

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-354/86-14

Docket No. 50-354

License No. CPPR-120

Licensee: Public Service Electric and Gas Company

Facility Name: Hope Creek Generating Station

Inspection Conducted: February 3 - February 7, 1986

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date

Summary

From an NRC perspective, employee concern programs such as SAFETEAM are essentially an extension of the utility's overall quality assurance program, even though it operates independently from the normal quality assurance program as established to meet NRC requirements. The purpose of this inspection was to determine if Safeteam, as a Public Service Electric and Gas Company sponsored program, is effective in identifying and resolving employee concerns. It was concluded that the Safeteam process has satisfactorily identified and resolved employee concerns during the final stage of plant construction and preoperational testing. Areas where the inspectors determined that improvement could be made are determination of root cause and generic implications, and evaluation of reportability to NRC. It should be noted that the SAFETEAM program is not an NRC requirement. Nonetheless, NRC reporting requirements are still applicable and must be satisfied. The inspection involved 73 hours by three inspectors.

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DETAILS

1. Persons Contacted

Within this report period, interviews and discussions were conducted with the Safeteam Manager, Mr. Owen Lyon, his staff from two subcontractors and various PSE&G, Bechtel and other contractor personnel as necessary to support this inspection.

2. Introduction

Safeteam was established by the licensee in October, 1984 to handle employee concerns at an early time in the final phase of construction of Hope Creek in order to reduce possible delays at the end of construction and improve overall plant quality. This program replaced the PSE&G program operated by the QA Engineering and Construction Department since early in plant construction.

The objectives of this inspection were:

- To determine if the process satisfactorily identifies and resolves employee concerns;
- To determine if a positive recommendation for licensing can be made considering the effectiveness of the Safeteam program; and,
- To identify any recommended areas for improvement in the program.

The above objectives were to be met by interviews of the Safeteam staff and those who closely work with this staff; conversations with the general plant staff including, if possible, concernees; and review of Safeteam procedures, concern files and closeout letters, and other related data.

3. Inspection

3.1 Organization

The Safeteam, headed by its Manager, is responsible to the Senior Vice President, Nuclear and Engineering. The manager is the only Safeteam employee that works directly for PSE&G. All others work for consultants to Syndeco (a subsidiary of Detroit Edison Company); the Interviewers for Management Decision Systems (MDS) and the Investigators for National and Inspection Consultants (NIC). This type of independent organization is intended to increase employee confidence that their anonymity will be maintained.

The eight (8) part-time Interviewers, the Interview Coordinator (full time) and the Interview Secretary (full time) have offices in a double-wide-trailer identified as the "Appreciation Center". The interviewers are typically graduate students at local universities or retired workers, educated in technical and/or psychological fields. The inspector reviewed the interviewing staff qualifications and found them appropriate for the position.

The investigative staff consists of an Investigative Coordinator, three Lead Investigators and eleven (11) Investigators. Unlike the interviewers, the investigators are full time contractor employees. They have offices in a second double-wide trailer with the SAFETEAM Manager and Secretary and in a single-width trailer. The investigators typically have experience as Level II certified QA/QC inspectors and have received Safeteam and site orientations. The inspector reviewed their qualifications and found them appropriate for the position.

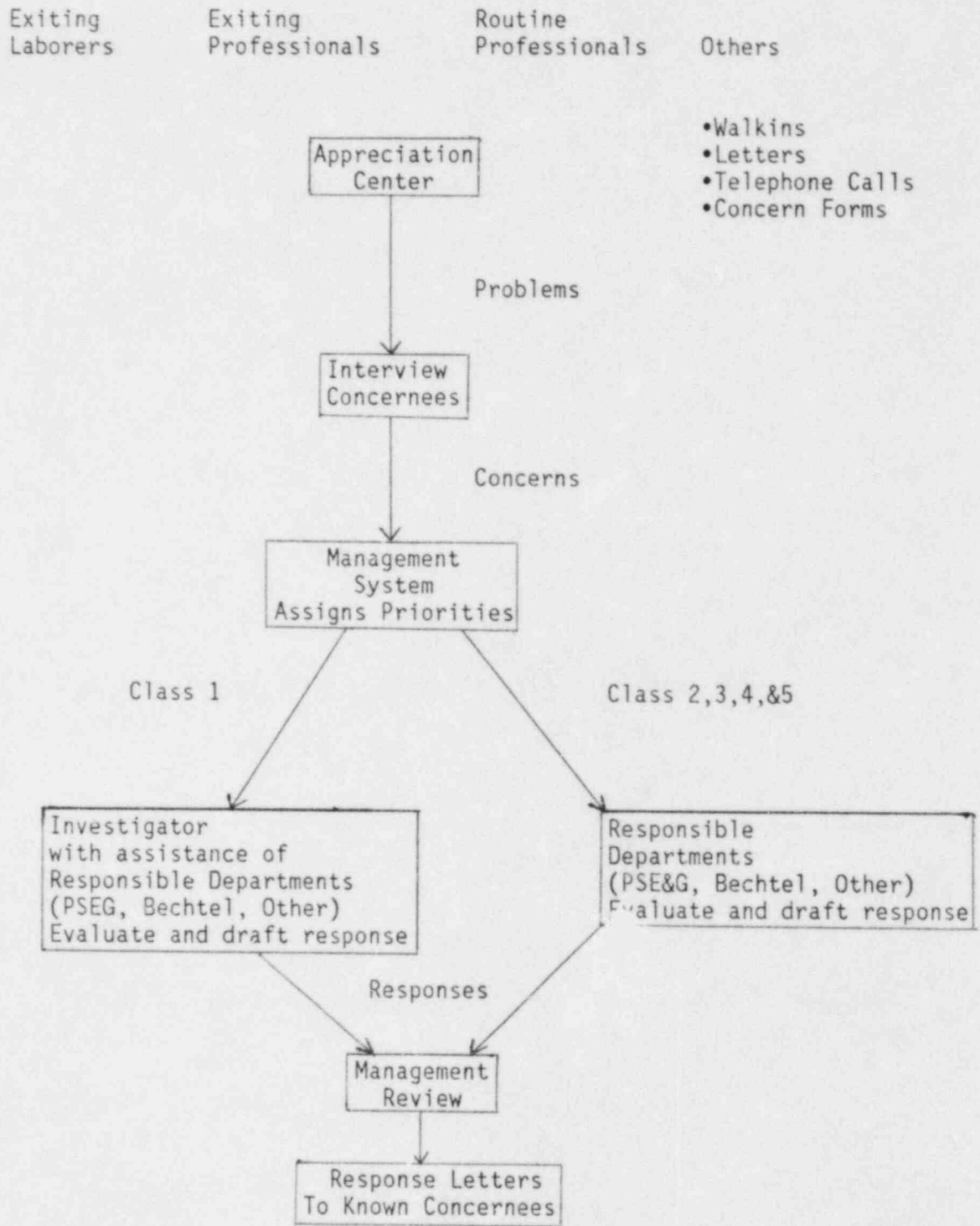
3.2 Procedure

As mentioned previously the Safeteam Program, including the controlling procedures, were developed at Detroit Edison's Fermi-2 Plant and purchased from Syndeco. An overall sketch of the process is shown in Figure 1.

As shown, the Appreciation Center is set up to extract problems (potential concerns) from the plant staff. The professional staff (engineers, QA/QC inspectors, etc.) are routinely scheduled to meet with Safeteam and must (final paycheck dependent) be processed through prior to leaving the site. This includes one-on-one interviews. Because of union involvement, exiting manual laborers are encouraged to attend the Appreciation Center presentation in groups of up to 50 persons. In addition to the scheduled and encouraged meetings with Safeteam, problems may be received by the other means shown in the figure. Letters forwarding concern forms are sent to all exiting site employees including those that don't pass through the center.

The purposes of the Appreciation Center are to instill confidence in the Safeteam process and to put potential concernees at ease so their concerns may be articulated. The inspector sat in with a group of exiting employees to hear the interviewer's opening remarks and viewed the two short video tapes by the Chairman of the Board and by the Manager of Quality Assurance. These presentations thank the workers for a good job, stress the importance of nuclear safety, endorse Safeteam, and request any concerns be given to Safeteam. Light refreshments were available during the presentation to reduce tension. It was concluded that the Appreciation Center purposes were met.

Figure I
SAFETEAM Process



The interviewers talk individually to all the professionals and any laborers who desire an interview after the above introduction process. A form is completed and a control number assigned for each interview. If the interviewee has a problem with anything at the job-site, the interviewer requests permission to use an audio recorder for record accuracy. The interviewer is responsible for converting general problems into specific concerns. Each separate specific concern will be entered into the computerized tracking system under a number such as XXXXX-1, XXXXX-2, etc., where XXXXX is the unique interview number and the -1, -2, etc. are the specific problem numbers. The Interview Coordinator, in addition to coordinating the staffing and work assignments of the interviewers, reviews/approves the interviewer's notes to assure problems are accurately documented.

To evaluate the Appreciation Center/Interview Process, the inspectors had discussions with personnel passing through the process to obtain their views of the Safeteam. Questions asked were related to their prior knowledge of Safeteam, apparent worth of the program, value in anonymity and faith that any concerns would be thoroughly investigated. Of the approximate 20 people questioned only two had negative comments on Safeteam. Both negative comments came from individuals who said they would resolve concerns via the normal management channels or go to QA/QC. From these discussions and additional conversation with about the same number of the general plant staff, the inspectors concluded that the Safeteam approach is well thought of by the plant staff.

The Management System (reference Figure 1) includes the Safeteam Manager, secretaries and a computer based data system. The Manager personally assigns the classification and priority along with reviewing reportability for each concern. The interview secretary is responsible for ensuring concernee anonymity by removing the concernee's name, producing the typed version of the concerns and entering the data on each concern in the computer for tracking and reports. (The computer program used is PC/Focus from Information Builders, Inc.) The concern classifications used are:

- Class 1 - Nuclear Safety Related
- Class 2 - Security Related
- Class 3 - Management Related
- Class 4 - Industrial Safety Related
- Class 5 - Miscellaneous

The inspectors reviewed computer printouts of Class 2,3,4 and 5 concerns and selected a sample of each class to determine the effectiveness of the classification process. The latest status report (February 2, 1986) showed the following classification breakdown for the 485 Concern Reports received. (Note that there are more Problems than Concern Reports since one concernee may have several concerns.)

Table I
Classification of Problems

<u>Class</u>	<u>Number</u>	<u>Percent</u>
1 - Nuclear Safety	297	39.7
2 - Security	35	4.7
3 - Management	255	34.1
4 - Industrial Safety	158	21.1
5 - Miscellaneous	3	0.4
Totals	748	100.0

The review indicated that, in general, the classification process is conservative in that questionable problems are assigned a Class 1. However, several cases involving support systems (fire protection, security, etc.) were given other than Class 1 designation. The potential safety significance of these types of concerns was discussed with the Safeteam manager.

The individual concerns are investigated according to their classification. Class 1 problems are assigned to one of the Investigators who, working with the appropriate plant staff, prepare a response to each identified concern. The Safeteam prepared responses are reviewed by a Public Service Steering Committee prior to preparation of the response letters. The inspectors reviewed monthly reports from the Steering Committee to determine the thoroughness of their review. For the management report dated January 8, 1986, the committee's review of responses found 22 acceptable as is, 5 acceptable with minor changes, 4 acceptable with substantive changes and 3 unacceptable; for the final letter review, it was 5 accepted as is, 10 accepted with minor changes, 2 accepted with substitutive changes and 3 unacceptable. Examples of the reasons for finding the responses or letters unacceptable were: incomplete - no response to one concern; check something out; a question on a particular system; corrections needed on a system or plant procedure; ambiguous-concern is safety related; and, check the accuracy of this information. The inspectors concluded that the steering committee, made up of the Assistant General, the Manager for Engineering, a Welding Consultant, an Attorney, a Senior QA Person, the Public Affairs Manager and the Safeteam Manager, was performing a meaningful review. The steering committee comments did not appear to alter the objectivity or independence of the responses. The inspectors concluded that the final responses were of high quality.

As shown in Figure 1, the Class 2,3,4,& 5 problems are referred, without an investigator, to the responsible departments. Safeteam sends a transfer memo requesting a response to each concern. For example, an identified problem with construction of a non-safety system would be addressed by Bechtel Construction. The inspectors reviewed a number of these responses from different departments and found that they were responsive to the concerns involved.

After the responses are prepared, reviewed and approved (by the Steering Committee for Class 1), they are held until all concerns by an individual concernee have been addressed. At this point, the responses for each concernee are sent to a professional editor who prepares the final letter. The editing process integrates the separate statements of concerns and responses and puts the response in a conversational form. The inspectors did not identify any loss in technical accuracy due to the editing process although some loss of clarity was noted in the edited responses. Letters addressing any Class 1 problem are again reviewed by the Steering Committee before final signature by the Safeteam Manager.

Anonymity is maintained in the process of providing the response letters back to the concernee by having the signed letters addressed to, "Dear Concern No. XXXXX" placed in envelopes addressed only by the Interview Secretary. In this way, individual concernee's names are not available to the investigator staff. The inspectors found that anonymity was protected to the extent possible.

3.3 Record Keeping

The software used by Safeteam is PC/Focus from Information Builders, Inc. It is operated on an IBM-XI with a solid disk memory of 10 megabytes. The disk memory is about 90% filled at this time. The old records could be off loaded on floppy disks if needed for future capacity. A number of pre-programed reports are available for Safeteam staff use. In addition, key word searches are possible for 83 different words (i.e. battery, fire, procedure, etc.). These pre-programmed reports and key word searches offer excellent management information and control data.

Hard copy files are maintained for each identified concern by its number (XXXXX-X). Information common to several concern files, such as the transcript of the interviewers notes, are duplicated for each file. The files are generated in the Appreciation Center by the interviewers, travel to the investigator trailer for work until the resolution is approved, transferred back to the interviewers trailer for consolidation with other concerns by the same concernee and final production/issuance of the response letter, and for final storage after the letter is sent.

The inspector reviewed a number of each Class of files, both active and closed. In general, the interviewer notes were understandable, the history sheets were excellent and the responses were of good quality. The inspector raised a concern that some files appeared poorly organized and had no copy of the final response letters. The Safeteam investigator is to review the files before returning them to the interview trailer and apparently the files reviewed by the inspectors had not been finalized. Work was initiated to complete the files while the inspectors were on site.

3.4 Trending/Root Cause

Although the computerized data base can be sorted by key-work to indicate any trends in concerns received, this is not routinely done. The Safeteam Manager believes he can observe any adverse trend in his review of each problem when he assigns the class code and sets the priority of investigation. In addition, the QA Manager reviews the computer listing of concerns a couple times a month. The inspectors concluded that for the limited number of concerns being received at the time, the above management reviews of trending are adequate.

It was noted by the inspectors that the Safeteam investigations are focused on the specific scope of the concerns as presented to them and do not consider potential broader implications. Based on discussions with Safeteam it was determined that this is a conscious decision based in part on the limited resources available to Safeteam. The inspectors noted that in some other employee concern programs that have been reviewed by NRC, concerns with potentially broader implications were made known to the QA organization so they could be factored into the QA audit process. The inspectors also noted that no formalized process exists for identifying possible root causes of concerns; although, discussions with Safeteam indicated a good understanding of the status of plant activities and their correlation with trends in concerns. Finally, it was noted that no formal process is in place for determining the reportability of certain issues to NRC. One example which potentially could have required reporting involved improper fabrication of containment building airlock door hinges. This issue, discovered at Hope Creek, was reported to affected plants by the vendor supplying the doors. The inspectors discussed reportability requirements with Safeteam and the QA organization. It was pointed out that the review of concerns by QA should focus on reportability and may not be occurring at a high enough frequency to support timely reporting requirements. The licensee should be sensitive to this area. Even though employee concern programs such as Safeteam are not an NRC requirement, reporting requirements are still applicable.

4. Evaluation

The report on Safeteam activity through December 1985 showed the following numbers of people had passed through the Appreciation Center, been interviewed, and expressed concerns.

Table II
Safeteam Activity Through December 1985

<u>Class</u>	<u>Job</u>	<u>Appreciation Center</u>	<u>Interviews</u>	<u>Concerns</u>
Professionals	Engineer	1437(10.4%)	870 (47. 7%)	170(37.5%)
	QA/QC	592(4.3%)	290 (15. 9%)	62(13.7%)
	Other	947(6.9%)	397 (21.8%)	104(23.0%)
	<u>Total</u>	2,976(21.7%)	1,557(85.4%)	336(74.2%)
Laborers	Electrical	2625(19.1%)	44 (2.4%)	21(4.6%)
	Pipefitter	2283(16.6%)	34 (1.9%)	20(4.4%)
	Other	5832(42.5%)	188 (10.3%)	76(16.8%)
	<u>Total</u>	10,740(78.3%)	266 (14.6%)	117(25.8%)
Grand Totals		13,716(100.0%)	1,823(100.0%)	453 (1000%)

The above data indicates that 74% of the concernees are professionals, with 50% of that number being engineers. The difference in the number of concern reports above (453) from that reported in Table I (485) is due to the date of the information (December, 1985 verses February, 1985, respectively.) The inspectors asked Safeteam about the lapse time between the interview and issuance of a response letter. A special computer printout provided the following summary data. Only Class 1 concern information is shown; the data for other classes is similar.

Table III
Lapse Time Report
Class I Concerns

	<u>Investigate Days</u>	<u>Letter Prep. Days</u>	<u>Total Days</u>
Ave. 10/84-9/85	57	73	199
Ave. 10/85-2/86	30	54	92
Improvement	47%	26%	54%

The data for the last four months is based on processing 12 safety related concerns. Overall, the data shows a continuing improvement in the timeliness of investigations and letter issuance. (Note: Column 1 days plus Column 2 days do not equal Column 3 days due to administrative handling; i.e. waiting for computer entry, availability and assignment of investigator, etc.). As of February 4, 1986, there were 13 open Class 1 Concerns. The inspectors reviewed the 13 open Class 1 concerns to determine any effect on licensing, fuel load and initial criticality. Considering the planned corrective actions PSE&G will be taking to resolve these few open concerns, the inspectors found no unresolved safety questions.

In discussions with QA, Bechtel, PSE&G Construction and Safeteam management, the inspectors learned that approximately 10 percent of the concerns received to date have been justified and resulted in corrective actions such as equipment repair/correction, improved employee communications, removal of a supervisor judged incompetent, improvements in NCR records, etc. It was indicated that Safeteam provides an independent organization to which employees can take their concerns and allows the utility to self identify and correct problems. The manager believed that Safeteam has helped to ensure a high quality project and that there is a benefit of getting problems identified at an earlier phase of construction. The managers indicated their strong support of the Safeteam program.

5. Conclusion

The inspectors concluded that the Safeteam process has satisfactorily identified and resolved employees concerns during the final stages of plant construction and preoperational testing. The Safeteam program is continually identifying and addressing employee concerns. The NRC review of the Safeteam classification system indicated that, in general, concerns are conservatively classified. The NRC reviewed the outstanding Nuclear Safety, Class 1, concerns at the time of the inspection and based on the current status and planned activities concluded that these concerns should be resolved through the Safeteam process. Periodic NRC inspection to monitor the resolution of these concerns and other future concerns will continue. The inspectors did not identify any specific concerns or programmatic issues that would preclude a positive licensing recommendation.