



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

June 3, 2003

10 CFR 50.4(b)(4)  
10 CFR 2.202

Mr. Samuel J. Collins, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Gentlemen:

In the Matter of	)	Docket Nos.	50-259	50-327
Tennessee Valley Authority	)		50-260	50-328
			50-296	50-390

ANSWER, RESPONSE AND REQUEST FOR CLARIFICATION IN RESPONSE TO  
APRIL 29, 2003, ORDER FOR COMPENSATORY MEASURES RELATED TO  
FITNESS-FOR-DUTY ENHANCEMENTS APPLICABLE TO NUCLEAR FACILITY  
SECURITY FORCE PERSONNEL (EA-03-038) FOR BROWNS FERRY NUCLEAR  
PLANT, UNITS 1, 2, AND 3; SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2;  
AND WATTS BAR NUCLEAR PLANT, UNIT 1

By this letter TVA hereby answers the April 29, 2003, Order for  
Compensatory Measures Related to Fitness-For-Duty Enhancements  
Applicable to Nuclear Facility Security Force Personnel (EA-03-  
038) ("Order"). Pursuant to Sections III and IV of the Order  
and 10 CFR §2.202, TVA requests an extension of time in which to  
submit information in response to the Order and to request a  
hearing. In addition, TVA requests the NRC provide certain  
information to ensure TVA fully understands the underlying bases  
of the Order and, therefore, can most effectively implement its  
individual requirements.

Section II of the Order states that, "[t]he Commission has  
determined that the security measures addressed by the enclosed  
compensatory measures are required to be implemented by  
licensees as prudent measures to address issues that may arise  
from work-hour related fatigue of nuclear facility security  
force personnel."

The Order does not explain the bases for the specific limits and  
other requirements described in the Order in sufficient detail  
for TVA to understand the rationale for the requirements. TVA  
therefore requests that the NRC provide: the bases for the

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specific limits prescribed in the Order; the bases upon which it relied to establish a linkage between the specific limits chosen and any causal relationship to fatigue that would otherwise occur if those individual or group work hour limits were to be exceeded; and information pertaining to any events or incidents where the NRC has determined that fatigue was the cause or a major contributing factor in those events or incidents.

As provided for in Section IV of the Order, good cause for granting an extension of time to answer the Order and to request a hearing is shown in that no basis or rationale for the Order has been demonstrated. Thus, TVA requests that the Director, Nuclear Reactor Regulation, extend the time periods for responding to the Order (including, specifically, Sections B.1 and 2) and for requesting a hearing from the time period specified in the Order until 35 days after the date that the NRC provides the bases for the work hour limits in the Order. Section III.C of the Order requires that "[a]ll licensees shall within thirty-five (35) days of the date of this Order, submit to the Commission a schedule for achieving compliance with each requirement described in Attachment 2 of the Order." Subject to the foregoing request for information concerning the bases for the Order and the request for an extension of time in accordance with Section IV, TVA will achieve compliance with all applicable requirements not later than October 29, 2003. A more detailed description of the schedule is enclosed.

TVA also confirms its understanding that the Commission intends to exercise enforcement discretion to accommodate issues which may arise as licensees, in good faith, take reasonable actions to implement the specific requirements of this Order. We further understand that the Commission will exercise enforcement discretion for the period necessary to resolve such issues and to integrate the requirements of this Order with the orders issued February 25, 2002, as well as with other pertinent regulatory requirements, and our safeguards contingency plans, security plans, and security officer training and qualification plans.

Sincerely,



Mark V. Burzynski  
Manager  
Nuclear Licensing

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 3rd day of June 2003.

Enclosure

cc: See page 3

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cc (w/Enclosure):

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NRC Senior Resident Inspector  
Browns Ferry Nuclear Plant  
10833 Shaw Road  
Athens, Alabama 35611

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cc (w/Enclosure):

NRC Senior Resident Inspector  
Sequoyah Nuclear Plant  
2600 Igou Ferry Road  
Soddy Daisy, Tennessee 37379-3624

NRC Senior Resident Inspector  
Watts Bar Nuclear Plant  
1260 Nuclear Plant Road  
Spring City, Tennessee 37381

ENCLOSURE

Subject to the request for information contained in the cover letter concerning the bases for the Order and the request for an extension of time in accordance with Section IV of the Order, TVA will achieve compliance with all applicable requirements in accordance with the following schedule.

The following apply to Browns Ferry, Sequoyah, and Watts Bar Nuclear Plants.

**Compensatory Measure 1 - Individual Work Hour Controls**

(a) Personnel performing the functions identified in B:

(1) Shall not exceed the following limits, excluding shift turnover time:

- (i) 16 hours in any 24-hour period,
- (ii) 26 hours in any 48-hour period, and
- (iii) 72 hours in any 7-day period.

(2) Shall have a minimum 10-hour break between work periods. The participation in turnover is permitted during the break period.

(3) May be authorized, by the licensee, to deviate from the limits specified in C.1(a)(1) and/or C.1(a)(2) provided:

- (i) The licensee could not have reasonably foreseen or controlled the circumstance necessitating the deviation,
- (ii) The security shift supervisor has determined that the deviation is required to maintain the security for the facility,
- (iii) An evaluation is performed, in advance, by individuals with training, as provided by the licensee, in the symptoms, contributing factors, and effects of fatigue that determined that the individual's fitness for duty would not be adversely affected by the additional work period to be authorized under the deviation, and
- (iv) The basis and approval for C.1(a)(3) items (i), (ii), and (iii) are documented.

Note 1: An 8-hour break may be authorized as deviation from the 10-hour requirement of C.1(a)(2) if the deviation is required for a scheduled transition of crews between work schedules or shifts.

(b) The number and duration of approved deviations shall be reviewed by the Security Manager and limited to the extent practicable.

(c) The licensee shall monitor and control individual work hours to ensure that excessive work hours are not compromising worker alertness and performance.

**TVA Response:**

Implementation of this Compensatory Measure (CM) will involve a number of actions. In general, these actions will include:

- Hiring and training of additional security force personnel in order to be able to fully staff a security force and maintain work hours within the new limits.
- Developing and implementing an administrative system for tracking the work hour controls.
- Implementing procedures and/or guidance for management and administrative personnel implementing the system.
- Informing and training management, administrative personnel, and security force personnel on the new controls.

These actions will be completed and the new individual work hour controls implemented by October 29, 2003.

**Compensatory Measure 2 - Group Work Hour Controls**

Group average work hours for personnel performing the functions identified in B shall be controlled in accordance with the following limits:

**(a) Normal Plant Conditions:**

The average number of hours actually worked by personnel performing the functions identified in B, shall not exceed 48 hours per week averaged over consecutive periods not to exceed six (6) weeks. Workers who did not work at least 75 percent of the normally scheduled hours during the averaging period shall not be included when calculating the average. If the group average limit is exceeded, the licensee shall take prompt action to reduce the average hours worked in accordance with this compensatory measure and take actions to prevent recurrence.

**(b) Planned Plant or Planned Security System Outages:**

(1) The average number of hours actually worked by personnel performing the functions identified in B, shall not exceed 60 hours per week averaged over consecutive periods not to exceed six (6) weeks. For planned abnormal plant conditions whose duration is less than the averaging period the limit would be 60 hours per week averaged over the duration of the condition. Workers who did not work at least 75 percent of the normally

scheduled hours during the averaging period shall not be included when calculating the average. If the group average limit is exceeded, the licensee shall take prompt action to reduce the average hours worked in accordance with this compensatory measure and take actions to prevent recurrence.

Note 2: Licensee may define the beginning of a planned plant outage to be up to 3 weeks prior to the plant shutdown (i.e., plant operational mode not equal to 1).

(2) The limit defined in C.2(b)(1) can be used for up to 90 days. For periods greater than 90 days, the licensee shall take prompt action to limit hours worked in accordance with the requirements of C.2(a). The use of the limits defined in C.2(b)(1) shall not exceed 120 days.

(c) Unplanned Plant or Unplanned Security Outages or an Increase in Plant Threat Condition (i.e., increase in protective measure level as promulgated by NRC Advisory):

(1) There are no specific group limits for this condition.

(2) For periods greater than 90 days, the licensee shall take prompt action to limit hours worked in accordance with the requirements of C.2(a). The use of the allowance defined in C.2(c)(1) shall not exceed 120 days.

Note 3: For the purposes of these CMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 4: If an increase in threat condition occurs while the plant is in a planned outage, the requirements of C.2(c) apply for the increased threat condition. If the threat condition returns to the baseline threat condition during the planned outage, the requirements of C.2(b) apply using the original licensee defined start date for the planned outage.

Note 5: If multiple increases in threat condition occur while the conditions of C.2(c) are in effect, the requirements of C.2(c)(2) reset with each increase.

Note 6: If the threat condition decreases, the new threat condition shall be compared to the baseline to determine if the requirements of C.2(c) apply as a result of an increased threat condition. If so, C.2(c)(2) shall be referenced to the date when the current threat condition was last entered as the result of an increase.

Note 7: Licensees shall reference changes in threat condition prior to the issuance of these CMs to determine the baseline threat condition and whether the requirements of C.2(c) apply.

**TVA Response:**

Similar to the implementation of the Compensatory Measure on Individual Work Hour Controls, implementation of this CM will involve a number of actions. In general, these actions will include:

- Hiring and training of additional security force personnel in order to be able to fully staff a security force and maintain work hours within the new limits.
- Developing and implementing an administrative system for tracking the work hour controls.
- Implementing procedures and/or guidance for management and administrative personnel implementing the system.
- Informing and training management, administrative personnel, and security force personnel on the new controls.

These actions will be completed and the new group work hour controls implemented by October 29, 2003.

**Compensatory Measure 3 - Exemption**

Licensees shall be exempt from the requirements of C.1 and C.2 during declared emergencies as defined in the licensee's emergency plan.

**TVA Response:**

The procedures implemented in response to Compensatory Measure 1, 2, and 4 which govern the administration of the work hour controls will contain guidance on the use of this exemption. Those procedures will be effective by October 29, 2003.

**Compensatory Measure 4 - Procedures**

Develop or augment procedures, as necessary, for personnel within the scope of this CM to:

- (a) Describe the process for implementing the controls for hours worked specified in C.1, C.2, and C.3 of this CM.
- (b) Describe the process to be followed if an individual reports prior to or during a duty period that he or she considers himself or herself unfit for duty due to fatigue.
- (c) Document self-declarations of unfit for duty due to fatigue if upon completion of the licensee's evaluation it is determined the individual should be returned to work without a break of at least 10 hours.

**TVA Response:**

Procedures will be developed or augmented as necessary by October 29, 2003.