

University of Illinois
at Urbana-Champaign

Department of
Nuclear Engineering
214 Nuclear Engineering
Laboratory
103 South Goodwin Avenue
Urbana, IL 61801-2984

College of Engineering

217 333-2295
217 333-2906 fax

January 5, 1992
Docket No. 50-151

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
M.S. P1-22
Washington, DC 20555

Dear Sir,

Please find enclosed the answers to your REQUEST FOR ADDITIONAL INFORMATION dated December 29, 1992. If there are any further questions or questions concerning the information I have provided please call me at 217-333-7755.

Respectfully,



Richard L. Holm
Reactor Supervisor

Enc.

cc: Regional Administrator, USNRC, Region III
Mr. Alexander Adams, Jr., NRR, USNRC
File

120027

4020 1/1

STATE OF ILLINOIS

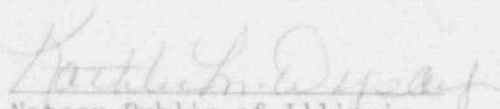
COUNTY OF CHAMPAIGN

Richard L. Holm, being first duly sworn on oath, deposes and says that he has affixed his signature to the letter above in his official capacity as Reactor Supervisor, University of Illinois Nuclear Reactor Laboratory; that in accordance with the provisions of Part 50, Chapter 1, Title 10 of the Code of Federal Regulations, he is attaching this affidavit; that the facts set forth in the within letter are true to his best information and belief.

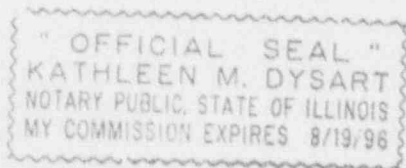


Richard L. Holm
Reactor Supervisor

Subscribed and sworn to before me, a Notary Public, in and for the County of Champaign, State of Illinois, this 6 day of January, A.D., 1993.


Notary Public of Illinois

8-19-96
My Commission Expires



RESPONSE TO
REQUEST FOR ADDITIONAL INFORMATION

UNIVERSITY OF ILLINOIS

DOCKET NO. 50-151

QUESTION: *Please provide a listing of scrams provided by the new General Atomics control console that are not part of the Technical Specifications.*

ANSWER: The following scrams are provided by the General Atomics console that are not required by the Technical Specifications -

- * NP-1000 High Voltage Low
- * NPP-1000 High Voltage Low
- * Key Switch in any position than "ON" (i.e. "RESET" or "OFF")
- * A second power level scram (only one required by TS)
- * Low Primary Flow when greater than 1 MW
- * High TRIGA Tank Level
- * Primary Outlet Temperature High
- * 2 External Scram circuits
- * Period Scram

QUESTION: *Discuss in general terms how the new control console provides the interlocks required by your TS.*

ANSWER: Prevent Transient Rod Withdrawal when power is greater than 250 Kw. This interlock is operationally set at 1 Kw. The NM-1000 provides a power signal to the CSC software which determines whether or not the power is less than 1 Kw. The software then outputs to a relay which will then allow the transient rod solenoids to energize to fire the rods if power is less than 1 Kw.

Prevent control rod withdrawal when neutron count rate is less than 1 per second.

The NM-1000 provides a power signal to the CSC software which determines whether or not the power is greater than 1 cps. The software then outputs to a relay which will then allow the rods to be withdrawn if power is greater than 1 cps.

Prevent withdrawal of a transient rod when the standard control rods are not fully inserted. (This does not apply to the adjustable transient rod if the movable cylinder is fully inserted when the air pressure is applied.)

The CSC software prohibits firing the Fast Transient Rod unless all the manual rods are indicated to be on the bottom. The Adjustable Transient Rod may be fired if the movable cylinder is on the bottom.

NOTE: The following interlocks are provided by the control console that are not required by the Technical Specifications.

- 1) Software interlocks in the UP pushbutton circuit prohibit withdrawal of more than one rod at a time. ALL rod UP drive relays are inhibited anytime two or more UP pushbuttons are pressed.
- 2) Upward movement of the control rods is inhibited by the CSC software if all scrams are not reset.
- 3) Upward movement of the control rods is inhibited by the CSC software if control rod magnet current is not enabled.

QUESTION: *You proposed a change to the bases of TS 3.5 concerning power level scrams. Is it appropriate to state that the power level scram assure that the reactor operation stays within the limits discussed in the Safety Analysis Report and approved by the NRC?*

ANSWER: Yes. The power level scrams ensure that reactor operation will stay below the safety limit (fuel temperature) discussed in the Safety Analysis Report and approved by the NRC.