

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401*Central File*
50-390
391

OCT 29 1976

Mr. Norman C. Moseley, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 818
230 Peachtree Street, NW.
Atlanta, Georgia 30303

Dear Mr. Moseley:

OFFICE OF INSPECTION AND ENFORCEMENT CIRCULAR 76-01 - IE:II:NCM
50-327, -328, -390, -391, -438, -439 - SEQUOYAH UNITS 1 AND 2,
WATTS BAR UNITS 1 AND 2, AND BELLEFONTE UNITS 1 AND 2

This is in response to your July 29, 1976, letter to J. E. Watson which transmitted IE circular 76-01. TVA has not and does not plan to make modifications to the installed cranes at Bellefonte, Watts Bar, and Sequoyah similar to those described in the subject IE circular.

A planned modification of the secondary main hoist brake on the auxiliary building crane at Sequoyah Nuclear Plant does require changes in the brake power and control circuitry; however, this modification is not similar to those described in IE Circular 76-01. The brake is now a Stearns a.c. disc type which will be replaced by a P&H d.c. shoe brake. A complete a.c. to d.c. converter power supply with brake contactor will be purchased with the brake. The described modification is scheduled for January 1977. After modification, the crane will be given functional and load tests to verify proper operation of the modified components and systems.

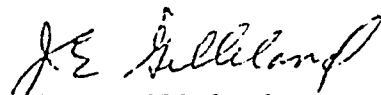
The TVA preoperational test procedure requires that before a crane is transferred to the Division of Power Production a preoperational test shall be performed to ensure that all operational and safety features are functional as designed. The procedure also requires that on each day of use, the operator perform certain inspections and operational checks; and before making any critical lift, such as a fuel cask, the crane is given additional inspections. A more detailed inspection and tests are made annually by a crane inspector. A record of all major lifts (60 percent or more of rated capacity) is kept on all cranes to verify that the equipment is capable of handling the various loads.

Mr. Norman C. Moseley

OCT 29 1976

If the brake contactor design were changed, the TVA design review practice would be to check the adequacy of brake power contactors except where the brake and its related circuitry are supplied as part of a standard design, time-proven packaged control system.

Very truly yours,



J. E. Gilicland
Assistant Manager of Power

CC: Dr. Ernst Volgenau, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
230 PEACHTREE STREET, N. W. SUITE 818
ATLANTA, GEORGIA 30303

JUL 29 1976

In Reply Refer To: .

IE:II:NCM

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50-328

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Tennessee Valley Authority
ATTN: Mr. J. E. Watson
Manager of Power
830 Power Building
Chattanooga, Tennessee 37401

Gentlemen:

The enclosed Circular, 76-01 is forwarded to you for information and action. This is the first issue of an expanded system for communication from the Office of Inspection and Enforcement to applicants and licensees, to supplement the issuance of IE Bulletins.

Bulletins have been, and will continue to be, limited to subjects considered to be of appropriate significance to require prompt response. Circulars will cover subjects of lesser significance or immediacy for which a longer response time appears appropriate. Circular 76-01 contains the same subject matter as Bulletin 76-07, which is being issued concurrently. If you are also the holder of a NRC Operating License, you will also receive a copy of Bulletin 76-07 which will require a separate response. The only difference between the two documents is the time allowed for response. Future IE Circulars may be addressed to any class of NRC licensees, and may or may not require response.

Sincerely,

A handwritten signature in dark ink, appearing to read "N. C. Moseley".

N. C. Moseley
Regional Director

Enclosure:

IE Circular 76-01

CRANE HOIST CONTROL - CIRCUIT MODIFICATIONS

DESCRIPTION OF CIRCUMSTANCES:

In response to NRC concerns about the potential for, and consequences of, dropping a spent fuel shipping cask or other heavy load, Commonwealth Edison modified the hoist control system for the fuel cask handling cranes at their Dresden Units 2 and 3 and Quad cities Units 1 and 2 to provide additional hoist redundancy and slow speed hoist capability. The original design utilized a General Electric "magspeed" hoist control system. In this system which includes two electromechanical brakes in series, spring force holds the brakes engaged while DC solenoids, energized when the hoist motor is energized, disengage the brakes.

The modification which added the slow speed hoist capability included installing additional contactors in the brake solenoid power circuit to energize the solenoids when the low speed hoist motor was energized.

The original hoist control system design utilized a single Size 2 DC contactor (two contacts in series) in the solenoid circuit. The design modification added a circuit in parallel with the original DC contactor which utilized four AC rated Size 1 single contacts in a series-parallel array to distribute current carrying and interrupting burden.

Initial experience with the modified hoist control system at Dresden showed that the circuit interrupting capacity of the series-parallel array was marginal. On several occasions when the low speed motor was stopped in the lowering mode, the solenoid circuit contacts arced resulting in power being supplied to the solenoids long enough so that the load dropped some distance before the brakes engaged. Over travel of as much as 15 inches was reported, but no damage to hoist or load was found.

The crane manufacturer's representatives have advised the NRC that the proposed corrective action is to install a single Size 2 DC contactor (two contacts in series) with arc suppressors, the same as originally provided in the General Electric design, in place of the added four AC rated contacts. The original contactor in the normal speed control circuit has shown satisfactory service since initial operation of the plant in 1969.

ACTION TO BE TAKEN BY LICENSEE:

1. Determine and report to this office within 90 days the following information:
 - (a) Have you made, or do you plan to make modifications to the hoist control for your installed cranes similar to the described modifications?
 - (b) If such modifications have been made, or are planned, identify changes required in brake power and control circuitry?
 - (c) What steps have been taken or are planned, to provide assurance that brake power contactors are adequate for the service?
2. If modifications are planned, provide the schedule for completion and a brief description of your plans for design review and functional testing.

Your response should be submitted to the Director of this Office, with a copy to the Director, Division of Reactor Inspection Programs, Office of Inspection and Enforcement, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555.

Approval of NRC requirements for reports concerning possible generic problems has been obtained under 44 U. S. C. 3152 from the U. S. General Accounting Office. (GAO Approval B-180255 (R0072), expires 7/31/77).