

# D.C. Cook 1

## 2Q/2010 Plant Inspection Findings

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### Initiating Events

**Significance:**  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to maintain safety related cables in underground manholes from becoming repeatedly submerged.**

The inspectors identified a finding of very low safety significance with an associated Non Cited Violation of 10 CFR Part 50 Appendix B, Criterion III, “Design Control,” for failing to maintain safety related cables in an environment for which they were designed. Specifically, frequently submerged safety-related cables in manholes MH1PA, MH1PB, MH1PC, and MH1PD were designed to be moisture resistant and not completely submerged in water. For corrective actions, the frequency for conducting preventive maintenance to inspect the manholes for water and pump out the water, as needed, was reduced from monthly to weekly for manhole MH1PA and to biweekly for manholes MH1PB, MH1PC, and MH1PD. In addition, engineering personnel were evaluating permanent solutions to prevent the manholes from filling with water, which would eliminate the need for manual pumping. This finding was entered into the licensee’s corrective action program as AR 00859564.

This finding affected the Initiating Events cornerstone and was more than minor because the issue could become a more significant safety concern if left uncorrected. Specifically, allowing safety related cables to be repeatedly submerged in water in underground manholes could degrade the cable insulation and result in cable failure. The finding was of very low safety significance because the finding does not contribute to both the likelihood of a reactor trip and the likelihood that mitigating equipment or functions would be lost. This finding was associated with a cross cutting aspect in the area of problem identification and resolution in corrective action program – corrective actions. (P.1.d)

Inspection Report# : [2009005](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure to Positively Identify Power Cable that was to be Removed and Replaced**

A finding of very low safety significance (Green) with an associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” was self revealed. Specifically, licensee personnel failed to positively identify a power cable for Unit 1 AB emergency diesel generator fuel oil transfer pump 1 AB 2 while implementing a work order to remove and replace the power cable. Consequently, on April 5, 2010, the power cable for fuel oil transfer pump 1 AB 1 was cut instead of the power cable for pump 1 AB 2, which unknowingly rendered the Unit 1 AB emergency diesel generator inoperable and unavailable. Corrective actions included replacing the power cables for both fuel oil transfer pumps and correcting the labeling on the conduit. Additional planned corrective actions included revising drawings 1 1407 and 1 1407DR, and determining and implementing robust barriers to positively identify cables in the field before cutting or replacing them during planned maintenance activities. This issue was entered into the licensee’s corrective action program as Action Request 2010 3656.

The inspectors determined that the performance deficiency was more than minor because it was associated with the human performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent core damage. Specifically, the

emergency diesel generator was unknowingly rendered inoperable and unavailable. This finding was of very low safety significance because a detailed Phase 3 Significance Determination Process analysis, assuming a 21 day exposure time, estimated the change in core damage frequency to be 4.6E 8, reflecting a finding of very low safety significance (Green). The dominant cut sets involved station blackout scenarios: loss of offsite power, failure of emergency power, and failure to recover either offsite or emergency power. The inspectors concluded that this finding has a cross-cutting aspect in the work practices component of the human performance cross cutting area. (H.4(a))  
Inspection Report# : [2010003](#) (pdf)

**Significance:**  Mar 31, 2010

Identified By: Self-Revealing

Item Type: FIN Finding

**Failure to Implement Plant Procedures for Using a Mobile Crane**

A finding of very low safety significance was self-revealed for the failure to implement procedures for using mobile cranes and the failure to use human error prevention tools. Consequently, a mobile crane boom contacted and severed the middle phase of an overhead 12 kilovolt line in the owner controlled area 'W' yard. This caused a loss of power to the fire pump house, which rendered the electric fire pump inoperable. This finding was entered into the licensee's corrective action program as Action Request 00860140. No violation of NRC requirements occurred.

This finding was more than minor because it was related to the external factors attribute (fire) of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability of systems that respond to initiating events. Specifically, the electric fire pump was rendered inoperable and unavailable when power was lost to the fire pump house, which degraded the fire protection defense-in-depth strategies. The finding was of very low safety significance because the fire protection system performance was not affected in that both diesel-driven fire pumps were operable. (H.4(c))

Inspection Report# : [2010002](#) (pdf)

**Significance:**  Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Implement Corrective Actions in a timely and Effective Manner**

The inspectors identified one finding of very low safety significance with an associated Non Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." Specifically, licensee personnel failed to implement corrective actions for water intrusion into vaults below motor control centers containing safety related cabling in a timely and effective manner. Consequently, safety-related cabling was exposed to a water environment that if left uncorrected could result in subsequent cable degradation. For corrective action, the licensee performed an inspection of all cable vaults throughout the plant. Also, licensee personnel initiated a root cause evaluation to focus on the leadership and organizational failures associated with the response to the wetted cables in the 1-ABD-A cable vault and the thoroughness of the extent of condition evaluation. This issue was entered into the licensee's corrective action program as CR AR 2010-2558.

This finding affected the Mitigating Events cornerstone and was more than minor because the issue could become a more significant safety concern if left uncorrected. Specifically, failure to implement corrective actions for water intrusion into cable vaults could result in subsequent degradation of safety-related cabling. This finding was of very low safety significance because the finding does not constitute a design or qualification deficiency, did not result in a loss of system safety function, and did not meet the seismic, flooding, and severe weather screening criteria. This finding was associated with a cross cutting aspect in the area of problem identification and resolution – corrective action program (P.1(c)).

Inspection Report# : [2010002](#) (pdf)

**Significance:**  Dec 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Installation of non conforming parts on the safety related emergency diesel generators.**

One self revealed finding of very low safety significance with an associated Non Cited Violation of 10 CFR Part 50,

Appendix B, Criterion XV, “Non conforming Materials, Parts, or Components,” was identified for installing non conforming parts on the safety related emergency diesel generators. Specifically, the licensee installed several Delivery Valve Holder (DVH) assemblies that were fabricated using material previously identified as being prone to cracking, non conforming, on all four safety related Emergency Diesel Generators (EDG). Consequently, on June 10, 2009, during an operability run for the Unit 2 CD EDG, a DVH cracked, which resulted in a fuel oil leak on the 6F fuel injector line. For corrective actions, the licensee replaced all non conforming DVHs with new DVHs that were fabricated using materials that were not prone to cracking. Additional corrective actions included revising several procedures associated with the dedication plan and receipt inspection program. This issue was entered into the licensee’s corrective action program as condition report AR 00852905.

This finding affected the Mitigating Systems cornerstone and was more than minor because the issue could become a more significant safety concern if left uncorrected. Specifically, installing non conforming parts on safety related equipment under certain circumstances could result in the subsequent degradation or loss of equipment required for safe shut down of the plant. This finding was of very low safety significance because the finding is a qualification deficiency that did not result in the loss of operability or functionality of the EDGs. This finding was associated with a cross cutting aspect in the area of human performance – resources. (H.2.c)

Inspection Report# : [2009005](#) (*pdf*)

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **Physical Protection**

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## **Miscellaneous**

Last modified : September 02, 2010