Exelon Generation.

Order No. EA-12-049

RS-16-005

January 12, 2016

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

Dresden Nuclear Power Station, Unit 2
Renewed Facility Operating License No. DPR-19
NRC Docket No. 50-237

Subject: Report of Full Compliance with March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)

References:

1. NRC Order Number EA-12-049, "Issuance of Order to Modify Licenses with Regard to Requirements For Mitigation Strategies For Beyond-Design-Basis External Events," dated March 12, 2012
2. NRC Interim Staff Guidance JLD-ISG-2012-01, "Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," Revision 0, dated August 29, 2012
3. NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," Revision 0, dated August 2012
4. Exelon Generation Company, LLC's Initial Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated October 25, 2012
5. Exelon Generation Company, LLC Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 28, 2013 (RS-13-020)
6. Exelon Generation Company, LLC First Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated August 28, 2013 (RS-13-119)
7. Exelon Generation Company, LLC Second Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 28, 2014 (RS-14-010)

8. Exelon Generation Company, LLC Third Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated August 28, 2014 (RS-14-208)
9. Exelon Generation Company, LLC Fourth Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 27, 2015 (RS-15-019)
10. Exelon Generation Company, LLC Fifth Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated August 28, 2015 (RS-15-210)
11. NRC letter to Exelon Generation Company, LLC, Dresden Nuclear Power Station, Units 2 and 3 – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049, (Mitigation Strategies) (TAC Nos. MF1046 and MF1047), dated November 22, 2013
12. NRC Letter, Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident, dated March 12, 2012
13. Exelon Generation Company, LLC letter to USNRC, Response to March 12, 2012, Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident, Enclosure 5, Recommendation 9.3, Emergency Preparedness – Staffing, Requested Information Items 1, 2, and 6 - Phase 2 Staffing Assessment, dated June 30, 2015 (RS-15-154)
14. NRC letter to Exelon Generation Company, LLC, Dresden Nuclear Power Station, Units 2 and 3 – Report for the Onsite Audit Regarding Implementation of Mitigating Strategies and Reliable Spent Fuel Pool Instrumentation Related to Orders EA-12-049 and EA-12-051 (TAC Nos. MF1046, MF1047, MF1050, MF1051), dated October 9, 2015

On March 12, 2012, the Nuclear Regulatory Commission ("NRC" or "Commission") issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements For Mitigation Strategies For Beyond-Design-Basis External Events," (Reference 1) to Exelon Generation Company, LLC (EGC). Reference 1 was immediately effective and directed EGC to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event. Specific requirements are outlined in Attachment 2 of Reference 1.

Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (Reference 2) and an Overall Integrated Plan (OIP) pursuant to Section IV, Condition C. Reference 2 endorsed industry guidance document NEI 12-06, Revision 0 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the EGC initial status report regarding mitigation strategies. Reference 5 provided the Dresden Nuclear Power Station, Unit 2 OIP.

Reference 1 required submission of a status report at six-month intervals following submittal of the OIP. References 6, 7, 8, 9, and 10 provided the first, second, third, fourth, and fifth six-month status reports, respectively, pursuant to Section IV, Condition C.2, of Reference 1 for Dresden Nuclear Power Station, Unit 2.

The purpose of this letter is to provide the report of full compliance with the March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements For Mitigation Strategies For Beyond-Design-Basis External Events (Order Number EA-12-049) (Reference 1) pursuant to Section IV, Condition C.3 of the Order for Dresden Nuclear Power Station, Unit 2.

Dresden Nuclear Power Station, Unit 2 has developed, implemented, and will maintain the guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event in response to Order EA-12-049. The information provided herein documents full compliance for Dresden Nuclear Power Station, Unit 2 with Reference 1.

OIP open items have been addressed and closed as documented in References 6, 7, 8, 9, 10, and below, and are considered complete pending NRC closure. EGC's response to the NRC Interim Staff Evaluation (ISE) open and confirmatory items identified in Reference 11 have been addressed and closed as documented in References 7, 8, 9, 10, and below, and are considered closed as documented in Reference 14. EGC's response to the NRC ISE confirmatory items identified as open in Reference 14 are addressed below, and are considered complete pending NRC closure. EGC's response to the NRC audit questions and additional audit open items have been addressed and closed as documented in References 10, 14, and below, and are considered complete pending NRC closure. The following tables provide completion references for each OIP open item and NRC ISE open or confirmatory item, and NRC Audit Report open items.

Overall Integrated Plan Open Items

Section Reference	Overall Integrated Plan Open Item	Status
Sequence of Events (page 5-6)	The times to complete actions in the Events Timeline are based on operating judgment, conceptual designs, and current supporting analyses. The final timeline will be time validated once detailed designs are completed and procedures developed.	Completed with this submittal as provided below.
Sequence of Events (page 5)	Analysis of deviations between Exelon's engineering analyses and the analyses contained in BWROG Document NEDC-33771P, GEH Evaluation of FLEX Implementation Guidelines and documentation of results on Att. 1B, "NSSS Significant Reference Analysis Deviation Table." Planned to be completed and submitted with August 2013 Six Month Update.	Reference 6
Sequence of Events (page 8)	Initial evaluations were used to determine the fuel pool timelines. Formal calculations will be performed to validate this information during development of the spent fuel pool cooling	Reference 8

	strategy detailed design.	
Deployment Strategy (pages 8-9)	Transportation routes will be developed from the equipment storage area to the FLEX staging areas. An administrative program will be developed to ensure pathways remain clear or compensatory actions will be implemented to ensure all strategies can be deployed during all modes of operation. Identification of storage areas and creation of the administrative program are open items.	Reference 10
Programmatic Controls (pages 9-10)	An administrative program for FLEX to establish responsibilities, and testing & maintenance requirements will be implemented.	Reference 10
Spent Fuel Pool Cooling Phase 2 Discussion (page 46)	Complete an evaluation of the spent fuel pool area for steam and condensation.	Reference 10
Safety Functions Support Phase 2 Discussion (page 57)	Evaluate the habitability conditions for the Main Control Room and develop a strategy to maintain habitability.	Reference 10
Safety Functions Support Phase 2 Discussion (page 57)	Evaluate the habitability conditions for the Auxiliary Electric Equipment Room (AEER) and develop a strategy to maintain habitability.	Completed with this submittal as provided below.

Interim Staff Evaluation Open Items

Item No. 3.1.1.1.A	Reference 7
Item No. 3.1.2.2.B	Reference 7
Item No. 3.2.4.8.A	Reference 8

Interim Staff Evaluation Confirmatory Items

Item No. 3.1.1.2.A	Reference 7
Item No. 3.1.1.2.B	Reference 10
Item No. 3.1.1.3.A	Reference 10
Item No. 3.1.1.3.B	Reference 7
Item No. 3.1.1.4.A	Reference 9
Item No. 3.1.2.A	Reference 10
Item No. 3.1.2.2.A	Reference 10
Item No. 3.1.2.3.A	Reference 10
Item No. 3.1.4.2.A	References 7 and 10
Item No. 3.1.5.2.A	Reference 10
Item No. 3.1.5.3.A	Reference 10
Item No. 3.2.1.1.A	Reference 8
Item No. 3.2.1.1.B	References 8 and 10

Item No. 3.2.1.1.C	Reference 8
Item No. 3.2.1.1.D	Reference 8
Item No. 3.2.1.1.E	References 8 and 10
Item No. 3.2.1.3.A	Reference 10
Item No. 3.2.1.3.B	Reference 10
Item No. 3.2.1.4.A	Reference 10
Item No. 3.2.1.4.B	Reference 10
Item No. 3.2.1.6.A	Reference 8
Item No. 3.2.2.A	Reference 10
Item No. 3.2.3.A	Reference 8
Item No. 3.2.4.2.A	Completed with this submittal as provided below.
Item No. 3.2.4.2.B	Completed with this submittal as provided below.
Item No. 3.2.4.2.C	Completed with this submittal as provided below.
Item No. 3.2.4.2.D	Reference 10
Item No. 3.2.4.4.A	Reference 10
Item No. 3.2.4.4.B	Reference 10
Item No. 3.2.4.6.A	Reference 10
Item No. 3.2.4.6.B	Reference 10
Item No. 3.2.4.6.C	Reference 10
Item No. 3.2.4.8.B	Reference 10
Item No. 3.2.4.8.C	Reference 9
Item No. 3.2.4.9.A	Reference 9
Item No. 3.2.4.9.B	References 9 and 10
Item No. 3.2.4.10.A	Reference 9
Item No. 3.4.A	Reference 10

NRC Audit Report Open Items

Audit Open Item	Completion Response Reference
ISE CI 3.2.4.2.A	Completed with this submittal as provided below.
ISE CI 3.2.4.2.B	Completed with this submittal as provided below.
ISE CI 3.2.4.2.C	Completed with this submittal as provided below.
SE 1-E	Completed with this submittal as provided below.
SE 13-E	Completed with this submittal as provided below.

The following table documents completion of the final remaining open items. As previously stated, EGC provides the response for the following items and considers them to be complete for Dresden Nuclear Power Station, Unit 2.

Item	Description	Reference
OIP Open Item Sequence of Events (page 5-6) The times to complete actions in the Events Timeline are based on operating judgment, conceptual designs, and current supporting analyses. The final timeline will be time validated once detailed designs are completed and procedures developed.	Dresden has completed the validation of the FLEX strategies. The NEI validation template was used for this validation which includes verification of the appropriate human factors. The conclusion of the validation plans is that all FLEX time constraints can be performed with available staff with margin. The completed validation plan has been posted on the eportal.	Complete
OIP Open Item Safety Functions Support Phase 2 Discussion (page 57) Evaluate the habitability conditions for the Auxiliary Electric Equipment Room (AEER) and develop a strategy to maintain habitability.	See Description in below section ISE CI 3.2.4.2.C.	Complete
ISE CI 3.2.4.2.A A discussion is needed on the effects of extreme low temperatures (i.e., temperatures below those assumed in the sizing calculation for each battery) on each battery's capability to perform its function for the duration of the ELAP event.	The batteries are needed for 6 hours until DG power is available. EC 391973 (EXTEND 125VDC AND 250VDC BATTERY COPING TIME WITH LOAD SHEDDING) reviewed historical information regarding battery room temperature. The data showed the lowest battery area temperatures range from 67-68°F over an extended period of time, but average approximately 77°F. A 65°F average electrolyte temperature was used in the evaluation for conservatism. Since the area temperatures prior to the BDBEE are kept above the temperature used in the battery capacity evaluation, it is	Complete

	reasonable to assume that extreme low outside air temperatures will not have a negative effect on each battery's capacity to perform its function for 6 hours until DG power is available to the chargers. The Dresden strategies re-energize battery chargers within 6 hours of event initiation. The staffing analysis suggests this may be accomplished in approximately 3 hours. Given that interior building area temperatures will not immediately fall to outside area temperatures and the approximately 3 hours of margin available on the batteries it is reasonable to assume the battery capabilities are adequate to support FLEX actions until battery chargers are restored. Once battery chargers are restored, impact of low air temperature on the batteries will be of minimal importance because the chargers will supply loads as well as maintain charge on the batteries. The battery rooms for both Unit 2 and Unit 3 are interior rooms with no outside walls. The walls are either concrete or concrete blocks. A temperature drop in these rooms under extremely low outside temperatures will be very small due to a large thermal inertia of the concrete walls, floor and ceiling. A bounding estimate can be made by thermal considerations. For U3, the battery room is approximately 24'L x 21'W x 10'H with 1 ft thick concrete walls. This amounts to a total concrete volume of about 1900 cu ft. At a density of 150 lb/cu ft the concrete mass is 285,000 lb. With a specific heat of 0.2 Btu/lb-F, the stored thermal energy is 57,000 Btu/F (285,000 x 0.2). A bounding overall heat transfer coefficient for interior walls is 1 Btu/hr-F-sq ft. With the total surface area of 1900 sq ft, the heat loss rate at 60 F temperature differential is 114,000 Btu/hr. Thus under such extreme conditions the rate of temperature drop will be only 2 F per hour.	

	The rate of temperature drop for the battery bank will be much smaller than this estimate due to thermal resistance between the battery bank and the concrete walls. Battery temperature drop is estimated by considering heat transfer from each battery cell. One Exide Technologies GNB Industrial Power type 21 cell weighs approximately 300 lbs with a surface area of about 9.5 sq ft. It consists of lead and electrolyte. The heat capacity of each cell is estimated to be approximately 0.4 Btu/lb-F. Thus the heat capacity of each cell is 120 Btu per degree F. In 6 hours, if the room wall temperature drops by 12 degrees, the battery heat loss will be 114 Btu/hr (1 x 9.5 x 12), where heat transfer coefficient is assumed at 1 Btu/hr-F-sq ft. Thus the battery temperature will drop at a rate of 1 degree F/hr. Additionally, per vendor data in the GNB Industrial Power handbook, Section 1.6.4, during short discharges the exothermic Joule-Thomson effect is dominating. Thus batteries heat up during short discharges. The heat generated by a discharge of 5 hours will reduce the heat loss by approximately 14 BTU/hr per cell. Based upon these considerations, it can be surmised that the overall temperature drop in the battery area will be less than 1°F per hour under extremely cold conditions. Given the relatively low conservative temperature drop following the loss of ventilation, the heat-up of the electrolyte as the batteries discharge and the thermal resistance of the batteries it is reasonable to assume the battery capabilities are adequate to support FLEX actions until battery chargers are restored. Additionally, the Dresden FLEX Sequence of Events timeline re-energizes battery chargers within 6 hours of event initiation. The staffing analysis performed suggests this may be accomplished in	

	approximately 3 hours. This implies there is approximately 3 hours of margin available on the batteries which would further reduce the temperature drop in the battery prior to chargers becoming available. Once battery chargers are restored, impact of low air temperature on the batteries will be of minimal importance because the chargers will supply loads as well as maintain charge on the batteries.	
ISE CI 3.2.4.2.B Procedure will be developed to address controlling battery room hydrogen concentration.	FSG-31, FLEX Ventilation Strategies, provides direction for ventilating the battery rooms. Doors will be opened to provide a flowpath for air through the room into larger areas for hydrogen dispersal. Additionally, blowers, fans and collapsible ducts will be utilized to further disperse hydrogen. The lower and upper flammability limits based on the volume percent of hydrogen in air at 14.7 psia are 4.0% and 75.0%, respectively. The common industrial practice is to keep the hydrogen concentrations below 1% by volume. Dresden employs both 125 V (58 cells) and 250 V (120 cells) batteries. Per vendor data by GNB Industrial Power, the maximum hydrogen generation rate for NCX-27 type cells is 0.067 cubic ft/hr at 2.5 volts per cell. The NCX-27 is larger than the NCX-21 (which are the battery cells Dresden utilizes); thus, it has a higher generation rate and bounds the NCX-21. This results in hydrogen generation rates of 4 and 8 cubic ft/hr for 125 V and 250 V batteries, respectively. The 125 V battery room volume for U2 is approximately 1700 cubic ft. Conservatively assume that 50% of the room volume is air (850 cu ft). Hydrogen concentration will reach 1% in approximately 2.13 hours (850x0.01/4) in the absence of any ventilation. Since the hydrogen generation rate for the 125 V	<u>Complete</u>

	battery is 4 cu ft/hr, the air ventilation requirement will be only 6.67 cfm (4x100/60) to stay below the 1% limit. 250 V battery room volume for U2 is approximately 2700 cubic ft. Conservatively assume that 50% of the room volume is air (1350 cu ft). Hydrogen concentration will reach 1% in approximately 1.7 hours (1350x0.01/8) in the absence of any ventilation. Since the hydrogen generation rate for the 250 V battery is 8 cu ft/hr, the ventilation requirement will be only 13.33 cfm (8x100/60) to stay below the 1% limit. For U3, both 125 V and 250 V batteries are in the same room which is approximately 5000 cu ft. The total hydrogen generation rate is now 12 cu ft/hr (4 + 8). Assuming air volume of 2500 cu ft, the 1% limit is reached in 2.1 hours (2500x0.01/12) with no ventilation. The corresponding ventilation requirements are 20 cfm (12x100/60). Note that in all cases the 1% limit is reached in about 2 hours and the ventilation requirements are extremely small. Thus opening doors and using ventilation fans with more than 20 cfm capacity will be sufficient to mitigate hydrogen buildup. The batteries will not begin generating significant amounts of hydrogen until the chargers are re-energized and the batteries begin to charge. The Dresden FLEX Sequence of Events timeline energizes the chargers 6 hours into the event. Therefore the 1% hydrogen concentration point will not be reached until approximately 8 hours after event initiation. FSG-31, FLEX Ventilation Strategies, contains direction to open doors to the battery rooms early in the event and ventilate the spaces with explosion proof ejector fans when power is available. The fan capacity is well in excess of 20 cfm. These actions will prevent hydrogen build-up to explosive concentrations in the battery rooms.	

ISE CI 3.2.4.2.C Evaluations to address loss of ventilation in the auxiliary equipment electric room and Battery Rooms are not complete.	FSG-31, FLEX Ventilation Strategies, provides direction for ventilating the battery rooms and Auxiliary Electric Room. Strategies employed include opening doors to maximize natural circulation, using portable fans and restarting installed systems. As identified in DOA 5750-01 a limiting component is the Essential Service System (ESS) UPS. The vendor manual (Instruction 01268, Installation – Operating – Servicing For Static Line Voltage Regulators Single And Three Phase) was reviewed. The document identifies the UPS Unit may be operated at reduced loads at temperatures of 50°C (122°F). The actions of DOA 5750-01, and similar actions in FSG-31, were developed to keep AEER temperature below 120°F. These include opening doors and when possible utilizing portable fans. FLEX related revisions to DGA-03 provide direction to open selected breakers on the ESS Bus to reduce loading. Per Engineering Judgment, for a BDBEE, the UPS will be operating at reduced loading and there is reasonable assurance that the UPS will be able to operate up to 50 degrees C (122 degrees F). The actions of DOA 5750-01, FSG-31 and DGA-03 are intended to control AEER temperature below 120°F. Under SBO conditions, all ventilation to the Auxiliary Equipment Electric Room (AEER) is lost. Per calculation 3C2/3-0389-001, the AEER heat load is 47 KW (160378 Btu/hr). The room temperature will rise if no ventilation is provided. The strategy to stabilize the AEER temperature is to open two doors and place a high capacity fan in both the doorways to provide the required flow rate. The steady state temperature of the room can be estimated by an energy balance. For a fan with a capacity of 13,000 cfm, air density	<u>Complete</u>

	of 0.07 lbm/cuft and specific heat of 0.24 Btu/lbm-F, the temperature rise between the incoming air and the exhausting air will be 12.24 degrees F (160378/0.07/13000/60/0.24). Thus if the outside temperature is 95 F, long-term steady state temperature of the room will be 107.24 F. A step has been included in the FLEX Sequence of Events timeline at 30 minutes to address AEER ventilation. The AEER conditions will be monitored, heat stress countermeasures will be administered, and the rotation of personnel will be employed to the extent feasible if work in the area is required. Bottled water is stored onsite, and cooling garments are stored in a ready to use state inside freezers which are capable of being powered by a FLEX diesel generator or smaller portable generator. The combination of all of these measures provides sufficient assurance that the AEER environmental conditions will not be so adverse as to preclude execution of the FLEX strategies. Under SBO conditions, the heat load in the battery rooms is negligible as compared to the MCR and AEER. Thus similar ventilation strategies identified in FSG-31, FLEX Ventilation Strategies, will ensure that the temperature rise in the battery rooms is in the order of less than 10 F.	
SE 1-E Validation and Verification: Discuss the validation and verification of the revised plant procedures and the new FSGs. Verify that appropriate human factors are applied for the implementation of the FLEX strategies.	Dresden has completed the validation of the FLEX strategies. The NEI validation template was used for this validation which includes verification of the appropriate human factors. The conclusion of the validation plans is that all FLEX time constraints can be performed with available staff with margin. The completed validation plan has been posted on the eportal.	Complete

SE 13-E For the flood strategy, the licensee moves the FLEX DG to the roof of the 2/3 Reactor Building trackway. However, the FLEX N+1 DG is not moved to the roof, and during the flood it cannot be moved. Therefore, it cannot be used if the FLEX DG fails.	The Reactor Building equipment interlock structure will support the second (N+1) FLEX DG. The RB equipment interlock structure is 71.5' in length, as shown on Dwg. B-211. Each FLEX DG is approx. 22' in length, as shown on Vendor Dwg. 7522T. The Temporary Power Distribution Unit (TDPU) is approximately 4' in length as shown in DRE 14-0039 Attachment E. Therefore, the RB equipment interlock structure can accommodate both FLEX DGs and a TDPU with room to spare. The structural capacity of the structure has also been investigated. Calculation DRE14-0039 has been approved and the structural capacity of the interlock structure allows for the placement of the second FLEX DG. Calculation DRE 14-0039 has been placed in eportal for review. Based on the above information both FLEX DGs will be placed on the Reactor Building equipment interlock structure roof during flood preparations. With both generators in the same location and capable of being utilized during the event, this configuration meets NEI 12-06 and is not considered an alternate approach.	<u>Complete</u>

MILESTONE SCHEDULE – ITEMS COMPLETE

Milestone	Completion Date
Submit 60 Day Status Report	October 25, 2012
Submit Overall Integrated Plan	February 28, 2013
Contract with National SAFER Response Center	February 14, 2013
Submit 6 Month Updates:	
Update 1	August 28, 2013
Update 2	February 28, 2014
Update 3	August 28, 2014
Update 4	February 27, 2015
Update 5	August 28, 2015
Modification Development:	
Phases 1 and 2 modifications	November 18, 2015
National SAFER Response Center Operational	July 27, 2015
Procedure Development:	
Strategy procedures	November 13, 2015
Validate Procedures (NEI 12-06, Sect. 11.4.3)	October 30, 2015
Maintenance procedures	November 17, 2015
Staffing analysis	June 30, 2015
Modification Implementation	
Phases 1 and 2 modifications	November 18, 2015
Storage plan and construction	November 1, 2015
FLEX equipment acquisition	November 13 2015
Training completion	November 15, 2015
Unit 2 implementation date	November 19, 2015

ORDER EA-12-049 COMPLIANCE ELEMENTS SUMMARY

The elements identified below for Dresden Nuclear Power Station, Unit 2 as well as the site OIP response submittal (Reference 5), the 6-Month Status Reports (References 6, 7, 8, 9, and 10), and any additional docketed correspondence, demonstrate compliance with Order EA-12-049.

Strategies - Complete

Dresden Nuclear Power Station, Unit 2 strategies are in compliance with Order EA-12-049. There are no strategy related Open Items, Confirmatory Items, or Audit Questions/Audit Report Open Items. The Dresden Nuclear Power Station, Units 2 and 3, Final Integrated Plan for mitigating strategies will be provided upon full compliance for Dresden Nuclear Power Station, Unit 3 (Fall 2016).

Modifications - Complete

The modifications required to support the FLEX strategies for Dresden Nuclear Power Station, Unit 2 have been fully implemented in accordance with the station design control process.

Equipment – Procured and Maintenance & Testing – Complete

The equipment required to implement the FLEX strategies for Dresden Nuclear Power Station, Unit 2 has been procured in accordance with NEI 12-06, Sections 11.1 and 11.2, received at Dresden Nuclear Power Station, Unit 2, initially tested/performance verified as identified in NEI 12-06, Section 11.5, and is available for use.

Maintenance and testing will be conducted through the use of the Dresden Nuclear Power Station, Unit 2 Preventative Maintenance program such that equipment reliability is achieved.

Protected Storage – Complete

The storage facilities required to implement the FLEX strategies for Dresden Nuclear Power Station, Unit 2 have been completed and provide protection from the applicable site hazards. The equipment required to implement the FLEX strategies for Dresden Nuclear Power Station, Unit 2 is stored in its protected configuration.

Procedures – Complete

FLEX Support Guidelines (FSGs) for Dresden Nuclear Power Station, Unit 2 have been developed and integrated with existing procedures. The FSGs and affected existing procedures have been verified and are available for use in accordance with the site procedure control program.

Training – Complete

Training for Dresden Nuclear Power Station, Unit 2 has been completed in accordance with an accepted training process as recommended in NEI 12-06, Section 11.6.

Staffing – Complete

The Phase 2 staffing study for Dresden Nuclear Power Station, Unit 2 has been completed in accordance with 10CFR50.54(f), "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," Recommendation 9.3, dated March 12, 2012 (Reference 12), as documented in Reference 13.

National SAFER Response Center – Complete

EGC has established a contract with Pooled Equipment Inventory Company (PEICo) and has joined the Strategic Alliance for FLEX Emergency Response (SAFER) Team Equipment Committee for off-site facility coordination. It has been confirmed that PEICo is ready to support Dresden Nuclear Power Station, Unit 2 with Phase 3 equipment stored in the National SAFER Response Centers in accordance with the site specific SAFER Response Plan.

Validation – Complete

EGC has completed performance of validation in accordance with industry developed guidance to assure required tasks, manual actions and decisions for FLEX strategies are feasible and may be executed within the constraints identified in the Overall Integrated Plan (OIP) for Order EA-12-049.

FLEX Program Document - Established

The Dresden Nuclear Power Station, Unit 2 FLEX Program Document has been developed in accordance with the requirements of NEI 12-06.

This letter contains no new regulatory commitments. If you have any questions regarding this report, please contact David P. Helker at 610-765-5525.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 12th day of January 2016.

Respectfully submitted,

Glen T. Kaegi

Glen T. Kaegi
Director - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

cc: Director, Office of Nuclear Reactor Regulation
NRC Regional Administrator - Region III
NRC Senior Resident Inspector – Dresden Station
NRC Project Manager, NRR – Dresden Station
Mr. John P. Boska, NRR/JLD/JOMB, NRC
Illinois Emergency Management Agency - Division of Nuclear Safety