

June 21, 2004

MEMORANDUM TO: Chairman Diaz  
Commissioner McGaffigan  
Commissioner Merrifield

COMSECY-04-0037

FROM: Luis A. Reyes */RA Martin Virgilio Acting For/*  
Executive Director for Operations

SUBJECT: FITNESS-FOR-DUTY ORDERS TO ADDRESS FATIGUE OF NUCLEAR  
FACILITY SECURITY FORCE PERSONNEL

This memorandum forwards standard cover letters, Orders, and additional security measures (ASMs) (Attachments 1-5) to address concerns regarding fatigue of security force personnel at five classes of NRC-licensed facilities. These facilities are: (1) Independent Spent Fuel Storage Installations; (2) Decommissioning Reactors; (3) Category I Fuel Cycle Facilities; (4) Gaseous Diffusion Plants; and (5) the Natural Uranium Conversion Facility. Attachment 6 provides detailed comments by stakeholders from two meetings with each class of licensee that took place between September 2003, and February 2004.

The draft Orders and ASMs were developed in response to the December 26, 2002, Staff Requirements Memorandum (SRM) for COMSECY-02-0066, "Fitness for Duty Enhancements to Address Concerns Regarding Fatigue of Nuclear Facility Security Force Personnel—Draft Order and Compensatory Measures for Power Reactor Licensees," which directed the staff to propose work-hour limits for security force personnel at independent spent fuel storage installations (ISFSIs), decommissioning reactor facilities, Category I fuel cycle facilities, gaseous diffusion plants (GDPs), and the Honeywell facility. On June 20, 2003, the staff submitted COMSECY-03-0027, which contained the original draft Orders and compensatory measures (CMs), to the Commission, proposing work-hour limits for security force personnel at these facilities. The Commission's August 6, 2003, SRM on COMSECY-03-0027 directed the staff to engage external stakeholders regarding fatigue of security force personnel and submit proposed final Orders and CMs to the Commission.

CONTACT: Alexander P. Sapountzis, NSIR/DNS  
301-415-7822

The staff held two public meetings with each of the five classes of licensees to gain feedback concerning the Orders and CMs. Other stakeholders attending these meetings included the Department of Energy (DOE), the Nuclear Energy Institute (NEI), nuclear security officers, union representatives, and members of the public. The public meeting process was useful in developing ASMs, based on the draft CMs (note: the term CM has been replaced with the term ASM), that appropriately address concerns regarding security personnel fatigue, while minimizing unnecessary regulatory burden.

The staff acknowledges that, while it addressed specific comments provided by the Category I fuel cycle licensees during development of these Orders, the two licensees still object to issuance of the Order. Specifically, the licensees believe the current situation at their facilities does not warrant issuance of the Order. In contrast, the staff's view is that the Order and proposed ASMs are necessary to help ensure that fatigue does not compromise the ability of the security force to execute its responsibilities consistent with the requirements of 10 CFR 73.45 and 73.46. This is consistent with the NRC's position on this matter for power reactors. Further discussion of the comments and the staff's response to those comments are provided in Attachment 6.

The staff notes that for GDPs only, Section III, paragraph A of the Order has been changed so that implementation of the Order has been extended from no later than 180 days from the date of issuance of the Order to 270 days. DOE requested this change on behalf of the GDPs based on new demands that the GDPs will be facing beginning in June 2004 to provide increased security and "Q" clearances for the new DOE-depleted uranium conversion facilities at Paducah and Portsmouth. The staff found that with the unique demands placed upon the GDPs to support DOE activities, it is acceptable to extend the implementation period of the Order to 270 days.

The staff has completed its evaluation of the stakeholder comments and has revised the previously submitted draft Orders and CMs to address stakeholder comments and specific characteristics that are unique to individual licensee facilities and programs. A side-by-side comparison highlighting the changes between the draft CMs proposed in COMSECY-02-0066 and the ASMs is provided in Attachment 7. The changes include the addition of an alternative to the group work-hour controls to give licensees an optional simplified approach for managing cumulative fatigue of security force personnel. Each licensee will be required to state in its procedures which option they will use to determine security force work hours. In addition, for ISFSIs and decommissioning reactor facilities co-located with or adjacent to a power reactor, the staff proposes to give licensees the option to implement the requirements of the fatigue Order for power reactor licensees. This will allow licensees to minimize costs by implementing a single set of fatigue controls.

The proposed final ASMs provide a comprehensive and effective approach for managing fatigue of security personnel for these licensees. The Orders impose a regulatory burden that is commensurate with the burden found acceptable for the power reactor licensees. The staff has developed requirements that give the licensees substantial flexibility in implementing work-hour controls, while at the same time assuring that fatigue does not compromise the ability of the security force to perform its responsibilities. Therefore, the staff considers it prudent to issue the attached final Orders and ASMs to address fatigue issues for security personnel for ISFSIs, decommissioning reactors (with spent fuel in the spent fuel pool), Category I fuel cycle facilities, GDPs, and the natural uranium conversion facility.

SECY, please track.

- Attachments:
1. ISFSIs
    - 1A. Cover Letter
    - 1B. Order
    - 1C. ASMs
  2. Decommissioning Reactors
    - 2A. Cover Letter
    - 2B. Order
    - 2C. ASMs
  3. Category I Fuel Cycle Facilities
    - 3A. BWXT Cover Letter
    - 3B. BWXT Order
    - 3C. BWXT ASMs
    - 3D. NFS Cover Letter
    - 3E. NFS Order
    - 3F. NFS ASMs
  4. GDPs
    - 4A. Cover Letter
    - 4B. Paducah Order
    - 4C. Portsmouth Order
    - 4D. ASMs
  5. Honeywell Facility
    - 5A. Cover Letter
    - 5B. Order
    - 5C. ASMs
  6. Detailed Stakeholder Comments From the Public Meetings
  7. Comparison Chart Between Power Reactor CMs and Other Licensees ASMs

cc: SECY  
OCA  
OGC  
OPA  
CFO  
L. Reyes  
PDR

Holder of Licenses for Operating Independent Spent Fuel Storage Installation  
See Addressee List

SUBJECT: ISSUANCE OF ORDER FOR FITNESS-FOR-DUTY ENHANCEMENTS  
APPLICABLE TO SECURITY FORCE PERSONNEL – FACILITY NAME

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Order that modifies the current license for your facility to require compliance with the specified additional security measures (ASMs). The Order applies to all Addressees listed in Attachment 1 to the enclosed Order. The ASMs are listed in Attachment 2 to the enclosed Order.

The Commission recognizes that you have voluntarily and responsibly implemented ASMs following the events of September 11, 2001. This has resulted in substantially increased demands on security force personnel since September 11, 2001, and the threat environment continues to require heightened security measures. Therefore, the Commission has determined that the enclosed ASMs are prudent measures to address issues that may arise from fatigue of nuclear facility security force personnel. The Commission has determined that the current threat environment requires that the enclosed Order be effective immediately.

This Order does not eliminate the need for licensees to continue to meet the objectives of the current security protective measures as promulgated by updated security advisories. Licensees must also continue to maintain the effectiveness of existing security measures taken in response to the events of September 11, 2001, and any subsequent Orders issued. The requirements will remain in effect until the Commission determines otherwise.

The enclosed Order requires responses and actions be taken within specified time frames. Please contact your Project Manager to facilitate resolution of any issues related to compliance with the requirements in the enclosed Order.

The enclosed Order has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Docket Nos. As Shown in Order Attachment 1 - Addressee List  
License Nos. As Shown in Order Attachment 1 - Addressee List

Enclosures:   1. Order  
                  2. Order Attachment 1 - Addressee List (Not Included)  
                  3. Order Attachment 2 - Additional Security Measures Regarding  
                      Fitness-for-Duty Requirements Applicable to Security Force Personnel

cc: See next page (not included)

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 ) Docket Nos. (as shown in Attachment 1)  
ALL INDEPENDENT SPENT FUEL STORAGE ) License No. (as shown in Attachment 1)  
INSTALLATION LICENSEES ) EA-04-068

**ORDER MODIFYING LICENSES  
(EFFECTIVE IMMEDIATELY)**

I.

The licensees identified in Attachment 1 to this Order hold licenses issued by the U.S. Nuclear Regulatory Commission (NRC or Commission) authorizing the operation of Independent Spent Fuel Storage Installation (ISFSI) facilities in accordance with the Atomic Energy Act of 1954 and Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 50 and 72. Commission regulations at 10 CFR 72.184 and 72.212 require these licensees to comply with physical security requirements in accordance with 10 CFR Part 73. This Order is being issued to all licensees who currently store spent fuel or have identified near term plans to store spent fuel in an ISFSI.

II.

On September 11, 2001, terrorists simultaneously attacked targets in New York, NY, and Washington, DC, utilizing large commercial aircraft as weapons. In response to the attacks and intelligence information subsequently obtained, the Commission issued a number of Safeguards and Threat Advisories to its licensees in order to strengthen licensees' capabilities and readiness to respond to a potential attack on a nuclear facility. The Commission also conducted a comprehensive review of its safeguards and security programs and requirements. On

Attachment 1B

October 16, 2002, the Commission issued Orders to the licensees of independent spent fuel storage installations to put the actions taken in response to the Advisories in the established regulatory framework and to implement additional security enhancements which have emerged from the NRC's ongoing comprehensive review. The Commission has also communicated with other Federal, State, local government agencies, and industry representatives to discuss and evaluate the current threat environment in order to assess the adequacy of security measures at licensed facilities.

Demands on licensee security force personnel have increased substantially since the September 11, 2001, attacks, and the current threat environment continues to require heightened security measures. The Commission has determined that the enclosed additional security measures are required to be implemented by licensees as prudent measures to address issues that may arise from work-hour related fatigue of nuclear security force personnel. Therefore, the Commission is imposing requirements, as set forth in Attachment 2 of this Order, on all licensees of these facilities. These requirements, which supplement existing regulatory requirements, will provide the Commission with reasonable assurance that the public health and safety and common defense and security continue to be adequately protected. These requirements will remain in effect until the Commission determines otherwise.

In order to provide assurance that licensees are implementing prudent measures to achieve a consistent level of protection, all licenses identified in Attachment 1 to this Order shall be modified to include the requirements identified in Attachment 2 to this Order. In addition, pursuant to 10 CFR 2.202, the NRC finds that in the circumstances described above, public health, safety, and interest require that this Order be immediately effective.

III.

Accordingly, pursuant to Sections 53, 103, 104, 161b, 161i, 161o, 182 and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Parts 50, 72 and 73, IT IS HEREBY ORDERED, **EFFECTIVE IMMEDIATELY**, THAT ALL LICENSES IDENTIFIED IN ATTACHMENT 1 OF THIS ORDER ARE MODIFIED AS FOLLOWS:

- A. All licensees shall, notwithstanding the provisions of any Commission regulation or license to the contrary, comply with the requirements described in Attachment 2 to this Order except to the extent that a more stringent requirement is set forth in the licensees' security plans. The licensees shall immediately start implementation of the requirements in Attachment 2 to the Order and shall complete implementation **no later than [insert date 180 days from the date of issuance]**.
- B. 1. All licensees shall, within **twenty (20) days** of the date of this Order, notify the Commission: (1) if they are unable to comply with any of the requirements described in Attachment 2, (2) if compliance with any of the requirements is unnecessary in their specific circumstances, or (3) if implementation of any of the requirements would cause the licensee to be in violation of the provisions of any Commission regulation or the facility license. The notification shall provide the licensee's justification for seeking relief from or variation of any specific requirement.



2. Any licensee that considers that implementation of any of the requirements described in Attachment 2 to this Order would adversely impact safe operation of the facility, the licensee must notify the Commission, within **twenty (20) days** of this Order, of the adverse safety impact, the basis for its determination that the requirement has an adverse safety impact, and either a proposal for achieving the same objectives specified in the Attachment 2 requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, the licensee must supplement its response to Condition B.1 of this Order to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.
- C.
1. All licensees shall, within **twenty (20) days** of the date of this Order, submit to the Commission, a schedule for achieving compliance with each requirement described in Attachment 2.
  2. All licensees shall report to the Commission when they have achieved full compliance with the requirements described in Attachment 2.
- D. Notwithstanding the provisions of 10 CFR 72.186 and 72.212(b)(5), all measures implemented or actions taken in response to this Order shall be maintained until the Commission determines otherwise.

Licensees' responses to Conditions B.1, B.2, C.1, and C.2, above, shall be submitted in accordance with 10 CFR 72.4. In addition, licensees' submittals that contain Safeguards Information shall be properly marked and handled in accordance with 10 CFR 73.21.

The Director, Office of Nuclear Material Safety & Safeguards, may, by letter, relax or rescind any of the above conditions upon demonstration by the licensee of good cause.

IV.

In accordance with 10 CFR 2.202, the licensee must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, within twenty (20) days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order. Unless the answer consents to this Order, the answer shall, in writing and under oath or affirmation, specifically set forth the matters of fact and law on which the licensee or other person adversely affected relies and the reasons as to why the Order should not have been issued. Any answer or request for a hearing shall be submitted to the Secretary, Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, ATTN: Rulemakings and Adjudications Staff, Washington, DC 20555. Copies also shall be sent to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555; to the Assistant General Counsel for Materials Litigation and Enforcement at the same address; to the Regional Administrator for NRC Region I, II, III, or IV, as appropriate for the specific facility; and to the licensee if the answer or hearing request is by a person other than the licensee. Because of possible disruptions in delivery of mail to United States Government offices, it is requested that answers and requests for a hearing be transmitted to the Secretary of the Commission either by means of facsimile transmission to 301-415-1101 or by e-mail to [hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov) and also to the Office of the General Counsel either by means of facsimile transmission to 301-415-3725 or by e-mail to

OGCMailCenter@nrc.gov. If a person other than the licensee requests a hearing, that person shall set forth with particularity the manner in which the individual's interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.714(d).

If a hearing is requested by the licensee or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained.

Pursuant to 10 CFR 2.202(c)(2)(i), the licensee may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section III above shall be final twenty (20) days from the date of this Order without further order or proceedings.

If an extension of time for requesting a hearing has been approved, the provisions specified in Section III shall be final when the extension expires if a hearing request has not been received. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Dated this     day of

Attachments: 1. Addressee List (Not Included)  
2. Additional Security Measures

## **Additional Security Measures for Work-Hour Controls for Security Force Personnel**

### **A. Background:**

These additional security measures (ASMs) are established to delineate licensee responsibility in response to the threat environment presently in existence in the aftermath of the events of September 11, 2001. Excessive work schedules can challenge the ability of security force personnel to remain vigilant and effectively perform their duties.

### **B. Scope:**

1. Independent Spent Fuel Storage Installation (ISFSI) facilities shall comply with the following ASMs to help ensure, in part, that security force personnel are not assigned to duty while in a fatigued condition that could reduce their alertness or ability to perform functions necessary to identify and promptly respond to security threats. Work-hour controls shall apply to personnel performing the following functions: armed member of the security force, alarm station operator, guard, security shift supervisor, watchperson (i.e., watchman), and any member of the security force that is responsible for executing the licensee's physical security plan.
2. ISFSI facilities may implement the operating power reactor licensee Order for compensatory measures related to fitness-for-duty enhancement issued to power reactors on April 29, 2003, in place of this Order, to allow the implementation of a uniform set of requirements.

### **C. Additional Security Measures:**

#### **1. Individual Work-Hour Controls**

(a) Personnel performing the functions identified in B.1:

(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 a 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.

(4) Shall be limited to 700 hours quarterly and 2600 hours annually of actual hours worked or shall be subject to the Group Work-Hour Controls of C.2.

(a) Unplanned Security Outage or An Increase in Threat Condition (i.e., increase in protective measures level as promulgated by NRC Advisory):

(1) There are no specific quarterly and annual 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.1(a)(4). The use of the allowance defined in C.1(a)(4)(a)(1) shall not exceed 120 days.

Note 2: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 3: If an increase in threat condition occurs, the requirements of C.1(a)(4)(a) apply for the increased threat condition. If the threat condition returns to the baseline threat condition, the requirements of C.1(a)(4) apply.

Note 4: If multiple increases in threat condition occur while the conditions of C.1(a)(4)(a) are in effect, the requirements of C.1(a)(4)(a)(2) reset with each increase.

Note 5: If the threat condition decreases, the new threat condition shall be compared to the baseline to determine if the requirements of C.1(a)(4)(a) apply as a result of an increased threat condition. If so, C.1(a)(4)(a)(2) shall be referenced to the date when the current threat condition was last entered as the result of an increase.

Note 6: The licensees shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.1(a)(4)(a) apply.

(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 personnel alertness and performance.

## 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 or shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4):

(a) Normal Conditions: The average number of hours actually worked by personnel performing the functions identified in B shall not exceed 48-hours per week, excluding shift turnover time, averaged over consecutive periods not to exceed six (6) weeks. Personnel 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 these ASMs and take actions to prevent recurrence.

(b) 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, excluding shift turnover time, averaged over consecutive periods not to exceed six (6) weeks. For planned security system outages whose duration is less than the averaging period, the limit would be 60-hours per week averaged over the duration of the condition. Personnel 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 these ASMs and take actions to prevent recurrence.

(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 Security Outage or An Increase in Threat Condition (i.e., increase in protective measures 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 7: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 8: If an increase in threat condition occurs while the facility is in a planned security 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 facility outage.

Note 9: 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 10: 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 11: The licensees shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.2(c) apply.

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



4. Procedures

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

(a) Describe the process for implementing the controls for hours worked specified in C.1, C.2, and C.3 of this ASM. The procedure shall specify whether the work hours shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4) or the Group Work-Hour Controls of C.2.

(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.

Holder of Licenses for Decommissioning Reactor  
See Addressee List

SUBJECT: ISSUANCE OF ORDER FOR FITNESS-FOR-DUTY ENHANCEMENTS  
APPLICABLE TO SECURITY FORCE PERSONNEL – FACILITY NAME

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Order that modifies the current license for your facility to require compliance with the specified additional security measures (ASMs). The Order applies to all Addressees, with the spent fuel in the spent fuel pool, listed in Attachment 1 to the enclosed Order. The ASMs are listed in Attachment 2 to the enclosed Order.

The Commission recognizes that you have voluntarily and responsibly implemented ASMs following the events of September 11, 2001. This has resulted in substantially increased demands on security force personnel since September 11, 2001, and the threat environment continues to require heightened security measures. Therefore, the Commission has determined that the enclosed ASMs are prudent measures to address issues that may arise from fatigue of nuclear facility security force personnel. The Commission has determined that the current threat environment requires that the enclosed Order be effective immediately.

This Order does not eliminate the need for licensees to continue to meet the objectives of the current security protective measures as promulgated by updated security advisories. Licensees must also continue to maintain the effectiveness of existing security measures taken in response to the events of September 11, 2001, and any subsequent Orders issued. The requirements will remain in effect until the Commission determines otherwise.

The enclosed Order requires responses and actions be taken within specified time frames. Please contact your Project Manager to facilitate resolution of any issues related to compliance with the requirements in the enclosed Order.

-2-

The enclosed Order has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Docket Nos. As Shown in Order Attachment 1 - Addressee List  
License Nos. As Shown in Order Attachment 1 - Addressee List

Enclosures:   1. Order  
                  2. Order Attachment 1 - Addressee List (Not Included)  
                  3. Order Attachment 2 - Additional Security Measures Regarding  
                      Fitness-for-Duty Requirements Applicable to Security Force Personnel

cc: See next page (not included)

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 ) Docket Nos. (as shown in Attachment 1)  
ALL DECOMMISSIONING REACTOR ) License No. (as shown in Attachment 1)  
LICENSEES ) EA-04-069

**ORDER MODIFYING LICENSES  
(EFFECTIVE IMMEDIATELY)**

I.

The licensees identified in Attachment 1 to this Order hold licenses issued by the U.S. Nuclear Regulatory Commission (NRC or Commission) authorizing the decommissioning of nuclear power plants in accordance with the Atomic Energy Act of 1954 and Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50. Commission regulations at 10 CFR 50.54(p)(1) require these licensees to comply with physical security requirements in accordance with 10 CFR Part 73.

II.

On September 11, 2001, terrorists simultaneously attacked targets in New York, NY, and Washington, DC, utilizing large commercial aircraft as weapons. In response to the attacks and intelligence information subsequently obtained, the Commission issued a number of Safeguards and Threat Advisories to its licensees in order to strengthen licensees' capabilities and readiness to respond to a potential attack on a nuclear facility. The Commission also conducted a comprehensive review of its safeguards and security programs and requirements. On May 23, 2002, the Commission issued Orders to the licensees of decommissioning power reactors to put the actions taken in response to the Advisories in the established regulatory

Attachment 2B

framework and to implement additional security enhancements which have emerged from the NRC's ongoing comprehensive review. The Commission has also communicated with other Federal, State, local government agencies, and industry representatives to discuss and evaluate the current threat environment in order to assess the adequacy of security measures at licensed facilities.

Demands on licensee security force personnel have increased substantially since the September 11, 2001, attacks, and the current threat environment continues to require heightened security measures. The Commission has determined that the enclosed additional security measures are required to be implemented by licensees as prudent measures to address issues that may arise from work-hour related fatigue of nuclear security force personnel. Therefore, the Commission is imposing requirements, as set forth in Attachment 2 of this Order, on all licensees of these facilities with spent fuel in the spent fuel pool. These requirements, which supplement existing regulatory requirements, will provide the Commission with reasonable assurance that the public health and safety and common defense and security continue to be adequately protected. These requirements will remain in effect until the Commission determines otherwise.

In order to provide assurance that licensees are implementing prudent measures to achieve a consistent level of protection, all licenses identified in Attachment 1 to this Order shall be modified to include the requirements identified in Attachment 2 to this Order. In addition, pursuant to 10 CFR 2.202, the NRC finds that in the circumstances described above, public health, safety, and interest require that this Order be immediately effective.

III.

Accordingly, pursuant to Sections 103, 104, 161b, 161i, 161o, 182 and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Parts 50 and 73, IT IS HEREBY ORDERED, **EFFECTIVE IMMEDIATELY**, THAT ALL LICENSES IDENTIFIED IN ATTACHMENT 1 OF THIS ORDER ARE MODIFIED AS FOLLOWS:

- A. All Licensees shall, notwithstanding the provisions of any Commission regulation or license to the contrary, comply with the requirements described in Attachment 2 to this Order except to the extent that a more stringent requirement is set forth in the licensees' security plans. The licensees shall immediately start implementation of the requirements in Attachment 2 to the Order and shall complete implementation **no later than [insert date 180 days from the date of issuance]**.
- B. 1. All licensees shall, within **twenty (20) days** of the date of this Order, notify the Commission: (1) if they are unable to comply with any of the requirements described in Attachment 2, (2) if compliance with any of the requirements is unnecessary in their specific circumstances, or (3) if implementation of any of the requirements would cause the licensee to be in violation of the provisions of any Commission regulation or the facility license. The notification shall provide the licensee's justification for seeking relief from or variation of any specific requirement.

2. Any licensee that considers that implementation of any of the requirements described in Attachment 2 to this Order would adversely impact safe operation of the facility, the licensee must notify the Commission, within **twenty (20) days** of this Order, of the adverse safety impact, the basis for its determination that the requirement has an adverse safety impact, and either a proposal for achieving the same objectives specified in the Attachment 2 requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, the licensee must supplement its response to Condition B.1 of this Order to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.
- C.
1. All licensees shall, within **twenty (20) days** of the date of this Order, submit to the Commission, a schedule for achieving compliance with each requirement described in Attachment 2.
  2. All licensees shall report to the Commission when they have achieved full compliance with the requirements described in Attachment 2.
- D. Notwithstanding the provisions of 10 CFR 50.54(p), all measures implemented or actions taken in response to this Order shall be maintained until the Commission determines otherwise.

Licensees' responses to Conditions B.1, B.2, C.1, and C.2, above, shall be submitted in accordance with 10 CFR 50.4, as applicable. In addition, licensees' submittals that contain Safeguards Information shall be properly marked and handled in accordance with 10 CFR 73.21.

The Director, Office of Nuclear Material Safety & Safeguards, may, by letter, relax or rescind any of the above conditions upon demonstration by the licensee of good cause.

IV.

In accordance with 10 CFR 2.202, the licensee must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, within twenty (20) days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order. Unless the answer consents to this Order, the answer shall, in writing and under oath or affirmation, specifically set forth the matters of fact and law on which the licensee or other person adversely affected relies and the reasons as to why the Order should not have been issued. Any answer or request for a hearing shall be submitted to the Secretary, Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, ATTN: Rulemakings and Adjudications Staff, Washington, DC 20555. Copies also shall be sent to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555; to the Assistant General Counsel for Materials Litigation and Enforcement at the same address; to the Regional Administrator for NRC Region I, II, III, or IV, as appropriate for the specific facility; and to the licensee if the answer or hearing request is by a person other than the licensee. Because of possible disruptions in delivery of mail to United States Government offices, it is requested that answers and requests for a hearing be transmitted to the Secretary of the Commission either by means of facsimile transmission to 301-415-1101 or by e-mail to [hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov) and also to the Office of the General Counsel either by means of facsimile transmission to 301-415-3725 or by e-mail to



[OGCMailCenter@nrc.gov](mailto:OGCMailCenter@nrc.gov). If a person other than the licensee requests a hearing, that person shall set forth with particularity the manner in which the individual's interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.714(d).

If a hearing is requested by the licensee or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained.

Pursuant to 10 CFR 2.202(c)(2)(i), the licensee may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section III above shall be final twenty (20) days from the date of this Order without further order or proceedings.

If an extension of time for requesting a hearing has been approved, the provisions specified in Section III shall be final when the extension expires if a hearing request has not been received. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Dated this    day of

Attachments: 1. Addressee List (Not Included)  
2. Additional Security Measures

**Additional Security Measures for Work-Hour Controls for Security  
Force Personnel (With Spent Fuel in the Spent Fuel Pool)**

A. Background:

These additional security measures (ASMs) are established to delineate licensee responsibility in response to the threat environment presently in existence in the aftermath of the events of September 11, 2001. Excessive work schedules can challenge the ability of security force personnel to remain vigilant and effectively perform their duties.

B. Scope:

1. Decommissioning reactor facilities shall comply with the following ASMs to help ensure, in part, that security force personnel are not assigned to duty while in a fatigued condition that could reduce their alertness or ability to perform functions necessary to identify and promptly respond to security threats. Work-hour controls shall apply to personnel performing the following functions: armed member of the security force, central alarm station operator, guard, secondary alarm station operator, security shift supervisor, watchperson (i.e., watchman), and any member of the security force that is responsible for executing the licensee's physical security plan.
2. Decommissioning reactor facilities may implement the operating power reactor Order for compensatory measures related to fitness-for-duty enhancement issued to power reactors on April 29, 2003, in place of this Order, to allow the implementation of a uniform set of requirements.

C. Additional Security Measures:

1. Individual Work-Hour Controls

(a) Personnel performing the functions identified in B.1:

(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 a 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.

(4) Shall be limited to 700 hours quarterly and 2600 hours annually of actual hours worked or shall be subject to the Group Work-Hour Controls of C.2.

(a) Unplanned Security Outage or An Increase in Threat Condition (i.e., increase in protective measures level as promulgated by NRC Advisory):

(1) There are no specific quarterly and annual 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.1(a)(4). The use of the allowance defined in C.1(a)(4)(a)(1) shall not exceed 120 days.

Note 2: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 3: If an increase in threat condition occurs, the requirements of C.1(a)(4)(a) apply for the increased threat condition. If the threat condition returns to the baseline threat condition, the requirements of C.1(a)(4) apply.

Note 4: If multiple increases in threat condition occur while the conditions of C.1(a)(4)(a) are in effect, the requirements of C.1(a)(4)(a)(2) reset with each increase.

Note 5: If the threat condition decreases, the new threat condition shall be compared to the baseline to determine if the requirements of C.1(a)(4)(a) apply as a result of an increased threat condition. If so, C.1(a)(4)(a)(2) shall be referenced to the date when the current threat condition was last entered as the result of an increase.

Note 6: The licensees shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.1(a)(4)(a) apply.

(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 personnel alertness and performance.

## 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 or shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4):

(a) Normal Conditions: The average number of hours actually worked by personnel performing the functions identified in B shall not exceed 48-hours per week, excluding shift turnover time, averaged over consecutive periods not to exceed six (6) weeks. Personnel 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 these ASMs and take actions to prevent recurrence.

(b) 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, excluding shift turnover time, averaged over consecutive periods not to exceed six (6) weeks. For planned security system outages whose duration is less than the averaging period, the limit would be 60-hours per week averaged over the duration of the condition. Personnel 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 these ASMs and take actions to prevent recurrence.

(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 Security Outage or An Increase in Threat Condition (i.e., increase in protective measures 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 7: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 8: If an increase in threat condition occurs while the facility is in a planned security 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 facility outage.

Note 9: 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 10: 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 11: The licensees shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.2(c) apply.

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

#### 4. Procedures

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

(a) Describe the process for implementing the controls for hours worked specified in C.1, C.2, and C.3 of this ASM. The procedure shall specify whether the work hours shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4) or the Group Work-Hour Controls of C.2.

(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.

Mr. W. D. Nash, Vice President and General Manager  
BWX Technologies, Inc.  
Nuclear Products Division  
P.O. Box 785  
Lynchburg, VA 24505-0785

SUBJECT: ISSUANCE OF ORDER FOR FITNESS-FOR-DUTY ENHANCEMENTS  
APPLICABLE TO SECURITY FORCE PERSONNEL

Dear Mr. Nash:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Order that modifies BWX Technologies, Inc. (BWXT) Special Nuclear Materials License SNM-42 for your facility to require compliance with the specified additional security measures (ASMs). The ASMs are listed in Attachment 1 to the enclosed Order.

The Commission recognizes that you have voluntarily and responsibly implemented ASMs following the events of September 11, 2001. The NRC has also carefully considered the concerns you identified in your letter dated March 3, 2004, to Chairman Diaz, and that were raised at our stakeholder meetings on the draft Order. This has resulted in substantially increased demands on security force personnel since September 11, 2001, and the threat environment continues to require heightened security measures. Therefore, the Commission has determined that the ASMs are prudent measures to address issues that may arise from fatigue of nuclear facility security force personnel. The Commission has determined that the current threat environment requires that the enclosed Order be effective immediately.

This Order does not eliminate the need for licensees to continue to meet the objectives of the current security protective measures as promulgated by updated security advisories. Licensees must also continue to maintain the effectiveness of existing security measures taken in response to the events of September 11, 2001, and any subsequent Orders issued. The requirements will remain in effect until the Commission determines otherwise.

The enclosed Order requires responses and actions be taken within specified time frames. Please contact your Project Manager to facilitate resolution of any issues related to compliance with the requirements in the enclosed Order.

Attachment 3A



W.D. Nash

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The enclosed Order has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Docket No. 70-27  
License No. SNM-42

Enclosures: 

1. Order
2. Order Attachment 1 - Additional Security Measures Regarding Fitness-for-Duty Requirements Applicable to Security Force Personnel

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 ) Docket No. 70-27  
BWX TECHNOLOGIES, INC. ) License No. SNM-42  
LYNCHBURG, VA ) EA-04-070

**ORDER MODIFYING LICENSE  
(EFFECTIVE IMMEDIATELY)**

I.

BWX Technologies, Inc. (BWXT) is the holder of Special Nuclear Material License SNM-42 issued by the U.S. Nuclear Regulatory Commission (NRC or Commission) authorizing the operation of Category I Fuel Cycle facilities in accordance with the Atomic Energy Act of 1954 and Title 10 of the *Code of Federal Regulations* (10 CFR) Part 70. BWXT is required to comply with physical security requirements in accordance with 10 CFR Part 73.

II.

On September 11, 2001, terrorists simultaneously attacked targets in New York, NY, and Washington, DC, utilizing large commercial aircraft as weapons. In response to the attacks and intelligence information subsequently obtained, the Commission issued a number of Safeguards and Threat Advisories to its licensees in order to strengthen licensees' capabilities and readiness to respond to a potential attack on a facility. The Commission also conducted a comprehensive review of its safeguards and security programs and requirements. On August 21, 2002, the Commission issued Orders to BWXT to put the actions taken in response to the Advisories in the established regulatory framework and to implement additional security enhancements which

have emerged from the NRC's ongoing comprehensive review. The Commission has also communicated with other Federal, State, local government agencies, and industry representatives to discuss and evaluate the current threat environment in order to assess the adequacy of security measures at licensed facilities.

Demands on licensee security force personnel have increased substantially since the September 11, 2001, attacks, and the current threat environment continues to require heightened security measures. The Commission has determined that the enclosed additional security measures are required to be implemented by BWXT as prudent measures to address issues that may arise from work-hour related fatigue of security force personnel. Therefore, the Commission is imposing requirements, as set forth in Attachment 1 of this Order, on BWXT. These requirements, which supplement existing regulatory requirements, will provide the Commission with reasonable assurance that the public health and safety and common defense and security continue to be adequately protected. These requirements will remain in effect until the Commission determines otherwise.

In order to provide assurance that BWXT is implementing prudent measures to achieve a consistent level of protection, Special Nuclear Materials License SNM-42 shall be modified to include the requirements in Attachment 1 to this Order. In addition, pursuant to 10 CFR 2.202 and 70.81, the NRC finds that in the circumstances described above, public health, safety, and interest require that this Order be immediately effective.

III.

Accordingly, pursuant to Sections 53, 161b, 161i, 161o, 182 and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Parts 70 and 73, IT IS HEREBY ORDERED, **EFFECTIVE IMMEDIATELY**, THAT SPECIAL NUCLEAR MATERIALS LICENSE SNM-42 IS MODIFIED AS FOLLOWS:

- A. BWXT shall, notwithstanding the provisions of any Commission regulation or license to the contrary, comply with the requirements described in Attachment 1 to this Order except to the extent that a more stringent requirement is set forth in the licensees' security plans. BWXT shall immediately start implementation of the requirements in Attachment 1 to the Order and shall complete implementation **no later than [insert date 180 days from the date of issuance]**.
- B.
  1. BWXT shall, within **twenty (20) days** of the date of this Order, notify the Commission: (1) if they are unable to comply with any of the requirements described in Attachment 1, (2) if compliance with any of the requirements is unnecessary in their specific circumstances, or (3) if implementation of any of the requirements would cause BWXT to be in violation of the provisions of any Commission regulation or the facility license. The notification shall provide BWXT justification for seeking relief from or variation of any specific requirement.
  2. If BWXT considers that implementation of any of the requirements described in Attachment 1 to this Order would adversely impact safe operation of the facility, BWXT must notify the Commission, within **twenty (20) days** of this Order, of the

adverse safety impact, the basis for its determination that the requirement has an adverse safety impact, and either a proposal for achieving the same objectives specified in the Attachment 1 requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, BWXT must supplement its response to Condition B.1 of this Order to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.

- C. 1. BWXT shall, within **twenty (20) days** of the date of this Order, submit to the Commission, a schedule for achieving compliance with each requirement described in Attachment 1.
- 2. BWXT shall report to the Commission when they have achieved full compliance with the requirements described in Attachment 1.
- D. Notwithstanding the provisions of 10 CFR 70.32(g), all measures implemented or actions taken in response to this Order shall be maintained until the Commission determines otherwise.

BWXT's responses to Conditions B.1, B.2, C.1, and C.2, above, shall be submitted in accordance with 10 CFR 70.5. In addition, BWXT's submittals that contain classified information shall be properly marked and handled in accordance with 10 CFR 95.39.

The Director, Office of Nuclear Material Safety & Safeguards, may, by letter, relax or rescind any of the above conditions upon demonstration by BWXT of good cause.

IV.

In accordance with 10 CFR 2.202, BWXT must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, within twenty (20) days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order. Unless the answer consents to this Order, the answer shall, in writing and under oath or affirmation, specifically set forth the matters of fact and law on which BWXT or other person adversely affected relies and the reasons as to why the Order should not have been issued. Any answer or request for a hearing shall be submitted to the Secretary, Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, ATTN: Rulemakings and Adjudications Staff, Washington, DC 20555. Copies also shall be sent to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555; to the Assistant General Counsel for Materials Litigation and Enforcement at the same address; to the Regional Administrator, NRC Region II; and to BWXT if the answer or hearing request is by a person other than BWXT. Because of possible disruptions in delivery of mail to United States Government offices, it is requested that answers and requests for a hearing be transmitted to the Secretary of the Commission either by means of facsimile transmission to 301-415-1101 or by e-mail to [hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov) and also to the Office of the General Counsel either by means of facsimile transmission to 301-415-3725 or by e-mail to [OGCMailCenter@nrc.gov](mailto:OGCMailCenter@nrc.gov). If a person other than BWXT requests a hearing, that person shall set forth with particularity the

manner in which the individual's interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.714(d).

If a hearing is requested by BWXT or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained.

Pursuant to 10 CFR 2.202(c)(2)(i), BWXT may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section III above shall be final twenty (20) days from the date of this Order without further order or proceedings.

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If an extension of time for requesting a hearing has been approved, the provisions specified in Section III shall be final when the extension expires if a hearing request has not been received. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Dated this    day of

Attachment: 1. Additional Security Measures



## **Additional Security Measures for Work-Hour Controls for Security Force Personnel**

### A. Background:

These additional security measures (ASMs) are established to delineate licensee responsibility in response to the threat environment presently in existence in the aftermath of the events of September 11, 2001. Excessive work schedules can challenge the ability of security force personnel to remain vigilant and effectively perform their duties.

### B. Scope:

BWXT shall comply with the following ASMs to help ensure, in part, that security force personnel are not assigned to duty while in a fatigued condition that could reduce their alertness or ability to perform functions necessary to identify and promptly respond to security threats. Work-hour controls shall apply to personnel performing the following functions: alarm station operator, armed member of the security force, guard, tactical response team member, watchperson (i.e., watchman), and any member of the security force that is responsible for executing the licensee's physical security plan.

### C. Additional Security Measures:

#### 1. Individual Work-Hour Controls

(a) Personnel performing the functions identified in B.1:

(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 a 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.

(4) Shall be limited to 700 hours quarterly and 2600 hours annually of actual hours worked or shall be subject to the Group Work-Hour Controls of C.2.

(a) Unplanned Security Outage or An Increase in Threat Condition (i.e., increase in protective measures level as promulgated by NRC Advisory):

(1) There are no specific quarterly and annual 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.1(a)(4). The use of the allowance defined in C.1(a)(4)(a)(1) shall not exceed 120 days.

Note 2: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 3: If an increase in threat condition occurs, the requirements of C.1(a)(4)(a) apply for the increased threat condition. If the threat condition returns to the baseline threat condition, the requirements of C.1(a)(4) apply.

Note 4: If multiple increases in threat condition occur while the conditions of C.1(a)(4)(a) are in effect, the requirements of C.1(a)(4)(a)(2) reset with each increase.

Note 5: If the threat condition decreases, the new threat condition shall be compared to the baseline to determine if the requirements of C.1(a)(4)(a) apply as a result of an increased threat condition. If so, C.1(a)(4)(a)(2) shall be referenced to the date when the current threat condition was last entered as the result of an increase.

Note 6: The licensees shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.1(a)(4)(a) apply.

(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 personnel alertness and performance.

## 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 or shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4):

(a) Normal Conditions: The average number of hours actually worked by personnel performing the functions identified in B shall not exceed 48-hours per week, excluding shift turnover time, averaged over consecutive periods not to exceed six (6) weeks. Personnel 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 these ASMs and take actions to prevent recurrence.

(b) 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, excluding shift turnover time, averaged over consecutive periods not to exceed six (6) weeks. For planned security system outages whose duration is less than the averaging period, the limit would be 60-hours per week averaged over the duration of the condition. Personnel 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 these ASMs and take actions to prevent recurrence.

(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 Security Outage or An Increase in Threat Condition (i.e., increase in protective measures 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 7: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 8: If an increase in threat condition occurs while the facility is in a planned security 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 facility outage.

Note 9: 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 10: 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 11: The licensees shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.2(c) apply.

(d) Annual Force-on-Force (FOF) Exercises: The average number of hours actually worked by personnel performing the functions identified in B, shall not exceed 60-hours per week, excluding shift turnover time, during the period of the actual conduct of the FOF exercises (i.e., licensee exercises and NRC observed FOF exercises).

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

#### 4. Procedures

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

(a) Describe the process for implementing the controls for hours worked specified in C.1, C.2, and C.3 of this ASM. The procedure shall specify whether the work hours shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4) or the Group Work-Hour Controls of C.2.

(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.

Ms. B. Marie Moore, Vice President  
Safety and Regulatory  
Nuclear Fuel Services, Inc.  
P.O. Box 337, MS 123  
Erwin, TN 37650

SUBJECT: ISSUANCE OF ORDER FOR FITNESS-FOR-DUTY ENHANCEMENTS  
APPLICABLE TO SECURITY FORCE PERSONNEL

Dear Ms. Moore:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Order that modifies Nuclear Fuel Services, Inc. (NFS) Special Nuclear Materials License SNM-124 for your facility to require compliance with the specified additional security measures (ASMs). The ASMs are listed in Attachment 1 to the enclosed Order.

The Commission recognizes that you have voluntarily and responsibly implemented ASMs following the events of September 11, 2001. This has resulted in substantially increased demands on security force personnel since September 11, 2001, and the threat environment continues to require heightened security measures. Therefore, the Commission has determined that the enclosed ASMs are prudent measures to address issues that may arise from fatigue of nuclear facility security force personnel. The Commission has determined that the current threat environment requires that the enclosed Order be effective immediately.

This Order does not eliminate the need for licensees to continue to meet the objectives of the current security protective measures as promulgated by updated security advisories. Licensees must also continue to maintain the effectiveness of existing security measures taken in response to the events of September 11, 2001, and any subsequent Orders issued. The requirements will remain in effect until the Commission determines otherwise.

The enclosed Order requires responses and actions be taken within specified time frames. Please contact your Project Manager to facilitate resolution of any issues related to compliance with the requirements in the enclosed Order.

Attachment 3D

B. Marie Moore

-2-

The enclosed Order has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Docket No. 70-143  
License No. SNM-124

Enclosures:   1. Order  
                  2. Order Attachment 1 - Additional Security Measures Regarding  
                      Fitness-for-Duty Requirements Applicable to Security Force Personnel

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 ) Docket No. 70-143  
NUCLEAR FUEL SERVICES, INC. ) License No. SNM-124  
ERWIN, TN ) EA-04-070

**ORDER MODIFYING LICENSE  
(EFFECTIVE IMMEDIATELY)**

I.

Nuclear Fuel Services, Inc. (NFS) is the holder of Special Nuclear Material License SNM-124 issued by the U.S. Nuclear Regulatory Commission (NRC or Commission) authorizing the operation of Category I Fuel Cycle facilities in accordance with the Atomic Energy Act of 1954 and Title 10 of the *Code of Federal Regulations* (10 CFR) Part 70. NFS is required to comply with physical security requirements in accordance with 10 CFR Part 73.

II.

On September 11, 2001, terrorists simultaneously attacked targets in New York, NY, and Washington, DC, utilizing large commercial aircraft as weapons. In response to the attacks and intelligence information subsequently obtained, the Commission issued a number of Safeguards and Threat Advisories to its licensees in order to strengthen licensees' capabilities and readiness to respond to a potential attack on a facility. The Commission also conducted a comprehensive review of its safeguards and security programs and requirements. On August 21, 2002, the Commission issued Orders to NFS to put the actions taken in response to the Advisories in the established regulatory framework and to implement additional security enhancements which

Attachment 3E



have emerged from the NRC's ongoing comprehensive review. The Commission has also communicated with other Federal, State, local government agencies, and industry representatives to discuss and evaluate the current threat environment in order to assess the adequacy of security measures at licensed facilities.

Demands on licensee security force personnel have increased substantially since the September 11, 2001, attacks, and the current threat environment continues to require heightened security measures. The Commission has determined that the enclosed additional security measures are required to be implemented by NFS as prudent measures to address issues that may arise from work-hour related fatigue of security force personnel. Therefore, the Commission is imposing requirements, as set forth in Attachment 1 of this Order, on NFS. These requirements, which supplement existing regulatory requirements, will provide the Commission with reasonable assurance that the public health and safety and common defense and security continue to be adequately protected. These requirements will remain in effect until the Commission determines otherwise.

In order to provide assurance that NFS is implementing prudent measures to achieve a consistent level of protection, Special Nuclear Materials License SNM-124 shall be modified to include the requirements in Attachment 1 to this Order. In addition, pursuant to 10 CFR 2.202 and 70.81, the NRC finds that in the circumstances described above, public health, safety, and interest require that this Order be immediately effective.

III.

Accordingly, pursuant to Sections 53, 161b, 161i, 161o, 182 and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Parts 70 and 73, IT IS HEREBY ORDERED, **EFFECTIVE IMMEDIATELY**, THAT SPECIAL NUCLEAR MATERIALS LICENSE SNM-124 IS MODIFIED AS FOLLOWS:

- A. NFS shall, notwithstanding the provisions of any Commission regulation or license to the contrary, comply with the requirements described in Attachment 1 to this Order except to the extent that a more stringent requirement is set forth in the licensees' security plans. NFS shall immediately start implementation of the requirements in Attachment 1 to the Order and shall complete implementation **no later than [insert date 180 days from the date of issuance]**.
- B. 1. NFS shall, within **twenty (20) days** of the date of this Order, notify the Commission: (1) if they are unable to comply with any of the requirements described in Attachment 1, (2) if compliance with any of the requirements is unnecessary in their specific circumstances, or (3) if implementation of any of the requirements would cause NFS to be in violation of the provisions of any Commission regulation or the facility license. The notification shall provide NFS justification for seeking relief from or variation of any specific requirement.
2. If NFS considers that implementation of any of the requirements described in Attachment 1 to this Order would adversely impact safe operation of the facility, NFS must notify the Commission, within **twenty (20) days** of this Order, of the adverse safety impact, the basis for its determination that the requirement has an adverse safety impact, and either a proposal for achieving the same objectives

specified in the Attachment 1 requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, NFS must supplement its response to Condition B.1 of this Order to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.

- C. 1. NFS shall, within **twenty (20) days** of the date of this Order, submit to the Commission, a schedule for achieving compliance with each requirement described in Attachment 1.
- 2. NFS shall report to the Commission when they have achieved full compliance with the requirements described in Attachment 1.
- D. Notwithstanding the provisions of 10 CFR 70.32(g), all measures implemented or actions taken in response to this Order shall be maintained until the Commission determines otherwise.

NFS's responses to Conditions B.1, B.2, C.1, and C.2, above, shall be submitted in accordance with 10 CFR 70.5. In addition, NFS's submittals that contain classified information shall be properly marked and handled in accordance with 10 CFR 95.39.

The Director, Office of Nuclear Material Safety & Safeguards, may, by letter, relax or rescind any of the above conditions upon demonstration by NFS of good cause.

#### IV.

In accordance with 10 CFR 2.202, NFS must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, within twenty (20) days of the date of this Order. Where good cause is shown, consideration

will be given to extending the time to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order. Unless the answer consents to this Order, the answer shall, in writing and under oath or affirmation, specifically set forth the matters of fact and law on which the NFS or other person adversely affected relies and the reasons as to why the Order should not have been issued. Any answer or request for a hearing shall be submitted to the Secretary, Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, ATTN: Rulemakings and Adjudications Staff, Washington, DC 20555. Copies also shall be sent to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555; to the Assistant General Counsel for Materials Litigation and Enforcement at the same address; to the Regional Administrator, NRC Region II; and to NFS if the answer or hearing request is by a person other than NFS. Because of possible disruptions in delivery of mail to United States Government offices, it is requested that answers and requests for a hearing be transmitted to the Secretary of the Commission either by means of facsimile transmission to 301-415-1101 or by e-mail to [hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov) and also to the Office of the General Counsel either by means of facsimile transmission to 301-415-3725 or by e-mail to [OGCMailCenter@nrc.gov](mailto:OGCMailCenter@nrc.gov). If a person other than NFS requests a hearing, that person shall set forth with particularity the manner in which the individual's interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.714(d).

If a hearing is requested by NFS or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is

held, the issue to be considered at such hearing shall be whether this Order should be sustained.

Pursuant to 10 CFR 2.202(c)(2)(i), NFS may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section III above shall be final twenty (20) days from the date of this Order without further order or proceedings. If an extension of time for requesting a hearing has been approved, the provisions specified in Section III shall be final when the extension expires if a hearing request has not been received. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Dated this     day of

Attachment: 1. Additional Security Measures

## **Additional Security Measures for Work-Hour Controls for Security Force Personnel**

### **A. Background:**

These additional security measures (ASMs) are established to delineate licensee responsibility in response to the threat environment presently in existence in the aftermath of the events of September 11, 2001. Excessive work schedules can challenge the ability of security force personnel to remain vigilant and effectively perform their duties.

### **B. Scope:**

NFS shall comply with the following ASMs to help ensure, in part, that security force personnel are not assigned to duty while in a fatigued condition that could reduce their alertness or ability to perform functions necessary to identify and promptly respond to security threats. Work-hour controls shall apply to personnel performing the following functions: alarm station operator, armed member of the security force, guard, tactical response team member, watchperson (i.e., watchman), and any member of the security force that is responsible for executing the licensee's physical security plan.

### **C. Additional Security Measures:**

#### **1. Individual Work-Hour Controls**

(a) Personnel performing the functions identified in B.1:

(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 a 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.

(4) Shall be limited to 700 hours quarterly and 2600 hours annually of actual hours worked or shall be subject to the Group Work-Hour Controls of C.2.

(a) Unplanned Security Outage or An Increase in Threat Condition (i.e., increase in protective measures level as promulgated by NRC Advisory):

(1) There are no specific quarterly and annual 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.1(a)(4). The use of the allowance defined in C.1(a)(4)(a)(1) shall not exceed 120 days.

Note 2: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 3: If an increase in threat condition occurs, the requirements of C.1(a)(4)(a) apply for the increased threat condition. If the threat condition returns to the baseline threat condition, the requirements of C.1(a)(4) apply.

Note 4: If multiple increases in threat condition occur while the conditions of C.1(a)(4)(a) are in effect, the requirements of C.1(a)(4)(a)(2) reset with each increase.

Note 5: If the threat condition decreases, the new threat condition shall be compared to the baseline to determine if the requirements of C.1(a)(4)(a) apply as a result of an increased threat condition. If so, C.1(a)(4)(a)(2) shall be referenced to the date when the current threat condition was last entered as the result of an increase.

Note 6: The licensees shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.1(a)(4)(a) apply.

(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 personnel alertness and performance.

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 or shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4):

(a) Normal Conditions: The average number of hours actually worked by personnel performing the functions identified in B shall not exceed 48-hours, excluding shift turnover time, per week averaged over consecutive periods not to exceed six (6) weeks. Personnel 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 these ASMs and take actions to prevent recurrence.

(b) 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, excluding shift turnover time, averaged over consecutive periods not to exceed six (6) weeks. For planned security system outages whose duration is less than the averaging period, the limit would be 60-hours per week averaged over the duration of the condition. Personnel 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 these ASMs and take actions to prevent recurrence.

(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 Security Outage or An Increase in Threat Condition (i.e., increase in protective measures 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 7: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 8: If an increase in threat condition occurs while the facility is in a planned security 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 facility outage.

Note 9: 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 10: 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 11: The licensees shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.2(c) apply.

(d) Force-on-Force (FOF) Exercises: The average number of hours actually worked by personnel performing the functions identified in B, shall not exceed 60-hours per week, excluding shift turnover time, during the period of the actual conduct of the FOF exercises (i.e., licensee exercises and NRC observed FOF exercises).

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

4. Procedures

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

(a) Describe the process for implementing the controls for hours worked specified in C.1, C.2, and C.3 of this ASM. The procedure shall specify whether the work hours shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4) or the Group Work-Hour Controls of C.2.

(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.

J. Morris Brown, Vice President Operations  
United States Enrichment Corporation  
2 Democracy Center  
6903 Rockledge Drive  
Bethesda, MD 20817

SUBJECT: ISSUANCE OF ORDER FOR FITNESS-FOR-DUTY ENHANCEMENTS  
APPLICABLE TO SECURITY FORCE PERSONNEL

Dear Mr. Brown:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Order that modifies the current certificates of compliance for your facilities to require compliance with the specified additional security measures (ASMs). The ASMs are listed in Attachment 1 to the enclosed Order.

The Commission recognizes that you have voluntarily and responsibly implemented ASMs following the events of September 11, 2001. This has resulted in substantially increased demands on security force personnel since September 11, 2001, and the threat environment continues to require heightened security measures. Therefore, the Commission has determined that the enclosed ASMs are prudent measures to address issues that may arise from fatigue of nuclear facility security force personnel. The Commission has determined that the current threat environment requires that the enclosed Order be effective immediately.

This Order does not eliminate the need for certificate holders to continue to meet the objectives of the current security protective measures as promulgated by updated security advisories. Certificate holders must also continue to maintain the effectiveness of existing security measures taken in response to the events of September 11, 2001, and any subsequent Orders issued. The requirements will remain in effect until the Commission determines otherwise.

The enclosed Order requires responses and actions be taken within specified time frames. Please contact your Project Manager to facilitate resolution of any issues related to compliance with the requirements in the enclosed Order.

Attachment 4A

J. Morris Brown

-2-

The enclosed Order has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Docket Nos. 70-7001  
70-7002

Enclosures: 1. Order  
2. Order Attachment 1 - Additional Security Measures Regarding  
Fitness-for-Duty Requirements Applicable to Security Force Personnel

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 )  
UNITED STATES ENRICHMENT CORP. ) Docket No.070-7001  
PADUCAH GASEOUS DIFFUSION PLANT ) Certificate of Compliance  
PADUCAH, KENTUCKY ) Paducah - GDP-1  
 ) EA-04-071

**ORDER MODIFYING CERTIFICATE OF COMPLIANCE  
(EFFECTIVE IMMEDIATELY)**

I.

United States Enrichment Corporation (USEC) holds Certificate of Compliance GDP-1, issued by the U.S. Nuclear Regulatory Commission (NRC or Commission) authorizing operation of a Gaseous Diffusion Plant (GDP) in accordance with the Atomic Energy Act of 1954 and Title 10 of the *Code of Federal Regulations* (10 CFR) Part 76. Commission regulations at 10 CFR 76.60(h) require USEC to comply with physical security requirements in accordance with 10 CFR Part 73.

II.

On September 11, 2001, terrorists simultaneously attacked targets in New York, NY, and Washington, DC, utilizing large commercial aircraft as weapons. In response to the attacks and intelligence information subsequently obtained, the Commission issued a number of Safeguards and Threat Advisories to its licensees and certificate holders in order to strengthen licensees' and certificate holder's capabilities and readiness to respond to a potential attack on a facility. The Commission also conducted a comprehensive review of its safeguards and security programs and requirements. On June 17, 2002, the Commission issued Orders to USEC to put

Attachment 4B

the actions taken in response to the Advisories for the operating GDPs in the established regulatory framework and to implement additional security enhancements which have emerged from the NRC's ongoing comprehensive review. The Commission has also communicated with other Federal, State, local government agencies, and industry representatives to discuss and evaluate the current threat environment in order to assess the adequacy of security measures at licensed facilities.

Demands on certificate holder security force personnel have increased substantially since the September 11, 2001, attacks, and the current threat environment continues to require heightened security measures. The Commission has determined that the enclosed additional security measures are required to be implemented by USEC as prudent measures to address issues that may arise from work-hour related fatigue of security force personnel. Therefore, the Commission is imposing requirements, as set forth in Attachment 1 of this Order, on the certificate holder of this facility. These requirements, which supplement existing regulatory requirements, will provide the Commission with reasonable assurance that the public health and safety and common defense and security continue to be adequately protected. These requirements will remain in effect until the Commission determines otherwise.

In order to provide assurance that certificate holders are implementing prudent measures to achieve a consistent level of protection, Certificate of Compliance GDP-1 shall be modified to include the requirements identified in Attachment 1 to this Order. In addition, pursuant to 10 CFR 2.202 and 76.70, the NRC finds that in the circumstances described above, public health, safety, and interest require that this Order be immediately effective.

III.

Accordingly, pursuant to Sections 161b, 161i and 1701 the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Parts 73 and 76, IT IS HEREBY ORDERED, **EFFECTIVE IMMEDIATELY**, THAT CERTIFICATE OF COMPLIANCE GDP-1 IS MODIFIED AS FOLLOWS:

- A. USEC shall, notwithstanding the provisions of any Commission regulation or certificate of compliance to the contrary, comply with the requirements described in Attachment 1 to this Order except to the extent that a more stringent requirement is set forth in the certificate holder's security plans. The certificate holder shall immediately start implementation of the requirements in Attachment 1 to the Order and shall complete implementation **no later than [insert date 270 days from the date of issuance]**.
- B.
  1. USEC shall, within **twenty (20) days** of the date of this Order, notify the Commission: (1) if it is unable to comply with any of the requirements described in Attachment 1, (2) if compliance with any of the requirements is unnecessary in their specific circumstances, or (3) if implementation of any of the requirements would cause the certificate holder to be in violation of the provisions of any Commission regulation or the certification of compliance. The notification shall provide the USEC's justification for seeking relief from or variation of any specific requirement.
  2. If USEC considers that implementation of any of the requirements described in Attachment 1 to this Order would adversely impact safe operation of the facility, USEC must notify the Commission, within **twenty (20) days** of this Order, of the adverse safety impact, the basis for its determination that the requirement has

an adverse safety impact, and either a proposal for achieving the same objectives specified in the Attachment 1 requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, USEC must supplement its response to Condition B.1 of this Order to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.

- C. 1. USEC shall, within **twenty (20) days** of the date of this Order, submit to the Commission a schedule for achieving compliance with each requirement described in Attachment 1.
  - 2. USEC shall report to the Commission when it has achieved full compliance with the requirements described in Attachment 1.
- D. Notwithstanding any provisions of the Commission's regulations or the certificate of compliance to the contrary, all measures implemented or actions taken in response to this Order shall be maintained until the Commission determines otherwise.

USEC's responses to Conditions B.1, B.2, C.1, and C.2, above shall be submitted in accordance with 10 CFR 76.5 as applicable. In addition, USEC's submittals that contain Safeguards Information shall be properly marked and handled in accordance with 10 CFR 73.21.

The Director, Office of Nuclear Material Safety & Safeguards, may, by letter, relax or rescind any of the above conditions upon demonstration by USEC of good cause.



IV.

In accordance with 10 CFR 2.202 and 76.70, USEC must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, within twenty (20) days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order. Unless the answer consents to this Order, the answer shall, in writing and under oath or affirmation, specifically set forth the matters of fact and law on which USEC or the person adversely affected relies and the reasons as to why the Order should not have been issued. Any answer or request for a hearing shall be submitted to the Secretary, Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, ATTN: Rulemakings and Adjudications Staff, Washington, DC 20555. Copies also shall be sent to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555; to the Assistant General Counsel for Materials Litigation and Enforcement at the same address; to the Regional Administrator, NRC Region III; and to USEC if the answer or hearing request is by a person other than USEC. Because of possible disruptions in delivery of mail to United States Government offices, it is requested that answers and requests for a hearing be transmitted to the Secretary of the Commission either by means of facsimile transmission to 301-415-1101 or by e-mail to [hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov) and also to the Office of the General Counsel either by means of facsimile transmission to 301-415-3725 or by e-mail to [OGCMailCenter@nrc.gov](mailto:OGCMailCenter@nrc.gov). If a person other than USEC requests a hearing, that

person shall set forth with particularity the manner in which the individual's interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.714(d).

If a hearing is requested by USEC or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained.

Pursuant to 10 CFR 2.202(c)(2)(i) and 76.70(c)(3), USEC may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section III above shall be final twenty (20) days from the date of this Order without further order or proceedings. If an extension of time for requesting a hearing has been approved, the provisions specified in Section III shall be final when the extension expires if a hearing request has not been received. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Dated this    day of

Attachment: 1. Additional Security Measures

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 )  
UNITED STATES ENRICHMENT CORP. ) Docket No.070-7002  
PORTSMOUTH GASEOUS DIFFUSION ) Certificate of Compliance  
PLANT, PORTSMOUTH, OHIO ) Portsmouth - GDP-2  
 ) EA-04-071

**ORDER MODIFYING CERTIFICATE OF COMPLIANCE  
(EFFECTIVE IMMEDIATELY)**

I.

United States Enrichment Corporation (USEC) holds Certificate of Compliance GDP-2, issued by the U.S. Nuclear Regulatory Commission (NRC or Commission) authorizing operation of a Gaseous Diffusion Plant (GDP) in accordance with the Atomic Energy Act of 1954 and Title 10 of the *Code of Federal Regulations* (10 CFR) Part 76. Commission regulations at 10 CFR 76.60(h) require USEC to comply with physical security requirements in accordance with 10 CFR Part 73.

II.

On September 11, 2001, terrorists simultaneously attacked targets in New York, NY, and Washington, DC, utilizing large commercial aircraft as weapons. In response to the attacks and intelligence information subsequently obtained, the Commission issued a number of Safeguards and Threat Advisories to its licensees and certificate holders in order to strengthen licensees' and certificate holder's capabilities and readiness to respond to a potential attack on a facility. The Commission also conducted a comprehensive review of its safeguards and security

programs and requirements. On June 17, 2002, the Commission issued Orders to USEC to put the actions taken in response to the Advisories for the operating GDPs in the established regulatory framework and to implement additional security enhancements which have emerged from the NRC's ongoing comprehensive review. The Commission has also communicated with other Federal, State, local government agencies, and industry representatives to discuss and evaluate the current threat environment in order to assess the adequacy of security measures at licensed facilities.

Demands on certificate holder security force personnel have increased substantially since the September 11, 2001, attacks, and the current threat environment continues to require heightened security measures. The Commission has determined that the enclosed additional security measures are required to be implemented by USEC as prudent measures to address issues that may arise from work-hour related fatigue of security force personnel. Therefore, the Commission is imposing requirements, as set forth in Attachment 1 of this Order, on the certificate holder of this facility. These requirements, which supplement existing regulatory requirements, will provide the Commission with reasonable assurance that the public health and safety and common defense and security continue to be adequately protected. These requirements will remain in effect until the Commission determines otherwise.

In order to provide assurance that certificate holders are implementing prudent measures to achieve a consistent level of protection, Certificate of Compliance GDP-2 shall be modified to include the requirements identified in Attachment 1 to this Order. In addition, pursuant to 10 CFR 2.202 and 76.70, the NRC finds that in the circumstances described above, public health, safety, and interest require that this Order be immediately effective.

III.

Accordingly, pursuant to Sections 161b, 161i and 1701 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Parts 73 and 76, IT IS HEREBY ORDERED, **EFFECTIVE IMMEDIATELY**, THAT CERTIFICATE OF COMPLIANCE GDP-2 IS MODIFIED AS FOLLOWS:

- A. USEC shall, notwithstanding the provisions of any Commission regulation or the certificate of compliance to the contrary, comply with the requirements described in Attachment 1 to this Order except to the extent that a more stringent requirement is set forth in the certificate holder's security plans. The certificate holder shall immediately start implementation of the requirements in Attachment 1 to the Order and shall complete implementation **no later than [insert date 270 days from the date of issuance]**.
- B.
  1. USEC shall, within **twenty (20) days** of the date of this Order, notify the Commission: (1) if they are unable to comply with any of the requirements described in Attachment 1, (2) if compliance with any of the requirements is unnecessary in their specific circumstances, or (3) if implementation of any of the requirements would cause the certificate holder to be in violation of the provisions of any Commission regulation or the certification of compliance. The notification shall provide the certificate holder's justification for seeking relief from or variation of any specific requirement.
  2. If USEC considers that implementation of any of the requirements described in Attachment 1 to this Order would adversely impact safe operation of the facility, USEC must notify the Commission, within **twenty (20) days** of this Order, of the adverse safety impact, the basis for its determination that the requirement has an

adverse safety impact, and either a proposal for achieving the same objectives specified in the Attachment 1 requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, USEC must supplement its response to Condition B.1 of this Order to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.

- C. 1. USEC shall, within **twenty (20) days** of the date of this Order, submit to the Commission, a schedule for achieving compliance with each requirement described in Attachment 1.
  - 2. USEC shall report to the Commission when they have achieved full compliance with the requirements described in Attachment 1.
- D. Notwithstanding any provisions of the Commission's regulations or the certificate of compliance to the contrary, all measures implemented or actions taken in response to this Order shall be maintained until the Commission determines otherwise.

USEC's responses to Conditions B.1, B.2, C.1, and C.2, above, shall be submitted in accordance with 10 CFR 76.5 as applicable. In addition, USEC's submittals that contain Safeguards Information shall be properly marked and handled in accordance with 10 CFR 73.21.

The Director, Office of Nuclear Material Safety & Safeguards, may, by letter, relax or rescind any of the above conditions upon demonstration by USEC of good cause.

IV.

In accordance with 10 CFR 2.202 and 76.70, USEC must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, within twenty (20) days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order. Unless the answer consents to this Order, the answer shall, in writing and under oath or affirmation, specifically set forth the matters of fact and law on which USEC or the person adversely affected relies and the reasons as to why the Order should not have been issued. Any answer or request for a hearing shall be submitted to the Secretary, Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, ATTN: Rulemakings and Adjudications Staff, Washington, DC 20555. Copies also shall be sent to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555; to the Assistant General Counsel for Materials Litigation and Enforcement at the same address; to the Regional Administrator, NRC Region III; and to USEC if the answer or hearing request is by a person other than USEC. Because of possible disruptions in delivery of mail to United States Government offices, it is requested that answers and requests for a hearing be transmitted to the Secretary of the Commission either by means of facsimile transmission to 301-415-1101 or by e-mail to [hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov) and also to the Office of the General Counsel either by means of facsimile transmission to 301-415-3725 or by e-mail to [OGCMailCenter@nrc.gov](mailto:OGCMailCenter@nrc.gov). If a person other than USEC requests a hearing, that



person shall set forth with particularity the manner in which the individual's interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.714(d).

If a hearing is requested by USEC or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained.

Pursuant to 10 CFR 2.202(c)(2)(i) and 76.70(c)(3), USEC may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section III above shall be final twenty (20) days from the date of this Order without further order or proceedings.

If an extension of time for requesting a hearing has been approved, the provisions specified in Section III shall be final when the extension expires if a hearing request has not been received. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Dated this    day of

Attachment: 1. Additional Security Measures

## **Additional Security Measures for Work-Hour Controls for Security Force Personnel**

### **A. Background:**

These additional security measures (ASMs) are established to delineate certificate holder responsibility in response to the threat environment presently in existence in the aftermath of the events of September 11, 2001. Excessive work schedules can challenge the ability of security force personnel to remain vigilant and effectively perform their duties.

### **B. Scope:**

Gaseous Diffusion Plants shall comply with the following ASMs to help ensure, in part, that security force personnel are not assigned to duty while in a fatigued condition that could reduce their alertness or ability to perform functions necessary to identify and promptly respond to security threats. Work-hour controls shall apply to personnel performing the following functions: armed member of the security force, guard, security shift supervisor, watchperson (i.e., watchman), and any member of the security force that is responsible for executing the certificate holder's NRC physical security plan.

### **C. Additional Security Measures:**

#### **1. Individual Work-Hour Controls**

(a) Personnel performing the functions identified in B.1:

(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 as well as off-duty physical fitness training up to 3-hours per week. Personnel transitioning from performing DOE regulated activities shall have a minimum of 48-hour break before performing the functions identified in B.

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

- (i) The certificate holder could not have reasonably foreseen or controlled the circumstance necessitating the deviation;
- (ii) The General Manager, Plant Shift Superintendent or Assistant Plant Shift Superintendent 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 certificate holder, 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 a 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.

(4) Shall be limited to 700 hours quarterly and 2600 hours annually of actual hours worked or shall be subject to the Group Work-Hour Controls of C.2.

(a) Unplanned Security Outage or An Increase in Threat Condition (i.e., increase in protective measures level as promulgated by NRC or DOE Advisory):

(1) There are no specific quarterly and annual limits for this condition.

(2) For periods greater than 90 days, the certificate holder shall take prompt action to limit hours worked in accordance with the requirements of C.1(a)(4). The use of the allowance defined in C.1(a)(4)(a)(1) shall not exceed 120 days.

Note 2: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 3: If an increase in threat condition occurs, the requirements of C.1(a)(4)(a) apply for the increased threat condition. If the threat condition returns to the baseline threat condition, the requirements of C.1(a)(4) apply.

Note 4: If multiple increases in threat condition occur while the conditions of C.1(a)(4)(a) are in effect, the requirements of C.1(a)(4)(a)(2) reset with each increase.

Note 5: If the threat condition decreases, the new threat condition shall be compared to the baseline to determine if the requirements of C.1(a)(4)(a) apply as a result of an increased threat condition. If so, C.1(a)(4)(a)(2) shall be referenced to the date when the current threat condition was last entered as the result of an increase.

Note 6: The certificate holder shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.1(a)(4)(a) apply.

(b) The number and duration of approved deviations shall be reviewed by Senior Management personnel other than the individual authorizing the deviation in C.1(a)(3)(ii), and limited to the extent practicable.

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

## 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 or shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4):

(a) Normal Conditions: The average number of hours actually worked by personnel performing the functions identified in B shall not exceed 48-hours per week, excluding shift turnover time and 3-hours per week of off-duty physical fitness training, averaged over consecutive periods not to exceed six (6) weeks. Personnel 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 certificate holder shall take prompt action to reduce the average hours worked in accordance with these ASMs and take actions to prevent recurrence.

(b) 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, excluding shift turnover time and 3-hours per week of off-duty physical fitness training, averaged over consecutive periods not to exceed six (6) weeks. For planned security system outages whose duration is less than the averaging period, the limit would be 60-hours per week averaged over the duration of the condition. Personnel 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 certificate holder shall take prompt action to reduce the average hours worked in accordance with these ASMs and take actions to prevent recurrence.

(2) The limit defined in C.2(b)(1) can be used for up to 90 days. For periods greater than 90 days, the certificate holder 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 Security Outage or An Increase in Threat Condition (i.e., increase in protective measures level as promulgated by NRC or DOE Advisory):

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

(2) For periods greater than 90 days, the certificate holder 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 7: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 8: If an increase in threat condition occurs while the facility is in a planned security 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 certificate holder-defined start date for the planned facility outage.

Note 9: 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 10: 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 11: The certificate holder shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.2(c) apply.

(d) Arming and Arrest Authority Security Plan (AAASP) Exercise: The average number of hours actually worked by personnel performing the functions identified in B, shall not exceed 60-hours per week, excluding shift turnover time and 3-hours per week of off-duty physical fitness training, during the period of the actual conduct of the AAASP exercise (i.e., certificate holder's exercise and DOE observed AAASP exercise).

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

4. Procedures

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

(a) Describe the process for implementing the controls for hours worked specified in C.1, C.2, and C.3 of this ASM. The procedure shall specify whether the work hours shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4) or the Group Work-Hour Controls of C.2.

(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 certificate holder's evaluation, it is determined the individual should be returned to work without a break of at least 10 hours.

Mr. Roy J. O'Kane  
Plant Manager  
Honeywell International, Inc.  
P.O. Box 430  
Metropolis, IL 62960

SUBJECT: ISSUANCE OF ORDER FOR FITNESS-FOR-DUTY ENHANCEMENTS  
APPLICABLE TO SECURITY FORCE PERSONNEL

Dear Mr. O'Kane:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Order that modifies the current license for your facility to require compliance with specified additional security measures (ASMs). The ASMs are listed in Attachment 1 to the enclosed Order.

The Commission recognizes that you have voluntarily and responsibly implemented ASMs following the events of September 11, 2001. This has resulted in substantially increased demands on security force personnel since September 11, 2001, and the threat environment continues to require heightened security measures. Therefore, the Commission has determined that the enclosed ASMs are prudent measures to address issues that may arise from fatigue of nuclear facility security force personnel. The Commission has determined that the current threat environment requires that the enclosed Order be effective immediately.

This Order does not eliminate the need for licensees to continue to meet the objectives of the current security protective measures as promulgated by updated security advisories. Licensees must also continue to maintain the effectiveness of existing security measures taken in response to the events of September 11, 2001, and any subsequent Orders issued. The requirements will remain in effect until the Commission determines otherwise.

The enclosed Order requires responses and actions be taken within specified time frames. Please contact your Project Manager to facilitate resolution of any issues related to compliance with the requirements in the enclosed Order.

Attachment 5A



Roy J. O'Kane

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The enclosed Order has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Docket No. 40-3392  
License No. SUB-526

Enclosures: 

1. Order
2. Order Attachment 1 - Additional Security Measures Regarding Fitness-for-Duty Requirements Applicable to Security Force Personnel

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	Docket No. 40-3392
HONEYWELL INTERNATIONAL, INC.	)	License No. SUB-526
METROPOLIS WORKS FACILITY	)	EA-04-072
METROPOLIS, IL	)	

**ORDER MODIFYING LICENSE  
(EFFECTIVE IMMEDIATELY)**

I.

Honeywell International, Inc. (“Honeywell” or the “licensee”) holds Materials License No. SUB-526 issued by the U.S. Nuclear Regulatory Commission (NRC or Commission) authorizing the operation of the Honeywell facility in accordance with the Atomic Energy Act of 1954 and Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 30 and 40. Commission regulations at 10 CFR 20.1801 require the licensee to secure licensed material from unauthorized removal or access from controlled or unrestricted areas. Further, License Condition 10 of Materials License No. SUB-526, as amended, requires that the licensee implement and maintain specific measures to control public and private access to the facility as described in the licensee’s October 1, 1998, enclosure to its application dated September 23, 1998.

II.

On September 11, 2001, terrorists simultaneously attacked targets in New York, NY, and Washington, DC, utilizing large commercial aircraft as weapons. In response to the attacks and intelligence information subsequently obtained, the Commission issued a number of

Safeguards and Threat Advisories to its licensees in order to strengthen licensees' capabilities and readiness to respond to a potential attack on a facility. The Commission also conducted a comprehensive review of its safeguards and security programs and requirements. On March 25, 2002, the Commission issued an Order to Honeywell to put the actions taken in response to the Advisories in the established regulatory framework and to implement additional security enhancements which have emerged from the NRC's ongoing comprehensive review. The Commission has also communicated with other Federal, State, local government agencies, and industry representatives to discuss and evaluate the current threat environment in order to assess the adequacy of security measures at licensed facilities.

Demands on licensee security force personnel have increased substantially since the September 11, 2001, attacks, and the current threat environment continues to require heightened security measures. The Commission has determined that the enclosed additional security measures are required to be implemented by Honeywell as prudent measures to address issues that may arise from work-hour related fatigue of security force personnel. Therefore, the Commission is imposing requirements as set forth in Attachment 1 of this Order. These requirements, which supplement existing regulatory requirements, will provide the Commission with reasonable assurance that the public health and safety and common defense and security continue to be adequately protected. These requirements will remain in effect until the Commission determines otherwise.

In order to provide reasonable assurance that the licensee is implementing prudent measures to achieve an adequate level of protection, Materials License No. SUB-526 shall be modified to include the requirements identified in Attachment 1 to this Order. In addition, pursuant to 10 CFR 2.202, the NRC finds that in the circumstances described above, public

health, safety, and interest require that this Order be immediately effective.

III.

Accordingly, pursuant to Sections 63, 81, 161b, 161i, 161o, 182 and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Parts 30 and 40, IT IS HEREBY ORDERED, **EFFECTIVE IMMEDIATELY**, THAT MATERIALS LICENSE NO. SUB-526 IS MODIFIED AS FOLLOWS:

- A. The licensee shall, notwithstanding the provisions of any Commission regulation or license to the contrary, comply with the requirements described in Attachment 1 to this Order except to the extent that a more stringent requirement is set forth in the licensee's security plans. The licensee shall immediately start implementation of the requirements in Attachment 1 to the Order and shall complete implementation **no later than [insert date 180 days from the date of issuance]**.
- B. 1. The licensee shall, within **twenty (20) days** of the date of this Order, notify the Commission: (1) if they are unable to comply with any of the requirements described in Attachment 1, (2) if compliance with any of the requirements is unnecessary in their specific circumstances, or (3) if implementation of any of the requirements would cause the licensee to be in violation of the provisions of any Commission regulation or the facility license. The notification shall provide the licensee's justification for seeking relief from or variation of any specific requirement.

2. If the licensee considers that implementation of any of the requirements described in Attachment 1 to this Order would adversely impact safe operation of the facility, the licensee must notify the Commission, within **twenty (20) days** of this Order, of the adverse safety impact, the basis for its determination that the requirement has an adverse safety impact, and either a proposal for achieving the same objectives specified in the Attachment 1 requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, the licensee must supplement its response to Condition B.1 of this Order to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.
- C.
1. The licensee shall, within **twenty (20) days** of the date of this Order, submit to the Commission a schedule for achieving compliance with each requirement described in Attachment 1.
  2. The licensee shall report to the Commission when it has achieved full compliance with the requirements described in Attachment 1.
- D. Notwithstanding any provisions of the Commission's regulations or license to the contrary, all measures implemented or actions taken in response to this Order shall be maintained until the Commission determines otherwise.

Licensee responses to Conditions B.1, B.2, C.1, and C.2, above, shall be submitted in accordance with 10 CFR Parts 30.6 and 40.5 as applicable. In addition, licensee submittals that contain Safeguards Information shall be properly marked and handled in accordance with 10 CFR 73.21.

The Director, Office of Nuclear Material Safety & Safeguards may, by letter, relax or rescind any of the above conditions upon demonstration by the licensee of good cause.

IV.

In accordance with 10 CFR 2.202, the licensee must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, within twenty (20) days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order. Unless the answer consents to this Order, the answer shall, in writing and under oath or affirmation, specifically set forth the matters of fact and law on which the licensee or other person adversely affected relies and the reasons as to why the Order should not have been issued. Any answer or request for a hearing shall be submitted to the Secretary, Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, ATTN: Rulemakings and Adjudications Staff, Washington, DC 20555. Copies also shall be sent to the Director, Office of Nuclear Material Safety & Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555; to the Assistant General Counsel for Materials Litigation and Enforcement at the same address; to the Regional Administrator, NRC Region III; and to the licensee if the answer or hearing request is by a person other than the licensee. Because of possible disruptions in delivery of mail to United States Government offices, it is requested that answers and requests for a hearing be transmitted to the Secretary of the Commission

either by means of facsimile transmission to 301-415-1101 or by e-mail to [hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov) and also to the Office of the General Counsel either by means of facsimile transmission to 301-415-3725 or by e-mail to [OGCMailCenter@nrc.gov](mailto:OGCMailCenter@nrc.gov). If a person other than the licensee requests a hearing, that person shall set forth with particularity the manner in which the individual's interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.714(d).

If a hearing is requested by the licensee or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained.

Pursuant to 10 CFR 2.202(c)(2)(i), the licensee may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section III above shall be final twenty (20) days from the date of this Order without further order or proceedings.

If an extension of time for requesting a hearing has been approved, the provisions specified in Section III shall be final when the extension expires if a hearing request has not been received.

AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

Jack R. Strosnider, Director  
Office of Nuclear Material Safety & Safeguards

Dated this    day of

Attachment: 1. Additional Security Measures



## **Additional Security Measures for Work-Hour Controls for Security Force Personnel**

### **A. Background:**

These additional security measures (ASMs) are established to delineate licensee responsibility in response to the threat environment presently in existence in the aftermath of the events of September 11, 2001. Excessive work schedules can challenge the ability of security force personnel to remain vigilant and effectively perform their duties.

### **B. Scope:**

Honeywell shall comply with the following ASMs to help ensure, in part, that security force personnel are not assigned to duty while in a fatigued condition that could reduce their alertness or ability to perform functions necessary to identify and promptly respond to security threats. Work-hour controls shall apply to personnel performing the following functions: armed member of the security force, guard, security shift supervisor, watchperson (i.e., watchman), and any member of the security force that is responsible for executing the licensee's physical security plan.

### **C. Additional Security Measures:**

#### **1. Individual Work-Hour Controls**

(a) Personnel performing the functions identified in B.1:

(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.

(4) Shall be limited to 700 hours quarterly and 2600 hours annually of actual hours worked or shall be subject to the Group Work-Hour Controls of C.2.

(a) Unplanned Security Outage or An Increase in Threat Condition (i.e., increase in protective measures level as promulgated by NRC Advisory):

(1) There are no specific quarterly and annual 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.1(a)(4). The use of the allowance defined in C.1(a)(4)(a)(1) shall not exceed 120 days.

Note 1: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 2: If an increase in threat condition occurs, the requirements of C.1(a)(4)(a) apply for the increased threat condition. If the threat condition returns to the baseline threat condition, the requirements of C.1(a)(4) apply.

Note 3: If multiple increases in threat condition occur while the conditions of C.1(a)(4)(a) are in effect, the requirements of C.1(a)(4)(a)(2) reset with each increase.

Note 4: If the threat condition decreases, the new threat condition shall be compared to the baseline to determine if the requirements of C.1(a)(4)(a) apply as a result of an increased threat condition. If so, C.1(a)(4)(a)(2) shall be referenced to the date when the current threat condition was last entered as the result of an increase.

Note 5: The licensee shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.1(a)(4)(a) apply.

(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 personnel alertness and performance.

## 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 or shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4):

(a) Normal Conditions: The average number of hours actually worked by personnel performing the functions identified in B shall not exceed 48-hours per week, excluding shift turnover time, averaged over consecutive periods not to exceed six (6) weeks. Personnel 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 these ASMs and take actions to prevent recurrence.

(b) 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, excluding shift turnover time, averaged over consecutive periods not to exceed six (6) weeks. For planned security system outages whose duration is less than the averaging period, the limit would be 60-hours per week averaged over the duration of the condition. Personnel 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 these ASMs and take actions to prevent recurrence.

(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 Security Outage or An Increase in Threat Condition (i.e., increase in protective measures 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 6: For the purposes of these ASMs, the baseline threat condition is defined as the least significant threat condition in effect in the last 120 days.

Note 7: If an increase in threat condition occurs while the facility is in a planned security 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 facility outage.

Note 8: 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 9: 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 10: The licensee shall reference changes in threat condition prior to the issuance of these ASMs to determine the baseline threat condition and whether the requirements of C.2(c) apply.

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

#### 4. Procedures

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

- (a) Describe the process for implementing the controls for hours worked specified in C.1, C.2, and C.3 of this ASM. The procedure shall specify whether the work hours shall be limited in accordance with the Individual Work-Hour Controls of C.1(a)(4) or the Group Work-Hour Controls of C.2.
- (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.

## Detailed Stakeholder Comments from the Public Meetings

The staff held two public meetings regarding the Orders and additional security measures (ASMs) with each class of licensee during the period September 2003 to February 2004. The stakeholder comments and the staff's proposed resolutions are summarized below:

### Independent Spent Fuel Storage Installations (ISFSIs) Comments

1. Section C.2(b) allows a group work-hour average of 60 hours per week during planned security system outages. Some licensees requested that the allowance include planned evolutions such as fuel movement, including fuel loading and transport of the fuel to storage casks. The staff believes that whereas fuel movement occurs infrequently, it is an important activity that places additional demands on security force personnel. Additionally, during the evolution, the licensee has several opportunities to start and stop operations, if necessary. Because opportunities exist to start and stop operations and with the increased demands placed on security officers during fuel movement, it is especially important that security force personnel remain vigilant and effectively perform their duties during these periods. Licensees should not increase security workforce hours beyond the contexts in the ASMs during these activities. Therefore, the staff did not incorporate the request.
2. Some ISFSIs are not physically co-located with a power reactor, but are located a short distance away from the site of a power reactor. Licensees of such facilities requested that the ASMs allow them to implement the fatigue Order for power reactors in order to use a uniform set of requirements for the ISFSI and the power reactor. The staff addressed the request by allowing ISFSIs and decommissioning reactor facilities to implement established fatigue programs from other power reactor facilities to reduce costs associated with implementing the ASMs at a site.
3. The ISFSI licensees noted that requirements should be based on risk. These licensees stated that for many of the facilities, the risk is considerably less than for power reactors (e.g., the reactor has been shut down, and the spent fuel has been removed and placed in storage casks). The Commission considered the potential consequences of terrorists attacks on these facilities when it previously established additional requirements for security officers. It is important that the officers remain alert when performing functions required by the site security plan. The proposed final Orders and ASMs are consistent with this expectation.
4. Licensees of ISFSIs and decommissioning reactors proposed an alternate approach to managing work hours for security officers. The Category I fuel cycle facilities had a similar comment. They requested that a simplified option be provided in the ASMs to control security force work hours versus using the group work-hour averaging method in Section C.2. The licensees proposed that security personnel be assigned a work process schedule not to exceed a nominal 42-hour week. Specifically, licensees proposed that annual overtime, outside the normal rotation schedule, shall be limited to 500 hours annually, with quarterly limits not to exceed 150 hours. After reviewing the proposal, the staff developed the option in Section C.1(a)(4). The option establishes controls for actual work hours rather

than overtime alone, and limits officers to 700 hours quarterly and 2,600 hours annually. This option may be used in place of the group work-hour controls in Section C.2. The quarterly hour limits are based on allowing individual officers the opportunity to work elevated work hours to cover operations that may be planned or emerge unexpectedly for the licensee during a quarter. The 700 hours per quarter are based on officers working 42 hours per week multiplied by 13 weeks and allowing an additional 154 hours, comparable to the 150 hours proposed by the licensees, to handle any planned or unplanned events for the licensee. The staff did not intend for the licensee to allow individual officers to work up to 700 hours each quarter and that is the reason for the annual limit of 2,600 hours. The 2,600 hours annual limit is based on officers working 42 hours per week multiplied by 50 weeks (it is assumed that officers will use 2 weeks of leave per year) and allowing an additional 500 hours, which is in agreement with the 500 hours proposed by the licensees, to handle any planned or unplanned events for the licensee. Additionally, the staff added in Section C.4 the requirement that the licensee state in its procedures which option it will use to determine security force work hours. It is the staff's intent and expectation that the licensee will not switch between the options for the sole purpose of maintaining compliance. During the staff's February 26, 2004, public meeting with ISFSI and decommissioning reactor licensees and the Nuclear Energy Institute (NEI), the attendees agreed with the changes, as well as the language about unplanned security outages and increased threat conditions in this option.

#### Decommissioning Reactor Facilities Comments

1. Some licensees indicated they do not have a fitness-for-duty (FFD) program in place and implementing a program that manages fatigue could be costly. This comment applies to the granting of a deviation from the individual work-hour controls in Section C.1(a)(3), which requires an evaluation by individuals with training in the symptoms, contributing factors, and effects of fatigue to determine that the worker's FFD would not be adversely affected by the additional work hours. The staff discussed options with the licensees for implementing fatigue training and noted that it is not requiring these licensees to implement a behavior observation program or FFD program identical to a power reactor program. Adequate training on fatigue would require not more than 3 hours and can be conducted through regularly scheduled training by the licensee.
2. Some licensees have a small administrative staff and believe that it is an unnecessary administrative burden to document self-declarations of being unfit for duty due to fatigue. The licensees recommend deleting the requirements concerning self-declaration from Section 4 of the ASMs. The documentation is necessary for periodic review of this program to ensure that officers are not forced to work while in a fatigued condition that may compromise their alertness and ability to maintain security for the facility. In addition, the documentation is only required if the individual is returned to duty (contrary to the individual's self-declaration of being unfit for duty) without a minimum of a 10-hour break. The documentation for these limited circumstances would not be expected to require more than a few minutes to complete.

3. Some licensees have a small administrative staff and only one security shift supervisor per shift. If the security shift supervisor for the upcoming shift is unable to come to work, the previous security shift supervisor must stay over to authorize any deviation (i.e., Section C.1(a)(3) of the ASMs) from the individual work-hour limits and the break between work periods. The licensees believe that it is an unnecessary administrative burden. These licensees requested that additional personnel be given the authority to allow deviations from the individual work-hour limits and the break between work periods. The authority to approve a deviation is limited to individuals qualified to determine whether the deviation is necessary to maintain the security of the facility and must be kept at a high enough level that use of this allowance is limited and appropriate. Those instances are rare when a security shift supervisor is unable to come to work and the on-shift supervisor must stay over to approve any deviations. For these reasons, the staff did not incorporate the requested change.

#### Category I Fuel Cycle Facilities Comments

1. The licensees requested similar relaxations previously granted to the power reactor licensees. The staff revised the draft ASMs to (1) exclude shift turnover time in the group work-hour controls for all classes of licensees; and (2) allow the average number of hours worked by personnel, during the actual conduct of the force-on-force exercises, to not exceed 60 hours per week, excluding shift turnover time for the licensee.
2. In general, the licensees asserted in the two meetings and in a letter dated January 28, 2004, from Mr. Winfred Nash to Mr. Glenn Tracy, that the Order is not required and imposes an unnecessary burden. The security requirements issued post September 11, 2001, have increased demands on security officers. The proposed ASMs are necessary to help ensure that fatigue does not compromise the ability of the security force to execute its responsibilities consistent with the requirements of 10 CFR 73.45 and 73.46.

Furthermore, in a letter dated March 3, 2004, from Mr. Winfred Nash to Chairman Diaz, BWXT reiterated its position that the fatigue Order is not required and imposes an additional complexity and cost to their operations that is not required, as well as unwarranted intrusion into management of its security operations. BWXT asserts that since September 11, 2001, it has increased security officer staffing by approximately a 50%. This has reduced officer overtime on average for the facility to approximately 20%, according to September 2003, data submitted by the licensee. Additionally, BWXT contends that at their facility, most officers work in two-person teams at all times, while those officers assigned to single-person stationary posts are frequently rotated through a variety of posts or given frequent breaks. As a consequence, BWXT believes that their officers are less likely to experience performance-related fatigue issues.

The staff acknowledges that certain BWXT staffing practices (e.g., two person teams, breaks, and frequent rotation of workers among job posts) can help mitigate the effects of fatigue on security officers. However, such practices have generally limited value in that they are only effective for a short time period and do not prevent fatigue, only delay the



onset of gross impairments of attention. The amount of time an individual has been continuously awake and the amount of prior sleep are the primary determinants of fatigue related degradations in performance. Although the stimulation of another worker or job rotation can aid officers in maintaining attention, other cognitive capabilities important to job performance (e.g., decision making) can continue to degrade as a function of fatigue. The staff also notes that the proposed work hour controls for the ASMs were based largely on the guidelines in the "NRC's Policy on Factors Causing Fatigue of Operating Personnel at Nuclear Reactors." The guidelines were developed primarily for personnel who work in multi-person teams. As a consequence, the staff does not believe that the use of multi-person teams, breaks, and job rotation warrant exceptions to the proposed requirements.

The proposed final ASMs require a more comprehensive and effective approach for managing fatigue of security personnel than the action described by the licensee. Specifically, the ASMs require work-hour controls that address both acute and chronic fatigue for any threat level. In addition, the ASMs require facilities to allow officers a minimum of a 10-hour break between work periods, which gives these individuals the opportunity to sleep a nominal 7 to 8 hours to mitigate fatigue. The staff acknowledges that work hours are not the only cause of worker fatigue; accordingly the ASMs address fatigue more broadly by requiring a formal process whereby individuals may self-identify themselves as unfit-for-duty due to fatigue and the licensees must review and handle this situation. The staff also agrees with BWXT that effective supervision is an important element of managing worker fatigue. The ASMs ensure that supervisors assessing worker fatigue have training appropriate to this task.

BWXT did not provide any unique or significant information for treating it differently from other licensees in the public meetings and their correspondence. The staff notes that the Orders will not impose a regulatory burden above and beyond what the Commission has already found acceptable for security force personnel at power reactors. The staff has developed requirements that give licensees substantial flexibility in implementing work-hour controls for their facilities, while at the same time reducing the likelihood that fatigue would compromise the ability of the security force to perform its responsibilities.

In conclusion, the staff believes the Order is required to ensure that the ability of the security force to perform its responsibilities is not compromised at any time, especially during increased threat conditions, which may require officers to work elevated work hours. As a consequence, issuance of this Order to the Category I fuel cycle facility licensees is warranted. Once the Order is issued, the licensee has an opportunity to respond to the Commission's Order within 20 days indicating the reasons, if any, the licensee cannot comply with this Order.

3. The Category I fuel cycle facility licensees requested a simplified option be provided in the ASMs to control security force work hours versus using the group work-hour averaging method in Section C.2. The staff developed this new option in Section C.1(a)(4). The option establishes controls for actual work hours rather than overtime, and limits officers to

700 hours quarterly and 2,600 hours annually. This option may be used in place of the group work-hour controls in Section C.2.

#### Gaseous Diffusion Plants (GDPs) Comments

1. Paragraph A of Section III of the Order states that implementation of the Order shall be completed no later than 180 days from the date of issuance. The Department of Energy (DOE) requested for the United States Enrichment Corporation (USEC) that the implementation period be extended to 270 days. The request is based on new demands that USEC will be facing beginning in June 2004 to provide increased security for the new DOE-depleted uranium conversion facilities at Paducah and Portsmouth. The facilities are hiring additional security officers to meet these demands; however, officers are required to have a "Q" clearance to perform their duties (as required by DOE), and the average clearance processing time for security personnel is currently approximately 460 days. The staff concludes that with the unique demands placed upon USEC to support DOE activities, it is acceptable to extend the implementation period of the Order to 270 days for USEC.
2. Section III, paragraph B.2, states that the licensee must notify the Commission within 20 days of issuance of the Order if the Order would impact safe operations of the facility. Both DOE and USEC requested that this section of the Order include reference to security when safety is referenced in this section. DOE and USEC believe that the Order impacts security programs as well as safety at the USEC facilities. The current language is adequate and sufficiently broad in scope that security is a subset of maintaining safety at the facility.
3. In a letter dated March 30, 2004, from Mr. Steven Toelle to Mr. Martin Virgilio as well as discussed in both public meetings, USEC stated that due to DOE contractual requirements, security officers are required to perform some type of physical fitness activity every week, which equates to approximately three additional work hours. Both DOE and USEC requested that the individual and group work-hour controls (Sections C.1(a)(1), C.2(a) and C.2(b)(1)) be revised to allow security officers to work these additional hours without the time being included in the group work-hour calculations and allowed during the 10-hour break between work periods. Individuals are given the flexibility when to perform this activity and both DOE and USEC believe that the physical activity helps mitigate fatigue. The staff acknowledges that physical exercise, in some instances, may provide limited improvements in sleep quality. The staff also recognizes that the exercise requirement can be met without necessarily causing an extension of the number of continuous hours an individual remains on duty, or disruption or reduction of sleep. The staff revised the ASMs to accommodate the request; however, the ASMs will limit the exclusion to no more than 3 hours per week from the group work-hour controls and the breaks between work periods.
4. For USEC only, DOE periodically requires that security officers support emergent operations (i.e., security events) that require the guarding of special nuclear or classified material and require officers to work elevated work hours for the operation. USEC requested that security officers, while performing only DOE-regulated activities, be exempt from the work-hour controls of this Order. However, USEC proposed that when an officer transitions back from performing DOE-regulated activities to performing NRC-regulated activities, the officer must be given a 48-hour break prior to commencing NRC-regulated

activities. The staff recognizes that this licensee has unique contractual requirements with DOE and therefore has updated Section C.1(a)(2) to reflect this unique requirement and require that officers be given a 48-hour break when transitioning from DOE activities to NRC activities.

5. Periodically, DOE (according to the Arming and Arrest Authority Security Plan (AAASP)) requires a sizeable number of GDP officers to test their skills and abilities (e.g., physical fitness and firearms tests). These officers are removed from their assigned duties to perform the tests and as a result other officers work elevated work hours for a short period to maintain security for the facility. USEC requested that they be allowed to work elevated work hours similar to other classes of licensees, such as power reactor and Category I fuel cycle facility licensees, whose security officers perform force-on-force drills. The staff agrees that adding provisions to the ASMs to address this DOE requirement is warranted and has provided a new Section C.2(d) to allow officers to not exceed 60 hours per week on average and during the actual conduct of the AAASP exercise.
6. DOE has its own security advisory system (i.e., security conditions (SECON)). USEC requested that the ASMs recognize the alternate SECON system and allow USEC to take similar actions in the final Order for an increase in threat advisory as promulgated by DOE. The staff agrees that this request is warranted and has referenced the DOE advisory system in the ASMs.
7. USEC and Honeywell requested that the 10-hour break between work periods be reduced to an 8-hour break to support the facility's 8 hour and 12 hour per day shifts and collective bargaining agreements between USEC and security (i.e., require that officers work overtime in increments of 4, 8, or 12 hours); additionally, USEC would like to maintain its ability to track work hours using current computer software. The staff did not incorporate the request since the 10-hour break period is based upon allowing individuals to receive a nominal 7 to 8 hours of sleep to mitigate fatigue.

In a letter dated March 30, 2004, from Mr. Steven Toelle to Mr. Martin Virgilio, USEC indicated that if the Commission does not reduce the 10-hour break between work periods to an 8-hour break and if the 3 hours per week of physical fitness training is not excluded from determining the group work-hour average and allowed during the 10-hour break period, then USEC will need to hire additional security personnel to comply with the work-hour restrictions of this Order. Therefore, USEC requests that the implementation period be extended to 460 days to account for the average clearance processing time for security personnel of approximately 460 days. The staff has proposed to the Commission (in item 3 above) to exclude up to 3 hours per week from the group work-hour controls and the break between work periods; however, the staff did not incorporate USEC's request to reduce the break period to 8 hours. The staff notes that the 460 days is an average clearance processing time and that in some cases officers have been able to receive their "Q" clearance in as little as 6 months. On the basis of these considerations, the staff did not extend the implementation period to 460 days. However, the staff accommodated the request to a limited extent by relaxing the implementation period (see comment 1).

8. In a letter dated March 30, 2004, from Mr. Steven Toelle to Mr. Martin Virgilio, USEC requested that in Section C.1(a)(3)(ii), for the individual authorized to approve deviations, be changed from the Security Shift Supervisor to the General Manager or Plant Shift Superintendent or Assistant Plant Shift Superintendent based upon USEC's current procedure requirements and technical service requirements (TSRs). The staff incorporated the change to support the licensee's TSRs.
9. USEC and ISFSI and decommissioning reactor facility licensees requested that the individual responsible for reviewing the number and duration of approved deviations in Section C.1(b) be changed to an individual other than the Security Manager. This reviewer should be someone that is an independent, higher level of management than the Security Shift Supervisor approving the deviations identified in Section C.1(a)(3)(ii). Furthermore, the staff notes that this action is performed periodically and is not required to be performed at a specific time, thereby allowing individuals to perform this review at their convenience. Based on discussions with USEC regarding its work practices as well as a letter dated March 30, 2004, from Mr. Steven Toelle to Mr. Martin Virgilio, the staff added to the ASMs that Senior Management personnel other than the individual authorizing the deviation in C.1(a)(3)(ii) may perform the review. For the other facilities (i.e., ISFSIs and decommissioning reactors), the staff did not incorporate the request because these facilities were requesting that any manager review the deviations; this did not meet the intent that the individual would be independent, qualified and at a higher level than the Security Shift Supervisor identified in Section C.1(a)(3)(ii) for performing the reviews.
10. USEC requested that in the group work-hour control sections (i.e., Sections C.2(a) and C.2(b)(1)), workers who did not work 75% of the normally scheduled hours during the averaging period include only those workers who were on extended disability leave or extended military leave. The staff did not incorporate this request, because it would allow workers who were on extended leave for other reasons (e.g., sickness, vacation, jury duty, and so forth) to be included when determining the group work-hour average. This would artificially reduce the group average and allow officers to work elevated hours above the group work-hour average intended by the NRC within these sections of the ASMs.
11. USEC, in the planned security system outages of Section C.2(b)(1), requested that the averaging period used to determine the group work-hour average could exceed 6 weeks. This request would allow the licensee to use periods greater than 6 weeks when determining the group work-hour average, thereby allowing officers to increase their work hours over a longer period while still maintaining the 60 hours per week average required within this section. Another licensee (i.e., Honeywell) had a similar comment in that Honeywell wanted to extend the averaging period from 6 weeks to 12 weeks for determining the group work-hour average. The staff did not incorporate either request. The intent of using a period not to exceed 6 weeks, when determining the work-hour average is to obtain prompt feedback regarding licensee performance in managing group work-hours and potential cumulative fatigue.

12. USEC requested an extension of the 120-day period of increased work hours allowed in Sections C.2(b)(2) and C.2(c)(2) for planned and unplanned security system outages and increased threat conditions. The basis for USEC's request is the need to hire additional officers. The period for using this allowance would be extended until security clearances are obtained, which currently averages 460 days. The staff did not incorporate the request because the intent of the 120-day limit is to limit the time period officers are required to work these elevated work hours, thereby limiting security force fatigue.
13. USEC requested that Section C.2(c) for unplanned security system outages and increase in threat levels be changed to include conditions that require increased staffing such as unplanned security work for DOE and NRC, increase in DOE or NRC threat conditions, and periods of training or testing to determine regulatory compliance. The staff interprets this request as an allowance for USEC to utilize this section of the ASMs frequently to support work, so that officers are not subjected to group work-hour limits when this section is utilized. The staff did not incorporate this request. The intent is that this section only be used for infrequent events such as security outages or increased threat levels. Additionally, the staff notes that the ASMs currently address the following issues: unplanned security outages, increased threat levels for both NRC and DOE through each agency's advisory program, and training and testing as required by the DOE AAASP Exercise.
14. Section C.3 allows exemption from the ASMs during declared emergencies. The GDP licensees requested that this section also include provisions for labor strikes, lockouts, and work stoppages. The staff did not incorporate the requested provisions. The staff notes that the licensee has control over these issues and that the licensee has the ability to request a relaxation to these ASMs at anytime if it is able to show good cause.
15. USEC stated that the individual annual and quarterly limits option is not required for its facility and requested that the option not be included within the ASMs. USEC believes that the limit was incorporated to support DOE-regulated activities. The staff did not incorporate this request and included the option since its purpose is to allow facilities to utilize an alternate approach to managing work hours for security officers. This option may be used in place of the group work-hour controls in Section C.2.

#### Honeywell Comments

1. Honeywell indicated that the original Note 1, which allows for a deviation from a 10-hour break to an 8-hour break for a scheduled transition of crews between work schedules or shifts, is not required for its facility and asked that it be deleted. The staff incorporated the request.
2. Honeywell requested that the individual work-hour controls in Section C.1(a)(1)(ii) be changed from security officers are not to work greater than 26 hours in any 48-hour period to 26 hours in any 32-hour period. The staff did not incorporate the requested changes since the licensee could require security officers to work a 16-hour shift, allow only a 6-hour break, and require officers to work a 10-hour shift. The licensee under this scenario would only allow a 6-hour break, which is less than the 10-hour break between work periods to mitigate fatigue.

**Comparison Chart Between Power Reactor CMs and Other Licensees ASMs**

<b>Section</b>	<b>Requirements of Power Reactor Order Rev. 1</b>	<b>Independent Spent Fuel Storage Installations</b>	<b>Decommission Reactors</b>	<b>Category I Fuel Cycle Facilities</b>	<b>Gaseous Diffusion Plants</b>	<b>Honeywell</b>	<b>Notes</b>
A. Background.	Work schedules can challenge security force to perform duties.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	
B. Scope.	Armed member of the security force, central alarm station operator, secondary alarm station operator, security shift supervisor, watchperson (i.e., watchman).	Armed member of the security force, alarm station operator, guard, security shift supervisor, watchperson (i.e., watchman) & any member responsible for executing the physical security plan.  May elect to use power reactor Order to keep uniform set of requirements.	Armed member of the security force, central alarm station operator, guard, secondary alarm station operator, security shift supervisor, watchperson (i.e., watchman) & any member responsible for executing the physical security plan.  May elect to use power reactor Order to keep uniform set of requirements.	Alarm station operator, armed member of the security force, guard, tactical response team member, watchperson (i.e., watchman) & any member responsible for executing the physical security plan.	Armed member of the security force, guard, security shift supervisor, watchperson (i.e., watchman) & any member responsible for executing the NRC physical security plan.	Armed member of the security force, guard, security shift supervisor, watchperson (i.e., watchman) & any member responsible for executing the physical security plan.	

Section	Requirements of Power Reactor Order Rev. 1	Independent Spent Fuel Storage Installations	Decommission Reactors	Category I Fuel Cycle Facilities	Gaseous Diffusion Plants	Honeywell	Notes
C.1(a)(1)(i). Individual Limit.	1-6 hours in any 24-hour period.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	
C.1(a)(1)(ii). Individual Limit.	26 hours in any 48-hour period.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	
C.1(a)(1)(iii). Individual Limit.	72 hours in any 7-day period.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	
C.1(a)(2). Individual Limit: minimum break between work period.	10 hours; turnover permitted during the break period.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Same requirement, however, includes excluding up to 3 hrs/wk of off-duty physical fitness training during the break period.  Personnel transitioning from DOE activities shall have at least a 48-hr break before performing the functions in B.	Requirements are the same as power reactors.	GDPs: excludes up to 3 hrs/wk of off-duty physical fitness training required by DOE.

Section	Requirements of Power Reactor Order Rev. 1	Independent Spent Fuel Storage Installations	Decommission Reactors	Category I Fuel Cycle Facilities	Gaseous Diffusion Plants	Honeywell	Notes
C.1(a)(3)(i). Individual Limit: Deviations.	Limited to circumstances that could not be foreseen or controlled.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	
C.1(a)(3)(ii). Individual Limit: Deviations.	Security shift supervisor must determine deviation is required to maintain security.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Same requirement, however, General Manager, Plant or Assistant Plant Shift Superintendent authorizes deviation.	Requirements are the same as power reactors.	
C.1(a)(3)(iii). Individual Limit: Deviations.	Evaluation performed by trained individual (symptoms, contributing factors & affects of fatigue) that individual's fitness for duty would not be affected by additional work period authorized.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	



Section	Requirements of Power Reactor Order Rev. 1	Independent Spent Fuel Storage Installations	Decommission Reactors	Category I Fuel Cycle Facilities	Gaseous Diffusion Plants	Honeywell	Notes
C.1(a)(3)(iv). Individual Limit: Deviations.	The basis for approval in items (i) through (iii) are documented.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	
Note 1. Individual Limit: transition of crews between work shifts.	An 8-hour break may be authorized for scheduled transition of crews between work shifts.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Deleted Note 1 based on Honeywell's request & stating that this note will not be used by their facility.	
C.1(a)(4). Individual Limit.	N/A	700 hrs/qtr and 2600 hrs/yr or use Group Work-Hour Controls of C.2.	700 hrs/qtr and 2600 hrs/yr or use Group Work-Hour Controls of C.2.	700 hrs/qtr and 2600 hrs/yr or use Group Work-Hour Controls of C.2.	700 hrs/qtr and 2600 hrs/yr or use Group Work-Hour Controls of C.2.	700 hrs/qtr and 2600 hrs/yr or use Group Work-Hour Controls of C.2.	
C.1(a)(4)(a). Individual Limit: Unplanned Security Outage or Increase in Threat Condition (per NRC advisory).	N/A	No specific quarter or annual limits; for periods > 90 days, take action to limit hours worked with requirements of C.1(a)(4); the use of this limit shall not exceed 120 days.	No specific quarter or annual limits; for periods > 90 days, take action to limit hours worked with requirements of C.1(a)(4); the use of this limit shall not exceed 120 days.	No specific quarter or annual limits; for periods > 90 days, take action to limit hours worked with requirements of C.1(a)(4); the use of this limit shall not exceed 120 days.	No specific quarter or annual limits; for periods > 90 days, take action to limit hours worked with requirements of C.1(a)(4); the use of this limit shall not exceed 120 days.	No specific quarter or annual limits; for periods > 90 days, take action to limit hours worked with requirements of C.1(a)(4); the use of this limit shall not exceed 120 days.	GDPs: recognize NRC and DOE advisory systems.

Section	Requirements of Power Reactor Order Rev. 1	Independent Spent Fuel Storage Installations	Decommission Reactors	Category I Fuel Cycle Facilities	Gaseous Diffusion Plants	Honeywell	Notes
C.1(a) Note 2: Baseline Threat.	N/A	The baseline threat condition is least significant threat condition in effect in last 120 days.	The baseline threat condition is least significant threat condition in effect in last 120 days.	The baseline threat condition is least significant threat condition in effect in last 120 days.	The baseline threat condition is least significant threat condition in effect in last 120 days.	The baseline threat condition is least significant threat condition in effect in last 120 days.	This is Note 1 for Honeywell.
C.1(a) Note 3: Increase in Threat Condition.	N/A	Increase in threat condition then requirements of C.1(a)(4)(a) apply otherwise C.1(a)(4) requirements apply.	Increase in threat condition then requirements of C.1(a)(4)(a) apply otherwise C.1(a)(4) requirements apply.	Increase in threat condition then requirements of C.1(a)(4)(a) apply otherwise C.1(a)(4) requirements apply.	Increase in threat condition then requirements of C.1(a)(4)(a) apply otherwise C.1(a)(4) requirements apply.	Increase in threat condition then requirements of C.1(a)(4)(a) apply otherwise C.1(a)(4) requirements apply.	This is Note 2 for Honeywell.
C.1(a) Note 4: Increase in Threat Condition.	N/A	Multiple increase in threat while C.1(a)(4)(a) in effect, requirements of C.1(a)(4)(a)(2) reset with each increase.	Multiple increase in threat while C.1(a)(4)(a) in effect, requirements of C.1(a)(4)(a)(2) reset with each increase.	Multiple increase in threat while C.1(a)(4)(a) in effect, requirements of C.1(a)(4)(a)(2) reset with each increase.	Multiple increase in threat while C.1(a)(4)(a) in effect, requirements of C.1(a)(4)(a)(2) reset with each increase.	Multiple increase in threat while C.1(a)(4)(a) in effect, requirements of C.1(a)(4)(a)(2) reset with each increase.	This is Note 3 for Honeywell.

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C.1(a) Note 5: Decrease in Threat Condition.	N/A	If threat decreases, compare it to baseline to see if in a increased threat condition in which C.1(a)(4)(a) apply. If so, C.1(a)(4)(a)(2) shall be referenced to date when the threat condition was last entered as a result of the increase.	If threat decreases, compare it to baseline to see if in a increased threat condition in which C.1(a)(4)(a) apply. If so, C.1(a)(4)(a)(2) shall be referenced to date when the threat condition was last entered as a result of the increase.	If threat decreases, compare it to baseline to see if in a increased threat condition in which C.1(a)(4)(a) apply. If so, C.1(a)(4)(a)(2) shall be referenced to date when the threat condition was last entered as a result of the increase.	If threat decreases, compare it to baseline to see if in a increased threat condition in which C.1(a)(4)(a) apply. If so, C.1(a)(4)(a)(2) shall be referenced to date when the threat condition was last entered as a result of the increase.	If threat decreases, compare it to baseline to see if in a increased threat condition in which C.1(a)(4)(a) apply. If so, C.1(a)(4)(a)(2) shall be referenced to date when the threat condition was last entered as a result of the increase.	This is Note 4 for Honeywell.
C.1(a) Note 6: Baseline Threat Condition.	N/A	Licensee shall reference changes in threat conditions prior to issuance of these ASMs to determine baseline threat condition and if C.1(a)(4)(a) apply.	Licensee shall reference changes in threat conditions prior to issuance of these ASMs to determine baseline threat condition and if C.1(a)(4)(a) apply.	Licensee shall reference changes in threat conditions prior to issuance of these ASMs to determine baseline threat condition and if C.1(a)(4)(a) apply.	Certificate Holders shall reference changes in threat conditions prior to issuance of these ASMs to determine baseline threat condition and if C.1(a)(4)(a) apply.	Licensee shall reference changes in threat conditions prior to issuance of these ASMs to determine baseline threat condition and if C.1(a)(4)(a) apply.	This is Note 5 for Honeywell.

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C.1(b). Review Approved Deviations.	Number and duration of approved deviations reviewed by Security Manager and limited to extent practicable.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Same requirement, however, Senior Management personnel other than individual in C.1(a)(3)(ii) performs review.	Requirements are the same as power reactors.	
C.1(c). Monitor and Control Work Hours.	Monitor and control individual work hours to help ensure excessive work hours are not compromising alertness and performance.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	
C.2(a). Group Work Hours.	Workers identified in section B shall be controlled per the following group work-hour limits of this section.	Workers identified in section B shall be controlled per the following group work-hour limits of this section or per the individual work-hour controls of C.1(a)(4).	Workers identified in section B shall be controlled per the following group work-hour limits of this section or per the individual work-hour controls of C.1(a)(4).	Workers identified in section B shall be controlled per the following group work-hour limits of this section or per the individual work-hour controls of C.1(a)(4).	Workers identified in section B shall be controlled per the following group work-hour limits of this section or per the individual work-hour controls of C.1(a)(4).	Workers identified in section B shall be controlled per the following group work-hour limits of this section or per the individual work-hour controls of C.1(a)(4).	

Section	Requirements of Power Reactor Order Rev. 1	Independent Spent Fuel Storage Installations	Decommission Reactors	Category I Fuel Cycle Facilities	Gaseous Diffusion Plants	Honeywell	Notes
C.2(a). Group Work Hours: Normal Planned Conditions.	Shall not exceed 48 hrs/wk, excluding shift turnover, averaged over consecutive periods not to exceed 6 wks. Workers who did not work $\geq 75\%$ normally scheduled hours during averaging period shall not be included in calculating the average.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Same requirement, however, includes excluding up to 3 hrs/wk of off-duty physical fitness training.	Requirements are the same as power reactors.	GDPs: excludes up to 3 hrs/wk of off-duty physical fitness training required by DOE.

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C.2(b). Group Work Hours: Planned Security System Outages.	Shall not exceed 60 hrs/wk, excluding shift turnover, averaged over consecutive periods not to exceed 6 wks. Workers who did not work $\geq 75\%$ normally scheduled hours during averaging period shall not be included in calculating the average. For periods >90 days, take action to limit hours worked with requirements of C.2(a); the use of this limit shall not exceed 120 days.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Same requirement, however, includes excluding up to 3 hrs/wk of off-duty physical fitness training.	Requirements are the same as power reactors.	GDPs: excludes up to 3 hrs/wk of off-duty physical fitness training required by DOE.

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C.2(c). Group Work Hours: Unplanned Security Outages or Increase Threat Conditions (per NRC advisory).	No specific group limits for periods > 90 days, take action to limit hours worked with requirements of C.2(a); the use of this limit shall not exceed 120 days.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Same requirements, however, recognizes DOE advisory.	Requirements are the same as power reactors.	For GDPs: recognize NRC and DOE advisory systems.
C.2 Note 7: Baseline Threat	The baseline threat condition is least significant threat condition in effect in last 120 days.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	This is Note 3 for power reactors. This is Note 6 for Honeywell.
C.2 Note 8: Increase in Threat Condition.	Increase in threat condition then requirements of C.2(c) apply otherwise C.2(b) requirements apply using licensees original start date for the planned outage.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	This is Note 4 for power reactors. This is Note 7 for Honeywell.

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C.2 Note 9: Increase in Threat Condition.	Multiple increase in threat while C.2(c) in effect, requirements of C.2(c)(2) reset with each increase.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	This is Note 5 for power reactors. This is Note 8 for Honeywell.
C.2 Note 10: Decrease in Threat Condition.	If threat decreases, compare it to base line to see if in a increased threat condition in which C.2(c) apply. If so, C.2(c)(2) shall be referenced to the date when the threat condition was last entered as a result of the increase.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	This is Note 6 for power reactors. This is Note 9 for Honeywell.



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C.2 Note 11: Baseline Threat Condition.	Shall reference changes in threat conditions prior to issuance of these CMs to determine baseline threat condition and if C.2(c) apply.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	This is Note 7 for power reactors. This is Note 10 for Honeywell.
C.2(d): Exercises.	For Force on Force Exercises: Shall not exceed 60 hrs/wk, excluding shift turnover, during conduct of exercise.	N/A	N/A	Requirements are the same as power reactors.	Same requirements are applied to Arming and Arrest Authority Security Plan Exercises.	N/A	GDPs: The AAASP Exercises is required by DOE.
C.3: Declared Emergencies.	Licensees exempt during declared emergencies as defined by emergency plan.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	Requirements are the same as power reactors.	

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C.4: Procedures	Develop procedures describing: implementing work-hour controls, individuals reporting unfit for duty due to fatigue and document if self declarations of unfit for duty if individual is returned to work.	In addition to the requirements, the procedures must also specify if individual work-hour controls of C.1(a)(4) or group work-hour controls C.2 will be followed.	In addition to the requirements, the procedures must also specify if individual work-hour controls of C.1(a)(4) or group work-hour controls C.2 will be followed.	In addition to the requirements, the procedures must also specify if individual work-hour controls of C.1(a)(4) or group work-hour controls C.2 will be followed.	In addition to the requirements, the procedures must also specify if individual work-hour controls of C.1(a)(4) or group work-hour controls C.2 will be followed.	In addition to the requirements, the procedures must also specify if individual work-hour controls of C.1(a)(4) or group work-hour controls C.2 will be followed.	This is required to determine which option shall be used by a licensee (i.e., individual or group work-hour controls).