

April 5, 2000

Mr. Eliot Protsch
President
IES Utilities Inc.
200 First Street, SE
P.O. Box 351
Cedar Rapids, IA 52406-0351

SUBJECT: DUANE ARNOLD ENERGY CENTER - COMPLETION OF LICENSING
ACTIVITY FOR NRC BULLETIN 96-03, "POTENTIAL PLUGGING OF
EMERGENCY CORE COOLING SUCTION STRAINERS BY DEBRIS IN
BOILING-WATER REACTORS," DATED MAY 6, 1996 (TAC NO. 96144)

Dear Mr. Protsch:

On May 6, 1996, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin (BL) 96-03, "Potential Plugging of Emergency Core Cooling Suction Strainers by Debris in Boiling-Water Reactors," to all holders of operating licenses or construction permits for boiling-water reactors. The NRC issued BL 96-03 to ensure that the emergency core cooling systems (ECCSs) in BWRs can perform their intended safety function to mitigate the effects of a postulated loss-of-coolant accident (LOCA). The BL provided three options for resolving this issue: (1) installation of large capacity passive strainers, (2) installation of self-cleaning strainers, or (3) installation of a backflush system.

In BL 96-03, the NRC staff specifically requested that licensees submit the following reports for each of their facilities:

1. A description of planned actions and mitigative strategies to be used, the schedule for implementation, and proposed technical specifications, if appropriate.
2. A report confirming completion and summarizing actions taken.

In response to BL 96-03, you provided letters dated November 1, 1996, November 20, 1997, and June 15, 1998, for Duane Arnold Energy Center (DAEC). You stated that you planned to install large capacity passive strainers which would be designed using the guidance in the Boiling Water Reactor Owners Group Utility Resolution Guidance (URG). The NRC staff reviewed the URG and issued a safety evaluation (SE) on August 20, 1998. By letter dated November 30, 1999, you informed the NRC staff that you had completed all actions requested by the BL. These actions included installing large-capacity passive strainers on the core spray and residual heat removal suction lines.

The NRC staff has reviewed your response and has determined that the actions taken should minimize the potential for clogging of ECCS suction strainers and ensure the capability of the ECCS to provide long-term cooling following a LOCA as required by 10 CFR 50.46. The NRC staff notes that General Electric's Licensing Topical Report NEDC-32721P, "Application

E. Protsch

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Methodology for GE Stacked Disk Suction Strainer,” is still undergoing staff review. Part I of the staff’s SE of the topical report was issued on February 3, 1999, approving GE’s methodology for determining strainer head loss. However, the GE methodology for calculating strainer and associated penetration structural loadings due to hydrodynamic forces is still under staff review. Part II of the staff’s SE will be issued upon completion of this review. Because the staff considers your actions responsive to the concerns raised in BL 96-03 and no plant-specific concerns have been identified, BL 96-03 is closed for your facility. Detailed reviews of your strainer design and 10 CFR 50.59 evaluation may be performed on a plant-specific basis in the future.

If you have any questions regarding this issue, please contact your Nuclear Reactor Regulation (NRR) Duane Arnold Project Manager, Brenda L. Mozafari, at 301-415-2020.

Sincerely,

/RA by Darl S. Hood acting for/

Brenda L. Mozafari, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-331

cc: See next page

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Duane Arnold Energy Center

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