

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

April 27, 1992

NRC INFORMATION NOTICE 92-31: ELECTRICAL CONNECTION PROBLEM IN JOHNSON
YOKOGAWA CORPORATION YS-80 PROGRAMMABLE
INDICATING CONTROLLERS

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to inform addressees of a potential electrical connection problem in the read only memory (ROM) chip sockets of Johnson Yokogawa Corporation (JYC) YS-80 programmable indicating controllers (controllers). It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate. However, no specific action or written response is required.

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U.S. NUCLEAR REGULATORY COMMISSION

Description of Circumstances

In July 1991, Yokogawa Electric Corporation (YEC), parent company of JYC, issued engineering service note (ESN) 102E, "Troubleshooting of User ROM Socket for YS-80 Programmable Instruments." In ESN-102E, YEC stated that YS-80 controller models SLPC*E, SLMC*E, SCMS*E, and SPLR*B had ROM sockets that did not properly engage ROM pins when the ROM was installed in the socket.

YEC stated that the problem was caused by the material of the ROM socket wear plate blades. This material did not exhibit sufficient spring pressure to adequately engage the ROM pins when the ROM was mounted in the socket, which could cause an intermittent or inadequate electrical connection when the ROM was mounted and locked in its socket. JYC has distributed a letter to its sales representatives to inform them of the concern.

The YEC design staff in Nakacho, Musashino-Shi, Tokyo, Japan, discovered this problem while redesigning and improving the YS-80 controller. YEC determined that any of its YS-80 controllers could exhibit this problem. In ESN-102E, YEC listed the following symptoms of the problem: (1) the fail lamp illuminates and the controller displays check codes "10," "00," and "04" and (2) the digital input is not being sent to the controller, but the instrument is operating as if receiving input. YEC stated that the symptoms of the problem could differ depending on the program in the ROM.

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Discussion

The NRC staff was informed of this problem in a December 23, 1991, letter from Spectrum Technologies USA, Incorporated (Spectrum), and a January 7, 1992, letter from Nutherm International, Incorporated (Nutherm). Nutherm supplied a total of 22 YS-80 controllers (models SLPC-271*E and SLPC-281*E) to the Commonwealth Edison Company, and Spectrum supplied 26 YS-80 controllers (model SLPC-281*E) to the Tennessee Valley Authority. Both vendors informed the affected licensees of the problem.

JYC recommended that users not make any field changes to the ROM socket because this action could damage the interfacing printed circuit board. Instead, JYC suggests that applicable NRC licensees contact Mr. John Jerman, Manager of JYC's Technical Assistance Center, at (404) 254-0400, extension 137, for further assistance and information.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact the JYC staff member listed above, one of the technical contacts listed below, or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.


Charles E. Rossi, Director
Division of Operational Events Assessment
Office of Nuclear Reactor Regulation

Technical contacts: Randolph N. Moist, NRR
(301) 504-2981

Joseph J. Petrosino, NRR
(301) 504-2979

Attachment: List of Recently Issued NRC Information Notices

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See File Jacket

LIST OF RECENTLY ISSUED
NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
92-30	Falsification of Plant Records	04/23/92	All holders of OLs or CPs for nuclear power reactors and all licensed operators and senior operators.
92-21, Supp. 1	Spent Fuel Pool Re-activity Calculations	04/22/92	All holders of OLs or CPs for nuclear power reactors.
92-29	Potential Breaker Mis-coordination Caused by Instantaneous Trip Circuitry	04/17/92	All holders of OLs or CPs for nuclear power reactors.
92-28	Inadequate Fire Suppression System Testing	04/08/92	All holders of OLs or CPs for nuclear power reactors.
92-27	Thermally Induced Accelerated Aging and Failure of ITE/GOULD A.C. Relays Used in Safety-Related Applications	04/03/92	All holders of OLs or CPs for nuclear power reactors.
92-26	Pressure Locking of Motor-Operated Flexible Wedge Gate Valves	04/02/92	All holders of OLs or CPs for nuclear power reactors.
92-25	Potential Weakness in Licensee Procedures for A Loss of the Refueling Cavity Water	03/31/92	All holders of OLs or CPs for nuclear power reactors.
92-24	Distributor Modification to Certain Commercial-Grade Agastat Electrical Relays	03/30/92	All holders of OLs or CPs for nuclear power reactors.

OL = Operating License
CP = Construction Permit