



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAY 23 1980

Mr. John A. Eyed
President, Sassafras Audubon Society
R 1 Box 375
Nashville, Indiana 47448

Dear Mr. Eyed:

This is in response to written questions and comments which you presented at the March 25, 1980 public meeting on Marble Hill. From the scope of your questions, it appears that you may have misunderstood the purpose of the meeting. The meeting had a very limited purpose - to assist the NRC in gathering information on which to base a decision on whether PSI now has a management system and quality assurance program adequate to support resumption of construction at Marble Hill.

You also raised general concerns about other issues such as need for power, facility costs, availability of alternative energy sources, and disposal of nuclear waste. These issues are similar to those you raised in Sassafras Audubon Society's petition of last year to Harold R. Denton, Director of the Office of Nuclear Reactor Regulation. Mr. Denton responded to these issues in an appropriate fashion, I believe, in his letter of November 27, 1979. I have responded to the remainder of your questions concerning construction activities at Marble Hill in Enclosure 1.

With respect to your letter of April 7, 1980, the meeting of April 11, 1980 was called by the Office of Nuclear Reactor Regulation (NRR), and was not attended by me or my staff. The changes in the PSI quality assurance program discussed in that meeting have been documented and are now a part of the Docketed File. We are enclosing a copy of that submittal for your reference (Enclosure 2).

I trust that our answers to your letter of March 25, 1980 have clarified some of the questions which you repeated in your April 7 letter. Specifically, PSI has stated that it does intend to assume overall responsibility for Marble Hill, and that it has applied for an "N" certificate. I cannot speak to Indiana Law, but the NRC will require PSI to adhere to the ASME Code for safety-related piping systems.

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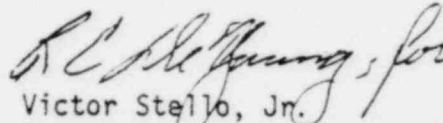
Mr. John A. Eyed

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I wish to assure you that I share your concern for the safety of nuclear power plants, and am determined that if Marble Hill construction is resumed, the construction quality will be adequate to protect you, me and the rest of the public.

Sincerely,

A handwritten signature in cursive script, appearing to read "Victor Stello, Jr.", written in dark ink.

Victor Stello, Jr.
Director
Office of Inspection
and Enforcement

Enclosures:

1. Reply to Questions and
Comments
2. Revised PSI QA Program
Description

Reply to "Questions and Comments of the Sassafras Audubon Society"

Need for, and cost of, Marble Hill and related questions were addressed in a response dated November 27, 1979, to the Society's petition.

- I. Our interpretation of the questions by the Sassafras Audubon Society in this part and our responses follow.

Question: Can Marble Hill be repaired sufficiently?

Response: We believe that it can be adequately repaired, however, if new information is obtained indicating that repairs are not possible or feasible, the structures will be reconstructed.

Question: How much of this huge volume of concrete can be and will be tested to insure structural integrity?

Response: All of the concrete can be examined in some manner. For example, all surfaces will be visually examined. The results of all destructive testing (compressive test cylinders prepared during the pouring stage) will be reviewed and evaluated. Additionally a statistically valid sampling inspection of the concrete utilizing a pulse echo technique has been completed. These tests covered a sufficient sample size to provide a 95% reliability with a 95% confidence factor. Furthermore all quality records will be re-examined as necessary. These collective tests and examinations provide a high level of assurance that ultimate structural integrity can be obtained.

Question: Will the selection of testing of selected volumes of concrete on a statistical basis, such as has been done by Mr. Muenow, of the Portland Cement Corporation, be sufficient not only to "satisfy all applicable regulatory requirements" and "reasonably assure" the NRC, but will such testing and repair of defects, where discovered, establish unequivocally that Unit 1 can withstand a 28 psig pressure spike such as occurred at TMI-2?

Response: The statistical sampling tests alone will not provide absolute assurance of structural integrity. It should be noted that this test technique is designed to detect voids and other discontinuities in volumes of concrete. Tests coupled with engineering evaluations, examination of existing quality records and certain destructive tests, will appropriately address the structural integrity of all concrete structures. Equally important however, prior to operation the NRC requires that the containment structure be subjected to leak rate and over-pressure tests. In the Marble Hill case, the over-pressure test will be conducted at a pressure in excess of 28 psig which will provide unequivocal evidence of the structure's ability to withstand pressure spikes of this magnitude.

Question: How much of the concrete cited in 25 reports to PSI as "out of slump concrete" and/or included in the 91 field reports to PSI of honey-combing, is in safety-related construction and inaccessible to inspection and testing but vital to structural integrity?

Response: All of the concrete addressed by the referenced field reports (nonconformance reports) is in safety-related structures. Note that the NRC reference to these documents was not based on a concern for the technical adequacy of the specific resolution of the problems, but rather purely administrative failure to adequately "TREND" their nonconformances. From a technical point of view "out of slump" concrete is not an absolute indication of inadequacy but is a quick and readily available tool for verifying concrete quality while still in a plastic state. When "out of slump" occurs the governing specifications at the site provide additional instructions for corrective action. The proper corrective actions were taken in all cases. Further, the strengths of all of this concrete were subsequently determined to be acceptable by compressive strength determinations of the test cylinders.

All concrete can be examined either directly or through analysis of existing engineering documents. (See previous question.)

II. We concur in the Sassafra's opinion that PSI statements are confusing concerning "N" certification. Perhaps a simple statement of ASME procedures would help.

ASME has a two stage approach. First they look at the paper and the promises, i.e., QA program description and applicant's commitments to that program. The purpose is to determine whether the applicant has an acceptable program that includes appropriate implementation procedures and whether he has identified sufficient and competent personnel to do the work. If so, the ASME issues an Interim Letter. ASME issuance of an Interim Letter authorizes the organization to perform code work for a limited time, in order to be able to demonstrate capability in accordance with the documented program. Within the time limit, the applicant will be examined for performance by a survey team. If he passes, he will get the "N" certificate. Thus the full authority is based on demonstrated performance.

We concur with the Indiana Boiler and Pressure Vessel Board, that PSI initially displayed a lack of understanding of the ASME program, that action to obtain an "N" certificate was improperly delayed, and that PSI did many things it should not have done. At this time, PSI is prevented from performing work to demonstrate their ASME QA program because of the NRC's Confirming Order. In our plans for removing the constraints of the Order are provisions for PSI to demonstrate to the ASME their capability for performing code work; however, the plans also include provisions for satisfying the NRC first. The NRC is requiring that PSI have "N" stamp certification before permitting full resumption of safety-related construction.

To our knowledge the Indiana Board and Pressure Vessel Board is no longer of the view that PSI should have an "N" certificate prior to resumption of safety related construction as established during PSI's presentation of their 14 point program to correct the problems identified by the ASME. The NRC endorses the 14 point program by PSI.

- III. At the time the NRC construction permit was issued, it appeared that the PSI materials management program was proper and acceptable. This opinion was confirmed by PSI performance in the earliest days of construction activity. However, when construction activity expanded, it became apparent that the program and personnel could not accommodate the increased workload.

Revision and improvement of the program, particularly to adjust to ASME "N" certificate requirements, has been a particular focus of PSI attention. At the time of the March 25, 1980 meeting PSI still had work to do. At the present time, PSI appears to be approaching an acceptable program. The NRC has not imposed time constraints upon PSI in up-grading this program, however conformance to Regulatory Guide 1.38 is necessary. The licensee has committed to having an acceptable program by mid-July, 1980. This program must be in place before unconditional lifting of the order will occur.

- IV. The primary indicator to NRC that the Marble Hill project was in trouble was the identification that PSI did not have enough nuclear experienced people functioning in their organization. Initially it was not apparent whether they did not have enough people or weren't using them well. As time and work progressed it became apparent that a serious lack of nuclear experienced people existed. The Management Analysis Company (MAC) analysis confirmed the NRC opinion.

For a construction project of limited duration, the NRC is willing to accept use of consultant personnel in many areas, not just limited to craftsmen, so long as they are competent, and are fully integrated into a good, functioning organization. For the long haul, in operation and in any post construction, the NRC requires appropriate technical competence in utility employees whether they are engaged in plant operation, engineering support or in construction activities.

Our plan for rescinding the Confirming Order includes a step-wise process with NRC hold points for review and approval at each step.

The purpose is to assure that PSI performance either with or without MAC assistance is adequately demonstrated at each stage. This process will be continued as long as necessary. No work will be permitted to proceed with indefinite or open-ended plans including staffing considerations.

- V. The NRC has no control over the type of contracts exercised by licensees. Regardless of price and contract terms, the NRC requires that construction achieve the requisite high level of quality. This does not imply that "fixed price" contracts are unacceptable. It is entirely possible, if

the quality requirements are completely and accurately stated, to negotiate a fixed price contract where the contractor can be held accountable for both price and quality.

We believe that the adverse conditions as far as the control of quality that were noted at Marble Hill will be corrected by the changes in the PSI quality assurance program. We concur with the MAC findings in this matter and agree in general with the recommendations made by MAC. The NRC will specifically monitor future PSI performance in this area to assure that compromise of quality does not occur regardless of contract terms.

- VI. I disagree with the implication that our program failed to assure the quality of construction at Marble Hill. We could not and cannot criticize PSI's performance until there was some performance worthy of criticism. Initially, PSI appeared to be performing acceptably.

When performance became questionable, we acted promptly, and we believe effectively, in halting construction. I believe this action demonstrates unequivocally that we are protecting the public's health and safety in this matter. Under the circumstances, it is clear that we must pay special attention to the future performance of PSI, while allowing them sufficient latitude to demonstrate whether they are truly doing a good or bad job. NRC will pay particular attention to Marble Hill.

With respect to the duties of the resident inspector, he will monitor day to day activities to enable him to become aware of the problems and will alert the Regional Office of things which he believes may warrant the attention of an inspector with special expertise. Additionally he is expected to carry out a planned program of inspection which includes direct observation and witnessing as well as a limited amount of independent verification.

In the case of the individual currently assigned to Marble Hill, his immediate responsibilities are to become familiar with the project, the organization, and the personnel and to be the eyes and ears for the NRC. He performs inspections of activities so as to become aware of the performance of people and systems and verifies that the conditions of the Order are being observed.

If (when) construction is resumed, the resident inspector's duties will not differ much. He will still be expected to perform explicit inspections within his area of expertise, and to call for specialist help in areas beyond his area of expertise. Whatever assistance is necessary from the Regional Office, will be provided.

- VII. As you have stated and Mr. Keppler has acknowledged (in the transcript of the Environment, Energy, and Natural Resources Sub-committee hearings on pages 143 and 144) he should have held news conferences earlier "in the game". Although a news conference was not held earlier, we responded to numerous phone calls from reporters and members of the news media all during

this time through our public affairs officer from Region III. Also, the State of Kentucky and the State of Indiana were kept appraised of the situation. A news conference was held in Madison, Indiana on October 10, 1979.

In regard to your last sentence which states "the circumstances warrant a public hearing on whether construction should resume", this request has been previously reviewed and denied by the Commission.