UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER

| | | |
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| In the Matter of | ) | |
| | ) | |
| ATLAS CORPORATION | ) | Docket No. 40-3452-MLA-3 |
| | ) | |
| Moab, Utah | ) | |

AFFIDAVIT OF MYRON FLIEGEL

I, Myron Fliegel, being duly sworn, declare as follows:

1. I am competent to make this affidavit, and the opinion expressed herein are based on my best professional judgment. I am employed by the U.S. Nuclear Regulatory Commission as a Senior Project Manager in the Uranium Recovery & Low Level Waste Branch, Division of Waste Management, in the Office of Nuclear Material Safety and Safeguards. A statement of my professional qualifications is attached.

2. In this declaration I will provide an explanation of the differences between the ground-water remediation or cleanup plan and the site reclamation plan.

3. Ground-water contamination is considered in two separate areas of the Staff's regulatory review of the licensee's proposals. One area of consideration concerns the present contamination of the ground water near the Atlas site (between the pile and the Colorado River). Efforts to clean up the ground water are addressed in the "ground-water corrective action plan" ("ground-water CAP" or "CAP"). This is referred to as "groundwater remediation" in the Presiding Officer's Order of May 14, 1999. The existing ground-water contamination is independent of the reclamation of the tailings and stabilization of the site. That is, the contaminants are already in the ground-water and

reclamation of the tailings will not remove the ground-water contamination. Cleanup of the existing ground-water contamination is not part of the proposed licensing action and never was part of it.

The other area of concern to the Staff, *future* effects on ground water (and the Colorado River), is considered in the reclamation of the tailings pile, which is the subject of the license amendment and the Federal Register notice. How the proposed reclamation of the tailings will effect ground water and surface water *in the future* is a major component of the review of the proposed reclamation plan. This aspect of ground-water contamination, i.e, the effect of the proposed tailings reclamation on ground water in the future, has always been an important consideration in the licensing action now pending before the Presiding Officer.

4. The contamination of the ground water was caused by seepage from the unstabilized tailings pile. The Atlas mill operated from 1956 to 1984. During that time, the tailings pile grew as a slurry of tailings and processing fluids were continually added to it. A pond of contaminated water was permanently on the top of the pile of tailings, which was saturated with contaminated water. This contaminated water seeped out of the bottom of the pile into the natural ground water and eventually contaminated the ground water from below the pile to the Colorado River.

5. Licensees are required, in 10 C.F.R. Part 40, Appendix A, Criterion 5D, to institute a ground-water CAP when it is determined that ground-water standards have been exceeded. On June 22, 1990, a CAP was incorporated into the Atlas license, in condition 17 (amendment 11). The CAP relies on "natural flushing" in which the contamination will naturally move through the ground water to the Colorado River. In addition, the CAP includes wells on the tailings pile that pump water to the surface where it is evaporated. This is intended to dry out the source of contamination seeping into the ground water.

While data indicate that the ground-water quality is improving, the Staff concluded that it would like to revisit the CAP to see if ground-water cleanup can be expedited. *See,* Letter from Joseph Holonich to Richard Blumbaugh, dated July 11, 1998, attached. However, the details of a revised CAP would be dependent on whether tailings would be stabilized in place or moved to another location. The reasons for this dependence on the ultimate location of the tailings are that the ground-water standards to be applied to many constituents for cleanup would likely be alternate concentration limits (ACLs). 10 C.F.R. Part 40, Appendix A, Criterion 5B(5) and (6). ACLs are designed to protect health and safety at the point of exposure. In the event that tailings are stabilized onsite, the site would be transferred to the U.S Department of Energy (or the state of Utah if it chose to become the custodian) for perpetual custodial care and the point of exposure would likely be at the river bank. Thus, higher levels of contaminants in the ground water may be acceptable since the ground water would be unavailable for use. If the reclamation involved moving the tailings to a new location, the existing site would have to be cleaned up to an unrestricted use standard. ACLs for ground-water cleanup would have to recognize the potential for ground-water use anywhere on the site. The March 30, 1994, notice of intent to prepare an Environmental Impact Statement (EIS) noted that the Staff was considering alternate sites for reclamation. *See* 59 Fed. Reg. 14, 912 (1994). Because the Staff had not made a determination to approve onsite reclamation, consideration of a revised CAP was postponed until after the Staff decision on tailings reclamation.

6. In its review of the proposed reclamation plan for tailings stabilization, the Staff considered the effects of the reclamation on the ground water and the surface water (Colorado River). But these considerations are confined to the effects in the future, after the site reclamation has been completed. This was also identified as part of the EIS review. *Id.* The EIS considered both

the current and anticipated future situations. The major environmental concern was the effect on the Colorado River and its biota. However, as the only pathway from the tailings to the river is through the ground water, effects on the ground water were considered in detail.

The EIS described the existing contamination in the ground water and the Colorado River. It also contained estimations of the past seepage of contaminants from the tailings pile to the ground water. Because the estimated travel time of ground water, from the edge of the pile to the river, is about 20 years, the existing ground-water contamination is derived from seepage that occurred when the mill was operating. The staff also estimated seepage from the pile, at steady state conditions, after reclamation and concluded it would be about an order of magnitude lower. Additionally, a tighter cover than proposed by the licensee could be built, with the potential of reducing seepage by another order of magnitude. Based on the magnitude of the existing environmental impacts in the river and the reduction in seepage from the tailings that would result from the reclamation, the Staff concluded that the environmental impacts of the onsite reclamation would be acceptable.

7. The foregoing and attached professional qualifications is true and correct to the best of my knowledge, information and belief.

Myron Fliegel

Sworn and subscribed to before me
this 3rd day of June, 1999

Patricia K. Freeder
Notary Public
My commission expires: March 1, 2002

# PROFESSIONAL QUALIFICATIONS STATEMENT

Myron Fliegel
Uranium Recovery & LLW Branch
Division of Waste Management

I am a Senior Project Manager in the Uranium Recovery & Low Level Waste Branch, Division of Waste Management, in the Office of Nuclear Material Safety and Safeguards. My duties include planning, managing, and participating in projects involving the policy, safety, and environmental considerations associated with the NRC program of licensed uranium recovery facilities. I have been the NRC project manager for the Atlas facility since April of 1995. From April 1987 to April 1994, I served as a Section Leader, responsible for supervision of projects and activities related to the NRC's uranium recovery program, primarily the program regulating licensed uranium recovery facilities. Previous NRC experience includes management and supervision of the waste management hydrology program and management and supervision of hydrologic engineering aspects of nuclear power plant licensing reviews. Earlier, I was a technical reviewer assigned to evaluating flooding potential and other hydrological aspects of nuclear power plants.

My employment with NRC (formerly AEC) dates from August 1974 in the area of hydrologic engineering, physical oceanography, and limnology with the Office of Nuclear Reactor Regulation. My responsibility in the licensing review of nuclear facilities was in the areas of flooding vulnerability, adequate water supply, and surface and ground water acceptability of effluents.

From 1972 to 1974, I was a Staff Scientist (later Research Associate) at Lamont-Doherty Earth Observatory of Columbia University. I was in charge of the data analysis in connection with a large scale oceanographic effort being conducted in the Arctic. From 1965 to 1972, I was a Graduate Assistant at Lamont-Doherty. My dissertation work, which began in 1968, involved study of the thermal behavior of, and internal waves in, one of the Finger Lakes of western New York.

My formal education consists of study in physics and mathematics at the City College of New York where I received a B.S. in physics in 1965 and study in geophysics and oceanography at Columbia University where I received a Ph.D. in physical oceanography and limnology in 1972.

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RICHARD E. KLUBAUGH
Executive Vice President

April 15, 1999

VIA FACSIMILE: (301) 415-5397
N. King Stablein, Acting Chief
Uranium Recovery Branch
Division of Waste Management, ONMS&S
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Re: Docket No. 40-3453, License No. SUA-917, License Condition No. 41 -- Amending the License for Completion of Reclamation

Dear Mr. Stablein:

This letter is in response to your March 2, 1999 letter wherein NRC presented Atlas with a draft License Condition No. 41 and requested a commitment from Atlas to accept the measures outlined in the proposed license condition. Also, this letter acknowledges receipt of the "Final Environmental Impact Statement Related to Reclamation of the Uranium Mill Tailings at the Atlas Site, Moab, Utah," (FEIS) NUREG-1531.

As you know, Atlas Corporation's Chapter 11 Bankruptcy proceeding has resulted in an agreement-in-principle that, when implemented, will establish a trust into which Atlas will transfer certain assets for the reclamation of the Moab site, and, in return, Atlas will be absolved of further liability for the site. Nevertheless, Atlas believes it is important to complete the licensing action it initiated over 10 years ago in order to clearly establish that the surface reclamation plan proposed by Atlas is essentially sound and appropriate for the site. Also, having License SUA-917 clearly stipulate what is required should minimize any further delays and related expense for the Trustee.

Therefore, Atlas hereby commits to accept the measures proposed in the draft License Condition No. 41, contained in the March 2, 1999 letter, with the following limitations:

1. Atlas Corporation will not be the responsible party for implementing any portion of the work required by License Condition No. 41.

2. Part A must be modified to allow the Trustee sufficient time to develop the dewatering design after he/she has been designated and funds have been transferred to the Trust. Based on the estimated bankruptcy schedule, a

deadline of December 31, 1999 might be appropriate. An extension of the dewatering deadline to July 1, 1999 would then be in order.

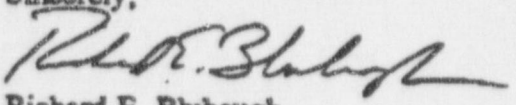
3. Similarly, Part B must be modified to allow the Trustee sufficient time to select a contractor who would then prepare the revised groundwater corrective action plan. The estimated schedule would indicate a possible deadline of May 1, 2000 as a feasible date for this requirement.

The remaining provisions of License Condition No. 41 do not appear to require modification. The majority of the requirements are not new to us as they were included in the draft EIS and the March, 1997 Technical Evaluation Report.

Atlas Corporation anticipates that the parties involved, which includes NRC, will execute the negotiated "Moab Uranium Millsite Transfer Agreement" in the very near future. This agreement will then be the controlling document for Atlas' actions at the Moab Millsite. However, as noted above, Atlas believes that having its proposed reclamation plan specified as License Condition No. 41 of SUA-917 will provide the Trustee an established and coherent plan of action and, as such, should minimize the potential for unnecessary delays and misspent resources. It is with this understanding that Atlas commits to accept the draft License Condition No. 41.

Please contact me at your convenience should you have any questions concerning the contents of this letter. We look forward to completing the pending transfer agreement and the amended license.

Sincerely,



Richard E. Blubaugh

cc: Gregg B. Shafter
Harvey Sender
Tony Thompson

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CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC COMMISSION STAFF'S ANSWERS TO QUESTIONS POSED BY THE PRESIDING OFFICER IN THE MAY 14, 1999, ORDER" AND "NRC COMMISSION STAFF'S RESPONSE TO THE GRAND CANYON TRUST'S ANSWERS TO QUESTIONS POSED IN THE PRESIDING OFFICER'S MAY 14, 1999, ORDER" in the above-captioned proceeding have been served on the following by deposit into the United States mail, or through deposit in the Nuclear Regulatory Commission's internal mail system, or as indicated by asterisk via e-mail this 4th day of June 1999.

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Lisa B. Clark
Counsel for NRC Staff