

DUKE POWER COMPANY
OCONEE UNIT 3

Report No.: UE-287/75-3

Report Date: May 23, 1975

Event Date: April 13, 1975

Facility: Oconee Unit 3, Seneca, South Carolina

Identification of Event: Failure of personnel hatch interlocks

Conditions Prior to Event: Unit in cold shutdown

Description of Event:

During a maintenance outage for Oconee Unit 3, the control operator received control panel indication that both doors to the personnel hatch were open simultaneously. Investigation revealed that the personnel hatch interlock mechanism had become out of adjustment and resulted in the interlocks being inoperable. An operator was immediately dispatched to the personnel hatch to prevent personnel from simultaneously opening both doors even though containment integrity was not required.

Designation of Apparent Cause of Event:

Each door of the personnel hatch has a gear which is rotated by the door handwheel. A pawl mechanism, in conjunction with this gear, creates a ratchet mechanism to prevent rotation of the door handwheel should the opposite door be open. The pawls are raised from or lowered on the gear by motion of the opposite door transmitted through a cable and linkage mechanism. Adjustments of the interlocks consist of adjusting the effective length of the cable and return springs such that the pawls will properly engage the gears and create a ratchet mechanism when the opposite door is opened. The apparent cause of this event was excessive wear of the ratchet gear teeth making the cable length adjustment extremely sensitive.

Analysis of Event:

The unit was in cold shutdown at the time of this incident; hence, containment integrity was not required. A control room alarm monitors the status of the personnel hatch doors; hence, the status of the personnel hatch was rapidly determined. It is concluded that the health and safety of the public was not affected.

Corrective Action:

A representative of the designer of the hatch has been on site and inspected the hatches. A new ratchet gear and another intermediate gear have been replaced on the Unit 3 personnel hatch door. In addition, a spring assist

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has been added to give more positive displacement of the interlock cable. The designer's recommended spare parts have been procured and are now on site. The personnel hatches have been added to the periodic surveillance program. It is considered that the above action should prevent future recurrence of interlock failures of the personnel hatches.