



May 20, 2011  
GDP 11-0012

Mr. Kevin S. Mattern, NRC Project Manager  
Division of Fuel Cycle Safety and Safeguards  
Office of Nuclear Material Safety and Safeguards  
Attention: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

**Paducah Gaseous Diffusion Plant (PGDP)  
Docket No. 70-7001, Certificate No. GDP-1**

**Response to NRC Request For Additional Information Dated May 4, 2011 Regarding Paducah Gaseous Diffusion Plant's Certificate Amendment Request To Revise Technical Safety Requirements 2.1.1, 2.1.4.13, and 2.1.4.14, And Table 3.2.2-1, C-360 Minimum Staffing Requirements (TAC No. L32768)**

Dear Mr. Mattern:

This letter provides the United States Enrichment Corporation's (USEC's) responses to the request for additional information (RAI) identified by the NRC staff in a letter from Mr. Kevin S. Mattern (NRC) to Mr. Steven A. Toelle (USEC) dated May 4, 2011. The identified RAI supports the NRC staff's technical review of USEC's Certificate Amendment Request (CAR), letter number GDP 10-0042 dated December 15, 2010. Enclosure 1 of this letter identifies the specific additional information requested by the NRC staff in the cited NRC letter and includes USEC's response to each request.

Should you have any questions related to this submittal, please contact me at (301) 564-3250. There are no new commitments contained in this submittal.

Sincerely,

Steven A. Toelle  
Director, Regulatory Affairs

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Declared  
original by PM

- References:
1. Letter number GDP 10-0042 from Mr. Steven A. Toelle (USEC, Director, Regulatory Affairs) to Ms Catherine Haney (NRC, Director, Office of Nuclear Material Safety and Safeguards), Certificate Amendment Request (CAR) - C-360 Technical Safety Requirements (TSR) 2.1.1, Operations Modes, 2.1.4.13, Cylinder Handling - Cylinder Rolling and Tilting, 2.1.4.14, Cylinder Handling - Cylinder Disconnection, and Table 3.2.2-1, C-360 Minimum Staffing Requirements, December 15, 2010.
  2. Letter from Mr. Kevin S. Mattern (NRC Project Manager Conversion, Deconversion and Enrichment Branch Division of Fuel Cycle Safety and Safeguards Office of Nuclear Material Safety and Safeguards) to Mr. Steven A. Toelle (USEC, Director, Regulatory Affairs), Request For Additional Information Dated May 4, 2011, Regarding Paducah Gaseous Diffusion Plant's Certificate Amendment Request To Revise Technical Safety Requirements 2.1.1, 2.1.4.13, and 2.1.4.14, And Table 3.2.2-1, C-360 Minimum Staffing Requirements (TAC No. L32768), May 4, 2011.
  3. CP1-PO-PO1002, See and Flee, United States Enrichment Corporation, Paducah Gaseous Diffusion Plant, Paducah, Kentucky.

- Enclosures:
1. Response to NRC RAI Dated May 4, 2011, Regarding PGDP's CAR to Revise TSRs 2.1.1, 2.1.4.13, and 2.1.4.14, And Table 3.2.2-1, C-360 Minimum Staffing Requirements

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**Enclosure 1**  
**GDP 11-0012**

**Response to NRC RAI Dated May 4, 2011 Regarding PGDP's CAR to Revise TSRs 2.1.1,  
2.1.4.13, and 2.1.4.14, And Table 3.2.2-1, C 360 Minimum Staffing Requirements**

**Response to NRC RAI Dated May 4, 2011 Regarding PGDP's CAR to Revise TSRs 2.1.1, 2.1.4.13, and 2.1.4.14, And Table 3.2.2-1, C 360 Minimum Staffing Requirements**

***NRC RAI-1***

*In the "Justification of Changes" section of Enclosure 2 of the submittal, it is stated that, "[T]he accident analysis does not credit any operator actions during these accident scenarios other than to evacuate the area and notify the PSS." The Safety Analysis Report SAR, page 4.3-101, also states that: "[N]o actions are required in the C-360 facility because automatic detection of the lines are provided." Contrary to the above, SAR pages 4.3-96, 4.3-101, 4.3-102, and 4.3-103 describe required mitigative operator action, operator training, and manual isolation. Provide clarification that all references to "operator action" in Accident 4.3.2.2.10 in the Paducah Gaseous Diffusion Plant's SAR do not refer to any accidents in the C-360 facility. If "operator action" is in fact required for any accident in the C-360 facility, provide additional justification for reducing staffing requirements and associated additional mitigative measures.*

**USEC's Response:**

The referenced required mitigative operator action and operator training for manual isolation referenced from SAR pages 4.3-96, 4.3-101, 4.3-102, and 4.3-103 do not apply to the operators in the Toll Transfer and Sampling Facility, C-360. The referenced operator action and operator training for manual isolation only apply to the feed facilities, C-333-A and C-337-A, or emergency responders in appropriate protective environmental gear. Therefore, these operator actions will have no impact on the proposed changes to the minimum staffing in the Toll Transfer and Sampling Facility, C-360.

References to "Operator Action" (**highlighted**) in 4.3.2.2.10, Pigtail/Line Failure Outside Autoclave:

1. b. Source-Term Analysis, Page 4.3-96:

Another variation in the above scenario is for the receiving cylinder not to be isolable because of disconnection from the pigtail at the cylinder connection. The parent cylinder will still be isolated within the 45 seconds, but the receiving cylinder will continue to release its contents **until emergency personnel plug the cylinder** or the amount is exhausted.

2. c. Consequence Analysis, Workers outside the process buildings, Page 4.3-101:

Workers outside the process buildings — The essential controls for protecting on-site personnel outside the facilities are: (1) detection of the release, (2) minimization of the release by initiating isolation, and (3) training of on-site personnel to evacuate areas upon detection of a release by sight or by odor. The first essential action is to detect the release of UF<sub>6</sub>. For the **feed facilities**, a release is detected visually or by smelling the HF, and **operator action** would be taken to initiate the autoclave manual isolation system. For the Toll Transfer and Sampling Facility, the UF<sub>6</sub> release detection system (zones 1 and 4) will automatically detect the release and initiate primary system isolation. The second essential action is accomplished by the manual or

automatic isolation to terminate the release. If workers outside of the process buildings have received not other instructions for action to be taken (i.e., shelter in place or take cover), then the essential control for these receptors is to evacuate their areas if a release is detected by sight or by odor.

3. c. Consequence Analysis, Off-site public, Page 4.3-102:

Off-site public — As indicated in the consequences for the 45 second release from both parent and daughter, the consequence at the site boundary is about 12.3 mg U for the baseline scenario, while that for the  $f_A$  of 0.52 is 21.2 mg uranium. This allows for some extra time for detection and isolation prior to reaching the 30 mg U guideline. The time frame allowed for initiation of the isolation systems is about 109 sec for the baseline scenario and about 62 sec for the  $f_A$  of 0.52 scenario, before the evaluation guidelines are exceeded. This provides adequate time for personnel to evacuate **and actuate the system as they leave.**

**NOTE:** As indicated, the baseline scenario assumes a pigtail/line failure in the parent/daughter transfer operation performed in the Toll Transfer Facility, C-360. However, the final sentence of this section that addresses “adequate time” for personnel to evacuate and actuate the system as they leave only applies to the Feed Facilities, C-333-A and C-337-A, for operation of the Autoclave Manual Isolation System. The Toll Transfer Facility, C-360, uses active engineered features incorporate in the  $UF_6$  release detection (zones 1 and 4) system to automatically initiate isolation upon detection of a  $UF_6$  release. Therefore, the indicated discussion illustrates there is adequate time for Toll Transfer Facility, C-360, personnel to evacuate the area upon detection of a  $UF_6$  release.

4. e. Summary of SSCs and TSR Controls, last bullet of first set of bullets, Page 4.3-103:

**Operator training for required actions—closure of isolation valves to terminate release (C-333A and C-337A only)** and evacuation of the area (EGs 1, 2, and 6 only).

In all instances, the operator actions upon detection of a  $UF_6$  release that require the closure of isolation valves apply only to the Feed Facilities, C-337-A and C-337-A, or are associated with emergency responders (not local operators) in appropriate protective environmental gear. The operator actions to manually initiate closure of isolation valves are not applicable to the Toll Transfer and Sampling Facility, C-360, because active engineered features designed into the  $UF_6$  release detection systems (zones 1 and 4) installed in this facility automatically initiates closure of isolation valves upon detection of a  $UF_6$  release. Therefore, the only operator action applicable to the Toll Transfer and Sampling Facility, C-360, upon detection of a  $UF_6$  release is for operators to evacuate the area in accordance with the See and Flee policy.

**NOTE:** See and Flee policy does allow an operator to immediately reverse/correct an action that results in a release before evacuation, if the action is limited to immediately reversing/correcting the action that resulted in the release.

The following is excerpted from CP1-PO-PO1002 (See and Flee):

Personnel not engaged in response by procedure, may take limited actions to secure the operation which caused a hazardous material release if:

- The cause of the release and the actions needed to mitigate the release are clearly understood.
- The action can be taken without hindering prompt egress (e.g. pushing a valve button or switch to close an automatic valve).

#### **NRC RAI-2**

*Based on page 4.3-95 of the SAR which states that, “[D]uring these operating modes, multiple operator errors or equipment malfunctions could occur that could result in a pigtail failure and a release of UF<sub>6</sub>.” it is unclear that potential initiators for the relevant accidents are not adversely affected—even though the initial conditions may not be affected. While the staffing changes may not affect the accident analysis or response, provide further justification to demonstrate that the reduction in staff does not decrease operational effectiveness and potentially increase accident frequency, specifically in modes 2A, 6A and 6B.*

#### **USEC’s Response:**

The number of operators required to be in a facility does not have an impact on the probability of an operator making multiple operator errors that result in a pigtail failure and a release of UF<sub>6</sub>. The current staffing level of two for modes 2 (that includes the new mode 2A and 2B), 6A and 6B specify that the operators be in the facility or in the immediately surrounding grounds that include the guard station and the local cylinder yard. Tasks allowed during modes 2A, 6A and 6B only require one operator to perform the operations. The other operator may be doing other non-TSR tasks in other areas of the facility as specified above unless some special circumstance exists. In addition, since no operations are in progress during the new mode 2B, no operator errors can occur during this mode that would lead to a pigtail failure and UF<sub>6</sub> release.

The quoted text in RAI-2 (underlined above) is assumed to originate from the following (**highlighted**) text that comes from the proposed SAR 4.3.2.2.10.a, Scenario Description, Page 4.3-95:

*All autoclaves in the autoclave open or out of service mode—* During the autoclave open mode, various pigtail connections, disconnections, and cylinder rolling operations could be performed. During out of service mode, the autoclave is open with a cylinder present but no operation in progress. **During these operating modes, multiple operator errors or equipment malfunctions could occur that could result in a pigtail failure and release of UF<sub>6</sub>.** This event would result in significant consequences beyond the immediate vicinity only if the UF<sub>6</sub> is in the liquid/gaseous state. During these operating modes, there are no systems available that would isolate the cylinder should a failure of the pigtail occur at the cylinder connection. Therefore, the

source-term for this event would be an unmitigated release of the contents of a cylinder. If the cylinder is in a position where the level of  $\text{UF}_6$  is below the valve, the release would be in the vapor state. If the liquid level is above the valve, liquid  $\text{UF}_6$  would exit the opening and flash to solid and vapor. The release of vapor only for this condition is bounded by the release at a transfer station in the Toll Transfer and Sampling Facility (see below) where the receiving cylinder is not isolated. Therefore, no additional analysis of this condition is provided. The liquid release is bounded by a cylinder failure event outside the autoclave as described in Section 4.3.2.2.15. Therefore, no additional analysis of this condition is provided. Consequently, no specific source-term and consequence analysis is provided for the autoclave open modes of operation.

The question in RAI-2 addresses whether potential initiators for the event are adversely affected by the reduction in minimum staffing; specifically in modes 2A, 6A and 6B. Reference the mode definitions provided below for additional information.

As identified in the SAR text above, during the proposed mode 2A, Autoclave Open, multiple operator errors or equipment malfunctions could occur that could result in a pigtail failure and release of  $\text{UF}_6$ . The number of personnel in the facility would have no impact on the potential initiators. Equipment malfunctions are independent of the number of operators present. Operator errors sufficient to cause a  $\text{UF}_6$  release can happen with one or more operators in the facility. One operator (proposed minimum staffing) can safely and effectively perform all the tasks associated with mode 2A, Autoclave Open. This includes cylinder roll/tilt, parent pigtail connection or disconnection, inspections, testing, cylinder valve operation, and autoclave repair.

During mode 2A, Autoclave Open, there are no systems available that would isolate the cylinder should a failure of the pigtail occur at the cylinder connection. Regardless of the number of personnel in the facility, the only action credited in the accident analysis is evacuation. In the event of a release, the plant see and flee policy (CP1-PO-PO1002) requires personnel to evacuate the area for their own protection.

Mode 6A (Transfer Station Operations: Preparation) requires operator actions similar to mode 2A, Autoclave Open with the connection and disconnection of the receiving (daughter) cylinder pigtail. There is no liquid  $\text{UF}_6$  in the transfer piping or pigtail. The daughter cylinder may or may not have liquid  $\text{UF}_6$ . Mode 6B (Transfer Station Operations: Transfer) is the actual transfer operation where liquid  $\text{UF}_6$  is being transferred from a parent cylinder to the daughter cylinder. Sampling of the transferred liquid may occur simultaneously with the transfer operation.

As discussed in the 4.3.2.2.10 scenario for the Toll Transfer and Sampling Facility (page 4.3-95a), during autoclave transfer modes of operation, the C-360 toll transfer  $\text{UF}_6$  primary system lines outside the autoclave are exposed to potential hazards (e.g., equipment failure, operator errors) that could cause a pigtail/line failure to occur. The  $\text{UF}_6$  release detection system (zone 4) will automatically isolate the transfer line and the daughter cylinder if a  $\text{UF}_6$  release is detected. Regardless of the number of personnel in the facility, the only action credited in the accident analysis is evacuation. In the event of a release, the plant see and flee policy (CP1-PO-PO1002) requires personnel to evacuate the area for their own protection. The number of personnel in the facility would have no impact on the potential initiators.

Equipment malfunctions are independent of the number of operators present. Operator errors sufficient to cause a UF<sub>6</sub> release can happen with one or more operators in the facility. One operator (proposed minimum staffing) can safely and effectively perform all the tasks associated with modes 6A, Preparation and 6B, Transfer.

The definitions of modes 2A (proposed in submittal), 6A (no change) and 6B (no change) are provided below for ease of reference:

Mode # / Name	Definition	Minimum Staffing
Mode 2A / Autoclave Open	This mode is applicable when the autoclave is open and one or more of the following operations may be occurring: cylinder roll/tilt, parent cylinder pigtail connection or disconnection, inspections, testing, cylinder valve operation or autoclave repair.	Current = 2 Proposed = 1
Mode 6A / (Transfer Station Operations) Preparation	This mode involves connection and disconnection of the receiving cylinder pigtail. The pigtail and transfer manifold shall be evacuated such that no liquid UF <sub>6</sub> is present in the piping.	Current = 2 Proposed = 1
Mode 6B / (Transfer Station Operations) Transfer	This mode is applicable when liquid UF <sub>6</sub> is being transferred from a parent cylinder to another approved (the receiving) cylinder, and when liquid UF <sub>6</sub> exists in the transfer manifold and pigtail prior to evacuation. Sampling of the transferred liquid may occur simultaneously with the transfer operation.	Current = 2 Proposed = 1

### ***NRC RAI-3***

*The current submittal states: “[C]ompliance with the TSR is expected regardless of how many operators are present in C-360.” Provide additional justification other than, “since no operations are performed during this mode,” as to why a change from 2 operators required to 0 operators required for 2B would continue to maintain the same level of effectiveness of the Plant’s safety programs and ensures compliance with the Technical Safety Requirements (TSR).*

### **USEC’s Response:**

During the new mode 2B, no operator errors can occur that would lead to a UF<sub>6</sub> release because no operations are in progress during this mode. In addition, no specific TSRs are applicable during mode 2 since no operations are in progress during this mode; thus compliance with the TSR is not a concern.

The detailed response will be presented in two parts:

For reference - mode 2B definition and associated minimum staffing:

Mode # / Name	Definition	Minimum Staffing
Mode 2B / Out of Service	Autoclave is considered out of service when it is open with a cylinder in the autoclave and no operation is in progress.	Current = 2 Proposed = 0

A) Plant Safety Programs Effectiveness

The plant's safety programs are specified and described in Section 3 of the TSRs, Administrative Controls, and associated sections of the SAR. These include the Nuclear Criticality Safety Program, Fire Protection Program, Radiation Protection Program, Radioactive Waste Management Program, Environmental Protection Program, Packaging and Transportation Program, and the Chemical Safety Program. During mode 2B, Out of Service, the autoclave is open with a cylinder in the autoclave and no operations are in progress. The transition to mode 2B will be controlled by a facility procedure that will ensure the facility is in the condition specified in the TSR mode description. The proposed minimum staffing for mode 2B is zero. None of the programs identified above have any requirements for minimum staffing of a facility. These programs rely on the implementing policies and procedures that are applicable to the entire PGDP site and not a single facility. The applicable plant wide and specific Toll Transfer and Sampling Facility, C-360, procedures will ensure that even during proposed mode 2B conditions, that all of the plant's safety programs are being implemented and complied with so the same level of effectiveness is maintained regardless of the facility minimum staffing level.

B) Compliance with TSRs

During mode 2B, Out of Service, a (full or empty) cylinder may be in the autoclave but no operations are actively in progress. As described in the accident analysis (4.3.2.2.10, Pigtail/Line Failure Outside Autoclave) for this mode, multiple operator errors or equipment malfunctions could occur that could result in a pigtail failure and release of UF<sub>6</sub>. During this mode of operation, there are no systems available that would isolate the cylinder should a failure of the pigtail or valve occur at the cylinder connection. Regardless of the number of personnel in the facility, the only action credited in the accident analysis is evacuation. In the event of a release, the plant see and flee policy (CP1-PO-PO1002) requires personnel to evacuate the area for their own protection.

There are no TSRs that are specifically applicable during the proposed mode 2A, Autoclave Open. Some TSRs for the Toll Transfer and Sampling Facility, C-360, are currently identified as applicable during mode 2 (TSRs 2.1.4.13 and 2.1.4.14), which includes both submodes "Autoclave Open" and "Out of Service." Selected other TSRs for this facility are applicable during all modes (TSRs 2.1.2.1, 2.1.2.2, and 2.1.4.18). The following TSRs are applicable for the current mode 2 and All modes in the Toll Transfer and Sampling Facility, C-360:

2.1.2.1 Autoclave Shell Pressure (Safety Limit): The autoclave shell pressure shall not exceed 165 psig.

Applicability: Modes: All

During mode 2B there are no operations in progress thus no steam is being applied to the autoclave. If the autoclave is closed and the UF<sub>6</sub> inside the cylinder was liquid and at the maximum temperature (240 F) and pressure (88 psia) assumed in the accident analysis, the pressure inside the autoclave, if the UF<sub>6</sub> were released into the autoclave, is well below the autoclave pressure safety limit.

2.1.2.2 UF<sub>6</sub> Cylinder Temperature (Safety Limit): Cylinder temperature shall not exceed the values listed below.

Cylinder Category	Temperature Safety Limit
A	250°F
B	245°F

Applicability: Modes: All

During mode 2B there are no operations in progress thus no steam is being applied to the autoclave. If the UF<sub>6</sub> inside the cylinder was liquid and at the maximum temperature (240 F) and pressure (88 psig) assumed in the accident analysis, the temperature is well below the cylinder temperature safety limit.

2.1.4.5a Criticality Accident Alarm System (CAAS): Criticality accident detection coverage shall be operable.

Applicability: In areas, equipment, or processes which contain greater than 700 grams of  $^{235}\text{U}$  at an enrichment greater than or equal to 1.0 wt%  $^{235}\text{U}$ .

2.1.4.5b Criticality Accident Alarm System: Criticality accident alarm shall be operable (audible).

Applicability: In areas where the maximum foreseeable absorbed dose in free air exceeds 12 rad, except areas in permit-required confined spaces and localized areas of inaudibility.

During the proposed mode 2B, this TSR is applicable if there is sufficient amounts of  $^{235}\text{U}$  greater than 1.0 wt %  $^{235}\text{U}$ . This TSR does not require any operator action other than to evacuate if CAAS alarms. The number of personnel in the facility does not impact this TSR.

2.1.4.13 Cylinder Handling - Cylinder Rolling and Tilting:  $\text{UF}_6$  cylinders shall be disconnected from the  $\text{UF}_6$  manifold during rolling and/or tilting.

Applicability: Modes: 2 (only for mode 2A in proposed)

During the proposed mode 2B and the current submode, Out of Service, there are no operations in progress (or permitted), thus this TSR is not applicable. During the current submode 2, Out of Service, no operations are in progress, thus this TSR is essentially not applicable.

2.1.4.14 Cylinder Handling - Cylinder Disconnection: The cylinder valve shall be closed prior to disconnecting the cylinder from the pigtail.

Applicability: Modes: 2 (only for mode 2A in proposed), 6A

During the proposed mode 2B and the current submode, Out of Service, there are no operations in progress (or permitted), thus this TSR is not applicable. During the current submode 2, Out of Service, no operations are in progress, thus this TSR is essentially not applicable.

**NRC RAI-4**

*Provide additional justification for amending the TSRs to decrease the minimum staffing requirements from 43 to 40 for the C-360 facility immediately following the previously approved increase in the maximum number of hours for an individual worker from 24 to 26 in a 48-hour period. Discuss the synergistic effects of these two licensing actions, specifically, whether or not an increase in the probability of occurrence of evaluated accidents and/or a decrease in the margin of safety would result from these related changes. Provide justification that these related changes would ensure that adequate shift coverage will be maintained without routine heavy use of overtime as per SAR, Section 3.2.2.*

**USEC's Response:**

The decrease in the minimum staffing requirements from 43 to 40 is not specifically for the C-360 facility. The minimum staffing for C-360 currently ranges from a maximum of two (modes 1a, 2, 6 and 7) to zero (mode 8, Not in Use). The proposed change for modes 2A, 2B, 6A and 6B will not change the range of the maximum and minimum, which will still be two and zero. The change from 43 to 40 was not the result of the proposed changes to the C-360 minimum staffing, but the result of previous historical changes in minimum staffing to TSR Table 3.2.2-1. This number represents an approximate number for the plant minimum staffing level. The normal plant staffing level is approximately 80, which is dependent on expected or planned activities for the shift period.

The detailed response will be presented in two parts including: A) synergy of reducing the minimum staffing requirements in the Toll Transfer Facility, C-360, and B) change in minimum staffing for selected modes and recently approved worker hours (24 to 28 in 48) with respect to overtime per TSR 3.2.2.

**A) Synergy of reducing the minimum staffing requirements**

Reducing the number of operators required to be present in the Toll Transfer and Sampling Facility, C-360, in conjunction with the recently approved change in hours an individual worker may work in any 48 hour period of time will not have an impact on the probability of occurrence of evaluated accidents or decrease the margin of safety. As stated in the Certificate Amendment Request (CAR) significance determination associated with the proposed change, the accidents of concern for the change in minimum staffing levels for C-360 modes are nearly all the accidents associated with the facility. The probability of occurrence for the relevant accident scenarios are identified as being within the anticipated event (AE) or evaluation basis event (EBE) frequency ranges. None of the applicable accident scenarios require specific operator actions, except prerequisite administrative controls (inspections, precautions, etc.), for prevention of the event. These administrative controls are not dependent on minimum staffing requirements. Nor would the completion of these administrative controls be affected by the recent change in individual worker hours. The operator is only required to evacuate the area and notify the Plant Shift Superintendent (PSS) upon detection of a UF<sub>6</sub> release or activation of the criticality accident alarm system (CAAS). In addition, each specific TSR that is applicable during the modes being impacted by these proposed minimum staffing changes was reviewed and found not to be impacted by the number of operators in C-360. The proposed change to split the current Mode 2, Autoclave Open or

Out of Service, into two separate modes, identified as Mode 2A, Autoclave Open, and Mode 2B, Out of Service, will have no impact on the probability of an occurrence of an accident. The proposed minimum staffing requirement changes do not adversely affect the initial conditions (temperature, pressure, etc.) or potential initiators for the relevant accidents evaluated in the SAR. Therefore, the proposed change will not significantly increase the probability of occurrence or consequences of previously evaluated accidents.

The proposed changes to the TSRs associated with the proposed mode changes will not reduce any TSR margin of safety. As stated in the CAR significance determination associated with the proposed change in C-360 minimum staffing, the proposed minimum staffing for modes 2A, 2B, 6 and 7 is consistent with the number of operations staff required to safely operate the facility during normal and accident conditions. The two TSRs (2.1.4.13, Cylinder Handling - Cylinder Rolling and Tilting, and 2.1.4.14, Cylinder Handling - Cylinder Disconnection) that have proposed changes to the applicable modes do not have margin of safety discussions related to mode applicability or minimum staffing. The previously approved change to the maximum individual worker hours in a 48 hour period will have no impact on how these TSRs will be implemented or complied with. Therefore, the proposed changes to the C-360 minimum manning in conjunction with the previously approved change in worker hours in a 48-hour period will not reduce the margin of safety of any TSR.

- B) Requested change in minimum staffing for selected modes and recently approved worker hours (24 to 28 in 48) with respect to overtime per TSR 3.2.2.

The change in minimum staffing for selected modes and the recently approved worker hours (from 24 to 26 in 48) change will not negatively effect the number of overtime hours worked in the UF<sub>6</sub> handling facilities. The proposed change will allow flexibility in manning and may actually help reduce the total number of overtime hours worked in the UF<sub>6</sub> handling facilities. By allowing the Toll Transfer and Sampling Facility, C-360, to operate with reduced manning requirements for modes 2A, 2B, 6 and 7, allows operators to support operations at either of the feed facilities; thus relieving those facilities from the potential of requiring operators on overtime to support the planned facility operations. As discussed in other responses to requests 1-3 above, it has been demonstrated that the reduced number of operators for modes 2A, 2B, 6 and 7 will allow the safe and efficient operation of the Toll Transfer and Sampling Facility C-360.