UNITED STATES
NUCLEAR REGULATORY COMMISSION
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MEMORANDUM FOR: Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

THRU: William T. Russell, Associate Director
for Inspection and Technical Assessment
Office of Nuclear Reactor Regulation

FROM: Timothy J. Polich, Operations Engineer
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SUBJECT: OBSERVATION OF INPO EVALUATION PROCESS AT
POINT BEACH NUCLEAR PLANT

From September 9 to 21, 1990, I attended an Institute of Nuclear Power Operations (INPO) evaluation of the Point Beach Nuclear Plant. The purpose of this memorandum is to inform NRR management of my comments from the observation of this INPO plant evaluation. This trip is the third such accompaniment of an INPO evaluation performed this year. The purpose of this trip was to gain an understanding of the INPO evaluation process with specific emphasis on the maintenance area through direct observation. On the afternoon of September 18, 1990, I was joined by Stewart D. Ebneter, Region II Administrator with whom I have discussed my observations.

In addition to the site accompaniment I spent September 5, 1990, at the INPO offices in Atlanta, Georgia. Although the team was sequestered for preparation of the evaluation plan, I was allowed to meet the team, attend site access training provided by the utility with the team, and attend the noon team meeting. In the afternoon, a qualified maintenance evaluator not on the Point Beach team briefed me on the evaluation preparation preparation process. I was also provided the opportunity to view INPO reference documents, and evaluate preparation materials.

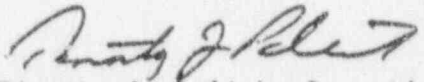
The two enclosures to this memorandum discuss my understanding of the INPO evaluation process (Enclosure 1), and my observations and comments from the Point Beach evaluation (Enclosure 2). My conclusions and recommendations for future NRC observations of INPO plant evaluations are summarized below.

The overall team preparations and the Plant Evaluation Report (PER) prepared by INPO Staff in support of the team are strong points. The communication of information within the group and to the utility is also a positive aspect of the evaluation process.

The evaluators and peers had significant nuclear experience in their area of expertise. The evaluation team was very good at gathering data and conducting performance based observations. The team manager conducted effective team meetings that facilitated team interaction. The observations were communicated well within the team. The field observations were written as statements of fact and did not always emphasis the severity, significance, or safety impact of those facts.

Although INPO 90-008, "Maintenance Programs in the Nuclear Industry," consolidates aspects of maintenance programs contained in INPO evaluation documents, it is not used to evaluate utility Maintenance Programs. However when plant evaluations, corporate evaluations, and training accreditations are performed the aspects of maintenance used to create INPO 90-008 may be considered as part of those evaluations. The evaluation of maintenance at Point Beach utilized portions of INPO 85-001, "Performance Objectives and Criteria for Operating and Near-term Operating License Plants," since no corporate evaluation or training accreditation was planned. The formal followup and monitoring of corrective actions between evaluations consists of the 6-month and 6-week letters from the utility to INPO which summarize the actions taken and status. The assessment and review process limits the team's Evaluation Report to only significant findings that have the concurrence of INPO executive management.

Based on this evaluation visit, I recommend all future NRC observers attend a significant portion of the last week of the preparation process and observe the creation of the evaluation plan. I feel this will better prepare the NRC observer to understand the onsite portion of the evaluation. I further recommend that the NRC observers be allowed to view the final evaluation report after it has been issued to the utility. I feel this is necessary to determine how observations, concerns, and strengths are finally characterized to the utility.



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Enclosures:
As stated

cc: S. D. Ebneter, RII

INPO EVALUATION PROCESS

The entire INPO evaluation process is documented in an Evaluation Manual which describes the preparation, pre-visit, evaluation field work, exit meeting, and followup. The Evaluation Manual also contains the general evaluator training and qualifications program. Additional departmental qualifications are required for most areas which supplements the general training with discipline specific knowledge of the Performance Objectives and Criteria, Guidelines, Good Practices, and How To's associated with that area.

INPO has two primary program level documents, one for plant and one for corporate evaluations. The documents, "Performance Objectives and Criteria for Operating and Near-term Operating License Plants" and "Performance Objectives and Criteria for Corporate Evaluations" are comprised of objectives and criteria established by INPO and agreed to by the member utilities for each functional area evaluated. Also the training accreditation evaluation document, "Maintaining the Accreditation of Training in the Nuclear Industry," contains performance objectives and criteria that pertain to maintenance. Performance Objectives are goals of excellence and Criteria are expectations associated with meeting the Performance Objective. Not all criteria associated with a performance objective needs to be met to satisfy that objective and conversely if all criteria are met the performance objective is not necessarily satisfied.

Additionally, portions of the INPO plant evaluation, corporate evaluation, and training accreditation performance objectives and criteria relating to maintenance were combined to create INPO 90-008, "Maintenance Programs in the Nuclear Industry". The performance objectives and criteria, currently used for plant evaluations, corporate evaluations, and training accreditation visits were issued in April 1987, December 1987, and March 1988 respectively. The INPO 90-008 document was made public and submitted to the NRC by the Nuclear Management and Resources Council as part of industry's efforts to improve maintenance.

Guidelines are underpinning documents which supplement the plant and corporate evaluation documents. Guidelines give detailed program information for meeting the performance objectives and criteria. INPO expects utilities will meet the intent of guidelines.

The Good Practices are documents that provide an example of programs that have proven useful at one or more utilities. These documents are offered as assistance to utilities, with no obligation required to implement a Good Practice.

How To's are detailed instructions which aid the evaluators in what to look for during an evaluation in a specific area. These documents are for the INPO evaluators and are not available for use by the utilities.

The preparation for the evaluation begins with a Pre-visit to the plant by the team manager. This 1-day visit includes a brief tour of the facility, meeting the utility management, and requesting any additional information needed by the team for preparation. The team logistics such as transportation, lodging, and meeting rooms are initiated after the pre-visit.

A Plant Experience Report (PER) is prepared by INPO's Operating Experience Applications Department for use by the team during the preparation process. This report includes plant description, operational statistics and data, the last INPO evaluation at the plant, and the utility's subsequent followup reports. In addition to the PER, Nuclear Plant Reliability Data System (NPRDS) information, Component Failure Analysis Report (CFAR) data, plant procedures, completed work requests, history reports, self-assessment status, and other information received from the plant is evaluated during the preparation of the Evaluation Plan.

The Evaluation Plan consists of separate area plans for Operations, Maintenance, Chemistry, Radiation Protection, Training and Qualifications, Technical Support, Operating Experience, and Organization and Administration. These plans are developed by the evaluators for each area and submitted by the lead evaluators to the respective department manager for approval, and the team manager for review. With the exception of the SOER followup which is done at all plants, each evaluation plan is customized to the plant each period with overlaps between evaluations being in the areas where previous evaluation findings existed.

Approved evaluation plans are used as a starting point and guide for the performance based observations conducted by the evaluators. The area evaluator selects the most significant work to observe that day. The evaluators divide up the observations by area of expertise and relevance to the evaluation plan.

The evaluators follow jobs from start to finish if time allows. When an evaluator completes a field observation there is usually some followup that must be done to validate the observation or to answer questions. The evaluators discuss their observations and any followup information at lunch and before the evening team meeting to determine common strengths or weaknesses. At the end of the day the lead evaluators prepare a Daily Team Meeting Update form for the team manager which includes concerns/strengths, previous evaluation report finding status, observations performed and planned, material inspection status, open SOER status, and inputs to other evaluation areas. At the evening team meetings the evaluators exchange information about observations and request assistance in observation followup if necessary. After the observation and followup are complete the evaluator or lead evaluator will decide whether to writeup the observation as a stand alone item or to incorporate the observation in support of another more general item.

In addition to work observations, the evaluators conduct interviews with workers, supervisors, and managers. Like the observations, interviews may require followup or additional interviews and significant items positive or negative are discussed at the evening team meeting.

The lead evaluators discuss the observations with their counterparts daily after they have been discussed at a team meeting. The strengths or weaknesses are characterized to the utility counterpart as team observations not an individual evaluators conclusion. The words finding or good practice are not used in the field, they are reserved for the final evaluation report which is approved by INPO senior management.

Each lead evaluator is given a portion of the plant for his or her evaluators to walkdown as part of the evaluation plan. This is a material inspection of 100% of the plant including, high radiation areas and the containment if accessed while the team is onsite. It is expected that the walkdown be completed early in the first week of the evaluation. The walkdown is a comprehensive inspection in accessible areas of the plant and a quick overview assessment of the conditions in the high radiation areas.

The results of the material inspection are documented on blue 3x5 index cards stamped with a form which includes the name of the evaluator making the observation, location, description of problem, deficiency or other identification tag number, and INPO evaluation area the problems falls under. The "blue cards" are exchanged like mail between evaluators while onsite with the bulk of the cards being generated early in the evaluation. As with all evaluation inputs common and repetitive items are discussed as topics during team meetings and provide a performance based observation.

Another use of the blue cards is referred to by INPO as a "challenge" of the work control system. The challenge consists of the maintenance evaluators picking a representative sample of cards (25 to 75) in an area and presenting the utility counterpart with a copy of the cards to status within a few days. The utility then researches the items and determines if the item or condition described on the card was previously identified and reports the current status and expected resolution date. The utilities response to the challenge provides an additional performance based observation which is used in the evaluation process.

Upon completion of the onsite portion of the evaluation the INPO evaluators in each area, their utility counterparts, the INPO team manager and the utility plant manager conduct a final discussion. At this time the team observations, strengths, and concerns are discussed with the utility in a dialogue format. The utility is left with a draft copy of all written observations.

The assessment portion of the evaluation begins after the team returns to INPO headquarters in Atlanta, Georgia. The proposed findings and good practices drafted by the evaluator are reviewed by qualified peers and the department manager. This review provides a consistency and quality check of the proposed findings and good practices. As a result of the review of the performance based observations a finding or good practice may remain, be dropped, or a new one may be added. Any significant concern is then labeled as a finding and an INPO recommended resolution is developed. After the proposed findings and good practices are reviewed and approved

by the department manager they are forwarded to the team manager who consolidates the inputs from the technical departments into a report, performs another review, and makes necessary editorial changes with department manager approval. Additionally, the draft report is reviewed and concurred on by other senior INPO management.

During the second week of the evaluation a senior INPO executive called an exit representative arrives onsite to be briefed on the team observations and to tour the facility. The exit representative becomes familiar with the concerns and strengths and acts as the senior utility executive's counterpart during the final exit meeting.

Approximately two weeks after the onsite evaluation is complete the INPO exit representative, the team manager, and any designated team members return to the plant to conduct an exit meeting with senior utility managers and plant management. Another dialogue takes place in that the utility is allowed the opportunity to comment on findings and correct inaccuracies.

Appropriate post exit meeting comments are incorporated into the evaluation report by the team manager who forwards a copy of the first draft to the INPO division directors for their review.

Once the INPO division directors have approved the first draft it is sent to the utility for response. The utility responses to the evaluation findings are reviewed by INPO management. If the responses are found acceptable they are incorporated into the second draft which is issued as a final evaluation report.

The utility reports progress on findings to INPO at least twice before the next plant evaluation. The first report is called a 6-month letter in which the utility reports progress on their finding responses six months after the final evaluation report is issued. The other required report is the 6-week letter in which the utility reports the status and progress six weeks before the next INPO plant evaluation. Other status reports may and do take place in a less formal manner between the INPO team manager and the utility plant manager.

OBSERVATIONS AND COMMENTS

I attended site access training, met with the team, and was briefed on the evaluation process at the INPO offices in Atlanta, Georgia. Attending the site access training expedited the security badging processing onsite. The team meeting I attended in Atlanta was a working lunch in which frank and candid comments by the previous team manager and the previous exit representative were shared with the team. The briefing I received on the INPO process was a very good overview. However, the time to assimilate the information and also view the preparation documents and data was insufficient for more than a cursory observation of these materials. My day at INPO was productive and informative but not a sufficient preparation for the evaluation.

The team consisted of 22 evaluators and managers, 18 of whom were onsite for both weeks of the evaluation. One evaluator was onsite for the first week only, two managers were only onsite the second week as part of the qualification of their subordinates, and the exit representative arrived late in the second week. The evaluators and peers had significant nuclear experience in their area of expertise and were familiar with the INPO evaluation process.

The evaluators have several methods of obtaining plant and industry reference data and information during the evaluation. The Plant Evaluation Report (PER) appeared to be a good reference for previous plant performance and along with NPRDS and CFAR data was frequently referenced. I also witnessed the evaluators availing themselves of the INPO resources in Atlanta via the telephone.

I observed a portion of the turbine building and the radiological controlled maintenance shop material inspections. The walkdowns were thorough and the "blue cards" accurately reflected the plant condition. The team was able to enter containment and all high radiation areas. I believe the target of 100% material walkdown inspection of the facility is a good performance based observation technique.

Team communications were very good during the evaluation. The "blue cards" appeared to expedite the transfer of information among team members and to the utility in the material and temporary modification challenges. The use of Daily Team Meeting Update forms consolidated the major activities for that day and

plans for the next day. The team manager effectively managed team meeting time and kept the discussions focused.

I witnessed observations of safety and nonsafety related work in all maintenance disciplines. I accompanied experienced evaluators, trainees, and industry peers on their evaluations. I was favorably impressed with the performance based approach to INPO observations. I observed interviews of operators, engineers, mechanics, supervisors, and managers. I found these interviews to be conducted in a nonjudgemental professional manner. I observed daily counterpart meeting in the Maintenance, Technical Support, Operating Experience, and Chemistry areas. I found the meetings to be conducted in a professional manner even when the utility counterparts became defensive. The information shared with the utility at these meetings early in the evaluation was very general and became more specific as multiple examples of performance weaknesses occurred later in the evaluation.

The evaluators were familiar with the Performance Objective and Criteria for their area and most carried a copy in their field note books. The INPO evaluation process assumes that problems will evolve during performance based observations and that trained evaluators will identify and relate problems to applicable performance objectives. I observed no method to ensure all performance objectives are evaluated, although the evaluation preparation process allows for their consideration.

Industrial safety and procedural noncompliances associated with mechanical maintenance and instrumentation and control jobs were observed but not brought to the attention of the utility for a day or two after being observed. Unless an imminent danger exists to the safety of personnel, the plant, or equipment, INPO evaluators may decide not to immediately debrief problems in order to allow time to perform additional observations or interviews to determine if the problems are representative performance-based weaknesses or isolated cases. The evaluators discuss their observations with the team before presenting it to the utility. All concerns are presented to the utility as team concerns not an individuals comments.

Several INPO evaluator field observation writeups were reviewed at various stages of development. While the completed field observations very accurately reflected the facts, they did not always emphasis the severity, significance, or safety impact of those facts. These writeups form the basis for the assessment portion of the evaluation which is performed at the INPO office in Atlanta after the onsite observations are complete.

The INPO evaluation process is similar to an NRC team inspection in many respects. The processes differ in the interaction with the utility during an observation. The INPO evaluators I witnessed at Point Beach did not interfere with any utility workers action during observations, although the evaluators noticed several repeat or continued occurrences of industrial safety or procedural noncompliance. However, all such observations were eventually discussed with the utility. NRC inspectors do bring concerns to the attention of utility personnel during an observation especially in matters involving industrial safety or procedure noncompliance.

The assessment of the utility takes place at different points in the INPO and NRC processes. INPO teams do not assess in the field. INPO evaluators only conduct and document observations in the field. The assessment of the utility's performance begins after returning to Atlanta. The NRC teams perform assessments during the inspection and have the latitude to ask more scenario or "What if?" type questions to asress the pervasiveness of a situation or perceived problem.

The scope of the processes are also different. INPO evaluations are customized to each utility, no method is established to ensure all INPO performance objectives are evaluated during each evaluation or on any kind of schedule. The INPO evaluation process assumes that problems will evolve during performance based observations and that the trained evaluator will identify and relate problems to applicable performance objectives. The NRC maintenance inspection tree methodology requires all elements of the tree be evaluated at each utility. In cases when an element of the NRC maintenance tree is not inspected a decision is made as whether or not the element should be inspected separately.