

February 8, 1979

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## PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE--PNO-79-23

This preliminary notification constitutes EARLY notice of event of POSSIBLE safety or public interest significance. The information presented is as initially received without verification or evaluation and is basically all that is known by IE staff on this date.

Facility: Iowa Electric Light and Power Company  
Duane Arnold (DN 50-331)  
Palo, Iowa

Subject: QUESTIONABLE SURFACE CONDITIONS ON SAFE END REPAIR WELD

The Duane Arnold Energy Center's power reactor has been shutdown since June 1978 to replace leaking "safe ends" (PNO-78-125).

In mid-January 1979, the licensee was informed of IE's concerns that seven welds on five of eight safe ends were believed not to meet Code requirements (PNO-79-10). Additional review has failed to resolve the Code questions.

The radiographs of seven of the Duane Arnold safe end repair welds show numerous conditions which can be collectively described as irregular internal weld surfaces. The licensee and his consultants conclude that the radiographs show that the welds meet ASME Section III Code requirements. Three of four IE people, including a consultant, who reviewed the radiographs, conclude that they demonstrate that the welds are rejectable under the Code. Their bases are that they see, in some places, linear indications and crevice conditions rejectable by Code, and in other places oxidation at the interior surface causes density changes on the film which could mask rejectable conditions. One IE reviewer interprets the radiographs to show Code acceptance, and concludes that sharp density changes do not mask other rejectable indications. Notwithstanding their disagreement on Code acceptability, all of the IE reviewers have concerns for the ability of the welds to perform in service over time. Accordingly, IE is informing the utility that it cannot now conclude that the welds meet the ASME Code, and because of the marginality of acceptance or rejection by Code, resolution of the issue must be directed toward the safety concern for service.

The licensee is being asked to supply additional technical data to the NRC staff to justify the acceptability of the welds. If acceptability cannot be established, repairs may be necessary. Lead office for resolution will be the Office of Nuclear Reactor Regulation.

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