



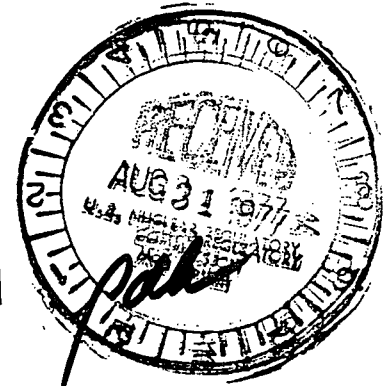
Commonwealth Edison
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August 24, 1977

Mr. Donald K. Davis, Acting Chief
Operating Reactors - Branch 2
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Regulatory

File



Subject: Dresden Station Units 2 and 3
Quad-Cities Station Units 1 and 2
Anticipated Transient Without Scram (ATWS)
NRC Docket Nos. 50-237/249 and 50-254/265

Reference (a): R. L. Bolger letter to V. Stello,
dated April 22, 1977.

Dear Mr. Davis:

Reference (a) stated that preliminary anticipated transient without scram (ATWS) system design for Dresden Station Units 2 and 3 and Quad-Cities Station Units 1 and 2, would be available for comment July, 1977. The system design is shown in the attached figure. The input to the ATWS logic will come from reactor vessel pressure sensors. These pressure sensors will be transmitters mounted on local divisional instrument panels in the reactor building. The pressure trip setting will be ≤ 1150 psig.

The trip unit, trip relay, DC/AC inverter and AC/DC power supply will be mounted in the divisional Emergency Core Cooling System (ECCS) cabinets. If the ATWS vessel pressure trip signal is received, a trip will seal in and hold the trip until the reset switch is depressed. All trip units are operating in the de-energized state, with the final ATWS trip relay normally de-energized. When the ATWS reactor vessel pressure setpoint is exceeded and causes a trip, the final drive relays within the ATWS system become energized. Reset and manual actuation switches will be mounted on reactor operating benchboards.

The recirculation pump motor generator field breaker will be opened for an ATWS trip. The field breaker will have a second trip coil added for redundancy. The logic relay contacts that trip the field breakers are open during plant operation and closed for an ATWS trip. The logic to each breaker is two-out-of-two or two-out-of-two. In other words, no single active failure will prevent operation of at least one trip coil on each breaker.

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Commonwealth Edison

Mr. Donald K. Davis

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August 24, 1977

The diversity between the RPS logic and ATWS logic is achieved by functional application of the logic elements, and location of the logic elements. Some logic elements used in synthesizing the design may be the same type such as trip units, pressure transmitters, pressure switches, relays, power supplies, wires, terminal boards, etc. However, if common elements are used, the application in relation to the trip status will be diverse. Diversity between the RPS and ATWS logic is shown in the table below.

<u>System</u>	<u>Location Of Logic</u>	<u>Power Source</u>	<u>Logic Contacts During Operation</u>	<u>Output Status</u>	<u>Logic Equation</u>
RPS	RPS Cabinets	115 volt AC	Closed	Energized	1:2:2
ATWS	ECCS Cabinets	125 volt DC	Open	De-energized	2:2:1

This proposed modification will be developed to a final design in order that the long time components (pressure sensors) can be purchased in the Fall, 1977.

In order to maintain our schedule, we are proceeding with the final design based on this preliminary design. However, we request expeditious review and concurrence of this design to ensure acceptable implementation as scheduled in Reference (a).

Please direct any questions on this matter to this office.

One (1) signed original and 59 copies of this letter are provided for your use.

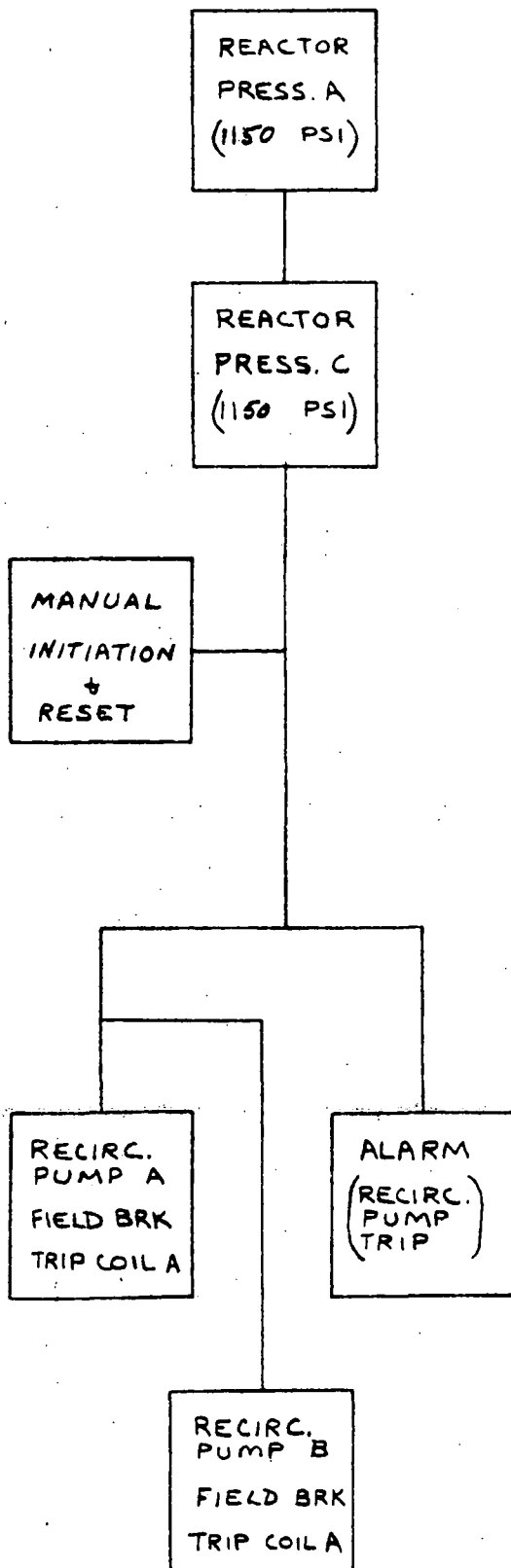
Very truly yours,


M. S. Turbak

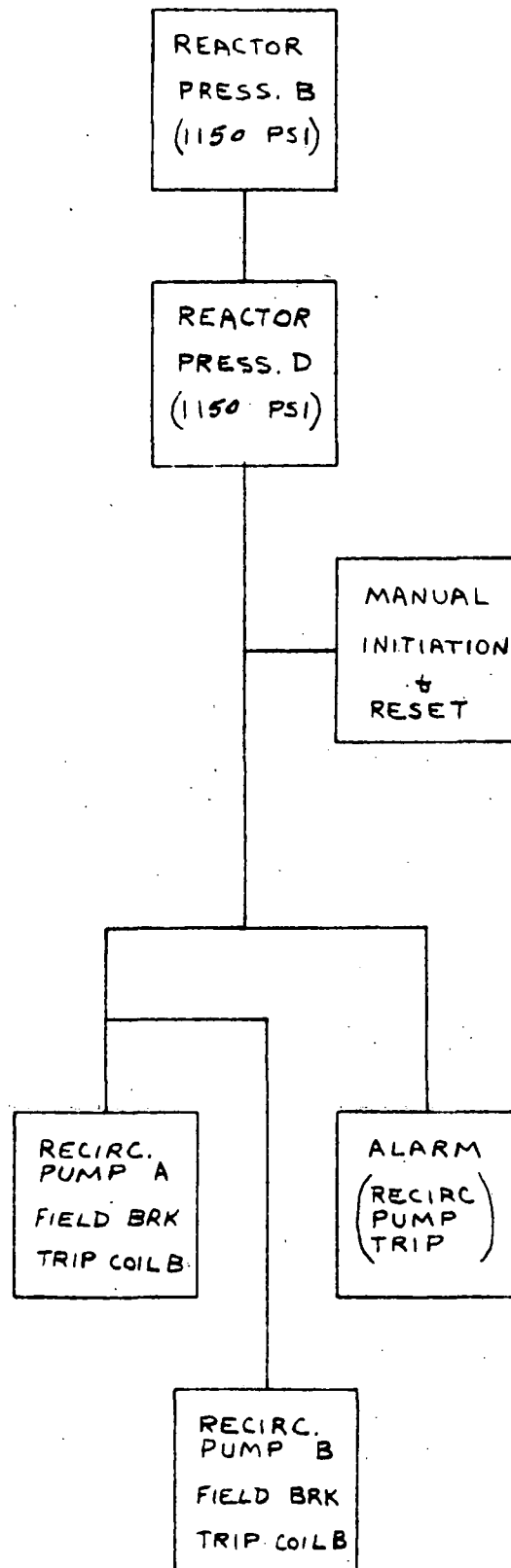
Nuclear Licensing Administrator
Boiling Water Reactors

Attachment

DIVISION 1



DIVISION 2



ATTACHMENT I RECIRC PUMP TRIP