

**Florida
Power**
CORPORATION

October 31, 1980

File: 3-0-3-a-3

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Mr. Darrell G. Eisenhut
Director
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Instrumentation for Detection of Inadequate Core Cooling

Dear Mr. Eisenhut:

Florida Power Corporation has reviewed your letter of September 24, 1980, and offers the following response regarding development of a RCS water level measurement system.

We are in agreement with the statements made in Mr. J. H. Taylor's letter of October 7, 1980, to Mr. D. F. Ross, Jr. Specifically, we support the B&W position summarized below:

- We utilize a fixed incore thermocouple system already having a highly redundant, reliable indication of inadequate core cooling. The readouts are valid to temperatures in excess of 2000°F.
- Reliance on these core exit thermocouples and previously published operator guidelines for interpreting the available information is the best and most direct method of determining that the inadequate core cooling condition has occurred. The incore thermocouples provide an unambiguous indication of the approach and existence of inadequate core cooling, and will not erroneously indicate inadequate core cooling.
- The recently installed T_{sat} meter provides a longer term indication of the approach to inadequate core cooling since saturation conditions must be achieved prior to approaching inadequate core cooling.
- Each reactor vessel level measurement system concept that we have reviewed fails to provide any additional aid to the operator for detection of inadequate core cooling. Core

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cooling is directly indicated by temperature measurement, not level measurement. The measurement concept fails to meet most of the NRC established criteria.

- The potentially ambiguous information provided by the above proposed RC level indication instrument systems could lead to unsafe and incorrect actions if the operator acted on the level indication.
- No new or additional detectors are required to cover the full range of plant conditions.

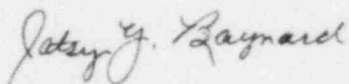
Although we feel the existing incore thermocouple system, in conjunction with the redundant saturation meters, provide advance warning of and unambiguous indication of inadequate core cooling, we are interested in programs to develop other types of instrumentation to accomplish this same function.

Therefore, we will actively pursue the development of such an instrumentation system with the following understanding. Before any inadequate core cooling detection system is installed or placed in operation at Crystal River Unit 3, we will complete the design and testing and receive NRC approval of such an instrumentation system. Also, testing of various schemes at the LOFT facility would be prudent to ensure ambiguous information does not lead to unsafe and incorrect actions by an operator.

Until such an instrumentation system is designed, tested, and installed at our facility, we will continue to rely on the highly reliable incore thermocouple system and the saturation meters, coupled with existing operator guidelines, to correct conditions of core cooling, should they occur.

Sincerely,

FLORIDA POWER CORPORATION



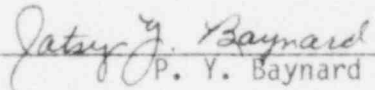
Patsy Y. Baynard
Manager
Nuclear Support Services

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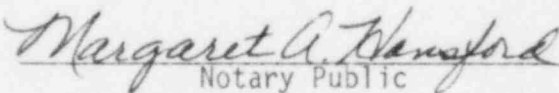
STATE OF FLORIDA

COUNTY OF PINELLAS

P. Y. Baynard states that she is the Manager, Nuclear Support Services Department of Florida Power Corporation; that she is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of her knowledge, information and belief.


P. Y. Baynard

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this 31st day of October 1980.


Notary Public

Notary Public, State of Florida at Large,

My Commission Expires: June 8, 1984

PYB/MAHNotary(DN-98)