TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

August 26, 1981

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

OFFICE OF INSPECTION AND ENFORCEMENT BULLETIN 79-15 - RII:JPO 50-259, - 260, -296 - BROWNS FERRY NUCLEAR PLANT - SUPPLEMENTAL RESPONSE

Our initial response to the subject bulletin was submitted on September 10, 1979. As discussed with F. Cantrell and P. Kellogg of your staff on July 16, 1981, we are enclosing additional information on the operating histories of the deep draft pumps in use at Browns Ferry. If you have any questions, please call Jim Domer at FTS 857-2014.

To the best of my knowledge, I declare the statements contained herein are complete and true.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure
cc (Enclosure):
Mr. Victor Stello, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Director of the Division of Operating Reactors
Office of Nuclear Reactor Regulation
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ENCLOSURE
OFFICE OF INSPECTION AND ENFORCEMENT BULLETIN 79-15
RII:JPO 50-259, -260, -296
BROWNS FERRY NUCLEAR PLANT
SUPPLEMENTAL RESPONSE

References: Browns Ferry FSAR, section 4.8, 10.9, and 10.10
Browns Ferry Technical Specifications sections
3.5.B, 3.5.C, 4.5.B, and 4.5.C

As stated in our previous response to the bulletin, there is considerable redundancy and flexibility built into the Browns Ferry RHRSW/EECW systems. For this reason it is difficult to obtain exact assigned system run times on each pump individually. However, routine requirements such as one pump per header for EECW, RHRSW for shutdown cooling, and RHRSW for torus cooling, make the run time approximations listed in Attachment 1 possible. It must be emphasized that these run times are considered conservative because they do not take into account any of the following: (1) auto starts due to performance of the diesel generator and core spray tests required by technical specifications; (2) tests which require 2 EECW pumps to be aligned to one EECW header; (3) run times for required technical specification testing on all RHRSW pumps; and (4) run time accumulated on the pumps before January 1, 1977 (this date was picked because the RHRSW pump run time documentation is sketchy before this date).

For this same period as the run time accumulation (January 1, 1977 to July 31, 1981) the major maintenance history for the RHRSW/EECW pumps has been compiled in Attachment 2.

It can be seen from the above information that the 12 deep draft pumps at Browns Ferry have considerable operating time even when conservatively approximated. Since these pumps are identical and no general preference is given as to which pump is used within their normally assigned system, consideration of the collective pump operating experience indicates that there is approximately one maintenance period per pump year of operation. Additionally, these pumps are required by technical specifications to be tested monthly for total developed head, flowrate, motor current and vibration. The total developed head, flowrate, and vibration are compared to baseline values developed under the guidelines of Section XI of the ASME Boiler and Pressure Vessel Code. The vibration data on these pumps has been expanded to other plant instructions to cover additional vibration surveillance points on the pump as well as periodic vibration spectrum analysis. With these testing requirements and the relatively infrequent incidence of maintenance, we believe that these pumps will be able to perform their function in an accident situation or that their inability to perform their function will be detected and corrected in accordance with the provisions of the technical specifications.

ATTACHMENT 1

PUMP OPERATING TIME

RHRSW PUMPS[1]	(1-1-77 to 7-31-81)
A1 and A2	5536.78 hours
B1 and B2	6355.64 hours
C1 and C2	4789.88 hours
D1 and D2	5110.40 hours

EECW Pumps[2]	(1-1-77 to 7-31-81)
A3	20,076 hours
B3	20,076 hours
C3	20,076 hours
D3	20,076 hours

(1) These run times were determined from inservice times of RHR heat exchangers and, therfore, cannot be attributed to number 1 or number 2 pump individually.

(2) These run times are based on running at least one EECW pump per header at all times since January 1, 1977. There is generally no preference given as to which pumps are running at any particular time. Rather, it is usually dependent on completed or impending technical specification testing. Therefore, attributing 50% run time to each pump on a given header is not unreasonable.

ATTACHMENT 2

PUMP MAINTENANCE HISTORY

RHRSW Pumps[A] (1-1-77 to 7-31-81)

(1) Readjusted the coupling spacing on B1 pump.

(2) Replace the A1 pump.

(3)[B] Rebuilt the A1 pump twice and the B1 pump three times.

(4) Replaced cracked suction bell on the A1 pump.

(5) Replaced a shaft section on B1 pump.

(6) Replaced a broken coupling on the C2 pump.

EECW Pumps[A] (1-1-77 to 7-31-81)

(1)[B] Rebuilt the A3 and C3 pumps twice.

(2) Replaced bottom bearings on the D3 pump.

(3) Replaced broken shaft on the A3 pump and realigned pump and motor (this includes one of the A3 pump rebuilds listed above).

[A] Normal maintenance to these pumps as packing adjustment and replacement and suction strainer repair and replacement are not included in these tabulations.

[B] Rebuilding includes any or all of the following: new wear rings, new O-rings, new bottom bushings, new bearings, and new impellers).