

REGULATORY DOCKET FILE COPY

Docket No. 50-331

MARCH 28 1980

Mr. Duane Arnold, President
Iowa Electric Light & Power Co.
P. O. Box 357
Cedar Rapids, Iowa 52406

Dear Mr. Arnold:

By letter dated January 7, 1980, we requested additional information concerning the mechanical aspects of containment purging and venting at Duane Arnold Energy Center. Additionally, we informed you that a request for additional information concerning the electrical aspects of this subject would be forthcoming.

During the course of our review regarding the long-term resolution of containment purging and venting, we have identified questions concerning the electrical aspects of your engineered safety features. We request the information identified in the enclosure. Please provide the requested information within 30 days of receipt of this letter.

If we can be of assistance, please contact your project manager.

Sincerely,

Original signed by

T. A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosure:
Request for Additional
Information (Electrical)

cc w/enclosure:
See next page

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Mr. Duane Arnold
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cc:

Mr. Robert Lowenstein, Esquire
Harold F. Reis, Esquire
Lowenstein, Newman, Reis and Axelrad
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REQUEST FOR ADDITIONAL INFORMATION (ELECTRICAL)
BYPASS AND RESET OF
ENGINEERED SAFETY FEATURES FOR
DUANE ARNOLD
DOCKET NO. 50-331

1. The information presented in your FSAR and your submittals to date is not sufficient to determine if the following requirements are met for the safety signals to all Engineered Safety Features (ESF) equipment. Therefore, identify and justify all exceptions to the following:

Criterion 1 - In keeping with the requirements of General Design Criteria 55 and 56, the overriding^a of one type of safety actuation signal (e.g., radiation) should not cause the blocking of any other type of safety actuation signal (e.g., pressure) for those valves that have no function besides containment isolation.

Criterion 2 - Sufficient physical features (e.g., key lock switches) are to be provided to facilitate adequate administrative controls.

Criterion 3 - A system level annunciation of the overridden status should be provided for every safety system impacted when any override is active. (See R.G. 1.47)

Criterion 4 - Diverse signals should be provided to initiate isolation of the containment ventilation system. Specifically, containment high radiation, safety injection actuation, and containment high pressure (where containment high pressure is not a portion of safety injection actuation) should automatically initiate CVI.

Criterion 5 - The instrumentation and control systems provided to initiate the ESF should be designed and qualified as safety grade equipment.

Criterion 6 - The overriding or resetting^b of the ESF actuation signal should not cause any valve or damper to change position.

2. In addition to responding to the general question above, please provide the following specific information:

The following definitions are given for clarity of use in this evaluation:

- a - Override: the signal is still present, and it is blocked in order to perform a function contrary to the signal.
- b - Reset: the signal has come and gone, and the circuit is being cleared in order to return it to the normal condition.

- (1) Provide an "as built" tabulation of all Engineered Safety Features (ESF)/Auxiliary Supporting Features (ASF) valves and dampers required to be operated automatically following an accident. This tabulation should include the following:
 - a. Component designation
 - b. System served
 - c. Safety function (e.g., containment isolation, spray initiation)
 - d. Actuation signal sources
 - e. Reference to control circuitry (see 2.(3) below)
 - f. Indication whether or not the component safety function indicated in 2.(1) above can be defeated through the use of a manual override or bypass in either the control system or actuation signal system circuitry.
- (2) For each manual bypass or override feature identified in 2(1) above, provide a description of the physical feature(s) provided to prevent inadvertent operation and to satisfy the requirements of IEEE Std. 279-1971, Section 4.14.
- (3) For each actuation signal system and component actuation system identified in 2(1)d and 2(1)e above, incorporating a manual reset, override or bypass feature, provide a complete circuit description, including detailed pictorial information (i.e., as built circuit diagram, schematics, logics), sufficient to allow a thorough understanding of the operation of such circuitry including the function and effect of all control devices (e.g., relays, contacts, switches, diodes, etc.).
- (4) For each actuation signal identified in 2(1) above, identify the design standards, quality assurance requirements, and component qualification standards involved to ensure that the systems will perform their designated safety function upon demand.