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20 février 2018

## Etats-Unis : Callaway : indisponibilité des trois pompes auxiliaires d'alimentation en eau

**La porte dédiée à la protection des équipements des dangers de coupure de la ligne à haute énergie était ouverte en raison de vibrations provenant de la turbine de la pompe auxiliaire. C'est un jeu dans la porte qui a engendré cette son ouverture sous l'influence de vibrations.**

**Cette découverte a fait entrer le réacteur en limitation de condition d'opérations et l'a fait déclarer comme en état de dégradation de sécurité. Etrangement, ce réacteur est mentionné en phase de "puissance courante" à 100 % alors qu'il est en limitation de condition d'utilisation ?!.**



**Type PWR - Puissance : 3 565 MWth - Première divergence : 10/1984 -**

***Available in english only***

Event Number : 53223

Facility : CALLAWAY - 4 State : MO

Unit : [1] - RX Type : [1] W-4-LP

Event Date : 02/20/2018 - Event Time : 12:25 [CST]

Emergency Class : NON EMERGENCY

10 CFR Section :

50.72(b)(3)(ii)(B) - UNANALYZED CONDITION

50.72(b)(3)(v)(A) - POT UNABLE TO SAFE SD

50.72(b)(3)(v)(B) - POT RHR INOP

50.72(b)(3)(v)(D) - ACCIDENT MITIGATION

Initial PWR : 100 %  
Current PWR : 100 %

Event Text

### **ALL THREE AUXILIARY FEEDWATER PUMPS INOPERABLE DUE TO HELB DOOR BEING OPEN**

"At 1225 CST, all three Auxiliary Feedwater [AFW] pumps were declared inoperable at the Callaway Plant upon discovery that a door (DSK13311) credited for protection of equipment from the effects of a high-energy line break (HELB) hazard had come partially open due to vibration harmonics from the running turbine-driven Auxiliary Feedwater pump (TDAFP). Immediate investigation identified that play in the mechanism that holds the door closed had rendered it susceptible to movement from the vibration harmonics.

"The affected HELB door specifically protects safety-related instruments that provide a swap-over signal upon detection of a low suction pressure condition for the AFW pumps and thereby automatically effect a suction transfer for the AFW pumps from the condensate storage tank (normal/standby source) to the Essential Service Water (ESW) system (credited safety-related source).

"All of the AFW pump suction transfer instrument channels were declared inoperable. Per Technical Specifications (TS) 3.3.2, 'Engineered Safety Feature Actuation System (ESFAS) Instrumentation,' the applicable Condition(s) and Required Action(s) for inoperable AFW pump suction transfer instrumentation only addresses a single channel being inoperable. Thus, the condition of having all three instrument channels inoperable required entry into TS Limiting Condition for Operation (LCO) 3.0.3. At the same time, however, with the automatic suction transfer capability rendered inoperable, all three AFW pumps, i.e., the TDAFP and the 'A' and 'B' motor-driven AFW pumps, were declared inoperable. Although LCO 3.0.3 was applicable, entry into the Required Actions of LCO 3.0.3 was suspended per the Note attached to Required Action E.1 of TS 3.7.5, 'Auxiliary Feedwater (AFW) System,' which states, 'LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status.'

"At 1336 CST, Operations took actions to prevent the TDAFP from running, so the remaining [AFW Pumps] could be returned to Operable status. Operations then declared the affected instrumentation and the 'A' and 'B' motor-driven AFW pumps Operable. This allowed LCO 3.0.3 and Conditions A, B, D, and E under TS 3.7.5 to be exited. With only the TDAFP inoperable, TS 3.7.5 Condition C and its Required Actions remain in effect.

"Due to the degraded HELB door rendering all three AFW pumps inoperable, the unidentified condition is being reported as an unanalyzed condition that significantly degraded plant safety [per 10 CFR 50.72(b)(3)(ii)(B)] as well as a condition that could have prevented the fulfillment of the safety functions of structures or systems that are needed to shut down the reactor and maintain it in a safe shutdown condition, remove residual heat, and mitigate the consequences of an accident [per 10 CFR 50.72(b)(3)(v)(A), (B), and (D), respectively].

"The NRC Senior Resident Inspector has been notified."

<https://www.nrc.gov/reading-rm/doc-collections/event-status/event/2018/20180221en.html>