June 29, 2001

EA-01-147

Mr. Oliver D. Kingsley, President
and Chief Nuclear Officer
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CLINTON POWER STATION
NRC SUPPLEMENTAL INSPECTION REPORT 50-461/01-09(DRS),
PRELIMINARY WHITE FINDING, AND APPARENT VIOLATION

Dear Mr. Kingsley:

On June 8, 2001, the NRC completed a supplemental inspection of your Clinton Power Station. The preliminary results of this inspection were discussed on May 18, 2001, with Mr. M. Heffley and other members of your staff. After an in-office review of the inspection results and of additional information provided by your staff, an additional telephone conversation was conducted with Mr. Pacilio on June 8, 2001, to discuss the apparent violation and the NRC's preliminary significance determination.

In April of 2001, your Clinton staff notified the NRC that the performance indicator for Drill and Exercise Performance had been incorrectly reported to the NRC since the start of the revised Reactor Oversight Program which included performance information dating back to the fourth quarter of 1999. During a self-assessment in February 2001, your staff identified that all of the required performance opportunities were not included in your original performance indicator evaluations, which resulted in your staff inaccurately reporting to the NRC that the indicator was Green. After identifying the error and reevaluating the data, your staff concluded that the indicator was actually in the White band of performance for the fourth quarter of 1999 and throughout 2000. Performance in the White band for this indicator demonstrates that during exercises, drills, and actual events, your emergency response organization inadequately performed certain risk significant emergency response actions (event classifications, notifications, and protective action recommendations) in greater than ten percent of its total opportunities. Although your immediate corrective actions resulted in performance that returned the indicator to the Green band of performance, your previous level of performance warranted supplemental NRC inspection effort.

The NRC conducted this supplemental inspection to evaluate the performance issues that resulted in the White Drill and Exercise Performance indicator and the error in evaluating the performance indicator. The inspection was an examination of activities conducted under your license as they relate to safety and to compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel.

During this inspection, the NRC concluded that your staff performed an adequate evaluation to identify the causes of the error in reporting the Drill and Exercise Performance indicator and the performance issues which contributed to the high failure rate during control room communicator drills. For both issues, you identified weaknesses in the training provided to your staff for which corrective actions were developed and implemented. Other factors contributing to these problems discussed in the enclosed report were also identified by your staff. Generally, we found that your implemented and planned corrective actions appeared to address the causes identified in your evaluations.

Notwithstanding your evaluation of the Drill and Exercise Performance indicator and associated performance issues, we are concerned that your evaluation was not effective in identifying other problems with your emergency preparedness performance indicators. In particular, your staff identified an additional error following the onsite portion of this supplemental inspection related to drill and exercise participation of certain members of the staff. While the participation performance indicator remained in the Green band despite the error, the problem demonstrates a weakness in your extent of condition evaluation for your emergency preparedness performance indicator program.

This inspection also identified an apparent violation of NRC requirements that was preliminarily determined to be of low-to-moderate safety significance. The apparent violation involves the failure to adequately correct deficiencies identified through the drills of your control room communicators. As described in the enclosed report, the drills conducted in November and December of 1999 and in August of 2000 resulted in a number of performance deficiencies that were identified by your training staff. Following these drills, the instructors provided the individuals with a discussion of the failures, but the actions to correct the failures were not adequate to prevent additional, similar deficiencies. In particular, deficiencies similar to those identified in November and December of 1999 recurred during 2000. In addition, three personnel failed both the demonstrations in 1999 and 2000, which also indicated that individual failures were not effectively corrected. This issue represents an apparent violation of 10 CFR 50.47(b)(14), which was assessed using the emergency preparedness significance determination process, and was preliminarily determined to be White. White issues have some increased importance to safety and may require additional NRC inspection.

As discussed above, we have reviewed your evaluation of the high failure rate of the control room communicator drills. While we believe that we may have sufficient information to make our final significance determination for this inspection finding, we are giving you the opportunity to provide us with additional information. Specifically, before the NRC makes its enforcement decision, we are providing you an opportunity to either: (1) respond to the apparent violation addressed in this inspection report within 30 days of the date of this letter; or (2) request a regulatory conference. If a conference is held, it will be open for public observation. The NRC will also issue a press release to announce the conference. Please contact Mr. Wayne Slawinski at (630) 829-9820 within seven days of the date of this letter to notify us of your intent.

If you choose to respond to us in writing, your response should be clearly marked as a "Response to An Apparent Violation in Inspection Report No. 50-461/01-09" and should include for the apparent violation: (1) the reason for the apparent violation, or, if contested, the basis for disputing the apparent violation; (2) your evaluation of the significance of the violation; (3) the corrective steps that have been taken and the results achieved; (4) the corrective steps that will be taken to avoid further violations; and (5) the date when full compliance will be achieved. Your response should be submitted under oath or affirmation and may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision or schedule a regulatory conference.

As a result of this inspection, we also determined that the inaccurate Drill and Exercise Performance indicator data, discussed above, is a violation of 10 CFR 50.9 "Completeness and Accuracy of Information." As a result of this violation, you took corrective action for the underlying cause of the inaccurate submittals. Pursuant to Section VII.B.6 of the NRC Enforcement Policy, discretion is being exercised to not cite the violation because the errors were not willful and the inaccurate information was submitted during the period that the Enforcement Policy afforded discretion for the non-willful submittal of inaccurate performance indicator information.

If you deny the violation of 10 CFR 50.9, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at the Clinton facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if you chose to respond, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

John A. Grobe, Director
Division of Reactor Safety

Docket No. 50-461
License No. NPF-62

Enclosure: Supplemental Inspection
Report 50-461/01-09(DRS)

cc w/encl: J. Heffley, Vice President
W. Bohlke, Senior Vice President
Nuclear Services
J. Cotton, Senior Vice President -
Operations Support
M. Pacilio, Plant Manager
R. Krich, Director - Licensing
J. Skolds, Chief Operating Officer
C. Crane, Senior Vice President -
Mid-West Regional Operating Group
J. Benjamin, Vice President - Licensing
And Regulatory Affairs
H. Stanley, Operations Vice President
R. Helfrich, Senior Counsel, Nuclear
Mid-West Regional Operating Group
W. Illiff, Regulatory Assurance Manager (Acting)
Document Control Desk-Licensing
Illinois Department of Nuclear Safety

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-461
License No:	NPF-62
Report No:	50-461/01-09
Licensee:	Exelon Generation Company, LLC
Facility:	Clinton Power Station
Location:	Route 54 West Clinton, IL 61727
Dates:	May 15, 2001 through June 8, 2001
Inspector:	Steven K. Orth, Senior Radiation Specialist
Approved by:	Wayne Slawinski, Acting Chief Plant Support Branch Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000461-01-09(DRS), on 05/15-06/08/2001, Exelon Generation Company, LLC, Clinton Power Station, Unit 1. Supplemental Inspection - Emergency Preparedness Cornerstone.

The inspection identified one apparent violation of NRC requirements that was preliminarily determined to be of White significance and one violation, for which enforcement discretion was exercised. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

Cornerstone: Emergency Preparedness

This supplemental inspection was performed by the NRC to assess the licensee's evaluation associated with inaccuracies in the reporting of the Drill and Exercise Performance (DEP) performance indicator and with the performance deficiencies that resulted in a White DEP performance indicator (fourth quarter 1999 through the fourth quarter 2000). During the inspection, performed in accordance with NRC Inspection Procedure 95001, the inspector concluded that the licensee performed an adequate evaluation to determine the causes of both issues.

In the case of the performance indicator errors, the licensee performed a root cause evaluation which identified a personnel error that was compounded by the lack of self-checking and verification. In addition, the licensee identified contributing causes that included the failure to provide adequate training to the emergency preparedness staff and the failure to provide adequate procedural guidance to the performance indicator data stewards and verifiers, which also applied to performance indicators in other cornerstones. The inspector concluded that the scope of corrective actions planned and implemented by the licensee appeared to address the identified causes. However, the inspector observed an additional discrepancy in the recently completed performance indicator evaluation related to drill and exercise participation. In addition, the licensee identified an error in its evaluation of one of the other emergency preparedness performance indicators that was not detected during its evaluation. These observations demonstrated weaknesses in the licensee's corrective actions and extent of condition review.

The errors in the licensee's reporting of the DEP performance indicator was significant, in that the error resulted in a change of color, (i.e., Green-to-White). Consequently, a violation of 10 CFR 50.9 of more than minor safety significance was identified. Since the inaccurate reporting occurred during the period that the NRC's Enforcement Policy afforded discretion for the non-willful submittal of inaccurate performance indicator information, the NRC is exercising enforcement discretion and not citing the violation.

In the case of the White DEP performance indicator, the inspector concluded that the licensee adequately assessed the deficiencies that led to the performance issues. Based on its review, the licensee attributed the White performance indicator to the high failure rate of control room

communicator drills (i.e., job performance measures). The licensee identified two apparent causes for the high failure rate: (1) weaknesses in formal training; and (2) failure to meet emergency preparedness management expectations concerning the identification and correction of drill deficiencies. The inspector reviewed the licensee's corrective actions and determined that they addressed the causes identified. As a result of the licensee's immediate corrective actions, the licensee's performance returned the performance indicator to the Green band.

The inspector and the licensee concluded that the high failure rate of the control room communicators resulted, in part, from inadequate corrective actions for self-identified deficiencies. Specifically, the licensee control room communicator drills were a portion of an overall annual evaluation of non-licensed operators, which included non-emergency preparedness functions. Generally, the failure of the communications segment of the evaluation did not result in a total failure of the annual evaluation. Therefore, the licensee's remedial actions were limited and were not effective in correcting the deficiencies and preventing similar failures from occurring, as required by 10 CFR 50.47(b)(14). The NRC evaluated the apparent noncompliance with 10 CFR 50.47(b)(14) using the NRC's significance determination process, which resulted in a preliminary White finding.

Report Details

01 Inspection Scope

This supplemental inspection was performed by the NRC in accordance with Inspection Procedure (IP) 95001 to assess the licensee's evaluation of the White performance indicator associated with its drill and exercise performance (DEP). In April of 2001, the licensee reported its performance indicators to the NRC and notified the NRC that its DEP performance indicator had been incorrectly reported to the NRC in previous submissions. As identified in a self-assessment, the licensee had inappropriately excluded the results of operator job performance measures (i.e., control room communicator drills) used to qualify emergency response organization communicators from its DEP performance indicator determination. Based on the licensee's reassessment of its previous performance indicator results, it notified the NRC that the DEP performance indicator changed from Green to White for the fourth quarter of 1999 and all quarters of 2000. A White DEP performance indicator means that the licensee's emergency response organization did not adequately perform certain actions (i.e., make adequate event classifications, notifications, and protective action recommendations) in greater than ten percent of its total opportunities (drills, exercises, and actual events). During that period of time, the performance indicator values ranged from about 86 to 89 percent. However, the most recent data submitted for the first quarter of 2001, changed the indicator to the Green band.

During this supplemental inspection, the inspector reviewed the licensee's assessments of the performance indicator determination/reporting error and of the licensee's DEP that resulted in the White indicator. Since this supplemental inspection was conducted using the requirements of IP 95001, the following details are organized by the specific inspection requirements of IP 95001 which are noted in italics in the following sections.

02 Evaluation of Inspection Requirements

02.01 Problem Identification

a. Determine that the evaluation identifies who (i.e., licensee, self-revealing, or NRC), and under what conditions the issue was identified.

On March 21, 2001, the licensee completed a root cause evaluation that investigated an error in calculating and reporting the DEP performance indicator. The evaluation report documented that a corporate self-assessment (February 14, 2001) identified that the licensee was not including all of the appropriate data in the DEP performance indicator calculation, as specified in Nuclear Energy Institute (NEI) document NEI 99-02, Revision 0. In particular, NEI 99-02 (Revision 0) stated that any drill that is used for the emergency response organization participation performance indicator for key participants contributing to classification, notification, or protective action recommendations must also contribute to the DEP performance indicator. During operations job performance measures (JPMs), the licensee had taken participation credit for control room communicators, but the licensee had not included the performance results in the DEP performance indicator. After re-calculating the indicator value taking into the account the performance results from the JPMs, the licensee determined that the indicator was in the White band for the previous six quarters

(i.e., since the initial implementation of the NRC's revised Reactor Oversight Program (ROP)).

On February 22, 2001, the licensee documented the change in performance indicator color in Condition Report (CR) No. 2-01-02-196-0, which was initiated to identify the performance issues that corresponded to the White indicator. However, the inspector identified that the licensee closed the CR based upon a root cause evaluation, which did not fully evaluate the performance indicator data to identify the cause of its color change. The root cause evaluation assessed the error in determining the color of the performance indicator, but it did not clearly evaluate which inputs (classification, notification, or protective actions) had caused the DEP performance indicator to cross into the White band. During the inspection, the licensee initiated CR No. 2-01-05-191 to document the deficiency identified by the inspector. That CR stated that the initial CR (No. 2-01-02-196-0) did not fully document the inputs that resulted in the performance indicator crossing into the White band.

On March 21, 2001 (following the root cause analysis), the licensee initiated CR No. 2-01-03-174 to evaluate the high failure rate of the communicators during the JPMs. Generally, the licensee concluded that the high failure rate resulted in the DEP performance indicator crossing into the White band. However, the inspector also noted that the success ratio for protective action recommendations had also been well below the 90 percent Green-to-White threshold. Although not well documented, the licensee indicated that it had considered that factor, that corrective actions had been previously identified and implemented to correct historic problems associated with protective action recommendations, and that current performance demonstrated that the corrective actions had been effective. Therefore, the licensee concentrated its efforts in determining the cause of the high notifications failure rate.

b. Determine that the evaluation documents how long the issue existed, and prior opportunities for identification.

The licensee documented a comprehensive chronology surrounding the error in calculating the performance indicator. Prior to the initial implementation of the NRC's revised ROP, the licensee determined that its current drill/exercise schedule would be insufficient to provide adequate participation of its control room communicators. Specifically, the licensee concluded that the applicable NRC performance indicator would be in an undesirable region of performance because of the small fraction of control room communicators who would have participated in a recent exercise or drill. Consequently, in 1999, the emergency preparedness (EP) coordinator and operations training staff implemented a JPM as part of the annual non-licensed operator training program, which provided the affected individuals with a means of attaining the desired drill/exercise participation frequency. However, the EP coordinator decided not to collect the performance data for the JPMs, based on his understanding of NEI 99-02.

During 1999 and 2000, the operations training staff conducted the JPM as a control cell and provided an environment that minimally simulated a drill/exercise. The licensee's records indicated that about 11-of-the-44 drills failed in November/December of 1999 and 10-of-the-36 drills failed in August of 2000. However, the inspector noted that the licensee did not take adequate corrective actions to address the deficiencies until the

licensee's reevaluation of the associated NRC performance indicator in February 2001 (with the included drill data) identified a potential performance problem.

Within its evaluation, the licensee identified prior opportunities to identify and to correct the error in the DEP performance indicator during 1999 and 2000 through a Quality Assurance (QA) audit and independent verification. The licensee identified that its QA organization had reviewed the performance indicator information during the licensee's initial submission of the data and as a formal audit (November 2000); however, the licensee stated that the QA staff did not have the appropriate knowledge of the indicators and missed the error. In addition, the licensee documented that the performance indicator verifier also suspected a problem in not including the JPM performance data. However, the verifier was a subordinate of the EP coordinator (i.e., the data steward) who convinced the verifier that the interpretation at that time was correct.

The inspector noted that the licensee included these prior opportunities in developing its root causes. In addition, the licensee had initiated a CR to independently document the QA failure and to determine corrective actions to prevent recurrence.

c. Determine that the evaluation documents the plant specific risk consequences (as applicable) and compliance concerns associated with the issue.

The licensee performed a safety assessment and determined that the offsite notification issues that resulted in the White indicator did not represent a risk significant condition to station employees or the public. In its evaluation, the licensee did not provide a basis for this conclusion. Consequently, the inspector discussed this matter with the root cause evaluation team – a security specialist and the current EP coordinator. During this discussion, the staff provided the inspector with the basis for that conclusion. Specifically, the root cause investigators stated that the communicators' failures were generally not significant and were typically an issue of timeliness or minor documentation. In addition, the licensee indicated that additional staff would be available (in an actual event) to ensure that the offsite notifications were made in a timely manner and were accurate and complete. However, the licensee did not appear to fully evaluate the distractions that may have resulted from the need for the control room staff to coach/correct the communicators.

The inspector reviewed the significance level assigned to the CRs documenting the performance indicator calculation error and the high failure rate of the JPMs, which were assigned a significance level of 2 and 3, respectively. In accordance with the licensee's procedure, a significance level of "2" represented "issues which could or have resulted in moderate challenges to or breakdowns of personnel, plant, or radiological safety, reactivity management, plant reliability, or programmatic issues." A significance level "3" was the lowest classification in the licensee's program and represented "issues which involve conditions adverse to quality which, by themselves, represent minor challenges to personnel, plant or radiological safety, reactivity management, or plant reliability." Based on discussions with the licensee, the inspector verified that the assigned significance levels were commensurate with the guidance contained in the licensee's procedure.

In terms of compliance, the licensee clearly documented issues concerning the accuracy of the performance indicator reported to the NRC. In addition, the licensee described the weaknesses in its corrective actions that resulted in the high failure rates of the JPMs.

02.02 Error in Calculation and Reporting the Drill and Exercise Performance (DEP) Performance Indicator

.1 Root Cause and Extent of Condition Evaluation

a. Determine that the problem was evaluated using a systematic method(s) to identify root cause(s) and contributing cause(s).

The licensee performed a root cause evaluation that employed industry acknowledged analytical methods – event and causal factors analysis, barrier analysis, and "TapRoot" technology. The inspector discussed the process with the two individuals who developed the licensee's analysis and confirmed that the licensee adequately used these approaches in identifying the root cause and contributing causes.

b. Determine that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem.

The inspector reviewed the conclusions identified in the root cause analysis and determined that the analysis was conducted to an adequate level of detail. Based on the analytical approaches applied, the licensee developed the following root cause and contributing causes.

Root Cause

The licensee attributed the failure to a personnel error compounded by a lack of self-checking and the failure to request independent, peer verification. Specifically, the data steward for the EP performance indicators made a decision to not include the data from communicator JPMs in the DEP performance indicator, as a result of a misinterpretation of the guidance document (NEI 99-02). In addition, the individual did not adequately re-check the guidance document following this interpretation, and the individual did not seek adequate peer reviews to verify his decision.

Contributing Causes

(1) During the development of the NRC's revised Reactor Oversight Program (ROP), the guidance contained in NEI 99-02 evolved and was frequently revised, which resulted in licensee confusion and errors.

(2) The licensee's verifier for the EP performance indicators was not well trained.

(3) The licensee did not have an adequate reference guide for DEP performance indicator data collection.

Although these causes represented the majority of the issues surrounding the incident, the inspector identified an issue that was not well developed by the licensee. During its review, the licensee identified a potential problem concerning the independence of the performance indicator verifier. Specifically, the data steward was the verifier's supervisor, and the two individuals appeared to work together in resolving discrepancies and in drawing conclusions from the data. For example, the verifier had raised an issue regarding his supervisor's interpretation, but the supervisor convinced the verifier that the interpretation was correct. As a result of his subordinate position and his lack of confidence, the verifier did not raise any additional challenges of the supervisor's interpretation. The licensee acknowledged the issue and stated that additional training provided to the verifier and the new assignments to the positions of data steward and verifier (e.g., verifier was currently the supervisory individual) should reduce the potential for future problems.

Based on the licensee's evaluation and the inspector's review, errors were identified in the performance indicator data submitted to the NRC. As described above, the licensee erroneously omitted data from its calculation of the DEP performance indicator. Consequently, from January of 2000 through January of 2001, the licensee reported a Green DEP performance indicator to the NRC, which should have been reported as White.

The inspector concluded that the reporting inaccuracies were examples of a violation of 10 CFR 50.9, as the information was material to the NRC in implementing the NRC's ROP. Since these errors were not willful, the NRC is exercising enforcement discretion in accordance with the Interim Enforcement Policy Regarding Enforcement Discretion for Inaccurate or Incomplete Performance Indicator Data for Nuclear Power Plants (May 1, 2000; 65 FR 25368) and not issuing any enforcement action for these errors. Although this enforcement discretion expired on January 31, 2001, the erroneous performance indicator reports identified by the licensee occurred prior to January 31, 2001; therefore, enforcement discretion has been applied.

c. Determine that the root cause evaluation included a consideration of prior occurrences of the problem and knowledge of prior operating experience.

In developing its root cause evaluation, the licensee adequately considered other misinterpretations in the industry and experience concerning performance indicator calculation errors. The inspector observed that the licensee's evaluation included a review of industry operating experience and interpretations of the performance indicators. In addition, the evaluation included industry experiences with frequently asked questions (FAQs), which were used to supplement the guidance contained in Revision 0 to NEI 99-02.

d. Determine that the root cause evaluation included consideration of potential common cause(s) and extent of condition of the problem.

The licensee developed and implemented a corrective action from the root cause evaluation to determine the extent of condition of the performance indicator calculating and reporting problem. Specifically, the licensee conducted challenge boards to determine if the identified root cause and contributing causes (Section 02.02.1.b) were

applicable for other areas of the licensee's performance indicator program. During the challenge boards, the licensee questioned the performance indicator data stewards and verifiers on their training and on the adequacy of procedures and reference guides. Generally, the licensee determined that the individuals were well qualified and that no additional interpretation issues appeared to be occurring. However, the licensee identified weaknesses in guidance documents for each of the NRC cornerstones. Subsequently, the licensee implemented Policy Statement No. 14, "NRC Performance Indicator Data Collection," Revision 0, that provided definitions of each NRC performance indicator and the data collection requirements. To supplement the policy statement, the licensee also developed desk reference guides which provided detailed instructions, examples, and interpretation guidance for each of the data stewards and verifiers.

The licensee performed a review of each EP performance indicator to identify any other errors. During the onsite inspection, the licensee stated that no other errors were identified. However, following the onsite inspection, the licensee notified the NRC senior resident inspector of an additional error that was identified on June 4, 2001, concerning the emergency response organization drill participation performance indicator calculation. During a conversation with the operations staff, the data steward noted that two individuals were not being counted in the population of shift managers; however, the individuals were infrequently functioning in that position to maintain their qualifications. During an event, the shift manager would assume the responsibility of Emergency Director, which is a key emergency response position designated in NEI 99-02. The licensee failed to accurately include these individuals during its calculation of the drill participation performance indicator, but the error had only minor consequences and did not result in a change in the indicator's color. The failure of the licensee to identify the error in counting all shift managers in the drill participation performance indicator indicated a weakness in the licensee's extent of condition and understanding of its emergency response organization staffing. The failure to provide accurate drill participation performance indicator data constitutes a violation of 10 CFR 50.9 that is of minor significance and consequently is not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy.

.2 Corrective Actions

a. Determine that appropriate corrective action(s) are specified for each root/contributing cause or that there is an evaluation that no actions are necessary.

The licensee determined that no corrective actions were necessary to address the root cause. Specifically, the individual who made the interpretation error and failed to self-check his assumptions separated from the licensee's organization in October of 2000. Although the members of the licensee staff discussed the incident with the individual, the licensee determined that no additional actions were necessary.

The licensee completed the following actions to correct the contributing causes identified in its root cause analysis:

(1) The EP staff were trained on the guidance contained in NEI 99-02 which included additional training for the performance indicator verifier. This training included self study and a review of the text and related FAQs.

(2) The staff developed reference guides for each of the EP performance indicators.

(3) The licensee reviewed each of the EP performance indicators and concluded that no additional discrepancies had occurred.

The inspector reviewed these actions and concluded that they adequately addressed the contributing causes identified by the licensee.

b. Determine that the corrective actions have been prioritized with consideration of the risk significance and regulatory compliance.

The inspector reviewed the priority given to each of the corrective actions developed by the licensee and discussed the priority with licensee representatives. Although the priority was not explicitly defined for each action, the licensee indicated that the underlying priority of the action determined the assigned completion schedule. In the case of the above actions, the licensee stated that the corrective actions were determined to have a high level of significance, were assigned to the EP staff, and were to have been completed within about three weeks.

At the time of the inspection, the inspector verified that the licensee had completed these actions within the specified time commitments. The inspector also reviewed the newly developed reference guides and concluded that the guides adequately reflected the guidance contained in NEI 99-02 and the related FAQs. The inspector reviewed the licensee's implementation of the corrective actions via the licensee's evaluation of performance indicators for March and April of 2001. During that review, the inspector identified a discrepancy concerning the communications drills that were performed for Technical Support Center (TSC) and Emergency Operation Facility (EOF) communicators in March of 2001. Specifically, the licensee conducted drills (similar to the JPMs for control room communicators) for the TSC and EOF communicators to ensure that the notification problems identified during the 1999 and 2000 JPMs did not apply to this group of responders. Although the EP staff included the results of these drills in the DEP performance indicator calculation, the EP staff did not update the drill participation performance indicator. The inspector discussed this inconsistency with the EP staff, who also acknowledged the inconsistency but indicated that the change in participation dates did not affect the outcome of the indicator. Nonetheless, the inspector concluded that the inconsistency demonstrated a weakness in the licensee's corrective actions, which licensee management also acknowledged.

c. Determine that a schedule has been established for implementing and completing the corrective actions.

As discussed above, the licensee established a schedule for implementing and completing the assigned corrective actions, which was commensurate with risk. The inspector noted that the licensee had met its scheduled completion dates.

d. Determine that quantitative or qualitative measures of success have been developed for determining the effectiveness of the corrective actions to prevent recurrence.

The licensee was expecting to revise its performance indicator guides and program near the end of calendar year 2001. Approximately six months after the program change, the licensee planned to perform a self-assessment of the EP performance indicators to ensure the effectiveness of its corrective actions and to verify the integrity of the revised program and procedures. Licensee staff indicated that measures of success would be determined in the planning stages of that assessment.

02.03 Drill and Exercise Performance Issues that Resulted in the White Performance Indicator

.1 Root Cause and Extent of Condition Evaluation

a. Determine that the problem was evaluated using a systematic method(s) to identify root cause(s) and contributing cause(s).

The licensee primarily attributed the White DEP performance indicator to the high failure rate of JPMs used to demonstrate the ability of non-licensed operators to perform offsite notifications. The JPMs were conducted annually as a control cell and provided an environment that minimally simulated a drill/exercise. However, the staff did not critique and correct individual performance during a JPM in the same manner as an emergency preparedness drill/exercises. In this case, the JPM to test the knowledge and skill for the notification of offsite authorities was one-of-five JPMs conducted during the annual evaluation, and the training program required success at 80 percent (i.e., at least four-of-the-five JPMs) to pass the entire evaluation. With the exception of the one communicator JPM, the remaining JPMs related to routine operations activities. When an individual failed only one JPM (i.e., one section of the evaluation), the training staff provided minimal remedial action, which typically consisted of indicating to the individual what actions he/she had not completed satisfactorily.

The licensee performed its first full round of notification JPMs in November/December of 1999 and its second in August of 2000. These JPMs produced a significant number of failed demonstrations (about 25 to 30 percent of the tests performed). The failures ranged from fairly minor errors to individuals failing NRC notification time requirements or having inadequate knowledge of the applicable procedures. In the August 2000 JPM evaluation, about one-third of the failures (three individuals) were the same individuals who had failed the previous November/December 1999 JPM. Following the JPMs, the individuals were told the areas of their performance that were inadequate; however, the licensee did not provide formal remedial actions and did not enter the failures into its corrective action program. With few exceptions, the participants succeeded in the remainder of the JPMs, and they received a successful score for the overall scope of the evaluation.

Following the licensee's February 2001 self-assessment, the licensee documented the high failure rate in CR No. 2-01-03-174, which was assigned an apparent cause evaluation. The inspector reviewed the apparent cause evaluation and determined that it

was performed in an adequate manner. In particular, the evaluator reviewed training records and interviewed members of the operations training and EP staffs. Based on that collection of data, the licensee determined two apparent causes for the high failure rates.

b. Determine that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem.

The apparent cause evaluation was conducted to an adequate level of detail and identified two apparent causes:

(1) The frequency and depth of training was not sufficient to ensure that the non-licensed operators could consistently perform emergency response notifications.

(2) The threshold for comprehensive remedial actions for the annual non-licensed operator JPM exam did not meet EP management expectations.

The inspector reviewed the licensee's investigation and interviewed the individual who performed the apparent cause. Based on these actions, the inspector concluded that the apparent causes were determined in an acceptable manner and adequately defined the causes of the high failure rate of the communicator JPMs.

Prior to the licensee's reevaluation of the DEP performance indicator (March 2001), the licensee had not taken effective actions for the JPMs. The licensee and inspector concluded that the licensee had failed to adequately correct the licensee's self-identified performance deficiencies identified during the November/December 1999 and August 2000 communicator JPMs. In particular, a number of deficiencies were identified during both demonstration periods. In some cases, the same problems were observed amongst the non-licensed operators and were common in both (1999 and 2000) JPMs. In addition, the inspector identified certain individuals who failed the JPM in both 1999 and 2000. Consequently, the inspector concluded that the licensee failed to adequately implement EP planning standard 10 CFR 50.47(b)(14), which states, in part, that periodic drills will be conducted to develop and maintain key skills and that deficiencies identified as a result of drills will be corrected.

The correction of deficiencies related to the notification planning standard (a risk significant planning standard) constitutes an issue that is more than minor, and if uncorrected would become a more significant safety concern. In particular, if the deficiencies in performing offsite notifications were not adequately corrected, notifications may be incorrect and/or untimely. Using the EP significance determination process, the NRC evaluated this issue and preliminarily determined that it was a matter having low-to-moderate safety significance (White). Specifically, the issue resulted in an apparent violation of a regulatory requirement (i.e., the failure to meet a planning standard). Since the 10 CFR 50.47(b)(14) planning standard was not a risk significant planning standard, the issue is preliminarily determined to be of low-to-moderate safety significance (White). Based on this preliminary determination, the NRC has concluded that the licensee's failure to adequately correct the deficiencies identified during the 1999 and 2000 JPMs (i.e., communicator drills) is an apparent violation (AV) of 10 CFR 50.47(b)(14) (AV No. 50-461/01-09-01).

c. Determine that the root cause evaluation included a consideration of prior occurrences of the problem and knowledge of prior operating experience.

The licensee indicated that the JPM for offsite communications was only recently included in the training program. Consequently, the evaluation did review the entire period that the JPM was conducted.

d. Determine that the root cause evaluation included consideration of potential common cause(s) and extent of condition of the problem.

The licensee reviewed the other JPMs performed by the operations training department and did not identify a similar failure rate among the evaluations. Based on the success rate for the other JPMs, the licensee concluded that the staff received adequate training for those tasks. The licensee also determined that the actions to correct deficiencies for the remaining JPMs were appropriate. Therefore, the licensee concluded that the apparent causes were isolated to the communicator JPM and that no additional corrective actions were necessary.

During the licensee's February 2001 EP self-assessment, the staff reviewed the identification and correction of deficiencies in other areas of the EP program. Based on the results of that assessment, the licensee was confident that the corrective action weaknesses were not pervasive within the EP program. The licensee stated that the drill and exercise critique process functioned properly for training, drills, and exercises conducted by the EP staff. However, the JPMs were a unique type of drill that was not under the same oversight and process. Therefore, the licensee concluded that the extent of condition was limited to the communicator JPMs.

.2 Corrective Actions

a. Determine that appropriate corrective action(s) are specified for each root/contributing cause or that there is an evaluation that no actions are necessary.

The licensee identified the following corrective actions:

(1) Increase the depth of training by adding classroom training on the emergency notification task.

(2) Train all non-licensed operators on the emergency notification task and evaluate the individuals via the JPM.

(3) Revise the non-licensed operator training program to retrain the non-licensed operators every six months on the emergency notification tasks.

(4) Include a requirement in the communications JPM to identify failures to the EP staff for appropriate evaluation and corrective actions.

The inspector compared the corrective actions to the apparent causes identified by the licensee. Based on this evaluation, the inspector concluded that the corrective actions appeared to adequately address the apparent causes.

b. Determine that the corrective actions have been prioritized with consideration of the risk significance and regulatory compliance.

As immediate corrective actions, the licensee revised the notification procedure and also retrained and retested the non-licensed operators. Based on the results of those actions, all but three individuals successfully demonstrated their abilities to perform offsite notifications in March of 2001. The three individuals who failed were removed from the emergency response organization, and the licensee initiated CRs documenting each failure and the planned corrective actions. Subsequently, the three individuals were provided remedial training and reevaluated. In addition, the licensee added a six month training frequency for this task in its long range training plan. The remaining corrective action was scheduled and prioritized in consideration of the risk significance and regulatory compliance.

c. Determine that a schedule has been established for implementing and completing the corrective actions.

The licensee established a schedule for implementing and completing the remaining long term corrective action. The inspector reviewed the assignments and verified that a plant department was assigned to the action and that a date was assigned commensurate with the risk significance. Specifically, the licensee assigned the corrective actions concerning the depth of training to the operations training department with a July 1, 2001 due date.

d. Determine that quantitative or qualitative measures of success have been developed for determining the effectiveness of the corrective actions to prevent recurrence.

The licensee did not specify a particular action to determine the effectiveness of the corrective actions. The licensee indicated that its site indicator for JPM failures would provide adequate indication if another JPM had a high failure rate. In addition, the licensee's routine self-assessment program would ensure that the staff was implementing the revised process for any future failures of the communicator JPM. Consequently, the licensee planned no additional actions.

03 Exit Meeting Summary

On May 18, 2001, the inspector presented the inspection results to Mr. M. Heffley and other members of the Clinton staff. On June 8, 2001, following the onsite inspection, the inspector conducted a telephone discussion with Mr. Pacilio to discuss the NRC's preliminary risk significance determination and the apparent violation of NRC requirements. The licensee acknowledged the findings presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

KEY POINTS OF CONTACT

Licensee

K. Baker, Director - Design Engineering
J. Domitrovich, Director - Electrical Maintenance
K. Evans, Emergency Planning
J. Forman, Licensing
R. Frantz, Licensing
J. Heffley, Site Vice President
W. Helenthal, Emergency Planning
W. Illif, Manager - Regulatory Assurance
D. Kemper, Instrument and Controls Maintenance Manager
R. Loope, Director - Mechanical Maintenance
D. Smith, Director - Security and Emergency Planning
J. Sutherland, Director - Radiation Protection and Safety
R. Svaleson, Director - Operations
M. Vonk, Emergency Planning
J. Williams, Director - Engineering
W. Wrigley, Manager - Nuclear Oversight

NRC

T. Kozak, Chief, Reactor Projects Branch 4

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-461/01-09-01	AV	The licensee failed to correct self-identified deficiencies disclosed through control room communicator drills. (Section 02.03.1.b)

LIST OF ACRONYMS USED

AV	Apparent Violation
CR	Condition Report
DEP	Drill and Exercise Performance
EOF	Emergency Operations Facility
EP	Emergency Preparedness
FAQ	Frequently Asked Question
IP	Inspection Procedure
JPM	Job Performance Measure
NEI	Nuclear Energy Institute
QA	Quality Assurance
ROP	Reactor Oversight Program
SDP	Significance Determination Process
TSC	Technical Support Center

LIST OF DOCUMENTS REVIEWED

	Memorandum from M. Vonk to M. Heffley and M. Pacilio, "Clinton Station Emergency Preparedness Program Assessment"	April 6, 2001
	Memorandum from M. Vonk to S. McCain, "Clinton Station Focus Area Assessment on Emergency Preparedness Cornerstone Indicators"	February 16, 2001
AP-02	Emergency Plan Notification	Revision 11, ACN 12/1
CPS 1001.15	Collection, Documentation, Verification, and Submittal of the CPS Performance Indicators	Revision 0a
CPS 1016.01	CPS Condition Reports	Revision 34
CPS-PI-EP01	Drill, Exercise, and Actual Event Performance NRC Performance Indicator	Revision 3

CPS-PI-EP02	ERO Drill Participation (ERO) NRC Performance Indicator	Revision 3
CR No. 2-01-02-159	Drill, Exercise, and Performance (DEP) Indicator Does Not Include NLO Job Performance Measure Statistics	Revision 0
CR No. 2-01-02-162	Identification of Formally Assessed ERO Drills	Revision 0
CR No. 2-01-02-196	Emergency Preparedness Drill and Exercise Performance (DEP) Indicator (R.EP.01) Data in White Band	Revision 0
CR No. 2-01-03-174	High Failure Rate While Performing ERO JPM	Revision 0
CR No. 2-01-04-024	Nuclear Oversight Missed Opportunity	Revision 0
CR No. 2-01-05-191	CR 2-01-02-196 Did Not Address Why DEP Performance Indicator Went White	Revision 0
CR No. 2-01-05-192	Deficiencies in the Remediation Process for Emergency Preparedness JPM Failures	Revision 0
CR No. 2-01-06-018	Inclusion of Two Substitute Shift Managers in ERO Participation Indicator	Revision 0
EC-07	State and NRC Notifications Checklist	Revision 1
LS-AA-2001	Collecting and Reporting of NRC Performance Indicator Data	March 6, 2001
LS-AA-2110	Monthly Performance Indicator (PI) Data Elements for Emergency Response Organization (ERO) Drill Participation	March 6, 2001
LS-AA-2120	Monthly Performance Indicator (PI) Data Elements for Drill/Exercise Performance	March 6, 2001
Policy Stmt. No. 14	NRC Performance Indicator, Data Collection	Revision 0