indicator.
 - 7.4.3 Relay A-501 150/151B
 - 7.4.3.1 Verify Breaker A-501 is closed.
 - 7.4.3.2 Manually actuate the IOC (instantaneous) unit and check Breaker A-501 trips and relay target operates.
 - 7.4.3.3 Close Breaker A-501.
 - 7.4.3.4 Reset the relay target indicator.
 - 7.4.3.5 Manually actuate the TOC (overcurrent induction) unit and check Breaker A-501 trips and relay target operates.
 - 7.4.3.6 Close Breaker A-501.
 - 7.4.3.7 Reset the relay target indicator.
 - 7.4.4 Relay A-501 150/151C
 - 7.4.4.1 Verify Breaker A-501 is closed.
 - 7.4.4.2 Manually actuate the IOC (instantaneous) unit and check Breaker A-501 trips and relay target operates.
 - 7.4.4.3 Close Breaker A-501.
 - 7.4.4.4 Reset the relay target indicator.
 - 7.4.4.5 Manually actuate the TOC (overcurrent induction) unit and check Breaker A-501 trips and relay target operates.
 - 7.4.4.6 Close Breaker A-501.
 - 7.4.4.7 Reset the relay target indicator.

- 7.4.5 Relay A-501 150GS
 - 7.4.5.1 Verify Breaker A-501 is closed.
 - 7.4.5.2 Manually actuate the 150GS (instantaneous ground sensor) unit and check Breaker A-501 trips and relay target operates.
 - 7.4.5.3 Close Breaker A-501.
 - 7.4.5.4 Reset the relay target indicator.
- 7.5 Remote Control
 - 7.5.1 Verify Breaker A-501 is tripped.
 - 7.5.2 If Startup Transformer #1 Lockout is TRIPPED (blue indication light on C20 is OFF), install a jumper across 186-ST1-2, contacts 12-12C in C20, TB 2, scheme A501, terminal points 1P1 and 1 (E-104 Sh. 1G and E-560 Sh. 2).
 - 7.5.3 Verify Test Switch 186-ST1-1, SW #5 at C20 open.
 - 7.5.4 Verify LOCAL/REMOTE handswitch at A-501 is in REMOTE.
 - 7.5.4.1 Check amber LOCAL indicating light for A-501 at C10 is OFF.
 - 7.5.4.2 Check red CLOSED indicating light for A-501 at C10 is OFF.
 - 7.5.4.3 Check green TRIPPED indicating light for A-501 at C10 is ON.
 - 7.5.4.4 Check white CHARGD indicating light for A-501 at C10 is ON.
 - 7.5.5 Monitor the white CHRGD indicating light for A-501 at C10 while performing the following:
 - 7.5.5.1 Place A-501 CONTROL SWITCH (152-501/CS) at C10 in CLOSE.
 - 7.5.5.2 Check Breaker A-501 closes.
 - 7.5.5.3 Check white CHARGD indicating light momentarily goes OFF.
 - 7.5.5.4 Check red CLOSED indicating light for A-501 at C10 is ON.
 - 7.5.5.5 Check green TRIPPED indicating light for A-501 at C10 is OFF.
 - 7.5.5.6 Check computer point HS1A501, CNT RD DRV TRANS 1X8 HV ACB is NORM.
 - 7.5.6 Place A-501 CONTROL SWITCH (152-501/CS) at C10 in TRIP.
 - 7.5.6.1 Check Breaker A-501 trips.
 - 7.5.6.2 Check red CLOSED indicating light for A-501 at C10 is OFF.
 - 7.5.6.3 Check green TRIPPED indicating light for A-501 at C10 is ON.
 - 7.5.6.4 Check white CHARGD indicating light for A-501 at C10 is ON.
 - 7.5.6.5 Check computer point HS1A501, CNT RD DRV TRANS 1X8 HV ACB is NORM.
 - 7.5.7 Place A-501 CONTROL SWITCH (152-501/CS) at C10 in CLOSE.
 - 7.5.7.1 Check Breaker A-501 closes.

- 7.5.8 TRIP A-501 using PUSH BUTTON PB-0140 at C03.
 - 7.5.8.1 Check Breaker A-501 trips.
 - 7.5.8.2 Check computer point HS1A501, CNT RD DRV TRANS 1X8 HV ACB is TRIP.
- 7.5.9 Place A-501 CONTROL SWITCH (152-501/CS) at C10 in CLOSE.

7.5.9.1 Check Breaker A-501 closes.

- 7.5.10 If the Startup Transformer #1 lockout is not TRIPPED (blue indication light on C20 is ON), jumper 186-ST1-1, contacts 10-10C in C20, TB 2, scheme A501, terminal points 2P and 129 (E-560 Sh. 2);
 - 7.5.10.1 Or if Startup Transformer #1 lockout is TRIPPED, close Test Switch TS-186-ST1-1, SW #5 at C20.
 - 7.5.10.2 Check Breaker A-501 trips.
- 7.5.11 Verify Test Switch TS-186-ST1-1, SW #5 at C20 Open.
- 7.5.12 Remove jumper from 186-ST1-1, contacts 10-10C in C20, TB 2, scheme A501, terminal points 2P and 129 (E-560 Sh. 2) if installed.
- 7.5.13 Remove jumper from across 186-ST1-2, contacts 12-12C in C20, TB 2, scheme A501, terminal points1P1 and 1, if installed. (E-560 Sh. 2).
- 7.5.14 If the Startup Transformer #1 lockout is not TRIPPED (blue indication light on C20 is ON), lift lead at C20, TB 2, scheme A501, terminal point 1P1, to simulate Startup Transformer 1 lockout.
- 7.5.15 Place A-501 CONTROL SWITCH (152-501/CS) at C10 in CLOSE.

7.5.15.1 Check Breaker A-501 does not close.

- 7.5.16 Re-term lifted lead at C20, TB 2, scheme A501, terminal point 1P1, if previously lifted.
- 7.5.17 If Startup Transformer #1 Lockout is TRIPPED (blue indication light on C20 is OFF), install jumper across 186-ST1-2, contacts 12-12C in C20, TB 2, scheme A501, terminal points 1P1 and 1. (E-560 Sh. 2).
- 7.5.18 Verify LOCAL/REMOTE handswitch at A-501 is in LOCAL.

7.5.18.1 Check amber LOCAL indicating light for A-501 at C10 is ON.

7.5.19 Place A-501 CONTROL SWITCH (152-501/CS) at C10 in CLOSE.

7.5.19.1 Check Breaker A-501 does not close.

7.5.20 Close Breaker A-501 using local control switch at A-501.

7.5.20.1 Check Breaker A-501 closes.

7.5.21 Place A-501 CONTROL SWITCH (152-501/CS) at C10 in TRIP.

7.5.21.1 Check Breaker A-501 does not trip.

7.5.22 Verify LOCAL/REMOTE handswitch at A-501 is in REMOTE.

7.5.23 Place A-501 CONTROL SWITCH (152-501/CS) at C10 in TRIP.

7.5.23.1 Check Breaker A-501 trips.

- 7.5.24 Remove jumper across 186-ST1-2, contacts 12-12C in C20, TB 2, scheme A501, terminal points 1P1 and 1, if installed. (E-560 Sh. 2).
- 7.5.25 Close Test Switch 186-ST1-1, SW #5 at C20.
- 7.6 Output Interlocks
 - 7.6.1 None
- 7.7 Miscellaneous Items
 - 7.7.1 Local Ammeter and Overcurrent Relays CT (75/5)
 - 7.7.1.1 Verify the following relays in A-501 are installed and have their connection plugs installed:
 - 150/151A
 - 150/151B
 - 150/151C

<u>NOTE</u>

CT polarity marks are typically a round dot near one of the two secondary wiring terminals or marks "H1" for the primary and "X1" for the secondary terminal.

7.7.2 Rear C Phase CT

7.7.2.1 Check "C" right phase (viewed from rear) CT polarity mark is on the side of the CT closest to the breaker primary disconnect.

NOTE

Per E-8-AC-167 for CT device "ZA", the "C" phase CT secondary terminal that corresponds with the polarity mark is terminal 1. The opposite secondary wiring terminal is terminal 2.

- 7.7.2.1.1 Install the lamp test setup for the C Phase CT by connecting the test setup between C phase CT secondary terminal 2 and ground.
- 7.7.2.1.2 Energize the CT lamp test circuit from a 120 VAC supply.
- 7.7.2.1.3 Place the ammeter switch in the "C" position.
 - 7.7.2.1.3.1 Check that the ammeter indicator moves and indicates some level of current.
- 7.7.2.1.4 Place the ammeter switch in the "A" position.
 - 7.7.2.1.4.1 Check that the ammeter indicates no current.

7.7.2.1.5 Place the ammeter switch in the "B" position.

- 7.7.2.1.5.1 Check that the ammeter indicates no current.
- 7.7.2.1.6 Using a DMM set to measure AC voltage, check AC voltage detected across relay 150/151C terminal 5 to terminal 6 on back of relay case.
- 7.7.2.1.7 Remove the lamp test setup for the C Phase CT.

7.7.3 Rear A Phase CT

7.7.3.1 Check "A" right phase (viewed from rear) CT polarity mark is on the side of the CT closest to the breaker primary disconnect.

NOTE

Per E-8-AC-167 for CT device "ZA", the "A" phase CT secondary terminal that corresponds with the polarity mark is terminal 3. The opposite secondary wiring terminal is terminal 4.

- 7.7.3.1.1 Install the lamp test setup for the A Phase CT by connecting the test setup between A phase CT secondary terminal 4 and ground.
- 7.7.3.1.2 Energize the CT lamp test circuit from a 120 VAC supply.
- 7.7.3.1.3 Place the ammeter switch in the "A" position.
 - 7.7.3.1.3.1 Check that the ammeter indicator moves and indicates some level of current.
- 7.7.3.1.4 Place the ammeter switch in the "C" position.
 - 7.7.3.1.4.1 Check that the ammeter indicates no current.
- 7.7.3.1.5 Place the ammeter switch in the "B" position.
 - 7.7.3.1.5.1 Check that the ammeter indicates no current.
- 7.7.3.1.6 Using a DMM set to measure AC voltage, check AC voltage detected across relay 150/151A terminal 5 to terminal 6 on back of relay case.
- 7.7.3.1.7 Remove the lamp test setup for the A Phase CT.

7.7.4 Rear B Phase CT

7.7.4.1 Check "B" right phase (viewed from rear) CT polarity mark is on the side of the CT closest to the breaker primary disconnect.

NOTE

Per E-8-AC-167 for CT device "ZA", the "B" phase CT secondary terminal that corresponds with the polarity mark is terminal 5. The opposite secondary wiring terminal is terminal 6.

- 7.7.4.1.1 Install the lamp test setup for the B Phase CT by connecting the test setup between B phase CT secondary terminal 6 and ground.
- 7.7.4.1.2 Energize the CT lamp test circuit from a 120 VAC supply.
- 7.7.4.1.3 Place the ammeter switch in the "B" position.
 - 7.7.4.1.3.1 Check that the ammeter indicator moves and indicates some level of current.
- 7.7.4.1.4 Place the ammeter switch in the "C" position.

7.7.4.1.4.1 Check that the ammeter indicates no current.

7.7.4.1.5 Place the ammeter switch in the "A" position.

7.7.4.1.5.1 Check that the ammeter indicates no current.

- 7.7.4.1.6 Using a DMM set to measure AC voltage, check AC voltage detected across relay 150/151B terminal 5 to terminal 6 on back of relay case.
- 7.7.4.1.7 Remove the lamp test setup for the B Phase CT.
- 7.7.4.2 IF any protective relay(s) or lockout relay tripped, THEN reset relays and/or target(s).
- 7.7.5 Ground Sensor Relay CT (50/5)
 - 7.7.5.1 Verify the 150GS relay in A-501 is installed and has its connection plug installed:

NOTE

CT polarity marks are typically a round dot near one of the two secondary wiring terminals or marks "H1" for the primary and "X1" for the secondary terminal.

7.7.5.2 Check "GS (viewed from rear) CT polarity mark is on the side of the CT closest to the breaker primary disconnect.

NOTE

Per E-8-AC-167 for CT device "ZB", the "GS" CT secondary terminal that corresponds with the polarity mark is terminal 1. The opposite secondary wiring terminal is terminal 2.

- 7.7.5.2.1 Install the lamp test setup for the GS CT by connecting the test setup between GS CT secondary terminal 2 and ground.
 - 7.7.5.2.1.1 If terminal 2 is not accessible, connect at TB E, pt 2.
- 7.7.5.2.2 Energize the CT lamp test circuit from a 120 VAC supply.
- 7.7.5.2.3 Using a DMM set to measure AC voltage, check AC voltage detected across relay 150GS terminal 5 to terminal 6 on back of relay case.

7.7.5.2.4 Remove the lamp test setup for the GS CT.

- 7.7.6 Startup Transformer #1 Differential Current Transformers (8000/5 in A-501 bus compartment) Reference E-34 and E-8-AC-167 device "ZC".
 - 7.7.6.1 Testing of the Differential Relay CTs shall be done with the A-1 and A-2 Buses **DE-ENERGIZED**.

NOTE

Connecting plugs are tagged out for SU-1 TMOD. Test Plugs are not connecting plugs and can be installed in relays that are tagged out.

- 7.7.6.2 Obtain three (3) GE protective relay test plugs.
- 7.7.6.3 Verify the three (3) relay test plugs have shorting jumpers installed from stud 4 to stud 5 and from stud 6 to stud 5.
- 7.7.6.4 Connect three (3) digital ammeters to the three (3) relay test plugs from stud 3 to stud 5.
- 7.7.6.5 Mark the ammeters with temporary labels "A", "B", & "C"
- 7.7.6.6 Verify ammeters are connected and set to measure AC current in the 0 to 2 A range or in automatic range mode.
- 7.7.6.7 Verify the following Startup #1 Transformer (ST1) differential current relays in C20 have their connection plugs removed:
 - 187-ST1/A
 - 187-ST1/B
 - 187-ST1/C
- 7.7.6.8 Install the three (3) relay test plugs with three (3) connected and marked ammeters in the corresponding phase differential current relay:
 - 187-ST1/A
 - 187-ST1/B
 - 187-ST1/C
- 7.7.6.9 Remove A-501 front horizontal bus cover(s) as required to visually inspect and access the window type CTs between the breaker primary disconnects and the A-2 horizontal bus.

NOTE

CT polarity marks are typically a round dot near one of the two secondary wiring terminals or marks "H1" for the primary and "X1" for the secondary terminal.

7.7.6.10 Front C Phase CT

7.7.6.10.1 Check "C" left phase (viewed from front) CT polarity mark is on the side of the CT closest to the horizontal bus (top side).

NOTE

Per E-8-AC-167 for CT device "ZC", the "C" phase CT secondary terminal that corresponds with the polarity mark is terminal 1.

7.7.6.10.2 Install the lamp test setup for the C Phase CT by connecting the test setup between "C" phase CT secondary terminal 1 (near polarity mark) and ground.

7.7.6.10.3 Energize the CT lamp test circuit from a 120 VAC supply.

NOTE

All three test ammeters should indicate some current flow, but current through "A" and "B" phases is expected to be a fraction of the current through "C" phase if the CT circuit is connected properly.

7.7.6.10.4 Check that all three ammeters connected to the test plugs in the C20 ST1 differential current relays indicate current flow:

- 187-ST1/A ammeter "A"
- 187-ST1/B ammeter "B"
- 187-ST1/C ammeter "C"
- 7.7.6.10.5 Check ammeter "C" in relay 187-ST1/C indicates more current than ammeter "A" in relay 187-ST1/A and ammeter "B" in relay 187-ST1/B.
- 7.7.6.10.6 Remove the lamp test setup for the C Phase CT.

7.7.6.11 Front A Phase CT

7.7.6.11.1 Check "A" middle phase CT polarity mark is on the side of the CT closest to the horizontal bus (top side).

NOTE

Per E-8-AC-167 for CT device "ZC", the "A" phase CT secondary terminal that corresponds with the polarity mark is terminal 3.

7.7.6.11.2 Install the lamp test setup for the A Phase CT by connecting the test setup between "A" phase CT secondary terminal 3 (near polarity mark) and ground.

7.7.6.11.3 Energize the CT lamp test circuit from a 120 VAC supply.

NOTE

All three test ammeters should indicate some current flow, but current through "B" and "C" phases is expected to be a fraction of the current through "A" phase if the CT circuit is connected properly.

7.7.6.11.4 Check that all three ammeters connected to the test plugs in the C20 ST1 differential current relays indicate current flow:

- 187-ST1/A ammeter "A"
- 187-ST1/B ammeter "B"
- 187-ST1/C ammeter "C"
- 7.7.6.11.5 Check ammeter "A" in relay 187-ST1/A indicates more current than ammeter "B" in relay 187-ST1/B and ammeter C" in relay 187-ST1/C.
- 7.7.6.11.6 Remove the lamp test setup for the A Phase CT.
- 7.7.6.12 Front B Phase CT
 - 7.7.6.12.1 Check "B" right phase (viewed from front) CT polarity mark is on the side of the CT closest to the horizontal bus (top side).

NOTE

Per E-8-AC-167 for CT device "ZC", the "B" phase CT secondary terminal that corresponds with the polarity mark is terminal 5.

- 7.7.6.12.2 Install the lamp test setup for the B Phase CT by connecting the test setup between "B" phase CT secondary terminal 5 (near polarity mark) and ground.
- 7.7.6.12.3 Energize the CT lamp test circuit from a 120 VAC supply.

NOTE

All three test ammeters should indicate some current flow, but current through "A" and "C" phases is expected to be a small fraction of the current through "B" phase if the CT circuit is connected properly.

- 7.7.6.12.4 Check that all three ammeters connected to the test plugs in the C20 ST1 differential current relays indicate current flow:
 - 187-ST1/A ammeter "A"
 - 187-ST1/B ammeter "B"
 - 187-ST1/C ammeter "C"
- 7.7.6.12.5 Check ammeter "B" in relay 187-ST1/B indicates more current than ammeter "A" in relay 187-ST1/A and ammeter C" in relay 187-ST1/C.
- 7.7.6.12.6 Remove the lamp test setup for the B Phase CT.
- 7.7.6.13 Re-install any A-501 front horizontal bus cover(s) that were removed to visually inspect and access the window type CTs between the breaker primary disconnects and the A-2 horizontal bus.

- 7.7.6.14 Remove the three (3) relay test plugs with three (3) ammeters in the ST1 differential current relays in C20.
- 7.7.6.15 Verify the following Startup #1 Transformer (ST!) differential current relays in C20 have their connection plugs re-installed or tagged out:
 - 187-ST1/A
 - 187-ST1/B
 - 187-ST1/C

8.0 <u>Restoration</u>

- 8.1 Verify Breaker A-501 is tripped or racked out or leave as directed by Unit 1 Operations.
- 8.2 Verify/Remove jumper across 186-ST1-2, contacts 12-12C in C20, TB 2, A501, 1P1 and 1 (E-560 Sh. 2).
- 8.3 Close Test Switch 186-ST1-1, 5 at C20 or leave as directed by Operations.

9.0 <u>Test Results and Evaluation</u>

9.1 No test data sheets are required for this test. See section 11.0 for discussion of test results / summary.

10.0 <u>M&TE Instrumentation</u>

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Record the appropriate information for all M&TE equipment used in the following table.

Record the applicable M&TE Information (e.g. instrument #, cal due date, instrument range, etc.)	Record Test Step for which the M&TE was used	Recorded By / Date

11.0 <u>Summary Information</u>

11.1 Test Summary

Record any additional pertinent information obtained during testing not recorded in section 7 or the Test Log and provide a post test summary.

Test Step #	Summary or Additional Information	Recorded By / Date
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11.2 Test Deficiencies

Record any test deficiencies and document the evaluation / resolution of the deficiency in the Test Deficiency Log in section 12.0.

12.0 Attachments:

- 12.1 EN-DC-117 Attachment 9.11 Signature Identification Log
- 12.2 EN-DC-117 Attachment 9.9 Test Log
- 12.3 EN-DC-117 Attachment 9.10 Test Deficiency Log
- 12.4 Test Change Notices

ECT-44313-06 Rev 000 SWGR A-501, Control Rod Drive Transformer X8 Attachment 12.1

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ATTACHMENT 9.11	SIGNATURE IDENTIFICATION LOG
SHEET 1 OF 1	

Test Number: ECT/STI: 44313-06 Rev 000SWGR A-501, Control Rod Drive Transformer X8 Page__of____

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Attachment 12.2

[1] ATTACHMENT 9.9 SHEET 1 OF 1

Test Number: ECT/STI: 44313-06 Rev 000 SWGR A-501, Control Rod Drive Xfr X8 Pageof		
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ECT-44313-06 Rev 000 SWGR A-501, Control Rod Drive Transformer X8

Attachment 12.3

[2]	ATTACHMENT 9.10		TEST DEFICIENCY LOG
SHEET 1	l OF 1	,	

	Test	Number:	ECT/STI:	44313-06 F	iev 000	SWGR A-501,	Control Rod Drive	Transformer X8	Page	of
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SWGR A-113

TACHMENT 9.6 TEST PROCEDU	RE COVER SHEE
teet 1 of 1	
TEST COVER SHEET	
TEST TYPE: 🖾 ECT Procedure 📋 ECT WO 🛄 STI Procedure Page 1 of	23
TEST #: <u>ECT-44312-07</u> REV. #: <u>0</u> Quality Class:	QR 🖾 NQR
TEST TITLE: Functional Testing for A-1 Startup 1 Feeder Breaker A-113	
REVIEW (Print/Sign/Date)	intertation
Test Engineer (TE): <u>A. Spencer & Annual</u>	17/8/2013
Technical Reviewer: <u>C. Shively</u>	17/9/13
CROSS-DISCIPLINE REVIEW	
Operations Department: K, McNeaill	/
Allun Hand Organization	
Maint. ::	
Organization Organization	
Organization Organization	
ADDITIONAL STI (ONLY) PROCEDURE REQUIREMENTS EN-LI-100 Review: ☐ Attached ☐ Other 10CFR50.59 Evaluation: Not Required ☐ Attached ☐ Other OSRC Approval Not Required Mtg No. Date: Chairman:	
APPROVAL(Print/Sign/Date)	Thata
TE Supervisor: VINCENT ISMA / VINCEWI IMA	11/0/13
TEST COMPLETION REVIEW / ACCEPTANCE	
Summary of Test Hesuns:	
Responsible Engineer (RE)*:	1
Test Engineer (TE):	
Technical Reviewer	
TE Supervisor:	

*If required for confirmation of assumptions made in the development of the EC.

Note: Signatures may be obtained via electronic processes (e.g., AS)

SWGR A-113

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SWGR A-113

1.0 Objectives

1.1 This ECT provides functional testing of Switchgear Cubicle A-113, which supplies the A1 bus. Testing is being performed as a result of damage which occurred during the ANO-1 Stator Drop Event.

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- 1.2 This testing does not include system or performance testing of the load supplied by A-113.
- 1.3 The A-113 trip to A-308 trip will be tested as part of EC-43758 TMOD removal and will not be tested by this ECT.

2.0 References

2.1	EC-44312	A1 SWITCHGEAR CHILD EC, STATOR RECONSTRUCTION
2.2	EN-DC-117	Post Modification Testing and Special Instructions
2.3	E-4	Single Line Meter & Relay Diagram 4160 Volt Main Supply
2.4	E-17 Sh 1	Red Train Vital AC and 125 VDC Single Line and Distribution.
2.5	E-31 Sh 1	System Phasing & Synchronizing Diagram
2.6	E-34 Sh 1	Schematic Meter Diagram And Relay Diagram
2.7	E-61 Sh 22	Panel Schedule No. 10 LA (P30)
2.8	E-76 Sh 1A	Schematic Diagram Typical Circuit Breaker 6900 V Switchgear
2.9	E-87	Schematic Diagram Unit Auxiliary Trans 6900 V ACB'S
2.10	E-90	Schematic Diagram Unit Auxiliary Trans. 4160V ACB
2.11	E-91 Sh 1	Schematic Diagram, Typical Startup Transformer No 1 4160 Air Circuit Breakers
2.12	E-92 Sh 1	Schematic Diagram Startup No 2 4160 ACB'S
2.13	E93 Sh 2	Schematic Diagram Switchgear Bus Lockout And Undervoltage Relays
2.14	E94 Sh 1	Schematic Diagram Startup Transformers No. 1 & No. 2 Lockout Relays
2.15	E-100 Sh 1	Schematic Diagram Diesel Generator ACB
2.16	E-138	Schematic Diagram Generator Protection And Lockout Relay
2.17	E-104 Sh 1G,	Schematic Diagram Load Center Trans Feeder Main Supply ACB
2.18	E-418 Sh 7	Schematic Diagram 4.16 KV Bus Feeder Breaker Trip Reflash Annunciator
2.19	E-452 Sh 2	Schematic Diagram Annunciator K02 (ON Panel C10)
2.20	E-452 Sh 3	Schematic Diagram Annunciator K02 (ON Panel C10)
2.21	E-480 Sh 1	Schematic Diagram Computer Digital Inputs
2.22	E-482 Sh 60	Connection Schedule Computer Digital Input
2.23	E-505 Sh 1	Connection Diagram 4160 Volt Switchgear (non ES Units A-109 through A-113
2.24	E-505 Sh 6	Connection Diagram 4160 Volt Switchgear (non ES Units A 111 through A501
2.25	E-506 Sh 9C	ES Bus A4 Feeder GE Unit No. A409 Comp, A409 Int & Ext Wiring
2.26	E-560 Sh 1	Connection Diagram Main Control Panel C20 Plant Protective Relay & Gen Recorder BDS
2.27	E-560 Sh 2,	Connection Diagram Main Control Panel C20 Plant Protective Relay & Gen Recorder BDS
2.28	E-561 Sh 4,	Connection Diagram Main Control Panel C10 Electrical Auxiliary System
2.29	E-2116 Sh 11	Schematic Diagram AAC Generator System 4160 V Bus 2A9 Differential Circuit
2.30	E-2600 Sh 11	Connection Diagram AAC Generator System Control Panel 2C436

- 2.31 E-8-AC-85 Metal Clad Switchgear Interconnection Diagram
- 2.32 E-8-AC-84 Metal Clad Switchgear Interconnection Diagram
- 2.33 E-8-AC-86 Metal Clad Switchgear Interconnection Diagram
- 2.34 E-8-AC-100 Metal Clad Switchgear Interconnection Diagram
- 2.35 M-201-56 Wiring Diagram for Plant Protective Relays & Generator Recorder No. 8
- 2.36 940369 Sh 444 Circuit Schematic PLC-C Inputs

3.0 <u>Test Equipment</u>

- 3.1 Multi-meter
- 3.2 Lamp connection (for CT testing)
- 3.3 Test Jumpers
- 3.4 Two 120 VAC power sources

4.0 **Precautions and Limitations**

- 4.1 Circuit Breakers associated with this testing have high levels of potential energy. Exercise caution when working in the area if equipment is energized.
- 4.2 Testing shall be done with the A-1 and A-2 Bus de-energized and A-1 grounded.
- 4.3 Test steps shall be performed in order unless authorized by the Test Engineer and the sequence change documented in the Test Log.
- 4.4 Any leads lifted or jumpers installed shall be controlled using a Lifted Lead and Jumper Sheet.
- 4.5 All M&TE equipment used during testing shall be recorded in section 10.0.
- 4.6 All personnel performing test steps in this ECT shall complete the appropriate sections of the Signature Identification Log in section 12.0.
- 4.7 The Test Engineer or designee shall maintain the Test Log in Section 12.0 per requirements of EN-DC-117 section 5.2 [11] (b).
- 4.8 All test discrepancies shall be documented in the Test Deficiency Log in Section 12.0, including evaluation and resolution of each discrepancy.
- 4.9 The Test Engineer shall provide a post test summary, including evaluation of test results, in Section 11.0.
- 4.10 Due to terminology differences between groups reviewing this ECT, the word Check is means to verify an expected condition exists without taking any further action to make it so.
- 4.11 Due to terminology differences between groups reviewing this ECT, the word VERIFY will mean if a breaker, switch, etc. is not in the desired position, place it in the desired position.
- 4.12 Due to terminology differences between groups reviewing this ECT, the words trip and open have the same meaning when verifying or placing a breaker, switch, etc. in a desired position.
- 4.13 Due to terminology differences between groups reviewing this ECT, when a breaker is placed in the closed or trip position, it is understood that the switch handle will be released unless stated to hold in a position.
- 4.14 When installing jumpers, place tape on the adjacent terminals as a precaution against shorting.

4.15 Whenever possible, jumpers should be installed in a manner so as not to disturb terminations (i.e. gator clips, ez-hooks, etc.)

5.0 <u>Prerequisites</u>

- 5.1 Verify external connection diagram E-505 Sh. 1 has been yellow-lined or as-built for connections to A-113.
- 5.2 Verify cubicle A-113 Switchgear testing completed satisfactory IAW OP-1416.001.
- 5.3 Verify that the Implementing Field Supervisor has signed the Return to Service Form and verified A-113 is ready for testing.
- 5.4 Verify that the A-113 Testing Work Order 354186 Task 04 has been set to working.
- 5.5 Perform a Pre-test Brief per EN-DC-117, Attachment 9.12, Pre-Test Briefing Guidelines.
- 5.6 Verify that construction is complete and all A1 switchgear cubicles (A-102 through A-116) are ready for DC power to be energized.
- 5.7 Verify that 4160 volt switchgear A1 control power breaker (D11-03) is closed to A1 switchgear. (Ref E-17 sh 1)
- 5.8 Verify that 120 VAC A1 space heater power breaker (10LA-31) is closed or tagged out. (Ref E-61 sh 22)
- 5.9 Verify the following potential transformer fuses on A-1 are withdrawn to prevent any possibility of inadvertent back-feed during secondary circuit energized testing.
 - 5.9.1 A-103 Bus PT Fuses (Reference E-8-AC-82 Device PA)
 - 5.9.2 A-113 PT Fuses (Reference E-8-AC-86 Device PA)
- 5.10 Verify the following conditions for breaker A-111:
 - Connection diagrams have been yellow-lined or as-built.
 - Breaker is available for testing.
 - Breaker is racked up.
 - Breaker BA is in the closed position
 - A-111 Switchgear testing completed satisfactory IAW OP-1416.001
- 5.11 Verify the following conditions for breaker A-112:
 - Connection diagrams have been yellow-lined or as-built.
 - Breaker is available for testing.
 - Breaker is racked up.
 - Breaker BA is in the closed position
 - A-112 Switchgear testing completed satisfactory IAW OP-1416.001
- 5.12 Verify that personnel are on the appropriate clearances.
- 5.13 At C20, remove the glass cover for Loss Of Field Relay (240) then place the following switches in the OPEN position: (This will allow the 286-G1-1 and 286-G1-2 generator lockout relays to be reset. Ref Op-1305.029)
 - Red Knife Switch
 - Black Knife Switches

5.14 At A-113, verify that the shorting jumpers have been removed from TB-BB terminals 1, 2 and 3. (Ref E-505 Sh 1)

6.0 Instrumentation

NONE

7.0 <u>Test Instructions</u>

7.1 DC Power

- 7.1.1 Verify breaker A-113 is racked down and the patch cord is NOT installed.
- 7.1.2 At A-113, verify A-113 DC control power breaker (BA) is OPEN.
- 7.1.3 At DC panel D11, verify 4160 volt switchgear A1 breaker D11-03 is closed.
- 7.1.4 At A-113, verify Approximately 125 VDC at the line side A-113 DC control power breaker (BA).
- 7.1.5 At A-113, verify polarity for the 125 VDC is correct at the line side of breaker BA. (terminal 1- terminal 3 +) (Reference drawing E-8-AC-86)
- 7.1.6 At A-113, verify load side of DC input breaker BA is 0 VDC. (terminal 2 terminal 4 +)
- 7.1.7 At C10, place A-113 handswitch (152-113/CS) in the PULL TO LOCK position.
- 7.1.8 At C10, lift the black lead in cable A112F from TBB2 terminal block 4, terminal 2P. (REF E-561 SH 4) (ESX-A3)
- 7.1.9 At A-111, place TS1-111, switch E, in the open position.
- 7.1.10 At A-111, place TS1-111, switch F, in the open position.
- 7.1.11 At A-112, place TS1-112, switch E, in the open position.
- 7.1.12 At A-112, place TS1-112, switch F, in the open position.
- 7.1.13 At A-112, place TS1-112, switch G, in the open position.
- 7.1.14 At A-112, place TS1-112, switch H, in the open position.
- 7.1.15 At A-112, remove the "pie plate" from relay 127-A1-1.
- 7.1.16 At C20, place TS-186-ST1-1 switch 3 (Startup XFMR 1 Lockout Trip A-113), in the open position. (Ref E-91, E-94)
- 7.1.17 At C20, place TS-186-ST2-1 switch 3 (Startup XFMR 2 Lockout Trip A-113), in the open position. (Ref E-91, E-94)
- 7.1.18 At C20, place TS-286-G1-1 switch 6 (Generator Lockout A-112 trip), in the open position. (Ref E-138)
- 7.1.19 At C20, place TS-286-G1-2 switch 1 (Generator Lockout A-112 trip), in the open position. (Ref E-138)
- 7.1.20 At C20, place TS-286-G1-2 switch 9 (Generator Lockout Unit Aux Protection), in the open position. (Ref E-138)
- 7.1.21 At C20, place TS-286-G1-3 switch 2 (Generator Lockout 286 G1 & G2 trip), in the open position. (Ref E-138)
- 7.1.22 At C20, Place TS-286T switch 6 in the open position.
- 7.1.23 At C20, place generator lockout Relay 286-G1-1 in the RESET position.

- 7.1.24 At C20, place generator lockout Relay 286-G1-2 in the RESET position.
- 7.1.25 Verify A-111 is in the Breaker Racked UP/Open position.
- 7.1.26 Verify A-112 is in the Breaker Racked UP/Open position.
- 7.1.27 At C10, verify ST1/ST2 selector switch (143-1) in the ST1 position. (Ref E-87).
- 7.1.28 At C10, verify A-113 sync switch (152-113-SS) in the OFF position. (Ref E-31 sh1)
- 7.1.29 Install a jumper at C20, from TBA113 terminal 11 to C20, TBA113 terminal 21. (Ref E-91, E-560 Sh 1, M-201-56)
- 7.1.30 At A-112, verify lockout relay 186-A1 (A1 bus lockout) is RESET.
- 7.1.31 At A-113, verify the following Fuses are installed: (Reference drawing E-8-AC-86)
 - 7.1.31.1 UA (FU-9) +, 35 amp
 - 7.1.31.2 UA (FU-9) -, 35 amp

7.1.31.3 UB (FU-5) +, 15 amp

- 7.1.31.4 UB (FU-5) -, 15 amp
- 7.1.31.5 UC (FU-6) +, 15 amp
- 7.1.31.6 UC (FU-6) -, 15 amp
- 7.1.31.7 UD (FU-20) 10 amp
- 7.1.31.8 UE (FU-21) 10 amp
- 7.1.31.9 UF (FU-22) 10 amp
- 7.1.31.10UR (FU-7) +, 35 amp
- 7.1.31.11 UR (FU-7) -, 35 amp
- 7.1.31.12 UT (FU-8) +, 35 amp
- 7.1.31.13UT (FU-8) -, 35 amp
- 7.1.32 At A-113, place A-113 DC control breaker (BA) in the CLOSED position.
- 7.1.33 At A-113, verify approximately 125 VDC is present at the following locations:
 - 7.1.33.1 UA (FU-9) terminal 2 to UB (FU-5) terminal 4+
 - 7.1.33.2 UB (FU-5) terminal 2 to UB (FU-5) terminal 4+
 - 7.1.33.3 UC (FU-6) terminal 2 to UC (FU-6) terminal 4+
 - 7.1.33.4 UR (FU-7) terminal 2 to UR (FU-7) terminal 4+
 - 7.1.33.5 UT (FU-8) terminal 2 to UT (FU-8) terminal 4+
- 7.2 Local Control
 - 7.2.1 At A-111, Place A-111 DC control power breaker (BA) in the CLOSED position.
 - 7.2.2 At A-111, Verify fuse UL (FU1) is installed.
 - 7.2.3 Place breaker A-113 in the racked up position.
 - 7.2.4 At A-113, place local/remote handswitch (152-SEL/SW) in the LOCAL position.
 - 7.2.5 At C10, place A-113 handswitch (152-113/CS) in the PULL TO LOCK position.
 - 7.2.6 At C10, place A-111 handswitch (152-111/CS) in the PULL TO LOCK position.

- 7.2.7 At C10, place A-112 handswitch (152-112/CS) in the PULL TO LOCK position.
- 7.2.8 At A-113, charge the breaker springs as follows:
 - 7.2.8.1 Pull the racking handle forward.
 - 7.2.8.2 Place A-113 DC control breaker (BA) in the CLOSED position.
 - 7.2.8.3 Release racking handle and check that springs charge.
- 7.2.9 At A-113, check WHITE (breaker springs charged) light is ON. (Ref E76 sh 1A)
- 7.2.10 At A-113, check AMBER (breaker on local) light is ON. (Ref E76 sh 1A)
- 7.2.11 At A-113, check GREEN (breaker tripped) light is ON. (Ref E76 sh 1A)
- 7.2.12 At A-113, check RED (breaker closed) light is OFF. (Ref E76 sh 1A)

NOTE C10 RED, WHITE AND GREEN LIGHTS SHOULD ONLY BE ON WHEN THE LOCAL/REMOTE SWITCH IS IN REMOTE.

- 7.2.13 At C10, check A-113 WHITE (CHRGD) light is OFF. (Ref E-91 sh 1)
- 7.2.14 At C10, check A-113 AMBER (LOCAL) light is ON. (Ref E-91 sh 1)
- 7.2.15 At C10, check A-113 GREEN (breaker tripped) light is OFF. (Ref E-91 sh 1)
- 7.2.16 At C10, check A-113 RED (breaker closed) light is OFF. (Ref E-91 sh 1)
- 7.2.17 At C10, verify A-113 handswitch (152-113/CS) in the pull to lock position. (Ref E-91)
- 7.2.18 At C10, check annunciator K02-F7 (A1/A2 Auto Transfer) is NOT in alarm. (Ref E-91, E-452 sh 3)
- 7.2.19 Check annunciator K1629-3 (A-113 BREAKER TRIP) inside back of C10 is NOT in alarm. (Ref E-91, E-418 sh 7)
- 7.2.20 Check that Unit 1 PMS display indicates NORM for computer point ZS1A113. (Ref E-480 sh 1)
- 7.2.21 Check that Unit 1 PMS display indicates NO for computer point YS1A113. (Ref E-480 sh 1)
- 7.2.22 Check the SPDS NESF display indicates GREEN (tripped) for A-113. (SPDS point Z1A113)
- 7.2.23 At A-113, place local handswitch (152/CS) in the CLOSE position.
- 7.2.24 Check the following:
 - 7.2.24.1 Breaker A-113 is closed.
 - 7.2.24.2 At A-113, AMBER (breaker on local) light is ON.
 - 7.2.24.3 At A-113, WHITE (breaker springs charged) light is ON.
 - 7.2.24.4 At A-113, RED (breaker closed) light is ON.
 - 7.2.24.5 At A-113, GREEN (breaker tripped) light is OFF.
 - 7.2.24.6 At C10, A-113 AMBER (LOCAL) light is ON.
 - 7.2.24.7 At C10, WHITE (CHRGD) light is OFF.
 - 7.2.24.8 At C10, A-113 RED (breaker closed) light is OFF.

7.2.24.9 At C10, A-113 GREEN (breaker tripped) light is OFF.

- 7.2.24.10 At C10, annunciator K02-F7 (A1/A2 Auto Transfer) is NOT in alarm. (Ref E-91, E-452 sh 3)
- 7.2.24.11 Check annunciator K1629-3 (A-113 BREAKER TRIP) inside back of C10, is NOT in alarm. (Ref E-91, E-418 sh 7)
- 7.2.24.12 SPDS NESF display indicates RED (closed) for A-113. (Ref E-482 sh 60)
- 7.2.24.13 Unit 1 PMS display indicates NORM for computer point ZS1A113. (Ref E-480 sh 1A)
- 7.2.24.14 Unit 1 PMS display indicates NO for computer point YS1A113. (Ref E-480 sh 1A)

7.2.25 At A-113, place local handswitch (152/CS) in the TRIP position.

7.2.26 Check breaker A-113 is tripped.

7.3 Remote Operation

- 7.3.1 Indication Lights and Handswitch
 - 7.3.1.1 At A-113, remove fuse UD (FU20).

NOTE: Temporary 120 VAC power sources installed in the following steps shall be from the same source.

- 7.3.1.2 At A-113, connect a temporary 120 VAC power source to TB A terminal 3 (line) and TB A, terminal 4 (neutral). (Sync Relay) (Ref E-34, E-8-AC-86)
- 7.3.1.3 Remove both UE (FU-29) fuses from A-112. (Ref E-34, E-8-AC-85)
- 7.3.1.4 At A-112, connect a temporary 120 VAC power source at TB A terminal 4 (line), and TBA terminal 2 (neutral).
- 7.3.1.5 At A-113, place A-113 local/remote handswitch in the remote position.
- 7.3.1.6 At C-10, place A-113 sync switch (152-113/SS) in the ON position.
- 7.3.1.7 At C10, place A-113 hand switch (152-113/CS) in the CLOSE position.
- 7.3.1.8 Check the following:
 - 7.3.1.8.1 Breaker A-113 is CLOSED.
 - 7.3.1.8.2 At A-113, AMBER (breaker on local) light is OFF.
 - 7.3.1.8.3 At A-113, White (breaker springs charged) light is ON.
 - 7.3.1.8.4 At A-113, RED (breaker closed) light is ON.
 - 7.3.1.8.5 At A-113, GREEN (breaker trip) light is OFF.
 - 7.3.1.8.6 At C10, A-113 AMBER (LOCAL) light is OFF.
 - 7.3.1.8.7 At C10, A-113 White (CHRGD) light is ON.
 - 7.3.1.8.8 At C10, A-113 RED (breaker closed) light is ON.
 - 7.3.1.8.9 At C10, A-113 GREEN (breaker trip) light is OFF.
- 7.3.1.9 At C-10, place A-113 sync switch (152-113/SS) in the OFF position.
- 7.3.1.10 At C10, place A-113 handswitch (152-113/CS) in the TRIP Position.
- 7.3.1.11 Check the following:

7.3.1.11.1 Breaker A-113 is tripped.

7.3.1.11.2 At A-113, AMBER (breaker on local) light is OFF.

7.3.1.11.3 At A-113, RED (breaker closed) light is OFF.

7.3.1.11.4 At A-113, GREEN (breaker trip) light is ON.

7.3.1.11.5 At A-113, White (breaker springs charged) light is ON.

7.3.1.11.6 At C10, A-113 AMBER (LOCAL) light is OFF.

7.3.1.11.7 At C10, A-113 White (CHRGD) light is ON.

7.3.1.11.8 At C10, A-113 RED (breaker closed) light is OFF.

7.3.1.11.9 At C10, A-113 GREEN (breaker trip) light is ON.

- 7.3.1.11.10 AT C10, annunciator K02-F7 (A1/A2 Auto Transfer) is NOT in alarm. (Ref E-91, E-452 sh 3)
- 7.3.1.11.11 At C10, check annunciator K1629-3 (A-113 BREAKER TRIP) inside back of C10 is NOT in alarm. (Ref E-91, E-418 sh 7)
- 7.3.1.11.12 SPDS computer NESF display indicates breaker A-113 green (tripped). (Ref E-482 sh 60)
- 7.3.1.11.13 Unit 1 PMS display indicates NORM for computer point ZS1A113. (Ref E-480 sh 1A)
- 7.3.1.11.14 Unit 1 PMS display indicates NO for computer point YS1A113. (Ref E-480 sh 1A)
- 7.3.2 Remote Close/Trip (Ref E-91, E-561 Sh 4)
 - 7.3.2.1 At C10, place A-113 handswitch (152-113/CS) in the PULL TO LOCK position.
 - 7.3.2.2 At C10, check the voltage at terminal TBB2 –A113, terminals 21 TO 31 is approximately 125 VDC.
 - 7.3.2.3 At C10, check the voltage at terminal TBB2 –A113, terminals 31 TO N3 is approximately 0 VDC.
 - 7.3.2.4 At C10, place A-113 handswitch (152-113/CS) in the TRIP position.
 - 7.3.2.5 At C10, check the voltage at terminal TBB2 -A113, terminals 21 TO 31 is approximately 0 VDC.
 - 7.3.2.6 At C10, check the voltage at terminal TBB2 –A113, terminals 31 TO N3 is approximately 125 VDC.
 - 7.3.2.7 At C10, place A-113 sync switch (152-113/SS) in the ON position.
 - 7.3.2.8 Check A-113 is tripped.
 - 7.3.2.9 At C10, place A-113 handswitch (152-113/CS) in the CLOSE position.
 - 7.3.2.10 Check A-113 is CLOSED.
 - 7.3.2.11 At C10, place A-113 handswitch (152-113/CS) in the TRIP position.
 - 7.3.2.12 Check A-113 is tripped.
 - 7.3.2.13 At A-113, terminal block B, install a jumper from terminal 3 to terminal 5. (ref E-91, E-8-AC-86)

- 7.3.2.14 Check A-111 is tripped.
- 7.3.2.15 At C20, TB-A113 place a hand held jumper from terminal 51 to 61. (Ref E-560 sh 1)
- 7.3.2.16 Check A-113 AUTOMATICALLY CLOSED.
- 7.3.2.17 At C20, TB-A113 remove the hand held jumper from terminal 51 to 61. (Ref E-560 sh 1)
- 7.3.2.18 At C10, check annunciator K02-F7 (A1/A2 Auto Transfer) IS in alarm. (ref E-452 sh 3)
- 7.3.2.19 Check that Unit 1 PMS display indicates YES for computer point YS1A113.
- 7.3.2.20 At C10, place A-113 sync switch (152-113/SS) in the OFF position.
- 7.3.2.21 At A-111, verify the local/remote switch 152/SEL SW) in the LOCAL position.
- 7.3.2.22 At A-111, place the handswitch152/CS in the CLOSE position.
- 7.3.2.23 Check that A-111 is CLOSED
- 7.3.2.24 At C10, place A-111 sync switch (152-111/SS) in the ON position.
- 7.3.2.25 At C10, place A-111 handswitch (152-111/CS) in the CLOSE position.
- 7.3.2.26 Check that A-113 AUTOMATICALLY TRIPPED.
- 7.3.2.27 At C10, check that annunciator K02-F7 (A1/A2 Auto Transfer) is NOT in alarm. (ref E-452 sh 3)
- 7.3.2.28 At C10, place A-111 sync switch (152-111/SS) in the OFF position.
- 7.3.2.29 At C10, place A-113 handswitch (152-113/CS) in the CLOSE position.
- 7.3.2.30 Check that A-113 is not closed.
- 7.3.2.31 Check that plant computer point ZS1A113 IS in alarm.
- 7.3.2.32 At C20, TB-A113 place a hand held jumper from terminal 51 to 52. (Ref E-560 sh 1)
- 7.3.2.33 Check that A-113 AUTOMATICALLY CLOSED.
- 7.3.2.34 Check that plant computer point ZS1A113 IS NOT in alarm.
- 7.3.2.35 At C20, TB-A113 remove the hand held jumper from terminal 51 to 52. (Ref E-560 sh 1)
- 7.3.2.36 At C10, check that annunciator K1629-3 (A-113 BREAKER TRIP) inside back of C10 IS NOT in alarm. (ref E-418 sh 7)
- 7.3.2.37 At C10, place A-113 sync switch (152-113/SS) in the OFF position.
- 7.3.2.38 At C10, place A-112 sync switch (152-112/SS) in the ON position.
- 7.3.2.39 At C10, place A-112 handswitch (152-112/CS) in the CLOSE position.
- 7.3.2.40 Check that A-112 AUTOMATICALLY CLOSED.
- 7.3.2.41 At C10, place A-112 sync switch (152-112/SS) in the OFF position.
- 7.3.2.42 Check that A-113 AUTOMATICALLY TRIPPED.
- 7.3.2.43 At C10, check that annunciator K1629-3 in the back of C10 (A-113 BREAKER TRIP) IS in alarm. (ref E-418 sh 7)

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- 7.3.2.44 At A-113, terminal block B, remove the jumper from terminal 3 to terminal 5. (ref E-91, E-8-AC-86)
- 7.3.2.45 At A-111, verify the following conditions:
 - 7.3.2.45.1 Local /Remote handswitch (152/SEL-SW) in the LOCAL position
 - 7.3.2.45.2 A-111 handswitch (152/CS) in the trip position
 - 7.3.2.45.3 A-111 tripped.
 - 7.3.2.45.4 A-111 racked up.
- 7.3.2.46 At A-112, verify the following conditions:
 - 7.3.2.46.1 Local /Remote handswitch (152/SEL-SW) in the LOCAL position
 - 7.3.2.46.2 A-112 handswitch (152/CS) in the trip position
 - 7.3.2.46.3 A-112 tripped.
 - 7.3.2.46.4 A-112 racked up.
- 7.3.2.47 At A-113, verify the following conditions:
 - 7.3.2.47.1 Local /Remote handswitch (152/SEL-SW) in the LOCAL position
 - 7.3.2.47.2 A-113 handswitch (152/CS) in the trip position
 - 7.3.2.47.3 A-113 tripped.
 - 7.3.2.47.4 A-113 racked up.
- 7.4 A-113/2A-903 Interface (Ref E-2116 sh 11, E-2600 sh 11, E- 506 sh 1, 940369 Sh 444)
 Note: This testing is duplicated in ECT 44312-03 and may be marked N/A if this testing has been completed in ECT 44312-03.
 - 7.4.1 Verify breaker A-113 is in the Tripped position.
 - 7.4.2 Obtain permission from Unit 2 Operations prior to performing any work in the Unit 2 switchgear area.
 - 7.4.3 At 2C436, check approximately 0 VDC between terminal 5 and terminal 6. (ref E-2600 sh 11)
 - 7.4.4 At A-113, place local handswitch (152/CS) the CLOSE position.
 - 7.4.5 Check that A-113 is CLOSED.
 - 7.4.6 At 2C436, check that approximately 125 VDC between terminal 5 and terminal 6. (ref E-2600 sh 11, 940369 sh 444)
- 7.5 Unit AUX XFMR Protection (186-A1) (4.16KV A1 bus lockout) (Ref E-90, E-91, E-92, E-93 sh 2)
 - 7.5.1 At A-112, verify 186-A1 lockout (4.16KV A1 bus lockout) is reset.
 - 7.5.2 At A-111, place handswitch 152 SEL in the LOCAL position.
 - 7.5.3 At A-111, place handswitch 152/CS in the TRIP position.
 - 7.5.4 At A-112, place handswitch 152 SEL in the LOCAL position.
 - 7.5.5 At A-112, place handswitch 152/CS in the TRIP position.

- 7.5.6 At A-113, place handswitch 152 SEL in the LOCAL position.
- 7.5.7 At A-113, place handswitch 152/CS in the TRIP position.
- 7.5.8 At A-112, verify switch E on TS1-112 is in the OPEN position.
- 7.5.9 At A-112, verify switch F on TS1-112 is in the OPEN position.
- 7.5.10 At A-112, verify switch G on TS1-112 is in the OPEN position.
- 7.5.11 At A-112, verify switch H on TS1-112 is in the OPEN position.
- 7.5.12 At C20, place TS-286-G1-2 switch 8 (Generator Lockout Unit Aux Protection), in the CLOSED position. (Ref. E-93 sh 2)
- 7.5.13 At A-112, place handswitch 152/CS in the CLOSE position and check that breaker A-112 closes.
- 7.5.14 At A-112, verify 186-A1 (4.16KV A1 bus lockout) lockout is NOT tripped.
- 7.5.15 At A-113, place handswitch 152/CS in the CLOSE position and verify breaker A-113 closes.
- 7.5.16 At A-112, verify 186-A1 lockout (4.16KV A1 bus lockout) is TRIPPED.
- 7.5.17 At A-113, place handswitch 152/CS in the TRIP position and check that breaker A-113 trips.
- 7.5.18 At A-112, reset 186-A1 lockout (4.16KV A1 bus lockout).
- 7.5.19 At A-111, place handswitch 152/CS in the CLOSE position and check that breaker A-111 closes.
- 7.5.20 At A-112, check that 186-A1 lockout (4.16KV A1 bus lockout) is tripped.
- 7.5.21 At A-112, place handswitch 152/CS in the TRIP position and check that breaker A-112 trips.
- 7.5.22 At A-112, reset 186-A1 lockout (4.16KV A1 bus lockout).
- 7.5.23 At A-111, place handswitch (152/CS) in the TRIP position and check that breaker A-111 trips.
- 7.6 ST1 Lockout Trip (186-ST1-1) to A-113 (Ref. E-91, E-94, E-560 sh 1)
 - 7.6.1 At A-113, Place local/remote handswitch (152/SEL-SW) in the REMOTE position.
 - 7.6.2 At C10, place A-113 sync switch (152-113/SS) in the ON position.
 - 7.6.3 At C10, place A-113 handswitch (152-113/CS) in the CLOSE position.
 - 7.6.4 Check that A-113 closed.
 - 7.6.5 At C10, place A-113 sync switch (152-113/SS) in the OFF position.
 - 7.6.6 At C20, place a hand held jumper from terminal blockA113, terminal 2P to terminal 29.
 - 7.6.7 Check that A-113 is TRIPPED.
 - 7.6.8 At C20, remove the hand held jumper from terminal blockA113, terminal 2P to terminal 29.
 - 7.6.9 At C10, place A-113 handswitch (152-113/CS) in the TRIP position.
 - 7.6.10 At A-113, Place local/remote handswitch (152/SEL-SW) in the LOCAL position.

7.7 <u>ST1 Differential Current Transformers (8000/5 in A-113 bus compartment) – Reference E-34 and E-8-AC-86 device "ZA".</u>

NOTE: Connecting plugs are tagged out for SU-1 TMOD. Test Plugs are not connecting plugs and can be installed in relays that are tagged out.

- 7.7.1.1 Obtain three (3) GE protective relay test plugs.
- 7.7.1.2 Verify the three (3) relay test plugs have shorting jumpers installed from stud 4 to stud 5 and from stud 6 to stud 5.
- 7.7.1.3 Connect three (3) digital ammeters to the three (3) relay test plugs from stud 3 to stud 5.
- 7.7.1.4 Mark the ammeters with temporary labels "A", "B", & "C"
- 7.7.1.5 Verify ammeters are connected and set to measure AC current in the 0 to 2 A range or in automatic range mode.
- 7.7.1.6 Verify the following Startup Transformer No. 1 (ST1) differential current relays in C20 have their connection plugs removed:
 - 187ST/A
 - 187ST/B
 - 187ST/C
- 7.7.1.7 Install the three (3) relay test plugs with three (3) connected and marked ammeters in the corresponding phase differential current relay:
 - 187ST/A
 - 187ST/B
 - 187ST/C
- 7.7.1.8 Remove A-113 front horizontal bus cover(s) as required to visually inspect and access the window type CTs between the breaker primary disconnects and the A-1 horizontal bus.

NOTE: CT polarity marks are typically a round dot near one of the two secondary wiring terminals or marks "H1" for the primary and "X1" for the secondary.

- 7.7.1.9 Front C Phase CT
 - 7.7.1.9.1 Check "C" left phase (viewed from front) CT polarity mark is on the side of the CT closest to the horizontal bus (top side).

NOTE: Per E-8-AC-86 for CT device "ZA", the "C" phase CT secondary terminal that corresponds with the polarity mark is terminal 1(BB6).

7.7.1.9.2 Install the lamp test setup for the C Phase CT by connecting the test setup between "C" phase CT secondary terminal 1 (near polarity mark) and ground.

NOTE: When A-113 differential relay CTs are energized for testing, the corresponding A-213 differential CTs will also be energized – reference E-34.

7.7.1.9.3 Energize the CT lamp test circuit from a 120 VAC supply.

NOTE: All three test ammeters should indicate some current flow, but current through "A" and "B" phases is expected to be a fraction of the current through "C" phase if the CT circuit is connected properly.

- 7.7.1.9.4 Verify that all three ammeters connected to the test plugs in the C20 ST1 differential current relays indicate current flow:
 - 187ST/A ammeter "A"
 - 187ST/B ammeter "B"
 - 187ST/C ammeter "C"
- 7.7.1.9.5 Check that ammeter "C" in relay 187ST/C indicates more current than ammeter "A" in relay 187ST/A and ammeter "B" in relay 187ST/B.
- 7.7.1.9.6 Remove the lamp test setup for the C Phase CT.
- 7.7.1.10 Front A Phase CT
 - 7.7.1.10.1 Check "A" middle phase CT polarity mark is on the side of the CT closest to the horizontal bus (top side).

NOTE: Per E-8-AC-86 for CT device "ZA", the "A" phase CT secondary terminal that corresponds with the polarity mark is terminal 3 (wire BB4).

- 7.7.1.10.2 Install the lamp test setup for the A Phase CT by connecting the test setup between "A" phase CT secondary terminal 3 (near polarity mark) and ground.
- 7.7.1.10.3 Energize the CT lamp test circuit from a 120 VAC supply.

NOTE: All three test ammeters should indicate some current flow, but current through "B" and "C" phases is expected to be a fraction of the current through "A" phase if the CT circuit is connected properly.

- 7.7.1.10.4 Check that all three ammeters connected to the test plugs in the C20 ST1 differential current relays indicate current flow:
 - •187ST/A ammeter "A"
 - •187ST/B ammeter "B"
 - 187ST/C ammeter "C"
- 7.7.1.10.5 Check that ammeter "A" in relay 187ST/A indicates more current than ammeter "B" in relay 187ST/B and ammeter C" in relay 187ST/C.
- 7.7.1.10.6 Remove the lamp test setup for the A Phase CT.
- 7.7.1.11 Front B Phase CT
 - 7.7.1.11.1 Check that "B" right phase (viewed from front) CT polarity mark is on the side of the CT closest to the horizontal bus (top side).

NOTE: Per E-8-AC-86 for CT device "ZA", the "B" phase CT secondary terminal that corresponds with the polarity mark is terminal 5 (BB5).

- 7.7.1.11.2 Install the lamp test setup for the B Phase CT by connecting the test setup between "B" phase CT secondary terminal 5 (near polarity mark) and ground.
- 7.7.1.11.3 Energize the CT lamp test circuit from a 120 VAC supply.

NOTE: All three test ammeters should indicate some current flow, but current through "A" and "C" phases is expected to be a small fraction of the current through "B" phase if the CT circuit is connected properly.

- 7.7.1.11.4 Check that all three ammeters connected to the test plugs in the C20 ST1 differential current relays indicate current flow:
 - 187ST/A ammeter "A"
 - •187ST/B ammeter "B"
 - •187ST/C ammeter "C"
- 7.7.1.11.5 Check ammeter "B" in relay 187ST/B indicates more current than ammeter "A" in relay 187ST/A and ammeter "C" in relay 187ST/C.
- 7.7.1.11.6 Remove the lamp test setup for the B Phase CT.
- 7.7.1.12 Re-install any A-113 front horizontal bus cover(s) that were removed to visually inspect and access the window type CTs between the breaker primary disconnects and the A-1 horizontal bus.
- 7.7.1.13 Remove the three (3) relay test plugs with three (3) ammeters in the ST1 differential current relays in C20.
- 7.7.1.14 Verify the following Startup Transformer 1 (ST1) differential current relays in C20 have their connection plugs re-installed or tagged out:
 - 187ST/A
 - 187ST/B
 - 187ST/C
- 7.8 A-113 Synchronizing Circuit (Ref E-31 Sh 1, E-34, E-561 Sh 4)
 - 7.8.1 At C10, place A-113 sync switch (152-113/SS) in the OFF position.
 - 7.8.2 At C10, check that approximately 120 VAC from TBB1-A01 terminal 413 to ground.
 - 7.8.3 At C10, check that approximately 120 VAC from TBB1-A01 terminal 413 to terminal 0613.
 - 7.8.4 At A-113, remove the temporary 120 VAC power source from TB A terminal 3 (line) and TB A, terminal 4 (neutral). (Ref E-34, E-8-AC-86)
 - 7.8.5 At A-113, reinstall fuse UD (FU20).
- 7.9 Cubicle Heater

NOTE: Note breaker 10LA-31 may be tagged out due to a previously damaged cable or this testing may be performed as part of procedure Op-1416.001. If either condition is true, N/A these step and document the reason in the Test Log.

- 7.9.1 At panel 10 LA (P30), verify breaker 31 is in the CLOSE position. (Ref E61 sh 22, E-8-AC-85))
- 7.9.2 At A-112, verify breaker BC is in the CLOSE position. (Ref E-8-AC-85)
- 7.9.3 At A-112, adjust Temperature control CA to a setting below ambient temperature or cool until it activates.
- 7.9.4 Check approximately 120 VAC across terminals 1&2 for heater SE in A-102.
- 7.9.5 Check approximately 120 VAC across terminals 1&2 for heater SE in A-103.
- 7.9.6 Check approximately 120 VAC across terminals 1&2 for heater SE in A-104.
- 7.9.7 Check approximately 120 VAC across terminals 1&2 for heater SE in A-105.
- 7.9.8 Check approximately 120 VAC across terminals 1&2 for heater SE in A-106.
- 7.9.9 Check approximately 120 VAC across terminals 1&2 for heater SE in A-107.
- 7.9.10 Check approximately 120 VAC across terminals 1&2 for heater SE in A-108.
- 7.9.11 Check approximately 120 VAC across terminals 1&2 for heater SE in A-109.
- 7.9.12 Check approximately 120 VAC across terminals 1&2 for heater SE in A-110.
- 7.9.13 Check approximately 120 VAC across terminals 1&2 for heater SE in A-111.
- 7.9.14 Check approximately 120 VAC across terminals 1&2 for heater SE in A-112.
- 7.9.15 Check approximately 120 VAC across terminals 1&2 for heater SE in A-113.
- 7.9.16 Check approximately 120 VAC across terminals 1&2 for heater SE in A-114.
- 7.9.17 Check approximately 120 VAC across terminals 1&2 for heater SE in A-115.
- 7.9.18 Check approximately 120 VAC across terminals 1&2 for heater SE in A-116.
- 7.9.19 At A-112, adjust Temperature control CA to as found condition (should be 95° to 100° F on decreasing temperature).
- 7.10 A-308 Breaker trip Alarm (Ref. E-418 Sh, 7, E-100 Sh. 1)
 - 7.10.1 Obtain permission from Unit 1 Operations prior to performing this test section.
 - 7.10.2 At A-308, verify local/remote handswitch (152/SEL-SW) is in the LOCAL position.
 - 7.10.3 At A-308, verify handswitch (152/CS) is in the TRIP position
 - 7.10.4 Verify breaker A-308 is in the OPEN position.
 - 7.10.5 AT C10, verify A-308 handswitch is in the TRIP position.
 - 7.10.6 Verify that annunciator K1629-4 in the back of C10 Is NOT in alarm.
 - 7.10.7 AT C10, place A-308 handswitch in the CLOSE position.
 - 7.10.8 Check that breaker A-308 is in the OPEN position.
 - 7.10.9 Check that annunciator K1629-4 in the back of C10 IS in alarm.
 - 7.10.10 AT C10, place A-308 handswitch in the TRIP position.
 - 7.10.11 At A-308, place local/remote handswitch (152/SEL-SW) is in the REMOTE position unless otherwise directed by Unit 1 Operations.
8.0 <u>Restoration</u>

- 8.1 All switchgear breakers manipulated during this testing should be left in the racked up, tripped position with the DC control power energized unless otherwise directed.
- 8.2 At C20, remove the jumper from TBA113 terminal 11 to terminal 21.
- 8.3 At C10, reterm the black lead in cable A112F, lifted from TBB2 terminal block 4, terminal 2P. (REF E-561 SH 4) (ESX-A3)
- 8.4 Place the following test switches in the closed position unless other wise directed by Unit 1 Operations:
 - 8.4.1 A-111 TS1-111, switch E.
 - 8.4.2 A-111 TS1-111, switch F
 - 8.4.3 A-112 TS1-112, switch E
 - 8.4.4 A-112 TS1-112, switch F
 - 8.4.5 A-112 TS1-112, switch G
 - 8.4.6 A-112 TS1-112, switch H
 - 8.4.7 At A-112, reinstall the "pie plate" in relay 127-A1-1.
 - 8.4.8 At C20, TS-186-ST1-1 switch 3 (Startup XFMR 1 Lockout Trip A-113). (E-91, E-94)
 - 8.4.9 At C20, TS-186-ST2-1 switch 3 (Startup XFMR 1 Lockout Trip A-408). (E-94, E-100 sh 1A)
 - 8.4.10 At C20, TS-286-G1-1 switch 6 (Generator Lockout A-112 Trip) (E-91, E-93 SH 2)
 - 8.4.11 At C20, TS-286-G1-2 switch 1 (Generator Lockout A-112 Trip) (E-91, E-93)
 - 8.4.12 At C20, TS-286-G1-2 switch 9 (Generator Lockout Unit Aux Protection) (E-91, E-93)
 - 8.4.13 At C20, TS-286-G1-3 switch 2 (Generator Lockout 286 G1 & G2 Trip) (Ref E-138)
 - 8.4.14 At A-112, remove the temporary 120 VAC power source at TB A terminal 4 (line), and TB A terminal 2 (neutral).
 - 8.4.15 At A-112, install both UE (FU-29) fuses.
 - 8.4.16 At A-113, install fuse UD (FU-20).
- 8.5 IF PT fuses are not on a tagout, then Install the following potential transformer fuses on A-1:
 - 8.5.1 A-103 Bus PT Fuses (Reference E-8-AC-82 Device PA)
 - 8.5.2 A-113 PT Fuses (Reference E-8-AC-86 Device PA)
- 8.6 At C20, remove the glass cover for Loss Of Field Relay (240) then place the following switches in the CLOSE position: (This may cause the 286-G1-1 and 286-G1-2 generator lockout relays to TRIP. Ref Op-1305.029)
 - Red Knife Switch
 - Black Knife Switches

9.0 <u>Test Results and Evaluation</u>

9.1 Attach a completed copy of OP-1416.001 used for relay verification.

ECT-44312-07 Rev 000

10.0 <u>M&TE Instrumentation</u>

NONE

11.0 Summary Information

11.1 Test Deficiencies

12.0 <u>Attachments:</u>

- 12.1 EN-DC-117 Attachment 9.8 Test Change Notice
- 12.2 EN-DC-117 Attachment 9.9 Test Log
- 12.3 EN-DC-117 Attachment 9.10 Test Deficiency Log
- 12.4 EN-DC-117 Attachment 9.11 -- Signature Identification Log

ATTACHMENT 9.8			TEST CHANGE NOTICE
SHEET 1 OF 1			
	TEST CHANGE NOTICE		
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TEST #:	Change Notice No.:	Quality Class:	🗆 QR 🗌 NQR
TEST TITLE:			
Type of Change: Intent Non Intent Description of Change(s):			
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REVIEW (Print/Sign/Date)	<i>.</i>		
Test Engineer:	/		
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STI Original EN-LI-100, process Applicability D OSRC Approval: Not Required Mtg No	etermination: 🗌 Not Impacted; Date: Chairman:	Impacted and Revise	d
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Organization On Site Risk Assessment Group:	Organizati	on	·
APPROVAL (Print/Sign/Date)			· · · · · · · · · · · · · · · · · · ·
TE Supervisor:	/		
Note: Signatures may be obtained via electroni	ic processes (e.g., AS)		

ECT-44312-07 Rev 000

SWGR A-113

ATTACHMENT 9.9	TEST LOG
Sheet 1 of 1	

Test Number: ECT/S	STI: P	ageof
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SWGR A-113

Page 22 of 23

TEST DEFICIENCY LOG ATTACHMENT 9.10 SHEET 1 OF 1

Test Number: ECT/STI: _____ Page__of____

DEFICIENCY NUMBER	DEFICIENCY DESCRIPTION	DATE/TIME
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ATTACHMENT 9.11	SIGNATURE IDENTIFICATION LOG
Sheet 1 of 1	

Test Number: ECT/STI:_______Page____of___

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ATTACHMENT 9.6	TEST PROCEDURE COVER SHEET
Sheet 1 of 1	······································

TEST COVER SHEET				
TEST TYPE: 🛛 ECT Procedure 📋 ECT WO 📋 STI Procedure Page 1 of 12				
TEST #: <u>ECT-44312-04</u> REV. #: <u>0</u> Quality Class: QR 🛛 NQR				
TEST TITLE: Functional testing for breaker 2A-901				
REVIEW (Print/Sign/Date)				
Technical Reviewer: P. Riedmueller and Quedmuch 17-11-13				
CROSS-DISCIPLINE REVIEW				
Operations Department: K. McNeaill / 2/11/13 MA / / GAR / / Organization				
Maint : M. Stang/M Smith / 7/1/13 Organization : // Organization				
Organization				
ADDITIONAL STI (ONLY) PROCEDURE REQUIREMENTS				
10CFR50.59 Evaluation: Not Required Attached Other				
OSRC Approval 🔲 Not Required Mtg No Date: Chairman:				
APPROVAL(Print/Sign/Date)				
TE Supervisor: Vincent Bond / Micent Bond 17/11/13				
TEST COMPLETION REVIEW / ACCEPTANCE				
Summary of Test Results: All test sections completed SAT, with no				
outstanding deficiencies.				
Responsible Engineer (RE)*: N/A-///////////////////////////////////				
Test Engineer (TE): John Rossman John Rossman 17/24/13				
Technical Reviewer Chris Shively Chris Shive 17/24/13				
TE Supervisor: VINCENT Bond /mcut Bond 17/24/13				

*If required for confirmation of assumptions made in the development of the EC.

Note: Signatures may be obtained via electronic processes (e.g., AS)

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TEST TITLE: Functional Testing for 2A-901 Type of Change: Intent Description of Change(s): This TCN is being initiated to document satisfactory completion and review of sections 7.1, 7.2, and 7.3 (A-308, A-309, and A-310 breaker position inputs to 2A-9 PLC 2C436) to allow return to service of A-1 bus including the feed to A-3 bus. The ECT includes both A-3 and A-4 Dreaker status inputs to 2A-9 PLC. Green train components A-408, A-409, and A-410 were protected train components A-408, A-409, and A-410 were protected train components when this test was initially performed and testing of those components could not be performed at that time. The A-4 breaker inputs to 2A-9 PLC will be completed at a later time when A-4 no longer protected train. Steps completed up through 7.3.2.4 have been completed satisfactorily with no test deficiencies. This TCN is marked as an intent change solely for the purpose of getting a technical review. TCR POSTING INSTRUCTION List Page(s) being Replaced (WA, if not applicable): N/A List Page(s) being Deleted (NA, if not applicable): N/A REVIEW (Print/Sign/Date) Alan Smith M/M M/M T/2.3//3 Technical Reviewer: Alan Smith M/M Chairman: N/A Operations Department: Organization Organization Organization Driganization Organization Organization Organization Driganization <th< td=""><td>FEST #: <u>ECT-443</u></td><td>12-04</td><td>Change Notice N</td><td>lo.: <u>002</u></td><td>Quality Class:</td><td>🗌 or 🛛 Nor</td></th<>	FEST #: <u>ECT-443</u>	12-04	Change Notice N	lo.: <u>002</u>	Quality Class:	🗌 or 🛛 Nor
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SWGR 2A-901

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SWGR 2A-901



Objectives

- 1.1 This ECT provides functional testing of Switchgear Cubicle 2A-901, which supplies the A3/A4 bus from the AAC generator. Testing is being performed as a result of damage which occurred during the ANO-1 Stator Drop Event.
- 1.2 This testing does not include system or performance testing of the load supplied by 2A-901.

<u>Refere</u>	nces	
2.1	EC-44312	A1 SWITCHGEAR CHILD EC, STATOR RECONSTRUCTION
2.2	EN-DC-117	Post Modification Testing and Special Instructions
2.3	E-4	Single Line Meter & Relay Diagram 4160 Volt Main Supply
2.4	E97 Sh 1	Schematic Diagram 4160V Engineered Safeguard Bus Feeder ACB.
2.5	E97 Sh 1A	Schematic Diagram 4160V Engineered Safeguard Bus Feeder ACB.
2.6	E98 Sh 1	Schematic Dlagram 4160 V Engineered Safeguard Bus A3 and A4 Tie.
2.7	E98 Sh 1A	Schematic Diagram 4160 Engineered Safeguard Bus Tie Breaker 152-410.
2.8	E-100 Sh 1	Schematic Diagram Diesel Generator DG1 ACB
2.9	E-100 Sh 1A	Schematic Diagram Diesel Generator ACB
2.10	E-506 Sh 9C	Connection Diagram 4160 VAC Switchgear (GE Unit A309) ACB A309 4160V ESF Bus A3 Feeder
2.11	E-506 Sh 19C	ES Bus A4 Feeder GE Unit No. A409 Comp, A409 Int & Ext Wiring
2.12	E-2600 Sh 11	Connection Diagram AAC Generator System Control Panel 2C436
2.13	E-2042 Sh 2	Logic Diagram AAC Generator System Tie Breakers
2.14	E-2678 Sh 18	Connection Diagram Terminal Boxes
2.15	940369-444	Circuit Schematics Schematic Inputs
2.16	949369-445	Circuit Schematics Schematic Inputs



<u>Test Equipment</u>

Multi-meter

32 Test Jumpers

9.9

Precautions and Limitations

Circuit Breakers associated with this testing have high levels of potential energy. Exercise caution when working in the area if equipment is energized.



Testing shall be done with breaker 2A-901 racked out.

Test steps shall be performed in order unless authorized by the Test Engineer and the sequence change documented in the Test Log.



Any leads lifted or jumpers installed shall be controlled using a Lifted Lead and Jumper Sheet.



All personnel performing test steps in this ECT shall complete the appropriate sections of the Signature Identification Log in section 12.0.

The Test Engineer or designee shall maintain the Test Log in Section 12.0 per requirements of EN-DC-117 section 5.2 [11] (b).

All M&TE equipment used during testing shall be recorded in section 10.0.



All test discrepancies shall be documented in the Test Deficiency Log in Section 12.0, including evaluation and resolution of each discrepancy.



The Test Engineer shall provide a post test summary, including evaluation of test results, in Section 11.0.

For testing purposes in this ECT, a jumper may be defined as a test switch with leads that would allow the installer to connect the leads inside the cubicle, close the cubicle door then close the switch to make the connection.



Due to terminology differences between groups reviewing this ECT, the word Check is means to verify an expected condition exists without taking any further action to make it so.



Due to terminology differences between groups reviewing this ECT, the word VERIFY will mean if a breaker, switch, etc. is not in the desired position, place it in the desired position.



Due to terminology differences between groups reviewing this ECT, the words trip and open have the same meaning when verifying or placing a breaker, switch, etc. in a desired position.



Due to terminology differences between groups reviewing this ECT, when a breaker is placed in the closed or trip position, it is understood that the switch handle will be released unless stated to hold in a position.



When installing jumpers, place tape on the adjacent terminals as a precaution against shorting.





Prerequisites

Verify that the following connection diagrams have been yellowlined for cables listed:

	DRAWING	CABLE	
51.1	E-2600 sh 11	2C436E1	Par IFS sign-obt on RTS form.
6.1.2	E-2678 sh 18	2C436D2	
523	E-506 sh 9C	2C436E	
	E-506 sh 19C	-2C436D	



Verify that the Implementing Field Supervisor has signed the Return to Service Form and verified 2A-901 is ready for testing.

Xerify that the 2A-901 testing work order task (00354320) has been authorized.

Perform a Pre-test Brief per EN-DC-117, Attachment 9.12, Pre-Test Briefing Guidelines.

Verify that personnel are on the appropriate clearances.

Obtain permission from Unit 1 Shift manager prior to commencing work.

Obtain permission from Unit 2 Shift manager prior to commencing work.

Verify A-901 is racked out.

TCN-I | 5.9---Verify that A-3 and A-4 are being supplied from SU-1 IAW with EC-43686.





6.1 NONE DMM-383 Due Dute 7/23/13-Sec. 7.1,7.2,7.3 Test Instructions DMM-395 Due Date 5/17/14 - S.c. 7.4,7.5 ECT-44312-04 Rev 000

SWGR 2A-901

A-308 Close To 2A-901 (Ref. E-2600 Sh 11, E-2042 Sh 2, E-506 Sh 9C) \geq If A-308 is tripped, then perform the following: At 2C436, check 0 VDC present from terminal 13 to terminal 14, indicating 3.45 1.60 a CLOSED contact. At A-309, lift the black lead in cable 2C436E from TB-BB, terminal 1. At 2C436, check approximately 125 VDC present from terminal 13 to terminal 14, indicating an open contact. 132 VDC At A-309, reconnect the black lead in cable 2C436E lifted from TB-BB terminal 1. At 2C436, check 0 VDC present from terminal 13 to terminal 14, indicating 7.1.15 a CLOSED contact. TILA 7.1.2 If A-308 is closed, then perform the following: At 2C436, check approximately 125 VDC present from terminal 13 to 7.1.2.1 terminal 14, indicating an open contact. 7.1.2.2 At A-309, install a jumper from TB-BB terminal 1 to terminal 2. 7.1.2.3 At 2C436, check 0 VDC present from terminal 13 to terminal 14, indicating a CLOSED contact. 7.1.2.4 At A-309, remove the jumper from TB-BB terminal 1 to terminal 2. A-309 Close To 2A-901 (Ref. E-2600 Sh 11, E-2042 Sh 2, E-506 Sh 9C) If A-309 is tripped, then perform the following: At 2C436, check 0 VDC present from terminal 15 to terminal 16, indicating a CLOSED contact. At A-309, lift the red lead in cable 2C436E from TB-BB, terminal 3. At 2C436, check approximately 125 VDC present from terminal 15 to 125Vbc terminal 16, indicating an open contact. At A-309, reconnect the red lead in cable 2C436E, lifted from TB-BB terminal 3. At 2C436, check 0 VDC present from terminal 15 to terminal 16, indicating a CLOSED contact. ØVDC N/A 7.2.2 If A-309 is closed, then perform the following: At 2C436, check approximately 125 VDC present from terminal 15 to 7.2.2.1 terminal 16, indicating an open contact. 7.2.2.2 At A-309, install a jumper from TB-BB terminal 3 to terminal 4. At 2C436, check 0 VDC present from terminal 15 to terminal 16, indicating 7.2.2.3 a CLOSED contact. 7.2.2.4 At A-309, remove the jumper from TB-BB terminal 3 to terminal 4. A-310 Close To 2A-901 (Ref. E-2600 Sh 11, E-2042 Sh 2, E-506 Sh 9C) N/A 7.3.1 If A-310 is tripped, then perform the following: At 2C436, check 0 VDC present from terminal 17 to terminal 18, indicating 7.3.1.1 a CLOSED contact.





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* Sec below.

M&TE Instrumentation 10.0

NONE See 6.0 Instrumentation.

11.0 **Summary Information**

11.1 Verify any deficiencies have been logged and their resolution(s) documented.

12.0 **Attachments:**

- 12.1 EN-DC-117 Attachment 9.8 - Test Change Notice
- 12.2 EN-DC-117 Attachment 9.9 - Test Log
- 12.3 EN-DC-117 Attachment 9.10 Test Deficiency Log
- 12.4 EN-DC-117 Attachment 9.11 -- Signature Identification Log

* 11. DA: Summary

All test sections completed SAT, with no outstanding deficiencies.

7/24/13

1

TEST CHANGE NOTICE TEST CHANGE NOTICE TYPE: ECT ECT WO STI Page 1 of	TEST CHANGE NOTICE TEST #:	TTACHMENT 9.8 TEST CHANGE NOTIC				
TEST CHANGE NOTICE FEST ECT ECT W0 STI Page 1 of	TEST CHANGE NOTICE TEST ECT ECT WO STI Page 1 of	SHEET 1 OF 1			<u></u>	
TEST ECT ECT WO STI Page 1 of	TEST ECT ECT WO STI Page 1 of			TEST CHANGE NO	TICE	
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TEST #: Change Notice No.: Quality Class: QRNQR TEST	TEST #: Change Notice No.: Quality Class: QR TST	EST LIECT YPE:			Page 1 of	
TST Type of Change: Intent Description of Change(s):	TSST TTTLE: Type of Change: Intent Description of Change(s):	EST #:		Change Notice No.:	Quality Class	
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ATTACHMENT 9.9 SHEET 1 OF 1

TEST LOG

Date	Entry	Initials
7/14/13 224	Held Pre-Test Brief	PAC
7/14/13 2250	Verified oll Pre-requisites	plez.
7/14/13 2300	Commenced Tresting	DAC
7/14/13 2340	Completed Sections 7.1,7.2 and 7.3 Sotistactorily	Dh
7/14/13 2341	The other sections of of 7.0 are protected bus and OPS placed them an	
······	HOLD, until Trainsmap occurs.	RAC
7/24/13 0220	Pre-Test Briet to Condinue	
	Testing at sec. 7.4.1	Øk
7/24/13 0318	Completed Sections 7.4.7.5 and 7.6	
	Satisfactory.	De
······································		

SWGR 2A-901

ATTACHMENT 9.	10	TEST DEFICIENCY LOG		
SHEET 1 OF 1				
Test Number: ECT/STI:				
DEFICIENCY NUMBER	DEFICIENCY DESCRIPTION	DATE/TIME		
1	Removed Prerequisite 5.9 due to Temp Mod being installed, to allow Testing	7/14/13 1700		
2.	TCN written to explain hold on Sec. 7,4,7,5 and 7,6. Sec. 7.4,7,5 and 7.6 Completed on 7/24/13	7/23/13 1630		
		·····		
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ATTACHN	IENT 9.11
SHEET 1	OF 1

SIGNATURE IDENTIFICATION LOG

Test Number: ECT/STI: ECT- 44312-04 Page_lof_

Name	Title	Signature	Initials
FURWARD CLA	IRK Test Performer	Durward Clock	Dre
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SWGR A-2, Miscellaneous Controls

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TEST PROCEDURE COVER SHEET

ATTACHMENT 9.6 Sheet 1 of 1

ECT-44313-07 Rev 000

TEST COVER SHEET
TEST TYPE: 🖾 ECT Procedure 🔲 ECT WO 🛄 STI Procedure Page 1 of 16
TEST #:44313-07 REV. #:000 Quality Class: QR 🛛 NQR
TEST TITLE: A-2 Switchgear Functional Testing, Miscellaneous Controls
REVIEW (Print/Sign/Date) Test Engineer (TE): Susan Mitchell / Susa
Technical Reviewer: Phillip Stadler / D. Marchaller / 17/10/13
CROSS-DISCIPLINE REVIEW Operations Department: Knying Ol, 1712/13 Mark Stay Mun Stop 7/12 N/A
Organization NIA / Organization ///
ADDITIONAL STI (ONLY) PROCEDURE REQUIREMENTS EN-LI-100 Review: Aftached Other 10CFR50.59 Evaluation: Not Required Attached Other
OSRC Approval Not Required Mtg No Date: Chairman:
APPROVAL (Print/Sign/Date)
TEST COMPLETION REVIEW / ACCEPTANCE
Summary of Test Results:
Responsible Engineer (RE)*:/
Test Engineer (TE):
Technical Reviewer
TE Supervisor: /

'If required for confirmation of assumptions made in the development of the EC.

Note: Signatures may be obtained via electronic processes (e.g., AS)

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7.3 A-207 Heater Drain Pump P8B Breaker	.8
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Test Results and Evaluation1	0
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1.0 Objectives

- 1.1 This ECT provides DC control power checks for switchgear cubicles A-202 through A-208, elevator motor power for switchgear cubicles A-202 through A-210, and functional testing of switchgear cubicles A-205 and A-207 damaged cables. Testing is being performed as a result of cables impacted by the damage which occurred during the ANO-1 Stator Drop Event or the subsequent temporary modification and repair efforts.
- 1.2 This testing does not include system or performance testing of the loads supplied by switchgear cubicles A-205 and A-207.
- 1.3 Testing performed per this ECT will be done with **BUS A-1 AND BUS A-2 DE-ENERGIZED**.

2.0 <u>References</u>

2.1	EC-44313,	A-2 SWITCHGEAR CHILD EC, STATOR RECONSTRUCTION
2.2	EN-DC-117,	Post Modification Testing and Special Instructions
2.3	E-4 Sh. 1,	Single Line Meter & Relay Diagram, 4160 Volt System, Main Supply
2.4	E-61 Sh. 18	Panel Schedule No. 2LB
2.5	E-76 Sh. 1,	Schematic Diagram, Typical Circuit Breaker 6900V & 4160V Switchgear
2.6	E-93 Sh. 2,	Schematic Diagram, Switchgear Bus Lockout and Undervoltage Relays
2.7	E-304 Sh. 1,	Schematic Diagram, Heater Drain Pumps
2.8	E-306 Sh. 2,	Schematic Diagram, Condensate Pump P2B
2.9	E-505 Sh. 2,	Connection Diagram, 4160 Volt Switchgear (Non-ES), Units A108 through A104
2.10	E-505 Sh. 3,	Connection Diagram, 4160 Volt Switchgear (Non-ES), Units A103 through A115
2.11	E-505 Sh. 4,	Connection Diagram, 4160 Volt Switchgear (Non-ES), Units A201 through A205
2.12	E-505 Sh. 5,	Connection Diagram, 4160 Volt Switchgear (Non-ES), Units A206 through A210
2.13	E-531 Sh. 42,	Connection Diagram, Terminal Boxes
2.14	E-551 Sh. 1,	Connection Diagram, Main Control Console C02, Feedwater & Condensate
2.15	E-560 Sh. 1,	Connection Diagram, Main Control Panel C20, Plant Protective Relay & Gen Recorder BDS
2.16	E-561 Sh. 2,	Connection Diagram, Main Control Panel C10, Electrical Auxiliary System
2,17	E-572 Sh. 5,	Connection Diagram, Control Panel C30
2.18	VP E-8-AC-87,	Metalclad Switchgear Connection Diagram (Unit A202)
2.19	VP E-8-AC-89,	Metalclad Switchgear Connection Diagram (Units A204, A205, A206, A207, A208)
2.20	VP E-8-AC-95,	Metalclad Switchgear Interconnection Diagram (Units A106, A105, A104 & A103)

			Ĩ
2.21	VP E-8-AC-97,	Metalclad Switchgear Interconnection Diagram (Units A201, A202 A203 & A204)) - ;
2.22	VP E-8-AC-98,	Metalciad Switchgear Interconnection Diagram (Units A205, A206 A207 & A208)	s,
2.23	VP E-8-AC-161,	Metalclad Switchgear Connection Diagram (Units A105, A106, A107, A108, A114)	
2.24	VP E-8-AC-162,	Metalclad Switchgear Connection Diagram (Units A209, A210)	
2.25	WO 354185	A-2 Miscellaneous Controls, Dead Bus Functional Testing	

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3.0 Test Equipment

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3.1 Multi-meter

- 3.2 Temporary test jumper with switch and configured for attachment so that terminals do not need to be disturbed to insert jumper.
- 3.3 Clamp-on ammeter

4.0 <u>Precautions and Limitations</u>

- 4.1 Circuit Breakers associated with this testing have high levels of potential energy. Exercise caution when working in the area if equipment is energized.
- 4.2 Testing shall be done with the A-1 and A-2 buses DE-ENERGIZED.
- 4.3 Test steps shall be performed in order unless authorized by the Test Engineer and the sequence change documented in the Test Log.
- 4.4 Any leads lifted or jumpers installed shall be controlled using a Lifted Lead and Jumper Sheet.
- 4.5 All M&TE equipment used during testing shall be recorded in section 10.0.
- 4.6 All personnel performing test steps in this ECT shall complete the appropriate sections of the Signature Identification Log in section 12.0.
- 4.7 The Test Engineer or designee shall maintain the Test Log in Section 12.0 per the requirements of EN-DC-117, Section 5.2 [11](b).
- 4.8 All test discrepancies shall be documented in the Test Deficiency Log in Section 12.0, including evaluation and resolution of each discrepancy.
- 4.9 The Test Engineer shall provide a post-test summary, including evaluation of test results, in Section 11.0.
- 4.10 Due to terminology differences between groups, the word CHECK means to verify an expected condition exists without taking any further action to make it so.
- 4.11 Due to terminology differences between groups, the word VERIFY means if a breaker, switch, etc. is not in the desired position, place it in the desired position.
- 4.12 Due to terminology differences between groups, the words TRIP and OPEN have the same meaning when verifying or placing a breaker, switch, etc. in a desired position.
- 4.13 Due to terminology differences between groups, when a breaker is placed in the closed or trip position, it is understood that the switch handle will be released unless stated to hold in a position.
- 4.14 When installing jumpers, place tape on the adjacent terminals as a precaution against shorting.

5.0 <u>Prerequisites</u>

- 5.1 Verify that affected connection diagrams and schematic diagrams for each breaker cubicle have been yellow-lined or as-built as required.
- 5.2 Verify that the Implementing Field Supervisor has signed the Return to Service Form, for EC-44313, and verified cubicles A-202 through A-210 are ready for testing.
- 5.3 Verify that the A-2 Testing Work Order 354185, Task 01 for this test has been authorized.
- 5.4 Perform a Pre-test Brief per EN-DC-117, Attachment 9.12, Pre-Test Briefing Guidelines.
- 5.5 Verify A-2 is available and has control power available.
- 5.6 Verify Heater Drain Pump Motor space heater power, 2LB-3, is available.
- 5.7 Ensure that test personnel are on the appropriate Clearances.

6.0 Instrumentation

6.1 No instrumentation is required.

7.0 <u>Test Instructions</u>

- 7.1 Control Power, Elevator Motor Power
 - 7.1.1 Verify breakers A-202 through A-210 are RACKED DOWN.
 - 7.1.2 Verify breakers A-105 and A-106 are RACKED DOWN.
 - 7.1.3 Verify 4160 Volt Switchgear A-2 125 VDC Control Power Breaker D21-03 is OPEN.
 - 7.1.4 Verify DC Control Power Breakers (BA) located in all A-2 breaker cubicles are OPEN.
 - 7.1.5 CLOSE 4160 Volt Switchgear A-2 125 VDC Control Power Breaker D21-03.
 - 7.1.6 Verify 125 VDC (nominal) and proper polarity at line side of DC Control Power Breakers (BA) at terminal 3 (+) and terminal 1 (-) for the following breakers:
 - 7.1.6.1 A-202
 - 7.1.6.2 A-203
 - 7.1.6.3 A-204
 - 7.1.6.4 A-205
 - 7.1.6.5 A-206
 - 7.1.6.6 A-207
 - 7.1.6.7 A-208
 - 7.1.7 CLOSE DC Control Power Breaker (BA) located in breaker A-202.
 - 7.1.8 In breaker cubicle A-209, verify 125 VDC (nominal) and proper polarity at terminal board XL points 1 (+) and 2 (-). Reference E-8-AC-162.
 - 7.1.9 In breaker cubicle A-210, verify 125 VDC (nominal) and proper polarity at terminal board XL points 1 (+) and 2 (-). Reference E-8-AC-162.
 - 7.1.10 OPEN DC Control Power Breaker (BA) located in breaker A-202 or position as directed by Unit 10ps.

7.2 A-205 Condensate Pump P2B Breaker

7.2.1 Cable A205M wires 17, 18, 20 between A106 and C30 (E-306-2):

	Note				
GE remo	GE HGA11 control relay CR-A205 in C30 will require its plastic cover be removed to visually check whether the relay is picked up or not picked up. Reference V/P M-201-101 and M-201-110 for location of relay.				
7.2.1.1	If relay CR-A205 in C30 has a plastic cover installed, then remove cover.				
7.2.1.2	Verify A-205 breaker RACKED DOWN.				
7.2.1.3	Verify A-205 DC control power breaker BA CLOSED				
7.2.1.4	Verify A-205 Local/Remote Handswitch is in REMOTE.				
7.2.1.5	Verify fuses UB, UC, UR, UT located inside A-205 Cabinet in the ON position.				
7.2.1.6	Verify A-106 breaker RACKED DOWN.				
7.2.1.7	Verify A-106 DC control power Breaker BA OPEN.				
7.2.1.8	Verify A-105 is RACKED DOWN.				
7.2.1.9	Verify A-105 DC control power Breaker BA OPEN.				
7.2.1.10	Verify P-8A Heater Drain Pump (A-107) handswitch HS-2808 on C12 in Normal-After-Stop or Pull-To-Lock position.				
7.2.1.11	Verify P-8B Heater Drain Pump (A-207) handswitch HS-2810 on C12 in Normal-After-Stop or Pull-To-Lock position.				
7.2.1.12	Take P-2A handswitch HS-2886 on C02 to STOP and release.				
7.2.1.13	Take P-2B handswitch HS-2893 on C02 to STOP and release.				
7.2.1.14	Take P-2C handswitch HS-2897 on C02 to STOP and release.				
	7.2.1.14.1 Visually check relay CR-A205 in C30 Pan O not picked up. Reference M201-110.				
7.2.1.15	Take P-2A handswitch HS-2886 on C02 to START and release.				
	7.2.1.15.1 Visually check relay CR-A205 in C30 Pan O picked up.				
7.2.1.16	Take P-2A handswitch HS-2886 on C02 to STOP and release.				
	7.2.1.16.1 Visually check relay CR-A205 in C30 Pan O not picked up.				
7.2.1.17	Take P-2C handswitch HS-2897 on C02 to START and release.				
	7.2.1.17.1 Visually check relay CR-A205 in C30 Pan O picked up.				
7.2.1.18	Take P-2C handswitch HS-2897 on C02 to STOP and release.				

7.2.1.18.1 Visually check relay CR-A205 in C30 Pan O not picked up.

- 7.2.1.19 If plastic cover for relay CR-A205 was removed for this test, then reinstall.
- 7.2.2 Cable A205Q wires 2P, 29A between A-205 and A-105 (E-306-2):
 - 7.2.2.1 Verify A-205 Local/Remote handswitch in LOCAL.
 - 7.2.2.2 Verify A-205 DC control power breaker (BA) is OPEN.
 - 7.2.2.3 Remove bulb from RED ON indicating light for local control at A-205 cubicle.
 - 7.2.2.4 In cubicle A-105, install a maintain position test switch jumper with the switch OPEN across TB FF terminals 11 and 12 opposite cable A205Q WHITE wire number 29A and BLACK wire number 2P without lifting existing leads. Reference E-8-AC-95.
 - 7.2.2.5 In cubicle A-106, install a maintain position test switch jumper with the switch OPEN in cubicle A-106 across TB AA terminal points 3 and 4 without lifting existing leads. Reference E-8-AC-161.
 - 7.2.2.6 In A-205, verify no continuity measured between the cabinet internal side of TB CC terminals 1 and 3 opposite cable A205Q BLACK wire number 2P and WHITE wire number 29A. Reference E-8-AC-98 and E-505 sh. 4.
 - 7.2.2.7 In A-105, place the test switch jumper in the CLOSED position.
 - 7.2.2.7.1 In A-205, observe a change to continuity measured between the cabinet internal side of TB CC terminals 1 and 3 opposite cable A205Q BLACK wire number 2P and WHITE wire number 29A (E-505-4).
 - 7.2.2.8 In A-105, place the test switch jumper back in the OPEN position.
 - 7.2.2.8.1 In A-205, observe a change to no continuity measured between the cabinet internal side of TB CC terminals 1 and 3 opposite cable A205Q BLACK wire number 2P and WHITE wire number 29A.
 - 7.2.2.9 In A-106, place the test switch jumper in the CLOSED position.
 - 7.2.2.9.1 In A-205, observe a change to continuity measured between the cabinet internal side TB CC terminals 1 and 3 opposite cable A205Q BLACK wire number 2P and WHITE wire number 29A.
 - 7.2.2.10 In A-106, place the test switch jumper back in the OPEN position.
 - 7.2.2.10.1 In A-205, observe a change to no continuity measured between the cabinet internal side of TB CC terminals 1 and 3 opposite cable A205Q BLACK wire number 2P and WHITE wire number 29A.
 - 7.2.2.11 Remove the test switch jumper installed at cubicle A-105.
 - 7.2.2.12 Remove the test switch jumper installed at cubicle A-106.
 - 7.2.2.13 Reinstall bulb into RED ON indicating light for local control at A-205 cubicle.
 - 7.2.2.14 Place the A-205 Local/Remote handswitch in REMOTE, or as requested by Unit 1 Operations.

7.3 A-207 Heater Drain Pump P8B Breaker

NOTE

Test Switch TS-286T-1 is the last two test switches (switches 9 and 10) of TS-186-ST1-1.

- 7.3.1 Verify Test Switch TS-186-ST1-1 (TS-286T-1), SW #10 at Control Room panel C20 is in the OPEN position. (E-304-1)
- 7.3.2 Verify Test Switch TS1-211, SW D in A-211 is in the OPEN position. (E-93-2)
- 7.3.3 Verify A-207 Local/Remote handswitch in LOCAL.
- 7.3.4 Verify A-207 DC control power breaker (BA) OPEN.
- 7.3.5 Remove bulb from RED ON indicating light for local control at A-207 cubicle.
- 7.3.6 Cable A207D wires 21, 29, 31 and 2P between A-207 and TB118, and cable A207K wires 2P, 29 between A-207 and C20 (E-304-1)
 - 7.3.6.1 In terminal box TB1089 (Reference E-531 sh. 42):
 - 7.3.6.1.1 Lift the cable A207F 2P RED wire from terminal block scheme A207.
 - 7.3.6.1.2 Without lifting existing leads, install a maintain position test switch jumper with switch OPEN across terminal block scheme A207 terminal 29 (cable A207F BLACK wire) and onto wire 2P lifted above.
 - 7.3.6.1.3 Without lifting leads, install a maintain position test switch jumper with switch OPEN across terminal block scheme A207 terminals 31 and 21 on the terminal board side opposite cable A207F WHITE wire number 2P and GREEN wire number 21.
 - 7.3.6.2 In C20, without lifting existing leads, install a maintain position test switch jumper with switch OPEN across terminal block scheme A207 terminals 2P and 29 on the terminal board side opposite cable A207K BLACK wire number 2P and WHITE wire number 29. Reference E-560 sh. 1.
 - 7.3.6.3 At A-207, verify no continuity between the cabinet internal side of TB CC terminals 3 and 12 opposite cable A207D RED wire number 2P and BLACK wire number 29. Reference E-505 sh. 5.
 - 7.3.6.4 At TB1089, place the test switch jumper across 2P and 29 in the CLOSED position.
 - 7.3.6.4.1 At A-207, observe a change to continuity measured between the cabinet internal side of TB CC terminals 3 and 12 opposite cable A207D RED wire number 2P and BLACK wire number 29.
 - 7.3.6.5 At TB1089, place the test switch jumper across terminals 2P and 29 back in the OPEN position.
 - 7.3.6.5.1 At A-207, observe a change to no continuity measured between the cabinet internal side of TB CC terminals 3 and 12 opposite cable A207D RED wire number 2P and BLACK wire number 29.

- 7.3.6.6 At C20, place the test switch jumper in the CLOSED position.
 - 7.3.6.6.1 At A-207, observe a change to continuity measured between the cabinet internal side of TB CC terminals 3 and 12 opposite cable A207D RED wire number 2P and BLACK wire number 29.
- 7.3.6.7 At C20, place the test switch jumper back in the OPEN position.
 - 7.3.6.7.1 At A-207, observe a change to no continuity measured between the cabinet internal side of TB CC terminals 3 and 12 opposite cable A207D RED wire number 2P and BLACK wire number 29.
- 7.3.6.8 At A-207, verify no continuity between the cabinet internal side of TB BB terminals 10 and 11 opposite cable A207D GREEN wire number 21 and WHITE wire number 31(E-505-5, E-8-AC-98).
- 7.3.6.9 At TB1089, place the test switch jumper across terminals 31 and 21 in the CLOSED position.
 - 7.3.6.9.1 At A-207, observe a change to continuity measured at A-207 between the cabinet internal side of TB BB terminals 10 and 11 opposite cable A207D GREEN wire number 21 and WHITE wire number 31.
- 7.3.6.10 At TB1089, place the test switch jumper back in the OPEN position.
 - 7.3.6.10.1 Observe a change to no continuity measured at A-207 between the cabinet internal side of TB BB terminals 10 and 11 opposite cable A207D GREEN wire number 21 and WHITE wire number 31.
- 7.3.6.11 Re-term lifted cable A207F 2P RED wire to terminal block scheme A207 in TB1089 per the Lifted Lead Log.
 - 7.3.6.11.1 At A-207, observe continuity measured between TB CC terminals 3 and 12 opposite cable A207D RED wire number 2P and BLACK wire number 29.
- 7.3.6.12 Remove both test switch jumpers installed at terminal box TB1089.
- 7.3.6.13 Remove the test switch jumper installed at panel C20.
- 7.3.6.14 Restore test switch TS-186-ST1-1 (TS-286T-1), SW #10 to the as-found position or as directed by Unit 1 Operations.
- 7.3.6.15 Restore test switch TS1-211, SW D to the as-found position or as directed by Unit 1 Operations.
- 7.3.6.16 Reinstall bulb into RED ON indicating light for local control at A-207 cubicle.
- 7.3.6.17 Place the A-207 Local/Remote handswitch in REMOTE or leave as directed by Unit 1 Operations.
- 7.3.6.18 CLOSE A-207 DC control power Breaker BA or leave as directed by Unit 1 Operations.

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- 7.3.7 Cable A207D wires X1 and X2 between A-207 and TB118 and cable A107D wire U between A-107 and TB 118. (E-304-1):
 - 7.3.7.1 Verify the heater 120 VAC breaker 2LB-3 is CLOSED.
 - 7.3.7.2 For each heater circuit measure the current to the winding heater using a clamp-on ammeter on one power lead to the winding heater.

7.3.7.2.1 P-8A motor heater current reading: _____ amps

- 7.3.7.2.2 P-8B motor heater current reading: ______ amps
- 7.3.7.3 Record the heater calculated wattage (300 watt heaters installed);
 - 7.3.7.3.1 P-8A ______ watts
 - 7.3.7.3.2 P-8B ______ watts
- 7.3.7.4 Ensure that the measured current is not excessive compared to the recorded wattage.

8.0 <u>Restoration</u>

- 8.1 Verify removal of test switch and restoration of all lifted leads.
- 8.2 Verify DC Control Power Breakers (BA) located in the A-2 breakers are OPEN or left as directed by Operations.
- 8.3 Verify 4160 Volt Switchgear A-2 125 VDC Control Power Breaker D21-03 is OPEN or left as directed by Operations.

9.0 Test Results and Evaluation

9.1 No test data sheets are required for this test. See section 11.0 for discussion of test results / summary.

10.0 <u>M&TE Instrumentation</u>

Record the appropriate information for all M&TE equipment used in the following table.

Record the applicable M&TE Information (e.g. instrument #, cal	Record Test Step for which the M&TE was	Recorded By / Date
due date, instrument range, etc.)	used	
	·	
	·	

11.0 <u>Summary Information</u>

11.1 Test Summary

Record any additional pertinent information obtained during testing not recorded in section 7 or the Test Log and provide a post test summary.

Test Step #	Summary or Additional Information	Recorded By / Date
	· · ·	

11.2 Test Deficiencies

Record any test deficiencies and document the evaluation / resolution of the deficiency in the Test Deficiency Log in section 12.0.

12.0 <u>Attachments:</u>

- 12.1 EN-DC-117 Attachment 9.11 Signature Identification Log
- 12.2 EN-DC-117 Attachment 9.9 Test Log
- 12.3 EN-DC-117 Attachment 9.10 Test Deficiency Log
- 12.4 Test Change Notices

Attachment 12.1

ATTACHMENT 9.11 SHEET 1 OF 1

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SIGNATURE IDENTIFICATION LOG

Name	Title	Signature	Initials
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Attachment 12.2

[1] ATTACHMENT 9.9

SHEET 1 OF 1

Test Number: ECT/STI: 44313-07 Rev 000 SWGR A-2, Miscellaneous Controls TEST LOG

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Initials Entry Date

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Attachment 12.3

[2] ATTACHMENT 9.10

TEST DEFICIENCY LOG

SHEET 1 OF 1

Test Number: ECT/STI: 44313-07 Rev 000 SWGR A-2, Miscellaneous Controls Page_of___

DEFICIENCY	DEFICIENCY DESCRIPTION	DATE/TIME
NUMBER		
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