

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

84 JUL 25 A 8:21, 1984

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Mr. O'Reilly:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - SUPPLEMENTAL RESPONSE TO BULLETIN
81-03 FLOW BLOCKAGE OF COOLING WATER TO SAFETY SYSTEM COMPONENTS BY
CORBICULA SP. (ASIATIC CLAM) AND MYTILUS SP. (MUSSEL)

In my letters to you dated July 8, 1981, and February 17, 1983, TVA had described its program for detecting and controlling the growth of Asiatic clams in the high pressure fire protection and essential raw cooling water systems at Bellefonte Nuclear Plant. The purpose of the enclosed supplemental response is to inform you of changes to TVA's previous responses and to clearly distinguish between chlorination procedures during the plant construction phase and during normal plant operation.

If you have any questions concerning this matter, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills

L. M. Mills, Manager
Nuclear Licensing

Enclosure

cc (Enclosure):

Mr. Richard C. DeYoung, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT
REVISED SUPPLEMENTAL RESPONSE ON IE BULLETIN 81-03

FLOW BLOCKAGE OF COOLING WATER TO SAFETY SYSTEM COMPONENTS
BY CORBICULA SP. (ASIATIC CLAM) AND MYTILUS SP. (MUSSEL)

There are two changes to our previous responses on this subject. First, in our February 17, 1983 letter, TVA responded that a "small continuous flow of chlorinated water will be established during clam spawning season through all major fire protection headers." This has proven to be impractical and as such will not be practiced at Bellefonte. The High Pressure Fire Protection (HPFP) system at Bellefonte will be chlorinated in accordance with TVA's response to item 1B in our July 8, 1981 letter. Second, in the subject letter TVA stated that "permanent onsite sodium hypochlorite generation systems have been procured and will . . . be available for use" at all TVA Nuclear Plants. At the present time, it is economically advantageous to TVA to purchase the sodium hypochlorite from a commercial supplier. The purchased sodium hypochlorite will be used for chlorination.

TVA's chlorination program, during plant construction and during normal plant operation, is essentially the same. It is TVA's intent to chlorinate the Essential Raw Cooling Water (ERCW) and HPFP systems at the times of the year and to the residuals specified in our July 8, 1981 letter, regardless of whether the plant is still under construction or in normal operation. However, TVA has not yet been able to establish and maintain the chlorine residuals specified in our February 17, 1983 response. TVA has been moderately successful in establishing chlorine residual in the ERCW system, although this residual has typically been less than our goal of 0.6 - 0.8 ppm total residual chlorine. TVA has had virtually no success in establishing the specified residual in the HPFP system.

TVA attributes these difficulties to the corrosive nature of sodium hypochlorite, which has resulted in frequent maintenance problems with the hypochlorite distribution and injection system, and to the inherently unstable nature of sodium hypochlorite, which has resulted in erratic performance of the hypochlorite injection pumps. TVA is continuing to review these problems and to consider changes in system design and maintenance which will eliminate or minimize them.

During the construction phase at Bellefonte, TVA will continue to inspect the HPFP and ERCW systems for evidence of clam infestation. These inspections will be of the type reported by TVA in our February 17, 1983 response. Chlorination system failures, which result in a loss of chlorination of the ERCW or HPFP systems in excess of 30 days, will be evaluated to determine whether inspection, additional flushing, or shock chlorination is required to return the system(s) to a normal condition.

During normal plant operation at Bellefonte, the chlorination program for the ERCW and HPFP systems will be as described in TVA's February 17, 1983 response and as amended by this supplemental response.