



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

September 22, 2016

Mr. Bryan C. Hanson
Senior VP, Exelon Generation Company, LLC
President and CNO, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

**SUBJECT: CLINTON POWER STATION, NRC TEMPORARY INSTRUCTION 2515/191,
MITIGATION STRATEGIES, SPENT FUEL POOL INSTRUMENTATION AND
EMERGENCY PREPAREDNESS REPORT 05000461/2016007**

Dear Mr. Hanson:

On August 9, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed Temporary Instruction (TI) 2515/191, "Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans" inspection at your Clinton Power Station. The NRC inspection team discussed the results of this inspection with you and other members of your staff. The inspection team documented the results of this inspection in the enclosed inspection report.

The inspection examined activities conducted under your license as they relate to the implementation of mitigation strategies and spent fuel pool instrumentation orders (EA-12-049 and EA-12-051) and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans, your compliance with the Commission's rules and regulations, and with the conditions of your operating license. Within these areas, the inspection involved examination of selected procedures and records, observation of activities, and interviews with station personnel.

Based on the results of this inspection, one NRC-identified finding of very low safety significance was identified. The finding did not involve any violation of NRC requirements.

If you contest the subject or severity of this finding, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission-Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspectors' Office at the Clinton Power Station.

B. Hanson

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Ann Marie Stone, Team Leader
Technical Support Staff

Docket No. 50-461
License No. NPF-62

Enclosure:
Inspection Report 05000461/2016007

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-461
License No: NPF-62

Report No: 05000461/2016007

Licensee: Exelon Generation Company, LLC

Facility: Clinton Power Station

Location: Clinton, IL

Dates: June 20 through August 09, 2016

Inspectors: B. Bartlett, Project Engineer, (Team Lead)
E. Sanchez-Santiago, Resident Inspector, Clinton
T. Bilik, Senior Reactor Inspector,
D. McNeil, Senior Operations Engineer

Approved by: A. Stone, Team Leader
Technical Support Staff

Enclosure

SUMMARY

Inspection Report (IR) 05000461/2016007; 06/20/2016 – 08/09/2016; Clinton Power Station: Temporary Instruction 2515/191 Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans.

This inspection was performed by three NRC regional inspectors and one resident inspector. One Green finding was identified by the NRC. The finding was not considered a violation of NRC regulations. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas" effective date December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," dated July 2016.

NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Green. Two examples of a finding of very low safety significance was identified by the inspectors for the licensee's failure to have hose configurations that were verified to be able to ensure a timely and successful implementation of a flexible response (FLEX) strategy. Specifically, the licensee did not ensure through evaluations, calculations, analyses or any other means that the strategy for maintaining core cooling, containment heat removal and Spent Fuel Pool (SFP) cooling during a Beyond-Design-Basis External Event (BDBEE) flooding scenario would be capable of fulfilling its function. No violation of NRC requirements were identified.

The performance deficiency is more than minor because it was associated with the mitigating systems cornerstone objective attribute of protection against external factors, specifically the BDBEE flood hazard, and it adversely affected the cornerstone attribute of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Issues identified through TI-191 are evaluated through a cross-regional panel using IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," as informed by draft Appendix O, "Post Fukushima Mitigation Strategies Significance Determination Process." The finding was determined to be of very low safety significance (Green). The inspectors concluded that the cause of the finding involved a cross-cutting component in the Human Performance area of Design Margins because the organization did not ensure the selected strategy contained the required verification that it could be successfully implemented. [H.6] (Section 4OA5.1)

Licensee-Identified Violations

None

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Other Activities (TI 2515/191)

The objective of Temporary Instruction (TI) 2515/191, "Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans," is to verify the licensees have adequately implemented the mitigation strategies as described in the licensee's Revised Final Integrated Plan (ADAMS Accession No. ML15349A911) and the NRC's plant safety evaluation (ADAMS Accession No. ML15324A238) and to verify the licensees installed reliable water-level measurement instrumentation in their spent fuel pools. The purpose of this TI was also to verify the licensees had implemented Emergency Preparedness (EP) enhancements as described in their site-specific submittals and NRC safety assessments, including multi-unit dose assessment capability and enhancements to ensure staffing is sufficient and communications can be maintained during such an event.

The inspection also verifies plans for complying with NRC Orders EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (ADAMS Accession No. ML12229A174) and EA-12-051, Order Modifying Licenses With Regard to Reliable Spent Fuel Pool Instrumentation (ADAMS Accession No. ML12056A044) are in place and are being implemented by the licensee. Additionally, the inspection verifies implementation of staffing and communications information provided in response to the March 12, 2012, request for information letter and multiunit dose assessment information provided per COMSECY-13-0010, Schedule and Plans for Tier 2 Order on Emergency Preparedness for Japan Lessons Learned, dated March 27, 2013, (ADAMS Accession No. ML12339A262).

The team discussed the plans and strategies with plant staff, reviewed documentation, and where appropriate, performed plant walk downs to verify that the strategies could be implemented as stated in the licensee's submittals and the NRC staff prepared safety evaluation. For most strategies, this included verification that the strategy was feasible, procedures and/or guidance had been developed, training had been provided to plant staff, and required equipment had been identified and staged. Specific details of the team's inspection activities are described in the following sections.

1. Mitigation Strategies for Beyond-Design Basis External Events

a. Inspection Scope

The team examined the licensee's established guidelines and implementing procedures for the beyond-design basis mitigation strategies. The team assessed how the licensee coordinated and documented the interface/transition between existing off-normal and emergency operating procedures with the newly developed mitigation strategies. The team selected a number of mitigation strategies and conducted plant walk downs with licensed operators and responsible plant staff to assess: the adequacy and

completeness of the procedures; familiarity of operators with the procedure objectives and specific guidance; staging and compatibility of equipment; and the practicality of the operator actions prescribed by the procedures, consistent with the postulated scenarios.

The team verified the licensee established a preventive maintenance program for the Diverse and Flexible Coping Strategies (FLEX) portable equipment and that periodic equipment inventories were in place and being conducted. Additionally, the team examined the introductory and planned periodic/refresher training provided to the Operations staff most likely to be tasked with implementation of the FLEX mitigation strategies. The team also reviewed the introductory and planned periodic training provided to the Emergency Response Organization personnel. Documents reviewed are listed in the attachment.

b. Assessment

Based on samples selected for review, the inspectors verified that the licensee satisfactorily implemented appropriate elements of the FLEX strategy as described in the plant specific submittal(s) and the associated safety evaluation and determined that the licensee is generally in compliance with NRC Order EA-12-049. The inspectors verified that the licensee satisfactorily:

- developed and issued FLEX Support Guidelines (FSG) to implement the FLEX strategies for postulated external events;
- integrated their FSGs into their existing plant procedures such that entry into and departure from the FSGs were clear when using existing plant procedures;
- protected FLEX equipment from site-specific hazards;
- developed and implemented adequate testing and maintenance of FLEX equipment to ensure their availability and capability;
- trained their staff to assure personnel proficiency in the mitigation of beyond-design basis events; and
- developed the means to ensure that the necessary off-site FLEX equipment would be available from off-site locations.

The inspectors verified that non-compliances with current licensing requirements, and other issues identified during the inspection were entered into the licensee's corrective action program as appropriate.

c. Findings

Introduction: Two examples of a finding of very low safety significance (Green) was identified by the inspectors involving hose configurations that would have challenged the timely and successful implementation of a FLEX strategy.

Description: The licensee implemented order EA-12-049 through a number of procedures and Engineering Changes. With respect to the strategy for a Clinton cooling lake Beyond Design Basis External Event (BDBEE) flooding scenario, EC 392339, addressed the design of the hose connection from the portable ultimate heat sink (UHS) pumps to a pipe header (DG building manifold) that had been installed in the safety related structure. This design required a 12-inch hose to be connected to the DG building manifold, traverse through an area in an "S-curve" configuration, through a

penetration on the side the building and suspended 28 feet down the side of the Unit 2 diesel generator structure to the connection on the portable pumps. The hose and water from the UHS would be required to support the Phase 2 core coolant, containment heat removal and spent fuel pool (SFP) cooling strategies.

On June 21, 2016, the inspectors performed a walk down of selected FLEX strategies, including the BDBEE flooding scenario and identified two concerns. The first involved the path that a 12-inch diameter hose would take and whether the path was so tight as to introduce an excessive bend which could reduce flow. The second involved the stresses imposed on the coupling used to connect the same 12-inch hose coming from pumps near the lake to the manifold located inside the Diesel Generator (DG) building.

- Path for temporary hoses: For this strategy, the licensee would lay hose from the DG building manifold through an area which required the hose to be placed in a tight S-curve configuration. The inspectors determined the licensee had not considered the manufacturer's minimum bend radius of 15 feet when establishing the path for this strategy and did not test/analyze whether a tighter bend radius would be acceptable. In addressing the inspectors' questions, the licensee determined the maximum bend radius achievable through this S-curve area would be 7 feet. The inspectors verified this value but questioned whether the hose would crimp during use, inhibiting flow to below acceptable values. The initial calculations by the licensee showed significant flow reductions caused by hose crimping at this reduced bend radius. The manufacturer was requested by the licensee to test a similar configuration at their facility. The manufacturer's test demonstrated that there would be minimal kinking of the hose initially and that as pressure was increased to the expected operating pressure of 150 psig there were no signs of kinking.
- Stresses on hose coupling: The hose coupling stress issue had initially been identified by the licensee and involved the forces imposed on the hose and coupling at the top of a 28 foot tall wall. Specifically, the licensee raised a question on whether the coupling connection, where the outer hose connects to the inner hose, would be able to withstand the stresses imposed by the hose when it is full of water. The licensee documented this issue in their Corrective Action Program as AR 02675017, "12 inch FLEX Hose Coupling Concern". Procedure CPS 4306.01P002, "FLEX UHS Water Supply," which addressed the set up and operation of the hose stated in Step 4.5.5.1 that personnel should use a 12 inch Storz saddle that was stored nearby to prevent a hose kink where the hose exited the building. EC 392339 specified the hose be connected to a pipe section (commonly called a pup piece) to reduce the amount of stress that the hose would be subjected to during operation. The licensee contacted the vendor who had designed and built the hose and the vendor stated that they did not recommend hanging the hose from such a height as it could damage the hose. The vendor also state that under these conditions that the hose coupling would probably fail.

After further review, the licensee concluded the piping section would not be suspended as described in AR 02675017, and that the actual configuration, as documented in an engineering change (EC) document, would not impose such a large amount of stress on the coupling connection. The licensee closed this issue without taking any corrective action, stating the problem was in the way the procedure was written.

During the walkdowns and through other interviews with various operators, the inspectors determined the licensee misinterpreted the configuration described in the EC. The licensee believed an additional piece called a hose bun would be used and with the use of the hose bun, the coupling would not be suspended. Using the pup piece alone, the coupling would be suspended and the original concern about the stresses on the coupling remained. In addition some operators indicated they would use only the pup piece as designated in the EC. The inspectors determined the configuration evaluated in AR 02675017, was not the configuration that would have been installed and that the licensee inappropriately closed the AR.

Based on the inspectors' questions, the licensee initiated further review of the issue. Following a more detailed Finite Element Analysis by a contractor, the licensee was able to demonstrate the stresses were acceptable assuming the expected connection condition.

Both issues involve concerns about whether the method for providing water to the DG manifold during a flooding event would be able to function. At the time of inspection, the inspectors had reasonable doubt with the success of this strategy because the licensee was initially unable to demonstrate the intended actions would be successful. After significant analysis including a field demonstration, the licensee was able to demonstrate the planned strategy could be successful.

The licensee's corrective actions included performing the analysis and tests described above to demonstrate the equipment would perform as expected, revising the EC to reflect the needed changes and clarification, as well as performing an assessment to determine if an alternate strategy would be more efficient.

Analysis: The inspectors determined that the licensee's failure to ensure that the strategy for cooling the reactor core, performing containment heat removal and cooling the SFP during a BDBEE flooding event would be successful was within the licensee's ability to foresee and correct and should have been prevented, and therefore constituted a performance deficiency.

The performance deficiency is more than minor because it was associated with the mitigating systems cornerstone objective attribute of protection against external factors, specifically the BDBEE flood hazard, and it adversely affected the cornerstone attribute of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee did not ensure through evaluations, calculations, analyses or any other means that the strategy for maintaining core cooling, containment heat removal and SFP cooling during a BDBEE flooding scenario would be capable of fulfilling its function.

Issues identified through TI-191 are evaluated through a cross-regional panel using IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," as informed by draft Appendix O, "Post Fukushima Mitigation Strategies Significance Determination Process." (ML16055A351). The finding was determined to be of very low safety significance (Green) because the inspector answered "no" to the 5 questions in the draft Appendix O. Specifically, this condition was not associated with Spent Fuel Pool Level instrumentation required by order A-12-051 and did not result in a complete loss of function to maintain or restore core cooling, containment pressure control/heat removal and/or spent fuel pooling cooling capabilities.

The inspectors concluded that the cause of the finding involved a cross-cutting component in the Human Performance area of Design Margins because the organization did not conduct adequate verification of design to ensure the strategy could be successfully implemented. [H.6]

Enforcement:

Because the finding did not result in a loss of function, there are no applicable regulatory requirements. Consequently, the inspectors determined the issue constituted a finding of very low safety significance without a corresponding violation of any NRC requirements. (FIN 05000461/2016007-01)

2. Spent Fuel Pool Instrumentation

a. Inspection Scope

The team examined the licensee's newly installed spent fuel pool instrumentation. Specifically, the inspectors verified the sensors were installed as described in the plant specific submittals and the associated safety evaluation and that the cabling for the power supplies and the indications for each channel are physically and electrically separated. Additionally, environmental conditions and accessibility of the instruments were evaluated. Documents reviewed are listed in the attachment.

b. Assessment

Based on samples selected for review, the inspectors determined the licensee satisfactorily installed and established control of the spent fuel pool (SFP) instrumentation as described in the plant specific submittal(s) and the associated safety evaluation and determined the licensee is generally in compliance with NRC Order EA-12-051. The inspectors verified the licensee satisfactorily:

- installed the SFP instrumentation sensors, cabling and power supplies to provide physical and electrical separation as described in the plant specific submittal(s) and safety evaluation;
- installed the SFP instrumentation display in the location, environmental conditions and accessibility as described in the plant specific submittal(s); and
- trained their staff to assure personnel proficiency with the maintenance, testing, and use of the SFP instrumentation.

The inspectors verified non-compliances with current licensing requirements, and other issues identified during the inspection were entered into the licensee's corrective action program.

c. Findings

No findings were identified.

3. Staffing and Communication Request for Information

a. Inspection Scope

Through discussions with plant staff, review of documentation and plant walk downs, the team verified the licensee has implemented required changes to staffing, communications equipment and facilities to support a multi-unit extended loss of offsite power (ELAP) scenario as described in the licensee's staffing assessment and the NRC safety assessment. The team also verified the licensee has implemented multi-unit dose assessment (including releases from spent fuel pools) capability using the licensee's site-specific dose assessment software and approach as described in the licensee's multi-unit dose assessment submittal. Documents reviewed are listed in the attachment.

b. Assessment

The inspectors reviewed information provided in the licensee's multi-unit dose submittal and in response to the NRC's March 12, 2012, request for information letter and verified the licensee satisfactorily implemented enhancements pertaining to Near-Term Task Force Recommendation 9.3 response to a large scale natural emergency event that results in an extended loss of all AC power to all site units and impedes access to the site. The inspectors verified the following:

- licensee satisfactorily implemented required staffing change(s) to support a multi-unit ELAP scenario;
- EP communications equipment and facilities are sufficient for dealing with a multi-unit ELAP scenario; and
- implemented multi-unit dose assessment capabilities (including releases from spent fuel pools) using the licensee's site-specific dose assessment software and approach.

The inspectors verified non-compliances with current licensing requirements, and other issues identified during the inspection were entered into the licensee's corrective action program.

4OA6 Management Meeting

.1 Exit Meeting Summary

On August 9, 2016, the inspectors presented the inspection results to Mr. T. Stoner of the licensee's staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

D. Avery, Regulatory Assurance
D. Shelton, Regulatory Assurance Manager
T. Stoner, Site Vice-President
B. Kapellas, Plant Manager
S. Gackstetter, Engineering Director
T. Dean, Training Director
J. Cunningham, Maintenance Director
R. Champley, Shift Operations Superintendent
J. Forman, Work Control
K. Blankenship, Site Security
J. Lyter, Corporate Exelon
D. Distel, Corporate Exelon
S. Pierson, Corporate Exelon

U.S. Nuclear Regulatory Commission

W. Schaup, Senior Resident Inspector
J. Quinones-Navarro, Japan Lessons Learned Division

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000461/2016007-01	FIN	Failure to have Hose Configurations that were Verified to be able to Ensure a Timely and Successful Implementation of a FLEX Strategy (Section 40A5.1)
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Discussed

None.

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

Procedures

CPS 3317.01; Fuel Pool Cooling and Cleanup; Revision 31c
CPS 3317.01E001; Fuel Pool Cooling and Cleanup Electrical Lineup; Revision 13b
CPS 3822.04C007; FLEX Equipment Checklist; Revision 2a
CPS 4006.02; Loss of Decay Heat Removal in Reactor Vessel Pool/Spent Fuel Pool; Revision 0d
CPS 4011.02; Spent Fuel Pool Abnormal Water Level Decrease; Revision 7
CPS 4303.01P017; Spent Fuel Pool Makeup from Fire Protection; Revision 2e
CPS 4303.01P002; Spent Fuel Pool Makeup from Containment Pool; Revision 1e
CPS 4303.01P003; Spent Fuel Pool Makeup from Suppression Pool; Revision 1a
CPS 4304.01; Flooding; Revision 6
CPS 4306.01; Extended Loss of AC Power, Loss of Ultimate Heat Sink; Revision 0
CPS 4306.01C010; FLEX Ventilation Hard Card; Revision 0
CPS 4306.01P001; FLEX Electrical Connections; Revision 0
CPS 4306.01P002; FLEX Ultimate Heat Sink Water Supply; Revision 0
CPS 4306.01P008; FLEX Diesel Fuel Oil Supply; Revision 0
CPS 4306.01P009; FLEX ADS Air Supply; Revision 0
CPS 4306.01P010; FLEX Ventilation; Revision 0
CPS 4306.01P012; FLEX Communications; Revision 0
CPS 4306.01P016; FLEX Equipment Deployment; Revision 0
CPS 4306.01P017; ELAP During Modes 5 and 6; Revision 0
CPS 3317.01; Fuel Pool Cooling and Cleanup; Revision 31c
CPS 3317.01E001; Fuel Pool Cooling and Cleanup Electrical Lineup; Revision 13b
CPS 3822.04C007; FLEX Equipment Checklist; Revision 2a
CPS 5040.02; Alarm Panel 5040 Annunciators – Row 2; Revision 26e
CPS 9477.01A; Spent Fuel Pool Level Primary 1LT-FC221A Channel Calibration; Revision 0
CPS 9477.01B; Spent Fuel Pool Level Backup 1LT-FC221B Channel Calibration; Revision 0a
CC-CL-118; Site Implementation of Diverse and Flexible Coping Strategies (FLEX) and Spent Fuel Pool Instrumentation Program; Revision 0
CC-CL-118-1001; CPS SAFER Response Plan; Revision 0
CC-CL-118-1003; Final Integrated Plan; Revision 0
CC-AA-103; Configuration Control for Permanent Physical Plant Changes; Revision 27
CC-AA-118; Diverse and Flexible Coping Strategies (FLEX) and Spent Fuel Pool Instrumentation Program Document; Revision 1
PI-AA-125; Corrective Action Plan; Revision 3
WC-AA-101; On-Line Work Control Process; Revision 26
WC-AA-111; Surveillance Program Requirements; Revision 5
WC-AA-120; Preventive Maintenance Database Revision Requirements; Revision 2
EP-AA-110-201; On Shift Dose Assessment; Revision 3

EP-AA-110-201-F-01; On-Shift Dose Assessment Input Sheet; Revision B
EP-AA-112-400-F-04; EOF Logistics Manager Checklist; Revision M
EP-AA-112-400-F-04; EOF Logistics Manager Checklist; Revision M
EP-AA-112-400-F-16; Radiation Protection Manager Checklist; Revision H
EP-AA-112-400-F-17; Dose Assessment Coordinator Checklist; Revision G
EP-AA-112-400-F-18; Dose Assessor Checklist; Revision H
EP-AA-112-400-F-21; Environmental Coordinator Checklist; Revision D
EP-AA-124-F-03; Site & Site-Specific EOF Communications 9.3 & EMNET Satellite
EXC-WP-03; FLEX Guidance for Shutdown/Refueling Modes; Revision 1
Communications Systems Semi-Annual Testing & Inventory
EPUA 83; Semi-Annual Equipment Check of EMNET Portable Satellite Communications
System Functionality; Revision 1

Action Requests – NRC Identified

AR 02684223; FLEX Inventory Discrepancy; 6/21/16
AR 02684308; FLEX Enhancement Tracking; 6/22/16
AR 02684975; FLEX Equipment PM Identified Minor Issues that were not Corrected;
06/23/16
AR 02683833; Licensee Needs to Procure Additional Debris Removal Tools; 6/30/16
AR 01293078; Revise EOF Procedure to Assist Sites in Obtaining Fuel and Water
Beyond 30 Days; 6/23/16
AR 02685173; Failure to Test Unit 2 Essential Service Water Piping to Full Pressure;
6/23/16
AR 02685356; FLEX Storage Building Not In Accordance with Design; 6/24/16

ARs Reviewed

AR 01673118; Revise Spent Fuel Pool Related Procedures; 3/23/15
AR 02511817; FLEX Tractor E-Brake Lath Came out of Handle; 6/8/15
AR 02517163; FLEX Cummins Generator Battery Charger Not Plugged In; 6/19/16
AR 02558694; Identified Gaps During Executive Assistant Tour; 9/18/15
AR 02569721; NOS Identified Sprinkler System for FLEX Diesel Not Per Design;
10/12/15
AR 02641913; Outstanding Open Work Orders on FLEX PMs; 3/17/16
AR 02657184; Enhancement to Blizzard Sever Weather Checklist; 4/18/16
AR 02648716; Evaluate FLEX 6 Month PM Extension; 3/31/16
AR 02675017; 12 inch FLEX Hose Coupling Concern; 5/12/16
AR 02688011; FLEX Generator 1FK01KA Failed to Start During PM; 6/30/16
AR 02638710; Three Items Identified Requiring Resolution for the FLEX Fire Protection
System; 3/10/16
AR 02589735; 1SH02AA Unit Heater for FLEX Generator Room is not Working;
11/19/15
AR 02589743; 1FX01KA FLEX Diesel Generator 1 Block Heater not Plugged in;
11/19/15
AR 02634649; FM ID: FLEX Door no Operating Properly – Safety Enhancement;
03/03/16
AR 02636157; EOID – 1FX02T Diesel Fuel Leak 5 DPM; 03/04/16
AR 02644890; Residual Diesel Fuel Buildup Identified Around FLEX Pump; 03/24/16
AR 02657173; Enhancement to Cold Weather Checklist; 04/18/16
AR 02649496; Fuel Leaking from Pump; 04/01/16

AR 02654589; FLEX Pump Support Equip-Chain Falls Inspections Out of Date; 04/12/16
AR 02678759; FLEX Equipment Checklist Deficiencies; 6/6/16
AR 02656045; Procedure CPS 4306.01P002 will not Work as Written; 4/13/16
AR 02605513; Results of the FLEX D/G Inspection; 12/29/15

FLEX Training Documents

Flex Electrical Components; No date
Flex Building Design; No date
Screen House MCC; No date
Flex Water Usage; No date
Flex Water Pumps and Flowpath; No date
Hydraulics System for Suction Lift Pumps; No date
Flex Pump Operation (Hard Card); No date
Storz Couplings/No revision

Modifications

EC 394583; Fukushima FLEX – Evaluation of Unit 2 Div 2 SX Pipe 2SX02AB Buried Piping Integrity in Support of FLEX Strategies – FLEX Makeup Water; Revision 0
EC 391824; FLEX Battery Coping Study; Revision 1
EC 392335; FUKUSHIMA FLEX Internal Generator 480 VAC Connections Required to Support NRC EA-12-049 FLEX Response; Revision 1a
EC 392343; FUKUSHIMA FLEX Install a Seismic Storage Building Including Electrical on Unit 2 SX Screen House Required to Support NEI 12-06

Work Orders

WO 01904390; Spent Fuel Pool Level Calibration (1LTFC221A); 06/22/2016
WO 01904392; Spent Fuel Pool Level Calibration (1LTFC221B); 06/22/2016
WO 01886012; FLEX D/G 1FX01KA Extent of Condition Opex; 2/2/16
WO 01684636; 2SX02AB, Work Order to Perform Pipe Inspection; 12/10/13

Miscellaneous Documents

Letter: RS-14-344, Clinton Station NEI 12—01 Phase 2 Staffing Assessment; December 17, 2014
FLEX and SPFI Operator Tour Report C Area, Weekly; Revision 62
FLEX and SPFI Operator Tour Report E Area, Weekly; Revision 64
Tour Readings; Tour: C Area Rounds; 06/22/2016
Smart-UPS@UPS Operation Manual; 06/2010
M01-1101, Site Development Map, Clinton Power Station Unit 1; 04/04/1988
Clinton Power Station Winter Snow Plan
CPS 1860.01C005; Blizzard/Severe Weather Preparation Checklist; Revision 0b
Clinton Power Station USAR, Figure 2.1-4; Revision 9
Clinton Station NEI 12-01; Phase 2 Staffing Plan Assessment
CPS 3862.02; Flex Pump Operation; Revision 0

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access Management System
AC	Alternating Current
AR	Action Request
BDBEE	Beyond-Design-Basis External Event
CFR	Code of Federal Regulations
CPS	Clinton Power Station
EA	Enforcement Action
EC	Engineering Change
ELAP	Extended Loss of All Power
EOF	Emergency Operations Facility
EP	Emergency Preparedness
FLEX	Flexible Response
FSG	FLEX Support Guideline
IMC	Inspection Manual Chapter
IR	Inspection Report
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records System
SFP	Spent Fuel Pool
TI	Temporary Instruction
UHS	Ultimate Heat Sink
WO	Work Order

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Ann Marie Stone, Team Leader
Technical Support Staff

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