



June 21, 2007
GDP 07-0025

Mr. Michael F. Weber
Director, Office of Nuclear Material Safety and Safeguards
Attention: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

**Portsmouth Gaseous Diffusion Plant (PORTS)
Docket No. 70-7002, Certificate No. GDP-2
Certificate Amendment Request – DOE Radiological Survey**

Dear Mr. Weber:

In accordance with 10 CFR 76.45, the United States Enrichment Corporation (USEC) hereby submits a request for an amendment to the Certificate of Compliance for the Portsmouth Gaseous Diffusion Plant (PORTS). This Certificate Amendment Request (CAR) proposes a temporary change to the Portsmouth plant operations to allow a helicopter fly over of the process buildings and hazardous material storage areas in support of a radiological survey.

This change is being made as the result of a request by the Department of Energy (DOE) to allow a radiological survey to be conducted by the National Nuclear Security Administration (NNSA) utilizing a helicopter fly over. This fly over encompasses the total Portsmouth Reservation which includes USEC leased portions of the gaseous diffusion plant. The radiological survey will be a one time activity conducted over a two to three day period. The 10 CFR 76.68 evaluation performed in support of this activity determined that the performance of the fly over is an Unreviewed Safety Question (USQ) and therefore requires prior NRC approval.

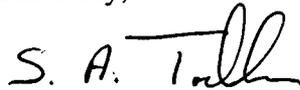
Enclosure 1 contains the Oath and Affirmation. Enclosure 2 provides a detailed description and justification of the proposed activity. Enclosure 3 contains the basis for USEC's determination that the proposed activity associated with the CAR is not significant.

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There are no new commitments contained in this submittal. Any questions related to this submittal should be directed to Mark Smith at (301) 564-3244.

Sincerely,

A handwritten signature in black ink, appearing to read "S. A. Toelle". The signature is fluid and cursive, with the first name "S. A." written in a smaller, more legible hand than the last name "Toelle".

Steven A. Toelle
Director, Regulatory Affairs

Enclosures:

1. Oath and Affirmation
2. United States Enrichment Corporation (USEC), Certificate Amendment Request, DOE Radiological Helicopter Survey, Description and Justification of Change.
3. United States Enrichment Corporation (USEC), Certificate Amendment Request, DOE Radiological Helicopter Survey, Significance Determination.

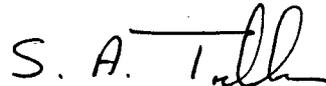
cc: J. Jimenez, Fuel Facility Inspector, NRC Region II
J. Hensen, Chief, Fuel Facility Branch 2, NRC Region II
M. Raddatz, NRC Project Manager, NRC HQ

Enclosure 1
GDP 07-0025

Oath and Affirmation

OATH AND AFFIRMATION

I, Steven A. Toelle, swear and affirm that I am the Director, Regulatory Affairs of the United States Enrichment Corporation (USEC), that I am authorized by USEC to sign and file with the Nuclear Regulatory Commission this Certificate Amendment Request for the Portsmouth Gaseous Diffusion Plant addressing the DOE Radiological Helicopter Survey activity to be performed at the Portsmouth Gaseous Diffusion as described in USEC letter GDP 07-0025, that I am familiar with the contents thereof, and that the statements made and matters set forth therein are true and correct to the best of my knowledge, information and belief.



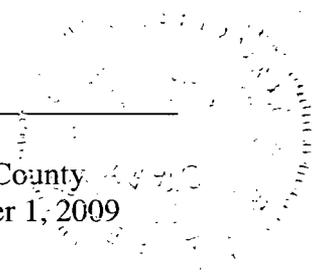
Steven A. Toelle

On this 21st day of June 2007, the individual signing above personally appeared before me, is known by me to be the person whose name is subscribed to within the instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof I hereunto set my hand and official seal.



Rita Peak, Notary Public
State of Maryland, Montgomery County
My commission expires December 1, 2009



**United States Enrichment Corporation (USEC)
Certificate Amendment Request
DOE Radiological Helicopter Survey
Detailed Description and Justification of Change**

Description of Change

The U. S. Department of Energy (DOE) is proposing to conduct a radiological survey of a 4.5 mile by 3.5 mile sector that will encompass USEC leased portions of the PORTS gaseous diffusion plant. The radiological survey will be conducted by the DOE National Nuclear Security Administration (NNSA) using an Aerial Measuring System (AMS) mounted in a Bell 412 helicopter. According to the DOE information provided to USEC, the helicopter will traverse approximately 16 square miles from north to south with flight lines at 250-foot intervals. The helicopter with a gross weight of approximately 11,500 pounds will fly as low as 150 feet above the earth's surface at an average airspeed of 70 knots (roughly 118 feet per second).

The PORTS SAR contains the following information in regards to aircraft flying over the Portsmouth site:

2.1.2.3 Onsite Transportation and Transmission Systems

3rd Paragraph:

“Although PORTS once maintained a landing strip for air transportation, the strip is now obstructed with earthen berms. The southern end of the landing strip is maintained as a helicopter pad. The Plant Shift Superintendent coordinates helicopter approaches to ensure they do not fly over process buildings or hazardous material storage areas.”

2.2.3 Military Activities

2nd Paragraph:

“Although PORTS once maintained a landing strip for air transportation, the strip is now obstructed with earthen berms. The southern end of the landing strip is maintained as a helicopter pad. The Plant Shift Superintendent coordinates helicopter approaches to ensure they do not fly over process buildings or hazardous material storage areas.”

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2.8.1 Aircraft Crashes

Total Section:

“An in-depth analysis was performed to study the probability of aircraft crashes resulting in damage to the plant facilities. This analysis was based on a methodology established in the NRC Standard Review Plan (Dagenhart 1995). It is based primarily on the distance between the site under evaluation and the various sources of aircraft hazards. These sources include, but are not limited to, airports, heliports, federal airways, holding patterns, approach patterns, restricted airspaces, military training routes, and military operation areas.

This analysis shows that the largest structures evaluated (Buildings X-330 and X-326) each have an annual frequency of 2.1×10^{-7} per year of being struck by an aircraft. This frequency is below the risk of concern when compared with other risks associated with operation of PORTS.”

The CAR is for a one time only performance of this fly over activity and therefore there are no proposed changes to the SAR to allow for any future direct fly over of process buildings and/or hazardous material storage areas.

Justification of Change

US Civil Helicopter Safety Statistics, based upon NTSB preliminary accident report data, are provided on the Helicopter Association International (HAI) website, www.rotor.com. These statistics show that the average total accident rate per 100,000 hours of flight time for multi-engine turbine helicopters is approximately 3.47 over a ten year period. Additionally, a review of the US Civil Helicopter Accident Database provided by this website showed that in the last 10 years, there have only been 7 accidents involving Bell 412 helicopters. Of these, only one involved mechanical failure in cruise flight. Further review of this accident showed that it most likely would not have resulted in an accident involving facilities being surveyed because total control of the aircraft was not lost.

At PORTS, the operational and storage areas involving uranium or other hazardous materials are bounded by an area approximately 2,800 feet wide (east-west) and 6,000 feet long (north-south). The survey will be conducted with the helicopter flying at an average airspeed of 70 knots (approximately 118 feet per second) in a north-south direction with flight lines at 250-foot intervals. This would result in approximately

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twelve passes over the area of concern with each pass taking approximately 51 seconds to complete. If it is assumed that 15 passes are flown and each pass requires one minute, the total time over the area of concern will be approximately 15 minutes. Based upon the average accident rate of approximately 3.47 accidents per 100,000 hours of flight time for multi-engine turbine helicopters, the probability of an accident during this one-time survey can be estimated to be 8.675×10^{-6} .

In the highly unlikely event that an aircraft accident does occur during the survey, the overall risk from a release of UF_6 or hazardous materials remains very low. The probability of a crash of the helicopter into a large enrichment process building is less than 10^{-6} (approximately 7×10^{-7}). The probability of a crash into a USEC storage yard containing solid UF_6 cylinders is less than 10^{-6} (approximately 1.5×10^{-7}). The probability of a crash into a storage area containing liquid UF_6 cylinders is much less than 10^{-6} (approximately 1×10^{-8}). The probability of a helicopter crash into any of the other facilities containing UF_6 (such as the X-344 or X-343) are less than 10^{-7} since their area is much smaller than the process buildings. Since the probability of a crash during the flyover in any of these areas is less than 10^{-6} , none of these are considered to be credible events and do not require further analysis of potential consequences.

An additional factor in determining that the overall risk is very low is that the enrichment operation at PORTS is shutdown. Thus, the inventory of UF_6 in the process buildings is less than a few percent of the quantities originally evaluated in the SAR. Also, the overall cylinder inventories are lower in the USEC cylinder yards than originally evaluated in the SAR. The consequences of a helicopter crash into a UF_6 process area are qualitatively assessed to be bounded by the consequences of a large fire in the various facilities as described in the SAR. While such a crash in a liquid UF_6 cool down area could potentially impact more than one cylinder, the probability of such an event is very low.

The Plant Shift Superintendent's (PSS) Office will oversee each flight mission required to complete the activity as described in the CAR. Prior to each fly over mission, flight crew credentials will be verified, the proposed flight path will be established and any known potential hazards to the flight will be identified to the flight crew. Once the flight is in progress, the PSS Office will maintain radio contact with the flight crew in addition to monitoring craft location, especially as the craft approaches the GDP. If at any time the PSS Office determines that the flight should be aborted the flight crew will be requested to return to the local airport.

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Significance Determination**

The United States Enrichment Corporation (USEC) has reviewed the proposed changes associated with this certificate amendment request and provides the following Significance Determination for consideration.

1. No Significant Change to Any Conditions to the Certificate of Compliance

There are no conditions to the Certificate of Compliance for operation of the Portsmouth Gaseous Diffusion Plant (GDP-2) that pertain to restricted fly over of the Portsmouth site. Thus, the proposed activity has no significant impact on any conditions to the Certificate of Compliance.

2. No Significant Change to Any Condition of the Approved Compliance Plan

All Compliance Plan Issues have been closed. As a result, the conditions specified in the Compliance Plan are no longer in effect. Thus, this proposed activity does not represent a significant change to any condition of the approved Compliance Plan.

3. No Significant Increase in the Probability of Occurrence or Consequences of Previously Evaluated Accidents

As noted previously in the cover letter, the 10 CFR 76.68 evaluation indicated that this activity was determined to be an Unreviewed Safety Question. This determination was based on the slight increase in the annual frequency of an aircraft striking a process building and on the fact that, due to the analysis discussed in SAR Section 2.8.1, aircraft crashes were not postulated as an initiating event. SAR Section 2.8.1 states that the annual frequency of a larger process building being struck by an aircraft is 2.1×10^{-7} . The frequency analysis presented in the CAR concluded that the frequency for a process building being struck would be slightly increased to 9×10^{-7} as the result of this proposed activity. However, the frequency of an aircraft striking a liquid UF_6 storage area would be less frequent at a frequency of 1×10^{-8} . The proposed activity does not increase the source term from any postulated accident in the SAR while keeping in mind that a helicopter crash into a liquid UF_6 storage area is not credible. Therefore, there is no significant increase in the probability or consequences of any previously evaluated accidents.

4. No New or Different Type of Accident

As noted in response to question 3 of the Significance Determination the analyzed frequency of an aircraft crash was determined to be not credible and therefore an aircraft crash was not postulated as an initiating event in the accident analysis. The frequency of

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an aircraft crash during the proposed one time activity while slightly more frequent for a process building remains a highly unlikely event. Therefore, this proposed activity will not create a new or different type of accident that needs evaluated in the SAR.

5. No Significant Reduction in Margins of Safety

The proposed activity does not affect any limits established for the TSRs which govern plant operations. Therefore, the proposed activity does not impact any of the TSRs or the margin of safety defined in the supporting bases documents.

6. No Significant Decrease in the Effectiveness of the Plant's Safety and Safeguards or Security Programs and Plans

The plant's safety programs and plans are not affected by the proposed activity in that they are still able to perform their intended functions while the proposed activity is being performed. There is no impact to any programmatic controls, requirements or surveillances associated with the security program. The activity will not impact the controls required as part of the Interim Compensatory Measures (ICMs) within the GDP. The ability of the Fundamental Nuclear Materials Control Plan to control USEC nuclear materials will not be affected. Therefore, the effectiveness of these programs and plans is not decreased by the proposed activity.

7. The Proposed Changes do not Result in Undue Risk to 1) Public Health and Safety, 2) Common Defense and Security, 3) the Environment

The proposed activity does not adversely impact any approved plant operation or physical condition of the plant. Although the probability of occurrence for an accident resulting in a release of material is slightly increased the overall risk is unchanged due to significantly lower hazardous material inventories in the process buildings. The proposed activity does not reduce the effectiveness of the security controls in place to protect SNM-LSS and Classified Matter contained with USEC leased areas. There are no impacts to the Environmental Protection Program and associated controls in place to protect the environment. There are no new waste streams generated by this activity. Consequently, this activity does not result in undue risk to public health and safety, the environment, or to the common defense and security.

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8. No Change in the Types or Significant Increase in the Amounts of Any Effluents that May Be Released Offsite

The proposed activity does not involve any physical change to the plant or plant operations that could change the types or the amounts of any effluents that may be released offsite. Therefore, there are no new or significantly increased amounts of effluents that may be released offsite.

9. No Significant Increase in Individual or Cumulative Occupational Radiation Exposure

There will not be any significant increase in the risk of a UF₆ release or of a criticality. The radiological protection program description or the actions in place to minimize occupational exposures are not impacted. Therefore, there is no increase in individual or cumulative occupational radiation exposure as a result of this change.

10. No Significant Construction Impact

The proposed activity does not involve any construction activities. Therefore, there are no significant construction impacts associated with this change.