



Deliberate Misconduct Case Study

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Background

- In 1999, a 10 CFR 50.59 modification to the rod control circuitry was completed
- A jumper was installed on the relay circuitry to inactivate the "slave" function controlling the Shim rod for automatic flux control
- The licensee determined that NRC approval was not necessary to make the change



Event Summary

- Two operators began a startup checklist for the reactor at 12:02 a.m. on May 11, 2005
- They quickly found that the Shim rod could not be withdrawn properly
- Operations Supervisor was notified and was unable to correct the situation using the normal/routine solutions
- At 2:39 a.m. on May 11, the supervisor sent an electronic mail message (E-mail) to the whole staff notifying them of the situation
- Since operating the reactor was a priority, the rod control was moved from the SHIM2 to the SHIM1 control circuit as per a previously performed 10 CFR 50.59 Safety Review



Event Summary (cont'd)

- Following the rod control modification, Standard Operating Procedure (SOP) 4, "Same-day Startup Checklist," (which includes all of the normal console startup checks), was performed and the equipment functioned as required
- This allowed the reactor to be operated with the malfunctioning rod control circuit isolated
- The Associate Director sent an E-mail at 9:20 a.m. to the staff explaining that the problems had been solved
- Later that morning, at 10:16 a.m., an employee, who was a SRO and a Computer Programmer (SRO/CP) came to the reactor to help fix the problems and appeared to be surprised to find out that the problems had either been fixed or otherwise resolved



Observations

- On May 17, 2005, during further troubleshooting, the licensee visually inspected the SHIM2 circuit and determined that, due to the configuration of the relay and its housing, it was difficult to believe that the jumper fell out accidentally
- On May 17, 2005, the reactor staff examined the access log for the facility. This showed that, during the periods in question on May 10 and 11, the only people alone in the Control Room were the Associate Director, the SRO/CP, and another RO
- It appeared that the problems occurred during the time frames when the SRO/CP was alone in the Control Room.



Observations (cont'd)

- At that point, the licensee suspended the SRO/CP's access to the reactor facility as a precaution
- On May 19 and 20, 2005, the licensee contacted the NRC to discuss these events
- Licensee notified the FBI because of possible criminal activity by an individual at a federally licensed facility
- NRC Office of Investigation (OI) investigated the event after the Department of Justice completed their action



Conclusions

- The NRC OI and the Office of Enforcement (OE) concluded that:
 - The SRO/CP:
 - (1) made changes to the facility without the licensee's knowledge or approval
 - (2) engaged in Deliberate Misconduct by willfully removing the jumper on the control rod drive circuit
 - The licensee:
 - (1) self-identified the failure and took corrective actions that were found to be generally acceptable
 - (2) is responsible for the willful actions of the SRO/CP



Conclusions

Office of Enforcement issued:

– **Order to the Individual Prohibiting Involvement In NRC Licensed Activities**

- Deliberate Misconduct -defined in 10 CFR 50.5, “Deliberate Misconduct,” by deliberately modifying the facility that is described in the Safety Analysis Report (as updated)

– **NOV to the Facility**

- NRC recognized that established procedures detected a failure and the licensee corrected the problem, however, the NRC holds the facility licensee responsible for the actions of its employees
- Corrective actions include enhancements to background checks, monitoring, supervisory oversight, and set hours of activities
- Particularly important -initiative to regularly check individuals with unescorted access for changes in status with other departments within the college