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NUCLEAR REGULATORY COMMISSION
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June 9, 2004

MEMORANDUM TO: A. Randolph Blough, Director
Division of Reactor Projects, Region I

FROM: Ernest P. Wilson, Director
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SUBJECT: SALEM/HOPE CREEK: ASSIST TO STAFF - SAFETY CONSCIOUS WORK ENVIRONMENT (SCWE) INTERVIEWS AND ACQUISITION OF EMPLOYEE CONCERNS PROGRAM DOCUMENTS (CASE NO. 1-2003-051F)

The Region I Office of Investigations (OI) initiated an Assist to Staff on October 2, 2003, at the request of regional management, to evaluate information that had been developed and/or was reported to the Region indicating that the Safety Conscious Work Environment (SCWE) at the Public Service Electric Gas (PSEG) nuclear generating stations, Salem and Hope Creek, was poor and in need of extensive corrective actions. Based upon the information known to the Region in October 2003, the Assist was carefully planned to focus on the operations aspects at both sites, and was designed to include representative interviews from operator levels, operations management and senior managers. Additionally, relevant documentation from the Employee Concerns Program (ECP) was to be acquired by OI. As planned, OI assisted the regional staff by interviewing current employees/officials/managers of both units, and some former employees/managers as well. Almost every interview was conducted by OI with an NRC technical representative present. A very limited number of interviews were conducted only by OI.

OBSERVATIONS/FINDINGS

As a result of the interviews conducted and relevant document reviews on the Salem side of the PSEG operations, OI, in coordination with the technical staff, made the following general observations/findings:

The majority of the interviewees would raise concerns to management, particularly nuclear safety concerns. However, some interviewees were reluctant to raise less

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significant issues due to the expected "push back" and the feeling that differing opinions were not appreciated;

Some interviewees described behavior regarding interactions with senior managers as frustrating, distasteful and at times, demeaning;

There was perceived excessive emphasis on production over safety;

Management was ineffective in communicating a SCWE;

There were schedule pressure issues;

There was non-conservative decision making;

Mixed messages resulting from events;

Ineffective problem identification and resolution process; longstanding equipment problems that resulted in work environment concerns; lack of feedback and weak corrective action (focus on completion dates rather than effectiveness);

Labor-management issues (exacerbated by unresolved conflict from the past);

Industrial safety concerns; and

Generally poor communications between management and worker levels.

INTERVIEW RESULTS BY POSITION

Information gleaned from the SCWE interviews by working levels at Salem, which the above general observations/findings were drawn from, are discussed below:

Salem Operators, including NEOs

By interviewing the operators at Salem, OI and the NRC regional staff sought to identify any SCWE related concerns, particularly involving a production over safety climate, and if that was so, what the bases for the concerns were. In that the subject matter was broad, these interviews tended to develop a variety of issues, obviously depending upon the interviewee's view of the production-over-safety aspect's effect on the SCWE. As delineated herein, some common themes of negative perceptions developed throughout the interviews; however, some positive points emerged as well.

The positive impressions included: most believed that they and the majority of their co-workers had no problem in raising concerns and would not hesitate to do so, specifically in regard to nuclear safety issues. Further, most of the operators interviewed did not believe that anyone suffered retaliation for having raised any nuclear safety concerns. Some operators had no concerns regarding nuclear safety and reported that the company took the appropriate action when necessary; and did not report any instances that left the impression of a production over safety atmosphere. The arrival of a new [redacted] was noted as a positive change and it is anticipated that improvements in union/management relations, conservative decision making, and equipment repairs will be realized based upon the prior generally favorable association between the new Sr. VP and the Salem operators.

The negative impressions reported by the operators at Salem outweighed the positive both in number and in nature. Some interviewees indicated that the company does well when operating decisions are clear cut, but that delays exist in the "greyer" areas. Said another way, this was described as the clear cut decisions not posing a safety threat to people or the environment, but the "greyer" area issues (where decision making isn't that clear cut) come close to a safety threat by the company accepting risks in the form of delayed decisions. Many operators expressed concerns and frustrations regarding the way particular incidents were handled, as either an industrial or nuclear safety issue, and offered the incidents as evidence of the effect of decisions driven by production over safety, "megawatt mentality," non-conservative approaches and/or schedule pressure. The primary examples leaving this impression are: the September 2002 Salem Unit 2-MS-42 valve steam leak involving the intervention by an [redacted] the October 2003 stuck 14 BF-19 feed regulator valve at Salem Unit 1; the grassing issues at both Salem units in Spring 2003; a concern regarding the potential catastrophic failure of the SS-661 sampling valve (numerous notifications written related to repeated leaking) at Salem 2 in August 2003; the push to build scaffolding by flashlight and fix the leaking SS-661 valve by flashlight in the same incident (notification written); and the practice of starting complicated surveillance testing immediately prior to the end of the shift in order to gain credit for the work.

A significant area of concern involved PSEG's Corrective Action Program (CAP) and the volume of equipment that did not get repaired or did not get repaired correctly. Also, parts availability was cited as a known "joke" on the island to the effect that if a particular part was needed, it was being held as surplus by the warehouse to be sold at a sale. Further, the idea that the warehouse kept minimal to no spare parts in order to avoid paying taxes was conveyed. The work-week scheduling and constant re-prioritization of issues, coupled with the lack of appropriate resources, were seen as the primary precipitants for the problems with equipment repairs. The SAP software programs used to track notifications and for equipment tagging were seen as difficult and troublesome since initiated (around 2000) and challenging to use for trending and research purposes. The evident weaknesses in corrective actions resulted in an apathetic affect on some who would question the point of raising an issue in the first place. (This

was a concern noted with respect to less significant issues, i.e., NEO issues, industrial safety issues, etc.) Some operators clearly feel they are only "white noise," not being heard.

The problems with equipment repairs and parts availability had the additional adverse effect of leading to criticism of workers by management for "low wrench time," which adds to the anger, frustration and poor attitude on both sides (management/labor). The union/management relationship is viewed as damaged in a manner that caused both the Shift Managers (SMs) and the Control Room Supervisors (CRSs) to be seen as in the middle, aggravated because morale is poor and the relationship had become "tit for tat over piddly stuff."

With respect to raising concerns, it was reported that some people prefer not to have their name associated with issues for differing reasons, including personality type; some new workers would not raise a concern for fear of losing their job. The union stewards were viewed as compensating in this area and the impression became that issues would get raised, particularly nuclear safety concerns, but possibly not by the initial concernee. Others discussed their personal comfort level with raising concerns in relation to how valid it would be seen by management. Several interviewees reported their perception that union stewards who regularly front issues are viewed as a "hindrance" or "troublemaker" and treated adversely by the company. This was also the opinion of some in regard to a shift manager who pushed operator concerns to upper management in the 2002-2003 time frame.

Though not explored specifically, mixed reports were received about the effectiveness of the ECP. SCWE surveys were noted as negative in terms of distrust of the results published, the lack of corrective actions taken, and the burden due to the frequency of the surveys.

Relevant ECP documents were obtained by OI early on in this Assist and were provided to the regional staff for review.

Salem Operations Management (SMs and AOMs)

Interviews were conducted with both current and former members of Salem Operations Management, defined for the purposes of this Assist as management positions below the former Director of Operations (DO) level. The interview process produced insights into concerns and incidents, along with noted improvements, that were fairly consistent throughout the interviews.

Overall, it was expressed that operators and Operations management had the ability to raise concerns, did so regularly regarding various safety issues, and did so without experiencing retaliation. A few interviewees indicated that they had experienced no objectionable challenges or undue pressure from their chain of command for the operating decisions they made. The same few saw no significant weaknesses in the safety culture, aside from the CAP, in recent years through 2003. Others reported that the change in senior management that occurred in 2003

resulted in an increased comfort level of individuals to discuss their concerns openly in terms of the corrective actions anticipated and without minimization of the concerns, heated arguments or confrontations. The environment now, mentioned specifically in regard to start-up decisions coming out of 2R13 in November 2003, was described such that management asks what is the conservative and "right" thing to do to give operators a comfort level. The impression conveyed is that most believe senior site management under [redacted] will result in improvements in the CAP, the union/management relationship, and provide for the empowerment of Operations management for decision making. There was no specific indication that Newark corporate management inappropriately directly affected operations.

On the other hand, it was asserted that some people were "careful" about how they raised concerns and there were reportedly numerous anonymous issues identified in the CAP. This was considered unusual in comparison with other industry experience. Others did not believe the response to the concerns they personally advanced was positive from their management chain and one suggested it was the way the concerns were discussed, not the concerns themselves. It was also stated that some equipment operators felt they were treated wrongly for bringing up industrial safety issues, in spite of the emphasis on safe operations, and the fact that the issues raised were resolved "all the time."

Echoing the results of the operator interviews, these management interviewees indicated that the relationship between union and management is damaged to a degree that affects trust in operational decision making, concern resolution, and effective communications. The primary concern cited in this area is that the distrust and animosity between the two could lead to the failure to recognize and act upon a valid safety issue. Two issues clearly emerged that supported Operations Management's observations in this area. While the operators had asserted that "production over safety" issues existed in the October 2003, stuck 14 BF-19 valve incident and the September 2002, 22 MS-42 valve steam leak involving the aforementioned [redacted] both of these issues were credibly rebutted by management as not having any production influence in the ultimate decision making process.

Deficiencies in the CAP, work management and maintenance processes were consistently identified and associated with causing, at least in part, a poor SCWE on site. The excessive amount of emergent issues, repeat work and long-term equipment problems were described as concerns that could cause someone to question Salem's ability to operate safely. The untimely handling of equipment problems and industrial safety issues was offered as a point in agreement with the NRC letter to PSEG dated January 28, 2004. The belief was expressed that money is not being spent where it should be to achieve better performance indicators and outage times. Additional causes for the problems in this area were identified as schedule compliance, planning and parts availability, along with the loss of continuity and focus that results from frequent

changes in management. The idea that people who work at Salem are professionally "tainted" was disclosed.

The majority of the interviewees had been directly involved in, or otherwise exposed to, incidents/events with senior management that they recognized as contributing to a damaged work environment. This was depicted by multiple managers in regard to operational decisions, ranging from late 2001 through September 2003, that were influenced by thinking that was less conservative than their own. This had the general affect of reducing individual comfort levels with the margins of safety. A primary incident/event that fed this belief involved the Salem Unit 2 grassing problems in spring 2003 that resulted in a [redacted] challenges to the shift to start up with less circulators than had previously been agreed upon through SORC and TARP processes. However, it should be noted that not all managers felt pressured by the VP's comments and some indicated they understood his position. Still others indicated that this was an example of senior management's removal of Operations' preference for defense in depth over what was termed a "management decision," and not a safety decision. Significant negativity was noted surrounding this particular discussion in that the VP reportedly became personally insulting to a senior operator who then abruptly left the discussion. The uncomfortable interchange was witnessed by other individuals both above and below in the senior operator's chain of command.

Additional incidents/events were developed and explored during this SCWE inquiry. Some of the incidents/events contributed to the perception that questionable production-driven discussions influenced operational decision making. They are as follows:

1) An SJ injection valve with leakage in late 2001 and the disagreement over testing or proceeding on the basis of an engineering evaluation;

2) In early 2002, gland seals were packed to create vacuum and test the secondary side with a push to do low power physics testing prior to start up (after an outage). This left a mixed impression in terms of doing things that had not been tried before. This was suggested as an example of the "insidious creep of non-conservatism" along with what the industry, not just Salem, now regularly does with up-front mid-loops in the beginning of outages.

3) A late 2001 underground leak involving a nuclear header that went for some time before correction;

4) Start up from 1R14 was delayed due to a containment integrity issue that a [redacted] questioned, in an unreasonable manner, by using words to the effect of "holding my plant hostage?";

5) A [redacted] pushed to make an on-the-spot change to a requirement for strobe time testing for reactor head vents; and

6) The September 2003 salting in the switchyard in which the decision to shut down was delayed by [redacted] apparent consideration of the financial ramifications of such an action.

Strong perceptions of a "push," starting under th[redacted], to increase the discovery phase before making operability calls and the idea that the shift had to prove equipment inoperability as opposed to operablility, led to a shift managers meeting in Spring 2002 with [redacted] The intended purpose of the meeting was to refute those specific perceptions. The meeting was further described as an effort to get back to a working relationship whereby shift managers ran the shift without intervention by senior operations management so they could do the "right thing" on shift. The reported response to this meeting from senior management [redacted] was not favorable. The shift managers were purportedly termed "whiners" and senior management [redacted] didn't want to hear their complaints. The shift managers apparently continued to make the calls that they saw as necessary while having to "defend" their calls with senior operations management. Most of the defending seemed to have come under the former combination of [redacted] and a [redacted] Overall, the [redacted] was seen as the "messenger" for the vice-presidents and the one [redacted] was noted as having an unreasonable, unprofessional, heavy-handed and intimidating management style. It was stated that the shift managers did what they could to avoid having to deal directly with the heavy handed [redacted]. The affect of that former heavy handed management style was seen as Operations Management being noticeably slower to do what they thought was the right thing for fear of backlash on the decision. With the new management team, that perception is not present.

With respect to the "conservative approach" topic, interestingly, an October 2001 notification (purportedly by Outage Management) was identified thru interviews which criticized Operations during a then recent refuel outage. The issue involved dilution of RCS for start-up. The criticism was for taking too conservative of an approach and the affect that had on production. The [redacted] was noted as having defended the notification as a "lessons learned" type of issue while shift management received the wrong message, i.e., production over conservative actions.

SUMMARY

The above described information regarding the Salem plants was compiled by OI from interview transcripts, interview reports, and reviews of various and sundry documentation. The interview transcripts and reports have been provided to the Division of Reactor Projects (DRP) staff for

their independent review and evaluation. Copies of the transcripts and interview reports are also being retained in the files of OI:RI.

CLOSURE INFORMATION

All of the contemplated field work on this SCWE has been accomplished with the exception of the interview of the [redacted] which is scheduled for June 25, 2004. The Region I Senior Allegations Coordinator will be present for the SCWE portion of that interview and will report the results to DRP and senior regional management. Therefore, OI considers this Assist to Staff closed by this memorandum.