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UniStar
NUCLEAR ENERGY

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May 7, 2009

UN#09-216

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. 84, Question 13.02.01-1, Reactor Operator Training

References:
1) John Rycyna (NRC) to Robert Poche (UniStar), "RAI No. 84 COLP 1813.doc (Public)" email dated March 24, 2009

2) UniStar Nuclear Energy Letter UN#09-191, from Greg Gibson to Document Control Desk, U.S. NRC, Response to RAI No. 84, Question 13.02.01-1, Reactor Operator Training, dated April 21, 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 Energy, dated March 24, 2009 (Reference 1). This RAI addresses Reactor Operator Training, as discussed in Section 13.2 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the Calvert Cliffs Nuclear Power Plant Unit 3 Combined License Application (COLA), Revision 4.

Reference 1 requested UniStar Nuclear Energy to respond to the RAI within 30 days. In the UniStar Nuclear Energy letter dated April 21, 2009 (Reference 2) it was stated that a response to RAI No. 84, Question 13.02.01-1 would be provided by May 7, 2009.

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NRO

The enclosure provides our response to RAI No. 84, Question 13.02.01-1. Changes to the COLA associated with this RAI response are noted with the question response. A Licensing Basis Document Change Request has been initiated to incorporate these changes into a future revision of the COLA.

Our response to Question 13.02.01-1 does not include any new regulatory commitments.

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

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

Executed on May 7, 2009

Greg Gibson

Enclosure: Response to NRC Request for Additional Information, RAI No. 84, Question 13.02.01-1; Reactor Operator Training, Calvert Cliffs Nuclear Power Plant Unit 3

cc: John Rycyna, NRC Project Manager, U.S. EPR COL Application
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

GTG/JKJ/jmm

Enclosure

Response to NRC Request for Additional Information
RAI No. 84, Question 13.02.01-1; Reactor Operator Training
Calvert Cliffs Nuclear Power Plant Unit 3

RAI No. 84

Question 13.02.01-1

FSAR, Section 13.2, "Training", incorporates by reference NEI 06-13A, Rev 0, "Template for an Industry Training Program Description." NEI 06-13A, Rev 1, which addresses a cold license training program, is now available. NEI 06-13A, Rev 1, has been approved by the NRC staff for use. FSAR, Section 13.2, includes information in addition to that specified in NEI 06-13A, Rev 0, to address the cold license process, but does not completely address the changes pertaining to the cold license training program that are in NEI 06-13A, Rev 1. Those portions of the cold license training program that are included in NEI 06-13A, Rev 1, but that are either only partially or not addressed in FSAR, Section 13.2, include eligibility requirements, licensed operator training and experience requirements, and crew experience requirements. Please provide a complete description of the cold license training program referencing NEI 06-13A, Rev 1, or justify an alternative.

Response

FSAR Sections 13.1 and 13.2 will be modified to reflect the latest approved version of NEI 06-13A, Revision 1.

COLA Impact

The CCNPP Unit 3 COLA will be updated in a future revision to incorporate the following changes to FSAR Section 13.1.3.1:

13.1.3.1 Qualification Requirements

- {For a non-licensed applicant (an instant candidate) for a SRO license, Regulatory Guide 1.8, Revision 3, requires at least six months of the responsible nuclear power plant experience to be at the plant for which the instant candidate seeks a license. The CCNPP Unit 3 candidates for an SRO license will not meet this requirement. The basis for this exception is provided in NEI 06-13A, Rev. 1, App. A, as discussed in Section 13.2.

- For an applicant for a Reactor Operator license, Regulatory Guide 1.8, Revision 3, requires at least one year of the power plant experience be at the plant for which an applicant seeks a license. The CCNPP Unit 3 candidates for a Reactor Operator license will not meet this requirement. The basis for this exception is provided in NEI 06-13A, Rev. 1, App. A, as discussed in Section 13.2.

- For an applicant for a Reactor Operator license, ANSI/ANS-3.1-1993 requires that the individual have 3 months experience as an extra person on shift in training before being assigned Reactor Operator duties. The individuals that will serve for the first cycle of plant operation will not possess this experience prior to being assigned Reactor Operator duties. The basis for this exception is provided in NEI 06-13A, Rev. 1, App. A, as discussed in Section 13.2.

Part 2, Final Safety Analyses Report (FSAR), of the CCNPP Unit 3 COLA will be updated in a future COLA revision to add the reference to FSAR Section 13.1.4 identified below:

13.1.4 REFERENCES

NEI, 2008. NEI 06-13A, Template for an Industry Training Program Description, Rev. 1, Nuclear Energy Institute, March 2008.

The CCNPP Unit 3 COLA will be updated in a future revision to incorporate the following changes to FSAR Section 13.2:

13.2 TRAINING

This section of the U.S. EPR FSAR is incorporated by reference with the following supplements.

The U.S. EPR FSAR includes the following COL Item in Section 13.2:

A COL applicant that references the U.S. EPR design certification will provide site-specific information for training programs for plant personnel.

This COL Item is addressed as follows:

This COL Item is addressed by NEI 06-13A (NEI, ~~2007~~2008), "Template for an Industry Training Program Description." NEI 06-13A and Appendix A (Cold License Training Plan) of NEI 06-13A ~~is~~ are incorporated by reference with the following supplements.

The milestone schedule for licensed and non-licensed plant staff training is provided in Table 13.4-1.

~~Sections 13.2.1 through 13.2.4 are added as supplements to the U.S. EPR FSAR.~~

~~**13.2.1 INSERT TO SECTION 1 OF NEI 06-13A**~~

~~Section 1, "Training Program Description," of NEI 06-13A (NEI, 2007) is supplemented to include the following paragraph:~~

~~The application of the systematic approach to training (SAT) developed and implemented as part of Verification & Validation (V&V) of the Human System Interface (HSI) design is described in Section 5.4.10 of ANP-10279 (AREVA, 2007). The V&V process includes verification that plant-specific training conforms to the design that resulted from the HIS design process. Documentation of the V&V process is generated throughout the HIS design process and is used as input to the training program.~~

~~**13.2.2 INSERT TO SECTION 1.1 OF NEI 06-13A**~~

~~Section 1.1, "Licensed Operator Training," of NEI 06-13A (NEI, 2007) is supplemented to include the following sections. (Section numbers in parenthesis are the corresponding location in NEI 06-13A.)~~

~~(1.1.3) Licensed Operator Training Program Prior to Commercial Operation~~

~~Prior to initial commercial operation, licensed operator training will be conducted early in the construction phase to support preoperational testing and cold and hot functional activities. Licensed operator training conducted prior to commercial operation is referred to as "cold" licensed operator training. Cold licensed operator training will be conducted as described in Section 1.1 of NEI 06-13A (NEI, 2007).~~

~~Cold licensing of operators at a new plant provides the method for operations personnel to acquire the knowledge and experience required for licensed operator duties during the unique conditions of new plant construction.~~

~~Prior to commercial operation, plant experience requirements specified in Regulatory Guide 1.8 (Revision 3) and ANSI/ANS 3.1-1993 cannot be met. Therefore, during cold license operator training, the Regulatory Position C.1.b of Regulatory Guide 1.8 (Revision 2) applies: cold license operator candidates will meet the training elements defined in ANSI/ANS 3.1 but are exempt from the experience requirements defined in ANSI/ANS 3.1. Alternate methods of gaining plant experience, in addition to those referenced in Regulatory Guide 1.8 and associated ANSI/ANS standards, are described in Section 1.1.3.2 of NEI 06-13A (NEI, 2007).~~

~~Approximately 18 months prior to expected fuel load, the NRC examination will be administered for cold licensed operator candidates and will include a written examination, simulator examination, and in-plant job performance measures (JPMs). Sufficient operator licenses will be obtained to support operational shifts prior to first fuel load.~~

~~The cold licensed operator training process will terminate when the last licensed operator training class initiated during the plant construction/preoperational test phases has taken a scheduled NRC license examination or the plant becomes operational, whichever is later.~~

~~(1.1.3.1) Licensed Operator Continuing Training Prior to Commercial Operation~~

~~The SAT process will be utilized to determine continuing training needs for cold license operator candidates following completion of the initial phases of their training. Structured continuing training will be provided to maintain the license candidates' knowledge and ability and will include topics related to plant modifications, construction, functional testing, and OE related to construction activities.~~

~~An accredited licensed operator requalification training program will be implemented within 90 days following the issuance of the first NRC operator licenses. This will facilitate maintaining the licensed operators' knowledge and~~

~~ability and meet the milestone guidance related to the Reactor Operator Requalification Training Program provided in Section C.I.13.4 of Regulatory Guide 1.206.~~

~~(1.1.3.2) Licensed Operator Experience Requirements Prior To Commercial Operation~~

~~Each cold licensed operator candidate's operational experience is assessed prior to selection for a licensed training program; however, experience requirements are not required to be fully met prior to enrolling in an operator training program. In addition, total experience requirements and one year on-site experience requirements not fully met at the time of the licensed operator application submittal shall be met prior to issuing the individual's NRC operator license. Following satisfactory completion of an NRC license examination, the licensee will notify the NRC when the candidate's experience requirements have been met.~~

~~Experience may be gained any time prior to fuel load by participating in construction and testing activities. Operational experience on a one-for-one basis may be achieved during the construction and testing phases while performing one or more of the following tasks:~~

- ~~Plant operating procedure development and verification~~
- ~~Human engineering and task analysis verification~~
- ~~Preoperational testing of plant systems~~
- ~~Participating in the cold and hot functional testing program~~
- ~~Acting as an operations classroom, simulator, or on-the-job (OJT) instructor~~

~~The above practical work assignments provide experience and may fulfill the one year onsite experience requirement cited in Regulatory Guide 1.8 and the three month on-shift requirement cited in ANSI/ANS 3.1. On-site experience may also be gained on a one-for one basis at a nuclear reactor site of similar design (e.g., PWR or BWR).~~

~~An RO candidate who completes a site-specific non-licensed operator training program for critical non-licensed operator tasks and completes a site familiarization course designed on a systematic evaluation of site design features and operator site familiarization needs satisfies the one year on-site experience and six months as a non-licensed operator at the facility for which the license is sought requirements cited in Regulatory Guide 1.8.~~

~~A non-degreed SRO candidate who completes a combined RO and SRO course and completes a site familiarization course designed on a systematic evaluation of site design features and operator site familiarization needs satisfies the one year experience requirement as a licensed RO cited in Regulatory Guide 1.8.~~

~~For a degreed SRO, performing construction and testing activities described above on a one-for-one basis satisfies the six month on-site experience requirement as a staff engineer cited in Regulatory Guide 1.8.~~

~~An SRO candidate (degreed or non-degreed) who completes a plant-referenced simulator course or an observation course at an operating reactor of similar design meets the special experience requirements related to at power and startup operations described in ANSI/ANS 3.1. These courses are based on a systematic analysis of the supervisory skill, knowledge, and ability required of a SRO. A systematic process to identify the objectives associated with experience gained at an operating facility coupled with high fidelity simulation provides assurance that the requisite knowledge, skill, and ability level has been achieved.~~

~~(1.1.3.3) On-the-Job Training (OJT) Prior to Commercial Operation~~

~~Until equipment installation is sufficiently complete, viable alternatives for performance of in-plant JPMs will be identified including, but not limited to, discussion, mockups, virtual presentations and part-task simulation. Time spent in OJT training may be counted as onsite and total nuclear power plant experience.~~

~~Until the plant becomes operational, viable alternatives for the main control room OJT (three months on-shift as an extra person) will be identified including, but not limited to, preoperational testing activities, simulator time focused on crew operations, or dedicated observation time in the main control room of an operating nuclear power plant.~~

~~(1.1.3.4) Plant-Referenced Simulation Facilities Prior to Commercial Operation~~

~~The initial phase of licensed operator simulator training will be performed with a simulation facility modeled in accordance with the guidance of Regulatory Guide 1.149 and its associated ANSI/ANS standards as describe below. The simulation facility will be a high fidelity/quality training device and will be maintained in accordance with the criteria of ANSI/ANS-3.5-1998, Appendix D.~~

~~Simulation models will be updated as information concerning plant design and performance is obtained. These updates will ensure the simulator is current with plant design and can be used as a reliable training tool.~~

~~The following provides a generic simulator training sequence indicating the use of part task/limited scope simulator and plant referenced simulator for licensed operator training. The actual sequence may vary depending on plant construction scheduling.~~

- ~~Phase 1 (approximately 40 months prior to fuel load) - The part task/limited scope simulator is used to provide licensed operator training based on standardized design simulator modeling and operating procedures.~~

- ~~Phase 2 (approximately 24 months prior to fuel load) - An ANSI/ANS 3.5 1998 plant referenced simulator is used in final phase of licensed operator initial training to perform reactivity manipulations and complete required NRC license candidate training.~~

- ~~Phase 3 (approximately 18 months prior to fuel load) - An ANSI/ANS 3.5 1998 plant referenced simulator is used for performance of NRC operator initial license examinations.~~

~~Prior to conducting the simulator portion of licensed operator examination, the plant referenced simulator response will be tested and validated against plant design data to ensure the simulator meets the operational and testing criteria of 10 CFR 55.46 paragraph (c).~~

~~13.2.3 INSERT TO SECTION 1.6 OF NEI 06-13A~~

~~Section 1.6, "References," of NEI 06-13A (NEI, 2007) is supplemented to include a reference to ANP-10279, Revision 0 (AREVA, 2007).~~

~~13.2.4~~ 13.2.1 REFERENCES

~~{**AREVA, 2007.** U.S. EPR Human Factors Engineering Program, ANP-10279, Revision 0, AREVA NP Inc., January 2007.~~

{NEI, 2007~~8~~. NEI 06-13A, Template for an Industry Training Program Description, Rev. ~~0~~1, Nuclear Energy Institute, ~~October 2007~~March 2008.}

The CCNPP Unit 3 COLA will be updated in a future revision to incorporate the changes to FSAR Table 1.6-1 that are identified below:

Table 1.6-1—{Reports Referenced}

Report	Title/Revision	Date Submitted to the NRC	FSAR Section
NEI 06-13A	Template for an Industry Training Program Description, Revision ~~0~~1	~~October 2007~~March 2008	13.2

The CCNPP Unit 3 COLA will be updated in a future revision to incorporate the changes to FSAR Table 1.9-1 that are identified below:

Table 1.9-1—{Conformance with Regulatory Guides}

RG/Rev	Description	Exception Description	Reference
1.8, R3	Qualification and Training of Personnel for Nuclear Power plants	Licensed personnel are not able to meet Regulatory Guide 1.8, Rev. 3 operating plant experience requirements on CCNPP Unit 3. Regulatory Guide 1.8, Rev. 2, Regulatory Position C.1.b will be followed instead for a cold licensing program.	FSAR 13.1.3.1
			FSAR 13.2~~.2~~
			Technical Specifications 5.3.1

Part 4, TS and Bases, of the CCNPP Unit 3 COLA will be updated in a future COLA revision to incorporate the changes to TS 5.3 that are identified below:

TS 5.3 UNIT STAFF QUALIFICATIONS

Justification:
The unit staff qualifications standards are provided consistent with the FSAR, including FSAR Section 13.2~~, for the stated exception regarding cold license operator candidates~~.

Part 11D, NEI References, of the CCNPP Unit 3 COLA will be updated in a future COLA revision to incorporate the change identified below.

COLA Part 11D

NRC Accession Number	Title
ML080910051	NEI 06-13A, Rev. 1, "Template for an Industry Training Program Description."