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# Oyster Creek – Quarterly Plant Inspection Findings

## 4Q/2017 – Plant Inspection Findings

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## Initiating Events

## Mitigating Systems

**Significance:** G Aug 03, 2017
Identified By: NRC
Item Type: FIN Finding
**Inadequate Operability Determination of No. 2 EDG degraded fuel oil filter**
The inspectors identified a finding associated with Exelon procedure OP-AA-108-115, "Operability Determinations," because Exelon did not adequately assess the No. 2 emergency diesel generator operability with a degraded fuel oil filter. Specifically, Exelon did not adequately assess the capability of the emergency diesel generator to perform its function during its credited duration time of 72 hours. Exelon entered this issue into the corrective action program for resolution as issue report (IR) 3999576 and IR 3990799 and subsequently replaced the fuel oil filter.

The finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. This issue was also similar to Example 3j of IMC 0612, Appendix E, "Examples of Minor Issues," because the condition resulted in reasonable doubt of the operability of the No. 2 emergency diesel generator and additional analysis was necessary to verify operability. The inspectors evaluated the finding using Exhibit 2, "Mitigating System Screening Questions," in Appendix A to IMC 0609, "Significance Determination Process." The inspectors determined that this finding was a deficiency affecting the design or qualification of a mitigating structure, system, or component (SSC), where the SSC maintained its operability or functionality. Therefore, inspectors determined the finding to be of very low safety significance (Green). The finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because Exelon did not thoroughly evaluate the issue associated with the degraded fuel oil filter and its impact to the No. 2 emergency diesel generator operability [P.2].
Inspection Report# : 2017002 *(pdf)*

**Significance:** W Jan 25, 2017
Identified By: NRC
Item Type: AV Apparent Violation
**'E' EMRV Failure to Stroke Due to Incorrect Reassembly**

(Initial Entry)

The NRC identified a preliminary White finding and associated apparent violation of Technical Specification 6.8.1, "Procedures and Programs," and Technical Specification 3.4.B, "Automatic Depressurization System," because Exelon failed to implement a procedure related to the maintenance of safety related equipment. Specifically, Exelon personnel did not follow electromatic relief valve (EMRV) reassembly instructions that required personnel to reinstall previously removed lock washers from the 'E' EMRV cut-out switch lever. The incorrect reassembly caused excessive friction between the solenoid frame and the cut-out switch lever, which led to the 'E' EMRV's failure to perform its safety function. This resulted in one inoperable EMRV for greater than the Technical Specification allowed outage time. The issue was entered into the corrective action program as issue report 2722109, and Exelon's immediate corrective actions include installing new cut-out switch lever plates with increased clearances, replacing star lock washers with split ring lock washers for additional clearance, and verifying the five EMRV solenoid actuators being installed into the drywell following the most recent refueling outage were correctly assembled.

The finding is more than minor because it adversely affects the human performance quality attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the missing lock washers due to the incorrect EMRV lever plate reassembly caused excessive friction between the solenoid frame and the cut-out switch lever, causing the cut-out switch lever to become bound in the energized position. This led to the 'E' EMRV's failure to perform its safety function. The inspectors screened this issue for safety significance in accordance with Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," and determined a detailed risk evaluation was required because the 'E' EMRV had potentially failed or was unreliable for greater than the Technical Specification allowed outage time.

A detailed risk evaluation concluded that the increase in core damage frequency (CDF) related to the failure of the 'E' EMRV is 5.4E-6/year; therefore, this finding was preliminary determined to have a low to moderate safety significance (White). Due to the nature of the failure, no recovery credit was assigned. The dominant core damage sequences involve loss of main feedwater events with operator errors resulting in failure to make-up to the isolation condensers or otherwise maintain reactor vessel level and the loss of reactor pressure vessel depressurization capability (due to common cause failure of the remaining four EMRVs).

The finding has a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because Exelon personnel did not follow station processes. Specifically, Exelon did not follow written instructions when reassembling the 'E' EMRV. The missing lock washers resulted in excessive friction between the solenoid frame and cut-out switch lever, causing the cut-out switch lever to become bound in the energized position, which led to the 'E' EMRV's failure to perform its safety function.

(First Update) Final significance determination Letter (White) issued on April 13, 2017 (ML17101A422).

(Second Update) Inspection Procedure 95001, "Supplemental Inspection Response to Action Matrix Column 2 Inputs" was completed on September 14, 2017. The Supplemental Inspection Report (05000219/2017008) and Assessment Follow-up Letter was issued on October 17, 2017 (ML17291A306). As a result, Oyster Creek transitioned to Licensee Response Column as of October 1, 2017.

Inspection Report# : 2016004 *(pdf)*
Inspection Report# : 2017008 *(pdf)*

## Barrier Integrity
## Emergency Preparedness
## Occupational Radiation Safety
## Public Radiation Safety
## Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

## Miscellaneous

Current data as of : February 01, 2018

*Page Last Reviewed/Updated Monday, November 06, 2017*