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DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
RESPONSE TO NRC ANNUAL ASSESSMENT LETTER

By letter dated March 3, 2008 (reference 1), the U.S. Nuclear Regulatory Commission (NRC) provided an assessment of the safety performance of Kewaunee Power Station (KPS) for the period from January 1 through December 31, 2007. Specifically, the letter provided the results of the NRC technical staff review of performance indicators (PIs) for the most recent quarter and inspection results for the period from January 1 through December 31, 2007. In the letter, the NRC staff concluded that substantive cross-cutting issues still exist in the areas of problem identification and resolution (PI&R) and human performance. Therefore, the NRC staff informed KPS that these substantive cross-cutting issues will remain open.

In the letter, the NRC staff requested that KPS provide a written response addressing the substantive cross-cutting issues. The NRC requested that the response include focused areas of concern, the status of associated corrective actions, and a current assessment of personnel performance and the corrective action program. Furthermore, the NRC staff requested an updated assessment of the KPS safety culture including focused areas of concern and the status of associated corrective actions.

The attachment to this letter provides the requested response.

If you have questions or require additional information, please feel free to contact Mr. Thomas L. Breene at 920-388-8599.

Very truly yours,

A handwritten signature in black ink, appearing to read "L. Hartz".

Leslie N. Hartz
Vice President - Nuclear Support Services

References:

1. Letter from J. L. Caldwell (NRC) to D. A. Christian (DEK), "Annual Assessment Letter – Kewaunee Nuclear Power Plant (Report 05000305/2005001)," dated March 3, 2008.

Attachment:

Response to NRC Annual Assessment Letter

Commitments made by this letter: NONE

cc: Regional Administrator, Region III
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ATTACHMENT

RESPONSE TO NRC ANNUAL ASSESSMENT LETTER

**KEWAUNEE POWER STATION
DOMINION ENERGY KEWAUNEE, INC.**

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NRC Request

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In the letter, the NRC staff requested that KPS provide a written response addressing these open substantive cross-cutting issues. The NRC requested that the response include focused areas of concern, the status of associated corrective actions, and a current assessment of personnel performance and the corrective action program. Furthermore, the NRC staff requested an updated assessment of the KPS safety culture including focused areas of concern and the status of associated corrective actions.

DEK's Response – PI&R Substantive Cross-Cutting Issue

1. Focused Areas of Concern

An effective Corrective Action Program (CAP) requires organizational and individual behaviors, that embrace and reinforce the CAP as essential to obtaining and maintaining excellent station performance. An effective CAP facilitates management and staff ability to identify and correct problems, commensurate with risk and safety significance. DEK's focus is to instill a sustainable culture at KPS whereby the CAP, aligned with Dominion fleet-wide and nuclear industry standards, is core business. To achieve a sustainable culture change, DEK is focused on setting clear CAP expectations, aligning resources to successfully meet those expectations, training station personnel and management on those expectations, measuring performance against those expectations, and holding management and staff accountable.

2. Status of Associated Corrective Actions

The key corrective actions related to the PI&R substantive cross-cutting issue and their associated status are provided below:

Completed Actions

- Developed and implemented improved standards of quality for causal evaluations.
- Revised station corrective action procedure to:
 - i. Institutionalize expectations for root cause evaluation responsible managers.
 - ii. Require a quarterly assessment of CAP performance.
- Filled the Station Causal Evaluation Coordinator and the CAP Trend Coordinator positions.
- Established Job Familiarization Guides (JFGs) for the Department Corrective Action Coordinator (DCAC), Corrective Action Review Board (CARB) Chairman and members, and Station Causal Evaluation Coordinator positions based on a systematic approach to training (SAT).
- Developed a SAT-based cause evaluator / approver training program, and conducted the corresponding initial training.
- Established management performance appraisal criteria for CAP quality and timeliness for the 2008 review cycle.
- Implemented CARB metrics.
- Implemented specific and defined CAP expectations designed to change management behaviors, and continue to monitor performance.

Actions in Progress

- Validating the priorities of open corrective action assignments.
- Enhancing the quality and completeness of extent of condition and extent of cause evaluations.
- Improving the CAP trending program.

3. Current Assessment of Corrective Action Program

Performance of station personnel has improved in several areas as measured by station performance metrics. Timeliness of causal evaluations has improved. Station average age for apparent cause evaluations has been within the established acceptable range of 20 to 40 days for the past three months. Similarly, based upon the most recently completed root cause evaluations, the age of evaluations upon management sponsor approval has decreased from over 100 days in October 2007 to approximately 30 days in February 2008. Quality scores for causal evaluations have steadily improved to the minimum acceptable value of 85% as of November 2007, and have since been maintained at or above these quality levels.

Dominion fleet procedures governing the CAP were implemented at KPS on May 22, 2007. At that time, existing open corrective actions were deemed to be station backlog and new corrective actions generated under the new fleet program were considered the station's working inventory. The corrective action backlog has steadily decreased from approximately 1950 open items on May 22, 2007 to less than 600 as of March 2008. The corrective action working inventory (high, medium, and low priorities) continues to maintain a stable or decreasing trend since December 2007.

Notwithstanding the progress made to date in the CAP, additional improvement is needed. Specifically, DEK is continuing to focus on ensuring that proper priority is assigned to corrective actions. DEK implemented a new priority model in October 2007. This new model was used in establishing priorities for corrective action assignments going forward. In February 2008, DEK initiated efforts to validate that all remaining open corrective action assignments have the appropriate priority. The priority system has a direct impact on ensuring the timeliness of higher priority items, commensurate with their safety significance. Additionally, DEK continues to focus on improving the quality and completeness of extent of condition and extent of cause evaluations.

Finally, a strong and predictive trending program is essential to establishing and sustaining a robust CAP. The CAP trending program at KPS has historically been data rich but insight poor. Improvements to the station trending program are being implemented, including the recently filled CAP trend coordinator position.

DEK's Response – Human Performance Substantive Cross-Cutting Issue

1. Focused Areas of Concern

A healthy human performance culture focuses on human error prevention, but recognizing that human performance errors will occur, ensures adequate barriers are in place to prevent significant consequences from human error related events. To achieve a sustainable culture change, DEK has established clear standards and expectations, aligned the station leadership team on these expectations, and communicated and reinforced them to the station staff, specifically in the area of procedure use and adherence. To reduce the challenges to station personnel, DEK is methodically reviewing and revising station procedures to ensure they contain clear guidance for staff implementation. In addition, DEK is focusing on improving its trending capabilities to better identify and correct human performance issues.

2. Status of Associated Corrective Actions

The key corrective actions related to the human performance substantive cross-cutting issue and their associated status are provided below:

Completed Actions

- Developed and communicated station wide standards and behaviors for procedure use and adherence and other human performance tools.
- Site management continues to monitor and reinforce standards and behaviors for procedure use and adherence and other human performance tools in accordance with the KPS Observation Program, issued July 1, 2007.
- Revised station corrective action procedure to ensure appropriate response to potential NRC cross-cutting issues.
 - i. Require the initiation of a condition report (CR) and a causal evaluation when a potential cross-cutting issue is identified at NRC exit meetings. The responsible manager presents the results of the preliminary causal analysis to the NRC Resident Inspector in a timely manner.
 - ii. Require tracking the number of cross-cutting issues in each aspect. Additionally, initiation of a CR is required whenever three issues reside in any aspect, requiring the performance of an apparent cause evaluation, as a minimum.
- Conducted human performance fundamentals training for selected station and supplemental workers supporting the Spring 2008 refueling outage.
- Developed a simplified reporting tool for filtering of the data in the observation database to allow procedure use and adherence trending. Trained the department human performance coordinators on the use of the simplified reporting tool.
- Formalized expectations for procedure recovery group attendance at workweek planning meetings to identify those procedures in need of revision to support planned station work activities, and to establish priorities for identified procedures.

Actions in Progress

- Developing a trend coding lesson plan for coding of Failure Modes, What Codes and Why Codes in CAP. This training will be presented to the DCAC's and department human performance coordinators.
- Upgrading KPS procedures to be consistent with industry standards.

3. Current Assessment of Personnel Performance

DEK continues to focus on human performance improvement at KPS. DEK's industrial safety performance, which is a leading indicator for overall human performance, remains strong. DEK performance during the October 2007 planned outage reflects

improvement in quality of work and adherence to procedures and standards. While there is evidence of improvement in human performance, additional improvement is needed. Throughout 2007 and into 2008, the focus has been on procedure quality, use and adherence. In addition to these aspects of human performance, KPS is also focusing on the broader elements of human performance improvement.

A key element in improving human performance is the procedure upgrade project. Procedure quality indirectly impacts standards and expectations for procedure use and adherence. In 2007, DEK upgraded 529 procedures and implemented 4023 procedure revisions. The initial 2007 procedure upgrade scope was expanded to include maintenance and reactor engineering procedures. Procedure upgrade priorities are based upon risk and safety significance. Implementation of the Dominion fleet administrative procedures continues to strengthen station processes. During the ongoing procedure upgrade project, compensatory measures remain in effect. Procedure quality is addressed during work planning and preparation activities, and procedure adherence is emphasized in pre-job briefs.

Data from our CAP over the past two quarters show evidence of a relatively few number of deficiencies caused by station personnel failing to follow procedures.

DEK's Response – Safety Culture Assessment

A safety culture assessment was conducted in May 2006, with a follow-up safety culture assessment completed in May 2007. The primary objective of the May 2007 assessment was to provide information regarding the status of the safety culture components at KPS. Most of the methodology used in that assessment was based upon work originally developed with the support of the NRC to assess the influence of organization and management on safety performance. The methodology entails collecting a variety of information that is largely based upon the perceptions of the individuals in an organization, as well as conducting structured observations of individuals performing work activities. Perceptions are often reality when it comes to influencing behavior and understanding basic assumptions. Therefore, the data collected regarding individual perceptions are critical to this type of assessment.

Several safety culture components were found to have improved since the assessment conducted in May 2006. These improvements indicate that KPS has a strong foundation for continuing its overall safety culture. These components include:

- *Decision-Making* generally reflects conservative assumptions and a safety first approach.
- *Work Practices* with respect to the use of human error prevention techniques are more consistently used.
- The use of the *Problem Identification* process has significantly increased.
- In some areas *Performance Indicators* are being utilized more.

- Significant efforts in *Training* have been implemented in some areas.
- *Safety Policies* exist for many work activities.

The May 2007 safety culture assessment also identified safety culture components requiring continued attention at KPS, which were evaluated during a comprehensive Safety Culture Self-Assessment completed on October 19, 2007. The purpose of this self-assessment was to identify the major safety culture components impacting Kewaunee, review previous corrective actions and their effectiveness, and recommend corrective actions that would result in improving safety culture. The scope of DEK's self-assessment included the results from the May 2006 and May 2007 safety culture assessments, the 2007 Mock 95002 assessment and the 2007 PI&R self-assessment. The self-assessment used the guidance from NRC Inspection Manual Chapter 0305, "*Operating Reactor Assessment Program.*"

DEK's October 2007 safety culture self-assessment identified the following:

- The safety culture component in need of the most focus by KPS is the CAP. The specific aspect in need of improvement is timely and effective corrective action.
- Analysis of the safety culture components of Resources, Continuous Learning Environment, Accountability, and Decision-Making revealed commonalities in their underlying causes. Corrective actions are needed in the areas of identification of priorities, communication of priorities, staff internalization of station priorities, and staff alignment to station priorities. Finally, action is needed to fully describe and communicate accountability and ownership to the management team and station at large such that these behaviors are internalized and consistently applied.

1. **Focused Areas of Concern**

The safety culture component of the CAP is a significant focus area for DEK, and is addressed under the above PI&R substantive cross-cutting issue section. DEK senior site management is focused on establishing and communicating station priorities, leadership team alignment and skills enhancement, the collegial development of KPS core values, and improving ownership and accountability.

2. **Status of Associated Corrective Actions**

The key corrective actions resulting from the safety culture self-assessment, as well as other related corrective actions, and their associated status are provided below:

Actions Completed

- Developed and currently implementing a corrective action change management plan.

- Established and communicated 2008 station priorities and KPS core values. These are periodically reviewed and discussed at station employee meetings.
- Developed a program to perform an annual multidiscipline (independent of Work Order Screen team) review of open corrective and elective work orders to ensure the requests are appropriately prioritized based on risk significance.
- Developed a Critical Equipment List.

Actions in Progress

- Completed a Single Point Vulnerability List Phase I and currently developing Phase II.
- Developing a Master Equipment List.
- Defining the terms accountability and ownership to the management team, with subsequent communication of expectations and associated behaviors to the station.
- Performing independent program health reviews in accordance with the Recovery Project Guidelines for program health.

DEK is currently planning an additional safety culture assessment for 2008.

3. Current Assessment of Performance

Trending of station performance during the last quarter of 2007 and the first quarter of 2008 in the area of safety culture is currently being performed. A team was established comprised of members from the Corrective Action Review for Excellence (CARE) team, the Station Causal Evaluation Coordinator, and the recently hired CAP Trend Coordinator. This team is reviewing root and apparent cause evaluations, NRC violations, and Nuclear Oversight findings. The team is evaluating the underlying causal factors for each deficiency and categorizing the causal factors in accordance with the 13 safety culture components provided in NRC Inspection Manual Chapter 0305 and used in DEK's 2007 safety culture self-assessment. This trending will be used in monitoring improvements in the safety culture components we are currently focused on, as well as for early identification of adverse trends in other areas which may require additional corrective action.

Reference:

1. Letter from J. L. Caldwell (NRC) to D. A. Christian (DEK), "Annual Assessment Letter – Kewaunee Nuclear Power Plant (Report 05000305/2005001)," dated March 3, 2008.