



Department of Energy
Washington, D.C. 20545
Docket No. 50-537
HQ:S:83:245

APR 12 1983

Dr. J. Nelson Grace, Director
CRBR Program Office
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Dr. Grace:

RESPONSE TO SAFETY EVALUATION REPORT (SER) OPEN ITEM NO. 4 - SOLID
STATE PROGRAMMABLE LOGIC SYSTEM (SSPLS)

Enclosed is additional information to clarify Clinch River Breeder
Reactor Plant project commitments regarding the SSPLS, as discussed
with the Nuclear Regulatory Commission staff. This information should
enable the staff to complete their review and resolve Open Item No. 4
of SER Section 1.6.

Any questions regarding the enclosed information may be addressed to
Mr. A. Meller (FTS 626-6355) or Mr. D. Hicks (FTS 626-6022) of the
Project Office Oak Ridge staff.

Sincerely,

John R. Longenecker
Acting Director, Office of
Breeder Demonstration Projects
Office of Nuclear Energy

Enclosure

cc: Service List
Standard Distribution
Licensing Distribution

D001

SSPLS (SOLID STATE PROGRAMMABLE LOGIC SYSTEM)

The SSPLS availability for each device channel has been specified at 99.9955%. The CRBRP Project has included this as a design goal and this or any other acceptable availability is subject to negotiations with vendors.

The CRBRP Project agreed to obtain availability data from vendors. Three vendors were informally contacted with the following information received:

(1) Condec/Consolidated Controls Corporation

They informally committed they could meet our availability of 99.9955%.

Their normal ranges are:

<u>Availability</u>	<u>MTBF*</u>	<u>MTTR**</u>
99.92	10,000 hrs	8 hrs
99.98	10,000 hrs	2 hrs
99.99	10,000 hrs	1 hr

(2) Electro-Mechanics, Inc.

They informally committed they could meet our availability of 99.9955%. Their normal availability is 98%. They would not give us any further details, including MTBF and MTTR information, prior to bidding.

(3) Forney Engineering Company

Repeated discussions with them resulted in obtaining no detailed information for their normal availability range. They informally committed they could meet our availability of 99.9955%; however, they stated that this would be possible only at substantially higher costs.

The Project expressed a concern with using a specific availability number in the SER, given the extensive negotiations yet to be completed and the wide range of acceptable availability numbers. Further, actual bid commitments may deviate from informal commitments. That is still our CRBRP position. However, if the NRC includes a number, it should be included as a goal, and the NRC should recognize that the Project will finalize the availability in negotiations, fully considering the vendors' capabilities and Project costs.

* Mean Time Before Failure

** Mean Time To Repair

Further items discussed include:

- (1) The CRBRP specification includes EMI* and surge protection requirements.
- (2) Microprocessor or discrete logic may be used; the Project will accept either, and this is acceptable to the NRC.
- (3) It was agreed that SSPLS as proposed provides a reliable method for manual initiation in accordance with IEEE 279, Section 4.17.

* Electromagnetic Interference