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10 CFR 50.4
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December 11, 2009

UN#09-516

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016
Calvert Cliffs Nuclear Power Plant, Unit 3
RAI No. 1014, NOx and VOC (Ozone Precursor) Air Emissions during
Construction and Operation

- References:
- 1) Laura Quinn (NRC) to Greg Gibson (UniStar Nuclear Energy), Request for Additional Information Related to the Environmental Report for the Calvert Cliffs Combined License Application – Ozone Air Emissions during Construction and Operation, dated August 27, 2009.
 - 2) UniStar Nuclear Energy Letter UN#09-396, from Greg Gibson (UNE) to Document Control Desk, U.S. NRC, RAI No. 1014, Ozone Air Emissions during Construction and Operation, dated September 25, 2009.
 - 3) UniStar Nuclear Energy Letter UN#09-414, from Greg Gibson (UNE) to Document Control Desk, U.S. NRC, RAI No. 1014, Commitment CC-09-0002 Update, dated October 2, 2009.

The purpose of this letter is to respond to the request for additional information (RAI) identified in NRC letter to UniStar Nuclear Energy, LLC (UNE), dated August 27, 2009 (Reference 1). RAI No. 1014 requests information related to the nitrogen oxide (NOx) and volatile organic compounds (VOC) air emissions during construction and operation of Calvert Cliffs Nuclear Power Plant

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(CCNPP) Unit 3. Note that although the title of the NRC RAI references ozone emissions, the request itself only requests information on the ozone precursors, nitrogen oxides (NO_x) and volatile organic compounds (VOCs). UNE does not anticipate emissions of ozone from the project and consequently, this response only addresses NO_x and VOC emissions.

Reference 2 served to transmit an interim response to RAI No. 1014, which included a UNE commitment to prepare an updated construction emissions analysis for CCNPP Unit 3. Reference 3 identified that the due date for the commitment was December 11, 2009.

Enclosure 1 provides the updated response to RAI No. 1014. Enclosure 2 contains a report of the CCNPP Unit 3 NO_x and VOC emissions from construction activities used in support of the RAI response.

The transmittal of the enclosed report satisfies commitment CC-09-0002, which was made in Reference 2 and updated in Reference 3. One new regulatory commitment is made in this response and is summarized in Enclosure 3.

This response does not impact the Combined License Application content and does not contain any sensitive or proprietary information.

If there are any questions regarding this transmittal, please contact me at (410) 470-4205, or Mr. Dimitri Lutchenkov at (410) 470-5524.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 11, 2009



Greg Gibson

- Enclosures:
- 1) Response to NRC Request for Additional Information, RAI No. 1014, Ozone (Precursor) Air Emissions during Construction and Operation, CCNPP3
 - 2) Report of the Calvert Cliffs Unit 3 NO_x and VOC Emissions from Construction Activities, dated December 2009
 - 3) Regulatory Commitment CC-09-0009

cc: Surinder Arora, NRC Project Manager, U.S. EPR Projects Branch
Laura Quinn, NRC Environmental Project Manager, U.S. EPR COL Application
Getachew Tesfaye, NRC Project Manager, U.S. EPR DC Application (w/o enclosure)
Loren Plisco, Deputy Regional Administrator, NRC Region II (w/o enclosure)
Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2
U.S. NRC Region I Office

Enclosure 1

**Response to NRC Request for Additional Information
RAI No. 1014, Ozone (Precursor) Air Emissions during Construction and Operation
Calvert Cliffs Nuclear Power Plant Unit 3**

RAI No 1014

The NRC is required to make a conformity determination under 40 CFR 93.150 et seq. with regard to the proposed construction and operation of Calvert Cliffs Unit 3 (CCNP Unit 3) unless one or more of the exceptions listed in 40 CFR 93.153 applies. A possible exception for CCNP Unit 3 is if the totals of direct and indirect emissions are below threshold values listed in 40 CFR 93.153(b).

UniStar has provided the Maryland Public Service Commission with a tentative schedule for completion and operation of CCNP Unit 3 (CPCN Application Table 1.4-1), with an extensive listing of emissions during plant construction (CPCN Application Tables 5.5-2 and 5.5-3), and with a listing of maximum expected emissions during normal operation (CPCN Application Table 6.5-2). The NO_x emissions during the construction period listed in Table 5.5-2 exceed the 40 CFR 93.153(b) threshold value for the first four years. However, the construction activities that would be authorized by the NRC (as defined in 10 CFR 50.10) are only a subset of the activities covered by Table 5.5-2. Provide, for each class of emissions and year of construction, the annual quantity released (tons/yr), the percentages that would be related to “construction” activities regulated by NRC, and the basis for determining the percentage.

Response

An interim response to RAI No. 1014 was provided to the NRC in UniStar letter UN#09-396, dated September 25, 2009. The interim response included the transmittal of a report entitled, “Report of the Construction Activities and Air Impacts from the Proposed Unit 3 at Calvert Cliffs Nuclear Power Plant,” dated August 2008. The abovementioned report on construction emissions was not done for purposes of a conformity applicability analysis. Rather it was prepared in support of the Certificate of Public Convenience and Necessity technical studies to evaluate the impact of site construction emissions. Accordingly, the report did not address indirect emissions from activities outside the construction site that would be included in a formal conformity determination, such as offsite commercial deliveries and commuter vehicles.

Enclosure 2 contains a report of the CCNPP Unit 3 oxides of nitrogen (NO_x) and volatile organic compounds (VOC) emissions from construction activities. This report documents the NO_x and VOC emissions associated with the construction of CCNPP Unit 3 for purposes of determining applicability to the federal Clean Air Act General Conformity Rule. The input to this report is the most recently available information on CCNPP Unit 3 construction activities. The report addresses indirect emissions from activities outside the construction site such as offsite commercial deliveries and commuter vehicles. The report also considers dredging operations and deliveries of materials by barge.

Tables 2-1 and 2-2 in the report present the total VOC and NO_x emissions estimates over the construction of the project. These are broken up into separate tables for the nonattainment regions which are affected. At the request of NRC, Table 2-3 presents a breakout of construction emissions as defined under 10 CFR Part 50 Domestic Licensing for Production and Utilization Facilities. The preconstruction period was considered to be the first two and a half years of project construction activities (2010, 2011 and the first half of 2012). Therefore, Table 2-3 shows no construction emissions for the first two years and some emissions during 2012.

Table 2-1 of the report shows that NO_x emissions for six of the nine project construction years are over the 100 tons per year NO_x threshold for applicability to conformity requirements per 40

CFR 93.153. VOC emissions are below the 50 ton per year de minimis threshold. The exceedance of the NOx applicability threshold requires UNE to mitigate the NOx emissions in accordance with 40 CFR 93.158 in order for NRC to complete a formal conformity determination for CCNPP Unit 3. UNE will transmit the proposed mitigation measures for CCNPP Unit 3 NOx emissions to the NRC by March 31, 2010.

COLA Impact

No changes to the CCNPP Unit 3 COLA are required as a result of this RAI response.