

ATTACHMENT 2

INVESTIGATION OF CERTAIN ANONYMOUS ALLEGATIONS CONCERNING THE ADVANCED OFF-GAS SYSTEM AT VERMONT YANKEE NUCLEAR POWER STATION

I. Statement of Concern / Allegation

On or about December 28, 1995, Vermont Yankee Nuclear Power Station (VYNPS) personnel were informed by the *Brattleboro Reformer* that the newspaper had received a copy of an undated anonymous letter making certain allegations concerning the function and management of the Advanced Off-Gas System (AOGS) at VYNPS. The full text of the letter was as follows:

"Dear Madam:

"I must report to you a serious violation of NRC requirements at Vermont Yankee.

"The advanced offgas system has been allowed to deteriorate over the years and as a result the plant is discharging illegal amounts of radioactivity.

"In order to save money plant managers cancelled a plan by the engineers to refurbish the system during the 1995 refueling.

"The engineers that spoke out against the cancelling were punished and had a bad report inserted in their personnel file.

"Recently the offgas system was declared out of operation because critical monitoring equipment was not calibrated properly. I am told this condition has existed for many years.

"The vice president at Yankee Atomic (YAEC) knows about this, but has done nothing because it would affect the recent organization changes—he knows it could affect his job if he had to tell Vermont Yankee managers that they were not operating the plant correctly."

It was reported by the *Reformer* that this letter had been received by the New England Coalition on Nuclear Pollution, Inc. (NECNP) and had been immediately forwarded by NECNP to the *Reformer* and to the Governors of the State of Vermont and New Hampshire, the Attorney General of the Commonwealth of Massachusetts, and the United States Nuclear Regulatory Commission (NRC). No information was provided at that time and none has been developed since concerning the identity of the author of the letter.

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On December 28, 1995, when Vermont Yankee first learned of the allegations, an immediate review was conducted by Vermont Yankee management to assess any immediate safety concerns. No evidence was found during the initial review to substantiate that Vermont Yankee was discharging illegal amounts of radioactivity. Thereafter, on December 29, 1995, an Investigation Team was appointed by the President of Vermont Yankee Nuclear Power Corporation (VYNPC), to further investigate the allegations. The Team consists of

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In addition, R. K. Gad III, of the firm of Ropes & Gray, One International Place, Boston, Massachusetts 02110, was requested to provide legal counsel and assistance to the Investigation Team.

The Investigation Team was charged with investigating and determining the facts surrounding the allegations of the anonymous letter and rendering a report to the President of VYNPC. By direction of the President of VYNPC, with the concurrence of the President of Yankee Atomic Electric Company (YAEC), the Investigation Team was authorized unlimited access to all records and personnel of VYNPC, VYNPS and YAEC. During the course of the investigation, certain unrelated issues were identified which were reported to the Vice President, Operations.

Having completed its investigation, the Investigation Team now submits its report.

II. Executive Summary

Each allegation as described in the anonymous letter has been reviewed in detail by the Investigation Team. It is the Team's conclusion, based on review of documents and personnel interviews, that the allegations are entirely unfounded. The AOGS has and continues to operate as designed.

III. Concern Details and Investigation Results

Allegation 1

To investigate the first allegation ("the advanced offgas system has been allowed to deteriorate over the years and as a result the plant is discharging illegal amounts of radioactivity"), the Investigation Team performed personnel interviews and reviewed the following VYNPS records relating to the offgas radiation monitor surveillances and calibrations, offsite radiological monitoring results, AOGS maintenance requests:

- a. Chemistry Department Self-Assessment dated January 5, 1996
- b. Independent review of surveillances and calibrations as documented in a memo dated January 3, 1996 from G.D. Weyman - Environmental Supervisor
- c. Review of maintenance work order logs for both open and closed work orders for the past year.

During the period covered by the review, no emissions above regulatory limits had been recorded.

In addition, the Investigation Team discussed the allegation with the State of Vermont, which maintains its own separate program for monitoring radioactivity around the site boundary. The State of Vermont reported that it has not identified excessive emissions or any adverse trend through its Off Site Monitoring program. In addition, the State of Vermont is notified when stack radiation monitors are being calibrated. The State told the Team that they have been satisfied with Vermont Yankee's practice of calibration of the subject equipment.

In addition, under NRC regulations (10 C.F.R. § 50.72), had "the plant . . . discharg[ed] illegal amounts of radioactivity," a "Licensee Event Report" (LER) would have been required to have been prepared and submitted to the NRC. The Investigation Team reviewed the LER log for the past five years and found none reporting the discharge of impermissible levels of radiation via the off-gas stack.

Based on its review of the foregoing records, the Investigation Team concluded that there was no "discharge" of "illegal amounts of radioactivity."

In addition to the above, through interviews with the people who operate and maintain the system, as well as a review of the past years' maintenance records, there is no evidence of any system deterioration.

On the basis of the foregoing, the Investigation Team concluded that the first allegation of the anonymous letter is unfounded.

Allegation 2

To investigate the second allegation ("in order to save money plant managers cancelled a plan by the engineers to refurbish the system during the 1995 refueling"), the Investigation Team reviewed the records concerning work items proposed for and completed during the 1995 Refueling Outage (RFO) and it interviewed personnel involved with the RFO. The investigation revealed the following:

On November 18, 1991, Operations Department Personnel detailed a proposed scope for a project to upgrade the AOGS in a memo to management. The primary objective of the project was to make the system easier to operate and maintain. There was an acknowledgment of the fact that control wiring diagrams (CWD's) needed to be verified prior to implementation of the design change. Yankee Atomic Electric Company was contracted to provide an initial engineering evaluation, which was completed and delivered on February 11, 1994. The evaluation concluded that wiring verifications were a possible, but not a necessary, first step in the process. Subsequent correspondence between Yankee Atomic and Vermont Yankee detailed the plans for the wiring verification as well as assigning the VY Project Manager. Routine engineering scoping and development activities occurred between March 1992 and March 1994 at which point a meeting was held to present the package, Engineering Design Change Request (EDCR) 94-402, to management.

During the management presentation it became apparent that there were still reservations by the VY Project Manager about what he labeled as the safety and effectiveness of attempting implementation of the design with the existing drawing errors. A review of correspondence and interviews with involved parties indicates that there was a general feeling that the wiring issues were not of sufficient magnitude to impede the progress of the design and in fact, wiring and print corrections were factored into the design scope. However, to address the concerns of the VY Project Manager, the responsible Department Manager assigned two experienced, uninvolved engineers to review the situation and make recommendations as to the viability of completing the project as originally intended. On June 3, 1994, the reviewing engineers issued their report, which concluded that the project could continue with some minor adjustments to address the wiring and print issues.

The reviewing engineers conclusions were accepted by the Department Manager who then informed the Project Manager of his decision. The Department Manager documented his expectations concerning the execution of the AOGS project. At that time the Project Manager indicated that, in spite of his professional objections to the directed course of action, he would aggressively pursue completion of the project as requested. The engineering package was delivered to VY on July 5, 1994 and was expected to be finalized by the VY Project Manager and approved by September 15, 1994.

Contrary to the expectations of the Department Manager, the engineering package was not completed on time. As a result, it was necessary to reduce the scope of the project to address those components seen as reasonably achievable given the time constraints. On November 9, 1994 a memo documenting the revised scope was issued by the assigned Yankee Atomic Engineer. The revised scope retained the drawing revisions as well as some mechanically oriented tasks.

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Trying to assure successful completion of the revised scope project and to eliminate any confusion between himself and the Project Manager, on November 30, 1994, the Department Manager documented specific expectations for completion of the revised project. On December 22, 1994 the AOGS project was removed from the 1995 Outage Worklist because "we have repeatedly failed to deliver on completion dates and there is no basis for confidence we will meet any given date at the moment." On January 24, 1995 the AOGS

package was reviewed and Management decided to dedicate additional resources, two weeks and \$100k, to carry out work during the 1995 outage that would prepare for package completion during the 1996 outage. The Department Manager informed the Project Manager of the decisions on January 25, 1995. On January 31, 1995, the Project Manager issued his comments on the decision to limit the scope of the AOGS project. The Department Manager again discussed expectations and deadlines concerning the use of the additional resources committed by management. On February 7, 1995 the Department Manager met with the Project Manager to discuss some comments contained in the January 31, 1995 memo on the decision to limit scope. In that memo, the Project Manager had questioned the "safety" of the project, and he was asked specifically about his safety comment. As recorded by the Department Manager, the Project Manager explained that the comment referred to "job safety, confidence in the outcome."¹ They also discussed the Project Managers previous statement that there was no way he could accomplish anything useful with the two weeks and \$100k allotted by management. At that time the Department Manager informed the Project Manager that he was removing him from the project.

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Following the removal of the Project Manager from the project, another VY Engineer assumed the role of Project Manager and completed wiring verifications, drawing revisions and correction of wiring errors during the outage. A summary of the wiring verification project was documented in a memo, May 3, 1995.

On August 17, 1995 a memo was issued formally canceling EDCR 94-402. The projects originally captured in the EDCR would instead be completed as Minor Modifications and placed on the Major Projects Worklist for consideration during future outages.

¹In context, the Investigation Team interprets the Project Manager's response to mean that he used "safety" to refer to either or both of the concepts (i) that initiating the undertaking would not cause an enlargement of the RFO schedule or (ii) that undertaking the project and incurring its costs would not result a failure to achieve the benefits that had been expected. It is clear to the Team in context that the Project Manager was not referring to nuclear safety and it seems clear in context that the Project Manager was not referring to worker safety. During the interview with the Project Manager, he specifically told the Investigation Team that he did not have a safety concern regarding the AOGS and never had. Ordinarily, the Investigation Team would have reinterviewed the Project Manager to remove any ambiguity in his comment, but the point did not seem to warrant such effort.

On the basis of the foregoing, the Investigation Team concluded:

- a. The decision to cancel EDCR 94-402, which resulted in the deferral of some of the work included in its scope but not the cancellation of any work, was based on incomplete package development and was not motivated by financial consideration.
- b. There was no evidence that any employee was opposed to the cancellation of the EDCR (or deferral of some of the work) on the basis of safety. To the contrary, the only "safety" concern raised in connection with this issue was to the effect that in order to promote confidence in the outcome, the drawing revision and validation should precede any design work, and this concern was effectively satisfied by the deferral. In fact, the Project Manager considered the cancellation of the project a major accomplishment on his part.
- c. No plan to refurbish the AOGS during the 1995 RFO to remedy excessive releases was canceled (or proposed).
- d. No plan to perform any work on the AOGS during the 1995 RFO was canceled "in order to save money."
- e. A project to rewire a small portion of the AOGS, to improve system drawings, and replace some operational instrumentation on the AOGS during the 1995 RFO in order to enhance system maintenance was deferred because the engineering work prerequisite to the performance of this work was not completed on a schedule required for the work to proceed.
- f. To the extent that this allegation refers to a plan to correct "deterioration," there was no deterioration, as concluded above.
- g. To the extent that the design work was deferred, this work had always been classified as optional work that would be useful to perform at some time but was not critical to perform during the 1995 RFO, and this work had no impact on system operation.

The Investigation Team concluded that, while certain design modification implementation was deferred, this deferral occurred because the Project Manager in charge of the work thought it should be deferred and, ultimately, because he failed to execute instructions to perform the work concurrently with the drawing verification.

On the basis of the foregoing, the Investigation Team concluded that the second allegation of the anonymous letter is unfounded.

Allegation 3

To investigate the third allegation ("the engineers that spoke out against the cancelling were punished and had a bad report inserted in their personnel file"), the Investigation Team reviewed the personnel records of the engineers who had been involved in the AOGS work proposed for, but then not performed during, the 1995 RFO, and the Vermont Yankee Safety Concerns & Improvement Program Log. In addition to the facts recited above with respect to Allegation 2, these records revealed the following:

- a. There was a difference of opinion as to the manner in which the design change should progress.
- b. An independent team of engineers was requested to review the differences and provide a recommendation. The reviewing engineers concluded that the design could be implemented as originally scoped. However, after the Project Manager was asked to prepare work packages and those packages were deemed to be incomplete, management determined that there was no longer sufficient time to complete the packages in time for the then approaching outage. This resulted the deferral of the design change implementation work.
- c. There is no evidence of any "bad report" in any of the cognizant engineers file as a result of speaking out against the canceling of the original design.

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- f. No evidence that the VY Safety Concerns & Improvement Suggestion Program was used to convey a safety concern.

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Based on the above, the Investigation Team concluded that:

- a. No engineer or engineers complained about the deferral of the AOGS RFO planned work on the grounds of radiological health and safety;
- b. The Project Manager responsible for the preparation of the AOGS RFO work package disagreed with the proposal for the concurrent performance of drawing verification and design modification implementation.
- c. After having been instructed nonetheless to prepare a package on this basis, the Project Manager submitted a package that was determined to be insufficiently complete to perform the work.

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- e. No engineer (or anyone else) was "punished" for expressing a view that the work should not be deferred.

Accordingly, the Investigation Team concluded that the third allegation of the anonymous letter is unfounded.

Allegation 4

To investigate the fourth allegation ("Recently the offgas system was declared out of operation because critical monitoring equipment was not calibrated properly. I am told this condition has existed for many years"), the Investigation Team reviewed Operations Department log for equipment out of service, Chemistry Departments procedures and results of past calibrations and surveillances of "critical monitoring equipment." Since it was unclear to the Investigation Team which "critical monitoring equipment" the letter was referring to,

the team reviewed any equipment in the AOGS that had "recently" been out of service. These records revealed the following:

- a. With respect to the radiation monitors, there was no evidence of any missed calibration, equipment out of service, or missed surveillances.
- b. The AOGS remained operable at all times.
- c. During a recent unplanned shut down, there was a question on the operability of the AOGS Hydrogen Detectors. Because of the questions raised, the hydrogen detectors were technically declared out of service. However, evaluations demonstrated that, in fact, the hydrogen detectors were always functional and at no time did they not perform as designed. It should also be noted that the hydrogen detectors do not detect or monitor any form of radioactivity. The hydrogen detectors detect hydrogen that may be present in the system. They have no bearing on the operability of the radiation monitors to perform their intended function.
- d. A review of the hydrogen detector issue found a discrepancy between the Vermont Yankee procedure and the Technical Specifications with respect to the calibration gas. This was identified internally, communicated to the NRC, and is completely documented in Event Report 95-0681.

Based on the above, the Investigation Team concluded that the fourth allegation was incorrect and unfounded as stated, in that "critical monitoring equipment" was not found to be out of calibration and that "this condition" had not "existed for many years." In addition, the Investigation Team concluded that the fourth allegation was without basis insofar as it might be interpreted to be an assertion that the matters mentioned in the earlier allegations (and found to be without basis) had recurred.

Allegation 5

Given the invalidity of the first four allegations contained in the anonymous letter, the Investigation Team concluded that the fifth allegation ("The vice president at Yankee Atomic (YAEC) knows about this, but has done nothing because it would affect the recent organization changes—he knows it could affect his job if he had to tell Vermont Yankee managers that they were not operating the plant correctly") was also necessarily without basis. In substance, the fifth allegation contends that an unnamed officer concealed his "knowledge" of certain "facts" constituting improper operation of VYNPS. Having

concluded that the "facts" of improper operation did not exist, no officer could have had "knowledge" of them.

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IV. Conclusions

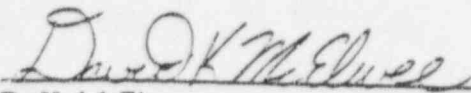
On the basis of the foregoing, the Investigation Team concludes that:


- a. The anonymous allegations are without basis in their entirety;
- b. At no time was VYNPS operating in violation of regulatory requirements with respect to the AOGS;
- c. At no time was any adverse personnel action or any other action taken against the engineers involved in the AOGS system on account of their having raised a safety issue;
- d. At no time did any officer of VYNPC or YAEC (or anyone else involved in the operation of VYNPS) suppress information relating to safe operation of the AOGS on account of concern about job status;
- e. No further investigation is required or appropriate to close out the allegations; and
- f. No corrective action is required on account of the allegations or this investigation.

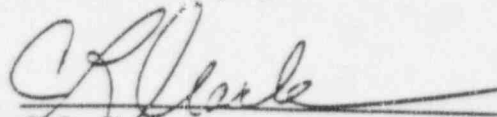
Recommendations

None.

Respectfully submitted,


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