Tennessee Valley Authority, 1101 Market Street, LP 5A, Chattanooga, Tennessee 37402-2801

March 23, 2009

10 CFR 52.79

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

In the Matter of)
Tennessee Valley Authority)

Docket No. 52-014 and 52-015

BELLEFONTE COMBINED LICENSE APPLICATION – CHANGES TO FITNESS FOR DUTY PROGRAM INFORMATION, PHYSICAL SECURITY DURING CONSTRUCTION, AND PHYSICAL SECURITY INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC)

This letter identifies changes that will be made to a future revision of the Bellefonte (BLN) combined license application (COLA) to address changes to the Nuclear Regulatory Commission's (NRC) fitness for duty program requirements in 10 CFR Part 26, delete information regarding physical security during construction, and relocate certain physical security inspections, tests, analyses, and acceptance criteria (ITAAC) to the COLA from the Westinghouse AP1000 DCD.

If you should have any questions, please contact Tom Spink at 1101 Market Street, LP5A, Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-7062, or via email at tespink@tva.gov.

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

Executed on this 23rd day of March 2009.

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Manager, New Nuclear Licensing and Industry Affairs
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Enclosure
cc: See Page 2

D085
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Enclosure
TVA letter dated March 23, 2009
FFD, PS-ITAAC, and Construction Physical Security Changes

COLA Changes to Address Revised Fitness-for-Duty Regulations, Delete Physical Security during Construction, and Relocate Physical Security ITAAC
(10 pages, including this list)

Subject: Changes to Fitness-for-Duty Program, Physical Security during Construction, and Physical Security ITAAC Information in the Combined License Application

RAI Number	Date of TVA Response
None	

Associated Additional Attachments / Enclosures	Pages Included
None	

NRC Review of Final Safety Analysis Report

DISCUSSION OF BLN CHANGES TO ADDRESS REVISED FITNESS FOR DUTY (FFD) REGULATIONS IN 10 CFR PART 26:

Pursuant to 10 CFR 52.79(a)(44), combined license application (COLA), Part 2, Final Safety Analysis Report (FSAR), Section 13.7 includes a description of, and implementation plans for, the fitness for duty (FFD) program required by 10 CFR Part 26. Following guidance in Regulatory Guide 1.206, the current FSAR FFD Program description addresses both the construction phase program and the operating phase program based upon a pending revision to 10 CFR Part 26. Because the revised 10 CFR Part 26 requirements were not in effect when the COLA was submitted, but were expected to be in effect at the time of implementation of the FFD Program, COLA Part 7, Departures and Exemptions, also requested a schedular exemption from the requirement of 10 CFR 52.79(a)(44) to provide a "description of the fitness-for-duty program required by 10 CFR part 26 and its implementation."

In March 2008, subsequent to the submittal of the Bellefonte COL application, the NRC published the Final Rule for 10 CFR Part 26, Fitness for Duty Programs (73 *FR* 16966 – 17235). To address the new requirements in 10 CFR Part 26, Subpart K, FFD Program for Construction, the Nuclear Energy Institute (NEI) has revised the guidance provided in NEI 06-06, Fitness for Duty Program Guidance for New Nuclear Power Plant Construction Sites. By the referenced letter dated February 13, 2009, NEI provided NEI 06-06, Revision 4, to the NRC for review and endorsement.

The new FFD Rule also established requirements for managing worker fatigue at operating nuclear power plants. NRC regulation 10 CFR Part 26, Subpart I specifically addresses managing worker fatigue by designating individual break requirements, work hour limits, and annual reporting requirements. Prior to publication of 10 CFR Part 26, controls on worker fatigue were incorporated in plant-specific Technical Specifications. With the publication of requirements for managing worker fatigue in 10 CFR Part 26, controls on work hour limitations in COLA Part 4, PSTS 5.2.2.d, are no longer needed and are proposed to be removed from the Technical Specifications. This change adopts NRC-approved Technical Specifications Task Force Traveler TSTF-511-A, Rev. 0, by eliminating these Technical Specification requirements as they are superseded by the requirements in 10 CFR Part 26.

The remaining changes provided below address the COLA changes necessary to satisfy the requirements of 10 CFR 52.79(a)(44) and the revision to 10 CFR Part 26, including the new Subparts I and K, as well as conforming to the guidance provided in NEI 06-06, Revision 4, dated February 2009. The changes also withdraw the exemption request related to the timing of the 10 CFR Part 26 Fitness for Duty Final Rule.

Reference:

Letter from Douglas J. Walters, NEI, to David B. Matthews, NRC, Submittal of NEI 06-06, Fitness for Duty Program Guidance for New Nuclear Power Plant Construction Sites, dated February 13, 2009.

This discussion is expected to be STANDARD for the S-COLAs.

ASSOCIATED BLN COL APPLICATION REVISIONS:

1. Change COLA Part 2, FSAR, Section 13.7 by revising the first paragraph to reflect the current status of the referenced regulation, 10 CFR Part 26, which was revised subsequent to submittal of the BLN COLA. The discussion of the applicable guidance, NEI 06-06, is also changed by deleting the phrase indicating that the guidance was under NRC review when the BLN COLA was submitted. In addition, the second paragraph is deleted, because the exemption that was required at the time of the BLN COLA submittal is no longer needed. The text in Section 13.7 is changed from:

   STD SUP 13.7-1 The Fitness for Duty (FFD) Program is implemented and maintained in two phases; the construction phase program and the operating phase program. The construction phase program is consistent with NEI 06-06 (Reference 201), which is currently under NRC review. The construction phase program is implemented as identified in Table 13.4-201. The operations phase program will be consistent with the pending revision to 10 CFR Part 26, when issued. The operations phase program is implemented as identified in Table 13.4-201.

   The FFD Program is based on the pending revision of Part 26 because on-site construction activities subject to Part 26 are not scheduled to occur until after the new regulations take effect. A request for an exemption from the current Part 26 regulations is discussed in Part 7 of the COLA.

   To read:

   STD SUP 13.7-1 The Fitness for Duty (FFD) Program is implemented and maintained in two phases; the construction phase program and the operating phase program. The construction and operations phase programs are implemented as identified in Table 13.4-201.

   The construction phase program is consistent with NEI 06-06 (Reference 201). The workforce population subject to random testing during construction is determined on a weekly basis by averaging the total number of active construction badges over each preceding seven-day period. The random selection from each week's workforce population is identified by a standard computer-generated random number generator using this number of active badges as the range of numbers considered in the weekly random testing selection.

   The operations phase program is consistent with 10 CFR Part 26.

2. Change COLA Part 2, FSAR, Subsection 13.7.1, by changing Reference 201 from:

   Nuclear Energy Institute "Fitness for Duty Program Guidance for New Nuclear Power Plant Construction Sites", NEI 06-06, Revision 1, ADAMS Accession Number ML072670126, September 2007.

   To read:

   Nuclear Energy Institute "Fitness for Duty Program Guidance for New Nuclear Power Plant Construction Sites", NEI 06-06, Revision 4, February 2009.

3. Change COLA Part 4, Section A.2, second item GTS 5.2.2, from:

GTS 5.2.2 The bracketed information in the GTS reads:

[The unit staff organization shall include the following:

a. A non-licensed operator shall be assigned to each reactor containing fuel and an ... b., c., d., e., f. ...Policy Statement on Engineering Expertise on Shift.]

Remove the brackets and adopt the bracketed information in the GTS.

Justification:

Generic TS bracketed information is applicable and adopted.

To read:

GTS 5.2.2 The bracketed information in the GTS reads:

[The unit staff organization shall include the following:

a. A non-licensed operator shall be assigned to each reactor containing fuel and an ... b., c., d., e. ...Policy Statement on Engineering Expertise on Shift.]

Remove the brackets and adopt the bracketed information in the GTS except that 5.2.2.d is omitted.

Justification:

Generic TS bracketed information is applicable and adopted except for GTS 5.2.2.d which is no longer necessary due to revisions to Part 26 since the approval of the GTS. The removal of GTS 5.2.2.d is consistent with TSTF-511 identified by NRC as an appropriate change to implement the revisions to Part 26 (See 73 FR 79923, Notice of Availability of Model Safety Evaluation, Model No Significant Hazards Determination, and Model Application for Licensees That Wish To Adopt TSTF–511, Revision 0, "Eliminate Working Hour Restrictions From TS 5.2.2 To Support Compliance With 10 CFR Part 26").

4. Change COLA Part 4, Section B, Complete Copy of PSTS and Bases, to omit current PSTS 5.2.2.d, and renumber current 5.2.2.e and 5.2.2.f as 5.2.2.d and 5.3.3.d from:

d. Administrative procedures shall be developed and implemented to limit the working hours of unit staff who perform safety related functions (e.g., licensed Senior Reactor Operators (SROs), licensed Reactor Operators (ROs), health physicists, auxiliary operators, and key maintenance personnel).

The controls shall include guidelines on working hours that ensure adequate shift coverage shall be maintained without routine heavy use of overtime.

Any deviation from the above guidelines shall be authorized in advance by the plant manager or the plant manager's designee, in accordance with approved administrative procedures, and with documentation of the basis for granting the deviation. Routine deviation from the working hour guidelines shall not be authorized.

Controls shall be included in the procedures to require a periodic independent review be conducted to ensure that excessive hours have not be assigned.

e. The operations manager or assistant operations manager shall hold an SRO license.

f. An individual shall provide advisory technical support to the unit operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. This individual shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

To read:

d. The operations manager or assistant operations manager shall hold an SRO license.

e. An individual shall provide advisory technical support to the unit operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. This individual shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

5. Change COLA Part 4, Section B, Complete Copy of PSTS and Bases, to revise current PSTS 5.2.2.b (which refers to TS 5.2.2.f) per above revision from:

b. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.f for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

To read:

b. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.e for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

6. Change COLA Part 7, Departures and Exemptions, Section B, Introductory statements to omit the listing for the 1) Fitness for Duty Program Description, by revising the current item 1 from:

1) Fitness for Duty Program Description, and

To read:

1) Not used, and

7. Change COLA Part 7, Departures and Exemptions, 1) Fitness for Duty Program Description (10 CFR Part 26), by deleting the entire text for this exemption request, and replacing it with the following statement:

Withdrawn – this exemption is no longer required.

ASSOCIATED ATTACHMENTS/ENCLOSURES:

None

NRC Review of Final Safety Analysis Report

DISCUSSION OF BLN CHANGES TO DELETE INFORMATION PROVIDED ON PHYSICAL SECURITY DURING CONSTRUCTION:

COLA Part 2, FSAR, Section 13.6 addressed the physical security plan during construction, including control of access to the new plant construction site. During review of the application, the NRC staff declined a review of this information, as NRC regulations do not currently address this aspect of physical security. In accordance with the staff's decision, the following changes delete the statements relating to physical security during construction.

This discussion is expected to be STANDARD for the S-COLAs.

ASSOCIATED BLN COL APPLICATION REVISIONS:

1. Change COLA Part 2, FSAR, Section 13.6, by deleting the second paragraph of STD COL 13.6-1 related to physical security during construction. The paragraph to be deleted currently reads as follows:

   > The Physical Security Plan during construction, including control of access to the new plant construction site, is consistent with NEI 03-12, Appendix F (Reference 201), which is currently under NRC review.

2. Change COLA Part 2, FSAR, Section 13.6.2, References, by replacing Reference 201, NEI 03-12, Appendix F, with "Not used."

NRC Review of Final Safety Analysis Report

DISCUSSION OF BLN CHANGES TO INFORMATION ADDRESSING PHYSICAL SECURITY INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC):

The physical security system provides physical features to detect, assess, delay, assist in the response to, and defend against the design basis threat (DBT) for radiological sabotage. The Westinghouse AP1000 Design Control Document (DCD), Tier 1, Subsection 2.6.9, summarizes the design description of the AP1000 physical security system. DCD Tier 1, Table 2.6.9-1 specifies the design commitments and the inspections, tests, analyses, and associated acceptance criteria for the physical security system, as an acceptable alternative to the security hardware ITAAC identified in NUREG-0800, Standard Review Plan (SRP) Section 14.3.12.

However, several of the physical security ITAAC (PS-ITAAC) identified in SRP 14.3.12 related to features of the protected area boundary and the intrusion detection system, are inappropriate for DCD Table 2.6.9-1 because the boundary barrier (i.e., protected area fence and access control points) is not included in the scope of the design certification. The resolution of this inconsistency has been discussed with the NRC staff and is addressed generically in a letter from the Nuclear Energy Institute (NEI) dated December 19, 2008 (Reference 1), and specifically for the AP1000 reactor design in NRC request for additional information (RAI) number RAI-SRP 14.3.12-NSIR-06. In a letter dated February 2, 2009 (Reference 2), Westinghouse provided a response to RAI-SRP 14.3.12-NSIR-06, including changes to DCD Tier 1 Subsection 2.6.9 and Table 2.6.9-1 that remove the inappropriate design commitments and PS-ITAAC from the DCD. The RAI response also stated that as appropriate, the COL applicants will incorporate these standard ITAACs into their COL applications.

The changes provided below address the COL application changes necessary to incorporate into the COLA the standard site-specific physical security design commitments and PS-ITAAC that were previously removed from the AP1000 DCD Tier 1 Subsection 2.6.9 and Table 2.6.9-1. As indicated above, these changes are based on expected AP1000 DCD changes. Should these DCD changes not occur as expected, the COLA will be appropriately revised to reflect the final DCD.

References:

1. Letter from Russell J. Bell, NEI, to Scott A. Morris, NRC, Security ITAAC Related to New Plant Construction, dated December 19, 2008.
2. Letter from Robert Sisk, Westinghouse, to NRC Document Control Desk, AP1000 Response to Request for Additional Information (SRP 14), dated February 2, 2009.

This discussion is expected to be STANDARD for the S-COLAs.

ASSOCIATED BLN COL APPLICATION REVISIONS:

1. Change COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B, Inspections, Tests, Analysis, and Acceptance Criteria, by changing the heading and text for Physical Security ITAAC, from:

   Security Hardware ITAAC

   The security related ITAAC are included in the referenced DCD Tier 1 Subsection 2.6.9 as incorporated by reference above.

To read:

Physical Security ITAAC

The physical security ITAAC that are in the scope of the Westinghouse AP1000 standard design are included in the referenced DCD Tier 1 Subsection 2.6.9 as incorporated by reference above. Site-specific physical security ITAAC that are outside the scope of the Westinghouse AP1000 standard design in DCD Tier 1 Subsection 2.6.9 are provided in the attached Table 2.6.9-2. Include these ITAAC after the DCD Tier 1 Table 2.6.9-1 ITAAC.

2. Change COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B, Inspections, Tests, Analysis, and Acceptance Criteria, by changing the text under the heading Emergency Planning ITAAC. With the addition of a new table containing PS-ITAAC, this change is necessary to differentiate the table that includes the emergency planning ITAAC from this new Table 2.6.9-2. This differentiation is accomplished by changing the text, from:

   The emergency planning ITAAC are included in the attached table. Include these ITAAC after DCD Tier 1 Section 3.7.

   To read:

   The emergency planning ITAAC are included in the attached Table 3.8-1. Include these ITAAC after DCD Tier 1 Section 3.7.

3. Change COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B, Inspections, Tests, Analysis, and Acceptance Criteria, by adding the following new Table 2.6.9-2 after page LC-B1:

TABLE 2.6.9-2 – SITE-SPECIFIC PHYSICAL SECURITY INSPECTIONS, TESTS, ANALYSES AND ACCEPTANCE CRITERIA

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
1. The external walls, doors, ceiling, and floors in the location within which the last access control function for access to the protected area is performed are bullet resistant.	Type test, analysis, or a combination of type test and analysis will be performed for the walls, doors, ceilings, and floors in the location within which the last access control function for access to the protected area is performed.	A report exists and concludes that the walls, doors, ceilings, and floors in the location within which the last access control function for access to the protected area is performed are bullet-resistant.

TABLE 2.6.9-2 – SITE-SPECIFIC PHYSICAL SECURITY INSPECTIONS, TESTS, ANALYSES AND ACCEPTANCE CRITERIA		
Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
2. Physical barriers for the protected area perimeter are not part of vital area barriers.	An inspection of the protected area perimeter barrier will be performed to verify that physical barriers at the perimeter of the protected area are separated from any other barrier designated as a vital area barrier.	A report exists and concludes that physical barriers at the perimeter of the protected area are separated from any other barrier designated as a vital area barrier.
3. Isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area that allow 20 feet of observation on either side of the barrier. Where permanent buildings do not allow a 20 foot observation distance on the inside of the protected area, the building walls are immediately adjacent to, or an integral part of, the protected area barrier.	An inspection of the isolation zone will be performed to verify that the isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area which allows 20 feet of observation of the activities of people on either side of the barrier. Where permanent buildings do not allow a 20 foot observation distance on the inside of the protected area barrier, the inspection will confirm that the building walls are immediately adjacent to, or an integral part of, the protected area barrier.	A report exists and concludes that isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and allow 20 feet of observation of the activities of people on either side of the barrier. Where permanent buildings do not allow a 20 foot observation distance on the inside of the protected area, the building walls are immediately adjacent to, or an integral part of, the protected area barrier and the 20 foot observation distance does not apply.
4. Intrusion detection system can detect penetration or attempted penetration of the protected area barrier.	Tests, inspections or a combination of tests and inspections of the intrusion detection system will be performed to verify the system can detect penetration or attempted penetration of the protected area barrier and that subsequent alarms annunciate in both the Central Alarm Station and Secondary Alarm Station.	A report exists and concludes that the intrusion detection system can detect penetration or attempted penetration of the protected area barrier and subsequent alarms annunciate in the Central Alarm Station and Secondary Alarm Station.

TABLE 2.6.9-2 – SITE-SPECIFIC PHYSICAL SECURITY INSPECTIONS, TESTS, ANALYSES AND ACCEPTANCE CRITERIA		
Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
5. Access control points are established to: (a) Control personnel and vehicle access into the protected area. (b) Detect firearms, explosives, and incendiary devices at the protected area personnel access points.	A test, inspection, or combination of tests and inspections of installed systems and equipment will be performed to verify that access control points to the protected area exist and that: (a) Personnel and vehicle access into the protected area is controlled. (b) Detection equipment is capable of detecting explosives, incendiary devices, and firearms at the protected area personnel access points.	A report exists and concludes that: (a) Access points for the protected area are configured to control access. (b) Detection equipment is capable of detecting firearms, incendiary devices, and explosives at the protected area personnel access points.
6. An access control system with numbered picture badges is installed for use by individuals who are authorized access to protected areas without escort.	A test of the access control system with numbered picture badges will be performed to verify that unescorted access to protected areas is granted only to authorized personnel.	A report exists and concludes that the access authorization system with numbered picture badges can identify and authorize protected area access only to those personnel with unescorted access authorization.

ASSOCIATED ATTACHMENTS/ENCLOSURES:

None