George H. Gellrich
Vice President

Calvert Cliffs Nuclear Power Plant, LLC
1650 Calvert Cliffs Parkway
Lusby, Maryland 20657
410.495.5200
410.495.3500 Fax

CENG
a joint venture of
Constellation Energy · EDF

CALVERT CLIFFS
NUCLEAR POWER PLANT

March 1, 2012

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Response to Request for Additional Information Re: Exemption from 10 CFR Part 26, Fitness for Duty Programs

REFERENCES:

(a) Letter from G. H. Gellrich (CCNPP) to Document Control Desk (NRC), dated July 21, 2011, Request for Exemption from Certain Requirements of the Fitness for Duty Rule, Subpart I

(b) Letter from D. V. Pickett (NRC) to G. H. Gellrich (CCNPP), dated January 25, 2012, Request for Additional Information Re: Exemption from 10 CFR Part 26, Fitness for Duty Programs – Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 (TAC Nos. ME6738 and ME6739)

In Reference (a), Calvert Cliffs Nuclear Power Plant, LLC requested an exemption from the requirements of 10 CFR 26.205(c) and (d) for meeting work hour rule controls during times of severe weather conditions. The Nuclear Regulatory Commission has reviewed the proposed exemption and has requested additional information to complete their review (Reference b). Attachment (1) provides Calvert Cliffs' responses.

Should you have questions regarding this matter, please contact Mr. Douglas E. Lauver at (410) 495-5219.

Very truly yours,

GHG/PSF/bjd

Attachment: (1) Response to Request for Additional Information

A021
NRR

cc: D. V. Pickett, NRC
W. M. Dean, NRC
Resident Inspector, NRC
S. Gray, DNR

ATTACHMENT (1)

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Calvert Cliffs Nuclear Power Plant, LLC
March 1, 2012

ATTACHMENT (1)

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

The Nuclear Regulatory Commission (NRC) staff has requested additional information to complete their review of the Calvert Cliffs exemption request. Responses for the requested information are provided below.

NRC Request 1:

Lessons learned from NUREG-1474 include that as much as possible, site preparation for a hurricane should occur prior to the need to sequester individuals. What is the time period that is allocated for personnel to prepare the site for a storm, prior to the arrival of hurricane force winds on-site? Please be as precise as possible with respect to the number of days or hours prior to the arrival of severe winds.

Calvert Cliffs Response 1:

The severe weather procedure will be updated to include specific milestones for site preparation activities. These milestones will include a graded approach for site preparation based on forecasted weather conditions as well as actual watches and warning issued by the National Weather Service. These milestones will include various preparation activities based on the severity of the anticipated weather. This would provide a graduated response starting with the possibility of tropical storm conditions. The response would be increased with the issuance of a Tropical Storm Watch (i.e., 48 hours prior to expected tropical storm conditions) and again at the issuance of a Tropical Storm Warning (i.e., 36 hours prior to expected tropical storm conditions). Another escalation would occur with the issuance of a Hurricane Watch (i.e., 48 hours prior to expected hurricane conditions) and the issuance of a Hurricane Warning (i.e., 36 hours prior to expected hurricane conditions).

NRC Request 2:

The exemption request discusses entry conditions that would be used prior to entering the Emergency Response Plan. Per the Emergency Response Plan, an unusual event is declared when sustained wind speed is greater than 75 mph. No specific weather related criteria are included in the exemption request. What are the technical considerations that the General Supervisor for Online Scheduling or the Operations Shift Manager will use to determine entry into this exemption?

Calvert Cliffs Response 2:

Weather forecasting technology generally provides advance notice and the ability to plan and prepare for natural event emergencies due to tropical storm and hurricane conditions. In response to forecast data, Calvert Cliffs begins physical activities at the plant and prepares for staffing adjustments in advance of tropical storm or hurricane conditions actually reaching the site. The severe weather preparation procedure includes guidance for beginning site readiness preparations. This procedure will be upgraded to recognize the need to lockdown the site, which includes sequestering designated individuals for minimum staffing requirements and releasing non-essential personnel from the site. The decision making responsibility for this action is assigned to the General Supervisor for Online Scheduling or the Operations Shift Manager.

Criteria for sequestering essential personnel and releasing non-essential personnel will include the following:

- The site is expected to be within a Hurricane Watch or Warning area.
- Travel conditions are forecasted to be hazardous for employee commutes to and from the site (i.e., sustained winds conditions of greater than 40 mph).

- Local governments are preparing to declare restrictions on travel that would impact employee commutes, or are preparing to order or recommend evacuations in areas that effect essential staffing levels for the site.

The timing for ordering a lockdown will depend of forecast data, the status of preparations, and the status of local government restrictions and orders.

NRC Request 3:

Many factors contribute to fatigue; one of these factors is inconsistent start times. In order to manage fatigue during sequestration, will shift start times be pre-planned and consistent? Please explain the rationale for organizing current shift start times during sequestration.

Calvert Cliffs Response 3:

In order to reduce fatigue, crew start times would be set. Crews consist of enough individuals to man two 12-hours shifts. Security and Operations personnel would maintain their standard start and stop times. Support groups would be given specific start and stop times to cover the 24 hour day. Based on two 12-hour shifts, the crews are allowed a 12–hour break between successive work periods, thereby meeting the requirements of 10 CFR 26.205(d)(1). No covered workers will be scheduled to work shifts longer than 12 hours.

NRC Request 4:

The exemption request discusses a need to sequester individuals onsite to perform preparation, response and recovery actions associated with a severe weather event. Please provide specific procedural references that control the sequestering of individuals onsite during a severe weather event, or describe how the need to sequester individuals will be incorporated into current procedures.

Calvert Cliffs Response 4:

Although the severe weather procedure describes the need to sequester essential personnel, the procedure will be revised to include the follow type of information:

- Limitation of site-wide announcements
- Pre-established shift schedules
- Pre-planned bunking areas with maximum occupancy for sleep accommodations
- Storage of bunking materials and periodic inventories of bunking materials
- Distribution of personal emergency supplies

Although the accommodations and potentially stressful circumstances may not be ideal for restorative rest, these actions are consistent with the practice of fatigue management when limited personnel are available during severe weather conditions.

NRC Request 5:

The NRC staff is not only concerned with fatigue management prior to and during the requested exemption, staff is equally concerned with site individuals' fatigue when returning to work hour controls such that the resumption of work hour controls is prudently implemented and individuals are not fatigued on the first day on work hour controls. Please indicate what general criteria that plant management will consider when making the determination to resume work hour controls.

Calvert Cliffs Response 5:

After a storm has passed, it is difficult to predict when relief personnel could return to the site based on the degree of surrounding infrastructure damage caused by the storm, including damage to employees homes and communities. If an evacuation had been ordered, personnel may have chosen to go to different locations and that could factor in the time needed to recall personnel. Typically, access to the area following storm damage is controlled by local government officials. Plant management will establish work hour controls as soon as practical after the event has ended. The following are examples of the criteria which will be considered when making the determination to resume work hour controls.

- Adequate personnel are available, both onsite and relief crews and they have had sufficient time off before resuming their normal work duties.
- Status of the site following the severe weather event (i.e., site damage, critical equipment challenges, plant operational status, or other key activities needed to put the plant in a safe condition).
- Ability to safely implement normal work activities using work hour controls.

The transition from exempted time to normal work hours control would be handled similar to the transition from Outage Work Hours Control to On Line Work Hours Controls.

NRC Request 6:

In the cover letter dated July 21, 2011, Calvert Cliffs indicated that the exemption request included declarations of severe weather conditions involving severe winter precipitation. However, the attachment to the cover letter did not include specific information regarding severe winter precipitation. Please provide sufficient supporting material for severe winter precipitation or clarify that the cover letter was in error.

Calvert Cliffs Response 6:

We believe the need for this exemption request is equally valid for severe winter weather in our region, specifically winter storms, ice storms, and blizzards. Severe winter weather can result in conditions that require as many site preparation and recovery actions as a hurricane or tropical storm. Severe winter weather can also result in conditions where travel to and from Calvert Cliffs may not be safe or even possible. During these times, sufficient workers will be sequestered to staff two 12-hour shifts. As noted in Response 3, workers would be scheduled for 12-hour shifts, generally the same as the shifts they currently work.

Weather forecasting technology generally provides advance notice and the ability to plan and prepare for natural event emergencies due to severe winter weather conditions. Proposed entry conditions for the exemption during severe winter weather conditions are as follows:

- Issuance of a Winter Storm Watch (24-36 hours in advance of winter storm conditions) or Winter Storm Warning by the National Weather Service for the site and surrounding area.
- Issuance of a Blizzard Warning by the National Weather Service for the site and surrounding area.
- Issuance of an Ice Storm Warning by the National Weather Service for the site and surrounding area.

A definition for these winter weather conditions comes from the National Weather Service. A Winter Storm Watch is issued by the National Weather Service when there is a potential for heavy snow or significant ice accumulations, usually 24 to 36 hours in advance. A Winter Storm Warning is issued by the National Weather Service when a winter storm is producing or is forecast to produce heavy snow or significant ice accumulations. Blizzard warnings are issued for winter storms with sustained or frequent

winds of 35 MPH or higher with considerable falling and/or blowing snow that frequently reduces visibility to ¼ mile or less. An Ice Storm Warning occurs when freezing rain produces a significant and possibly damaging accumulation of ice. It is typically issued any time more than ¼ inches of ice is expected to accumulate in an area. Exact criteria for these types of watches and warnings vary from one locale to another. Therefore, Calvert Cliffs relies on the National Weather Service to determine when conditions are projected to be significant enough for the site and surrounding areas to issue one of these Watches or Warnings. An example of the severity of a winter storm that would likely rise to the level of a Winter Storm Warning or Watch for our area is one that is expected to produce an accumulation of 12 inches or more of snow.

In response to forecast data, Calvert Cliffs begins physical activities at the plant and prepares for staffing adjustments in advance of severe winter weather conditions actually reaching the site. The severe weather preparation procedure includes guidance for beginning site readiness preparations. This procedure will be upgraded to recognize the need to lockdown the site, which includes sequestering designated individuals for minimum staffing requirements and releasing non-essential personnel from the site. The decision making responsibility for this action is assigned to the General Supervisor for Online Scheduling or the Operations Shift Manager.

The site severe weather procedure will also be updated to include specific milestones for site preparation activities. These milestones will include a graded approach for site preparation based on forecasted weather conditions as well as actual watches and warning issued by the National Weather Service. These milestones will include various preparation activities based on the severity of the anticipated weather. This would provide a graduated response starting with the possibility of winter storm conditions. The response would be increased with the issuance of a Winter Storm Watch and again at the issuance of a Winter Storm Warning, Blizzard Warning, or Ice Storm Warning.

Criteria for sequestering essential personnel and releasing non-essential personnel will include the following:

- The site is expected to be within a Winter Storm Watch or Warning area, a Blizzard Warning area, or an Ice Storm Warning area.
- Travel conditions are forecasted to be hazardous for employee commutes to and from the site.
- Local governments are preparing to declare restrictions on travel that would impact employee commutes.

The timing for ordering a lockdown will depend of forecast data, the status of preparations, and the status of local government restrictions and orders.

After a storm has passed, it is difficult to predict when relief personnel could return to the site based on the degree of surrounding infrastructure damage caused by the winter storm, including damage to employee's homes and communities. Typically, access to the area following winter storm damage is controlled by local government officials. Plant management will establish work hour controls as soon as practical after the event has ended. The following are examples of the criteria which will be considered when making the determination to resume work hour controls.

- Adequate personnel are available, both onsite and relief crews and they have had sufficient time off before resuming their normal work duties.
- Status of the site following the severe weather event (i.e., site damage, critical equipment challenges, plant operational status, or other key activities needed to put the plant in a safe condition).

- Ability to safely implement normal work activities using work hour controls.

The transition from exempted time to normal work hours control would be handled similar to the transition from Outage Work Hours Control to On Line Work Hours Controls.