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10 CFR 50.4
10 CFR 52.79

February 26, 2009

UN#09-116

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

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016
Response to Request for Additional Information for the
Calvert Cliffs Nuclear Power Plant, Unit 3,
RAI No. 48, Aircraft Hazards

References: 1) John Rycyna (NRC) to Robert Poche (UniStar), "RAI No 48 RSAC 1604.doc,"
email dated January 27, 2009

The purpose of this letter is to respond to the request for additional information (RAI) identified in the NRC e-mail correspondence to UniStar Nuclear, dated January 27, 2009 (Reference 1). This RAI addresses Aircraft Hazards, as discussed in Section 3.5.1 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 Combined License Application (COLA), Revision 3.

The enclosure provides our response to RAI No. 48, Question 03.05.01.06-1. Our response to Question 03.05.01.06-1 does not include any new regulatory commitments. Our response includes revised COLA content. A Licensing Basis Document Change Request has been initiated to incorporate this change in a future revision of the COLA.

If there are any questions regarding this transmittal, please contact me at 410-470-4205, or Mr. Michael J. Yox at (410) 495-2436.

#0079
NRO

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

Executed on February 26, 2009



Greg Gibson

Enclosure: Response to NRC Request for Additional Information, RAI No. 48, Aircraft Hazards, Calvert Cliffs Nuclear Power Plant, Unit 3

cc: John Rycyna, NRC Project Manager, U.S. EPR COL Application
Thomas Fredrichs, NRC Environmental Project Manager, U.S. EPR COL Application
Getachew Tesfaye, NRC Project Manager, U.S. EPR DC Application (w/o enclosure)
Joseph Colaccino, Chief, EPR Projects Branch, Division of New Reactor Licensing
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
Response to NRC Request for Additional Information
RAI No. 48
Aircraft Hazards
Calvert Cliffs Nuclear Power Plant Unit 3

RAI No. 48

Question 03.05.01.06-1

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. Section 2.2 of the applicant's FSAR describes the site-specific aircraft and airway hazard evaluations with impact probability determination. Please provide the aircraft crash probability used to calculate Airport Operations Impact Frequency (per year) in determining the total aircraft Impact Frequency in letter UN#08-044, Oct 6, 2008; response to RAI Number 10 RSAC 945.

Response

The aircraft crash rate (P) used to calculate Airport Operations Impact Frequency (per year) and to determine the total Aircraft Impact Frequency was provided from DOE-STD-3014-2006, Appendix B, Table B-1, *Guidance and Data for Impact Frequency Calculation* and is provided below. This appendix is part of the May 2006 Reaffirmed DOE Standard 3014-2006, *Accident Analysis For Aircraft Crash Into Hazardous Facilities* and provides conservative crash rate values used for the frequency calculations. (DOE, 2006)

TABLE B-1. Aircraft Crash Rates by Category, Subcategory, and Flight Phase

| AIRCRAFT | CRASH RATE (P) | |
|---------------------------|-----------------------|-----------------------|
| | Takeoff (per takeoff) | Landing (per landing) |
| General Aviation | | |
| Representative Fixed Wing | 1.1 E-5 | 2.0 E-5 |
| Commercial | | |
| Air Carrier | 1.9 E-7 | 2.8 E-7 |
| Air Taxi | 1.0 E-6 | 2.3 E-6 |
| Military | | |
| Large Aircraft | 5.7 E-7 | 1.6 E-6 |
| Small Aircraft | 1.8 E-6 | 3.3 E-6 |

COLA Impact

As a result of this RAI response, the following changes will be made to COLA Part 2 (FSAR), in an upcoming revision:

FSAR Section 2.2.2.4.1 reference "(DOE, 2006)" will be revised to "(DOE, 2006b)," as shown below:

FSAR Section 2.2.2.4.1 Port of Baltimore

Additionally, the FERC has been notified that a commercial entity intends to construct and operate a new LNG Terminal at Sparrows Point, which is located north of the CCNPP site, in the Port of Baltimore (DOE, 2006b). Operation of this proposed facility would be likely to result in increased LNG tanker traffic in the Chesapeake Bay in the vicinity of CCNPP Unit 3. While this expansion may result in additional LNG tankers transiting the Chesapeake Bay past the CCNPP site, the consequences and effects of events involving LNG tankers from the Sparrows Point Terminal in the vicinity of CCNPP Unit 3 will be no different than those already analyzed for LNG tanker events.

FSAR Section 2.2.2.7.2 reference "(DOE, 1996)" will be revised to "(DOE, 2006a)" and "DOE-STD-3014-96" will be revised to "DOE-STD-3014-2006," as shown below:

FSAR Section 2.2.2.7.2 Aircraft and Airways

Due to the close proximity of the airways V31 and V16 157 to the CCNPP site, the acceptance criteria identified in Section 3.5.1.6 of NUREG-0800, requiring the plant to be at least 2 statute mi beyond the nearest edge of a federal airway, is not met. A calculation to determine the probability of aircraft accidents which could potentially result in radiological consequences for the U.S. EPR at the CCNPP site was conducted following the methodology presented in DOE Standard, DOE-STD-3014-96~~2006~~ (DOE, ~~1996~~2006a). The analysis provided an estimate of the total aircraft impact frequency for the facility of $6.13E-6$ /yr.

FSAR Section 2.2.4 reference "DOE, 1996" will be revised to "DOE, 2006a," and the title, document number and document date will be revised as shown below, additionally
FSAR Section 2.2.4 reference "DOE, 2006" will be revised to "DOE, 2006b," as shown below:

FSAR Section 2.2.4 REFERENCES

DOE, ~~1996~~2006a. Accident Analysis for Aircraft Crash Into Analysis-Hazardous Facilities, DOE Standard, DOE-STD-3014-96~~2006~~, U.S. Department of Energy, October 1996, Reaffirmation May 2006.

DOE, 2006b. AES Sparrows Point LNG, LLC and Mid-Atlantic Express, LLC; Notice of Intent To Prepare an Environmental Impact Statement for the Proposed Sparrows Point Project, Request for Comments on Environmental Issues and Notice of a Joint Public Meeting, Federal Register Volume 71, Number 100, p 29941-29944, U.S. Department of Energy, Federal Energy Regulatory Commission, May 24, 2006, Website:
http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?dbname=2006_register&position=all&page=29941, Date accessed: June 24, 2007.

RAI Response References

(DOE, 2006) Accident Analysis for Aircraft Crash Into Hazardous Facilities, DOE Standard, DOE-STD-3014-2006, U.S. Department of Energy, October 1996, Reaffirmation May 2006.