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26 May 2016

Mr. John Tappert, Director  
Division of Decommissioning, Uranium Recovery, & Waste Programs  
Office of Federal and State Materials and Environmental Management Programs  
U.S. Nuclear Regulatory Commission  
11545 Rockville Pike  
Rockville, MD 20852-2738

Dear Mr. Tappert:

**Subject: Source Material License SUA-1350 – Docket 40-8584 - Request for a Five (5) Year Postponement of the Initiation of the Requirements of Timeliness in Decommissioning Pursuant to 10 CFR 40.42(f) for the Sweetwater Uranium Project**

Kennecott Uranium Company hereby requests an amendment to Source Materials License SUA-1350 for a five (5) year postponement of the initiation of the requirements for timely decommissioning of the Sweetwater Uranium Project (Source Material License SUA-1350) under 10 CFR 40.42(f) which states, **"The Commission may grant a request to delay or postpone initiation of the decommissioning process if the Commission determines that such relief is not detrimental to the public health and safety and is otherwise in the public interest."**

This is Kennecott Uranium Company's fifth request for a postponement. The initial request was submitted by letter dated March 20, 1996 and approved by letter dated June 18, 1996. A copy of the approval letter is included in Appendix 7. A second request was submitted on May 31, 2001 and approved by letter dated July 17, 2001. A copy of that approval letter is included in Appendix 7. A third request was submitted on June 7, 2006 and approved by letter dated September 25, 2006, copy of which is included in Appendix 7. A fourth request was submitted dated May 26, 2011 and approved by letter dated October 4, 2011, which is included in Appendix 7. Substantial detail and backup documentation regarding the application of this rule to source material processing facilities has been provided to facilitate review.

Kennecott Uranium Company requests that this application be processed in a timely manner. Should you require additional information or have any questions please do not hesitate to contact me.

Sincerely yours,



Oscar Paulson  
Facility Supervisor

cc: James Webb (2)  
NRC-DNMS, Region IV  
Rich Atkinson

# **Application for a Five (5) Year Postponement of the Initiation of the Requirements of Timeliness in Decommissioning Pursuant to 10 CFR 40.42(f) for the Sweetwater Uranium Project**

## **1. Regulatory History of Timeliness in Decommissioning**

10 CFR 40.42 (a.k.a. Timeliness in Decommissioning) became final on August 15, 1994. This rule requires that source material licensees decommission facilities if:

(3) No principal activities under the license have been conducted for a period of 24 months; or

(4) No principal activities have been conducted for a period of 24 months in any separate building or outdoor area that contains residual radioactive material such that the building or outdoor area is unsuitable for release in accordance with NRC requirements.

### **1.1 American Mining Congress (AMC)/National Mining Association (NMA) Challenge**

This rule was challenged in court by the National Mining Association (NMA) formerly the American Mining Congress (AMC) (American Mining Congress v. Nuclear Regulatory Commission and The United States, Docket No. 94-1619 - Challenge to Final Timeliness in Decommissioning Rule). Representatives of NMA met with Joseph Holonich and other members of Nuclear Regulatory Commission (NRC) staff on January 10, 1995 concerning this rule. This meeting is summarized in an attachment dated February 2, 1995 entitled "Summary of January 10, 1995 Meeting to Discuss Final Rule on Timeliness in Decommissioning of Materials Facilities" in Appendix 2. This summary was provided by the Nuclear Regulatory Commission (NRC). The American Mining Congress (AMC) responded to these minutes in a letter dated March 8, 1995 that is included in Appendix 3. This letter documented the NMA's conclusion that there is no limit on the number of extensions that a licensee can receive if the requisite conditions have been met (adequate surety and not detrimental to the environment and otherwise in the public interest). A second meeting between NMA and NRC staff occurred on July 6, 1995. That meeting was documented in a letter from Anthony J. Thompson Esq. of Shaw, Pittman, Potts and Trowbridge to Steven F. Crockett of the NRC. This letter requested a response from NRC. Katie Sweeney, Assistant General Counsel of NMA, met with you and your staff to discuss this and other issues in January 1996. A response to the National Mining Association's (NMA) letter, dated February 16, 1996, was received from the Nuclear Regulatory Commission (NRC) which contained a final letter of understanding clarifying their position on how the soon to be finalized regulation will apply to uranium recovery licensees. This letter stated, "The conclusion that there is no limit to the number of extensions that a licensee can receive is correct". A copy is included in Appendix 4. This submittal is in part formatted to meet the requirements of that letter.

### **1.2 Kennecott Uranium Company Dialogue with NRC**

Michael H. Gibson of Kennecott Uranium Company discussed the then proposed Timeliness in Decommissioning rule with former NRC Chairman Ivan Selin in May of 1993 at a meeting in Denver, Colorado. At that meeting, Chairman Selin stated that it might make good sense to provide a "blanket exemption" for uranium recovery facilities from the requirements of Timeliness in Decommissioning. This discussion is documented in a letter dated September 15, 1993 from James E. Gilchrist, Vice President of the American Mining Congress, to then NRC Chairman Selin which is attached in Appendix 5.

At an NRC/licensee meeting in Rockville, Maryland on October 25, 1994, the issue of Timeliness in Decommissioning was discussed. The issue of regulation by exemption was discussed. The issue of a licensee's history of submittals to prepare a facility for resumption of operations was discussed as well, with the understanding that a history of submittals and activity related to future resumption of operations would be considered in an application for a postponement of the initiation of Timeliness in Decommissioning.

At a meeting with members of the staff of Kennecott Uranium Company, NRC staff and a member of the staff of Shepherd Miller, Inc. (a consultant for Kennecott Uranium Company) in Rockville, Maryland on February 23, 1995, Joseph J. Holonich, then Chief of the Uranium Recovery Branch, discussed Timeliness in Decommissioning. He stated that **"possession of a license may be the basis for an exemption since an enforced license protects public health and safety."** He also discussed the importance of safe operation of the facility that did not jeopardize public health, safety or the environment and adequate in-place surety. In addition, Joseph J. Holonich provided additional clarification as to the meaning of the term "otherwise in the public interest" included in the regulation in a letter dated June 3, 1995. A copy of this letter is included in Appendix 6.

At an NRC/licensee meeting in Arlington, Texas on July 25, 1995, at which Kennecott Uranium Company had a representative, Joseph J. Holonich discussed the Timeliness in Decommissioning Rule. He discussed the two (2) meetings with NMA staff. He then stated that a two (2) year waiver extension was **"reasonable and that one longer than two (2) years was acceptable if appropriately justified."** He also stated that approval of an exemption request longer than five (5) years was **"highly unlikely."**

The matter of Kennecott Uranium Company's initial request for a postponement to the requirements of Timeliness in Decommissioning was discussed with Charlotte Abrams formerly of the Uranium Recovery Branch staff on Friday, February 9, 1996. She stated that one application had already been received by NRC. She discussed the general requirements of the application and the topics that should be covered in it. That discussion is being used as the basis for this application, the 2011 application, the 2006 application, the 2001 application and the initial one in 1996.

## **2. Facility Description and Site History**

### **2.1 General Site History**

The facility was originally constructed by Minerals Exploration Company, a wholly owned subsidiary of Union Oil Company of California in 1979 and 1980. It was operated from February 1981 until it was shut down in April 1983. During this period approximately 2.5 million tons of ore mined from the Sweetwater Pit was processed by the mill. The shutdown was due to a substantial drop in uranium prices and the loss of a contract for production from the facility with Indiana Public Service. The facility was placed under care and maintenance by Minerals Exploration Company. Until June 23, 1992 the facility was owned by Minerals Exploration Company which was also the licensee. The facility was acquired by the Green Mountain Mining Venture (GMMV), a partnership between Kennecott Uranium Company and U.S. Energy Corp., a Wyoming corporation and a joint venture between U.S. Energy Corp. and Crested Corp. a Colorado corporation. The license for the facility was transferred to Kennecott Uranium Company on June 23, 1992 and the facility was operated and managed by Kennecott Uranium Company. By letter dated June 18, 1996 the Commission granted a five-year postponement of the initiation of decommissioning for the Sweetwater Uranium Project. This letter is attached in Appendix 7. Since transfer of the license to Kennecott Uranium Company numerous submittals were made to the Nuclear Regulatory Commission (NRC) in support of converting the existing license into a performance based operating license. On August 18, 1999 a performance based operating license for the facility was granted.

On September 11, 2000, U.S. Energy Corp. and the joint venture between U.S. Energy Corp. and Crested Corp. transferred their share of the Green Mountain Mining Venture to Wyoming Coal Resource Company, a Kennecott Uranium Company affiliate, placing complete control of the joint venture in the hands of Kennecott. On July 17, 2001 a second five-year postponement of the initiation of decommissioning was granted by letter. This letter is included in Appendix 7. On November 10, 2004 the facility's license was renewed for ten years, following a renewal request dated May 25, 2004. The renewal letter noted the facility's clean inspection history, stating, **"Based on the forgoing considerations and the past performance of the licensee**

**(inspection reports with no violations), the staff finds that approval of the request for a 10-year license renewal for the Sweetwater facility is consistent with NRC policy and is appropriate."**

The license issued on November 10, 2004 expired on November 10, 2014. A request for renewal dated July 24, 2014 was submitted. The facility's license is in timely renewal as per a letter dated October 22, 2014 from the Nuclear Regulatory Commission (NRC). This letter is included in Appendix 1. By letter dated November 25, 2014 the renewal application was found acceptable for technical review. This letter is included in Appendix 1 as well, along with the public hearing notice regarding the renewal request. Kennecott Uranium Company has responded to an initial set of Requests for Additional Information (RAI's) related to the renewal application and is preparing a response to a second set; said response scheduled for submittal on or before June 3, 2016. Please see a letter entitled *Proposed Response Schedule to the Set of Requests for Additional Information (RAIs)* dated February 12, 2016 dated March 9, 2016 in Appendix 7.

The joint venture also owns the Jackpot Mine and associated mining claims that control a substantial uranium resource beneath Green Mountain approximately twenty-two air miles north of the Sweetwater Uranium Project, as well as the Big Eagle Mine consisting of claims, two (2) flooded open pit uranium mines and a large shop building and wash bay.

In anticipation of an improved uranium market and resumption of operations in the future, Kennecott Uranium Company has substantially increased its land holdings in the vicinity of the Sweetwater Uranium Project and on and around Green Mountain. Since 2011, 688 lode mining claims and two (2) State of Wyoming uranium leases have been added on and around Green Mountain in Fremont County, Wyoming and 1987 lode mining claims have been added in the vicinity of the Sweetwater Mill in the Great Divide Basin in Sweetwater County, Wyoming. The staking of this large number of lode mining claims and acquisition of the state mining leases represents a substantial effort with a large associated annual cost since each newly staked lode mining claim incurs holding costs of \$155 per claim per year in addition to the 1251 claims already held (735 on and around Green Mountain in Fremont County, Wyoming and 516 in the vicinity of the Sweetwater Mill in the Great Divide Basin in Sweetwater County, Wyoming) In addition to the required annual claim maintenance fees which require an annual payment of \$608,530, Kennecott Uranium Company incurred a cost in excess of \$1 million in location costs and filing fees for the 2,675 new claims.

In addition to the claim staking efforts from 2012-2014, substantial exploration work was completed. In 2011, compilation of maps identifying target areas was begun. In 2012 and 2013 an extensive database of drill hole logs was digitized and geological modeling was completed, followed by surface mapping, sampling and other field work in 2013. Airborne geophysical surveys were completed in 2014. In the second half of 2014 a surface drilling program south of the Sweetwater Uranium Project was completed. In 2015 a trenching program was completed on the east side of Green Mountain.

Substantial and costly remediation work to address contamination and activities that occurred prior to Kennecott Uranium Company's ownership has been ongoing at the facility since the second five-year term of postponement of the initiation of decommissioning was granted on July 17, 2001. This work continued until the summer of 2009, which was in the third five-year term of postponement of the initiation of decommissioning. This work includes:

- Remediation of 400,000 cubic yards of diesel contaminated soil lying outside of the restricted area, but within the NRC bonded area. This remediation work was conducted between November 2001 and March 2003, and is documented in the "Hydrocarbon Contamination Remediation Report" submitted to the Commission under cover of letters dated February 24 and July 31, 2003.
- Remediation of hydrocarbon and radionuclide contaminated soils associated with the facility's Catchment Basin. This work was begun in December 2005 and the

contamination is discussed in detail in the following submittals dated May 12, 2004 and subsequent related submittals.

- Request for Amendment to License Conditions: 1.3 – Groundwater Corrective Action Program (CAP) and 11.5 – Mill Study Environmental Monitoring Program
- Request for Amendment to Final Design – Volume VI – Part 2, Mill Decommissioning Addendum to the Existing Impoundment Reclamation Plan (Referenced in Condition 9.10)
- This work was completed (including topsoiling and seeding of some backfilled areas) by November 2007.
- A completion report dated May 6, 2008 was submitted to the Commission.
- A request for additional information dated November 19, 2008 was received. A response dated January 28, 2009 was submitted.
- Final approval of the remediation work is being awaited and should be provided upon renewal of the project's source material license.
- Beginning in 2007 and ending in 2008 a major project involving regrading the tailings in the tailings impoundment and construction of lagoons was undertaken. This effort resulted in the creation of thirteen (13) lined evaporation lagoons on the regraded tailings surface.
- In 2009 an additional two (2) lagoons were lined, bringing the total number of lined lagoons to fifteen (15). A series of maps in Appendix 9 show the progression of work in the impoundment from January 2006, October 2007, December 29, 2008 and finally February 2010. A June 8, 2014 Google Earth image of the impoundment is also provided in Appendix 9, as are images from the same date for the facility as a whole and the mill area.
- The facility is under a groundwater Corrective Action Program (CAP) required by License Conditions 11.3 and 12.3. This program and the groundwater regime around the Sweetwater Uranium Project were examined by a groundwater consultant, Telesto Solutions, Inc. In the Responses to NRC Requests for Additional Information dated October 12, 2015, Telesto Solutions, Inc. states:  
*Pumping under the CAP, including pumping from Catchment Basin-area wells TMW-96 and TMW-97 (which have now been pumping for 10 years), has created a sink that effectively controls both the plume associated with Catchment Basin releases and the plume associated with Tailings Impoundment releases.*

Clearly, ground water within the impacted area is flowing in toward the pumpback wells. The report continues by stating:

*Based on the high certainty in the analysis, we can conclude that:*

- *The current extent of the combined radium-226/228 plume from the Catchment Basin and Tailings Impoundment releases are contained within the Mill-area capture zone and due to the chemical nature of radium, has not traveled as far as the sulfate plume*
- *The current extent of the natural uranium plume from the Catchment Basin and Tailings Impoundment releases are contained within the Mill area capture zone. Due to the chemical nature of uranium in oxidized conditions, uranium released from the Catchment Basin may have traveled in a similar manner to the sulfate plume. Uranium released from the Tailings Impoundment has been contained by CAP pumping*
- *Ongoing exceedances of the manganese and iron GPS are in wells that are within the Mill-area capture zone and are thus contained. As described in Telesto (2009), the exceedances of constituent concentrations above groundwater protection standards are expected to continue, but the plume will remain wholly contained within the Mill-area capture zone via pumping under the CAP wells that show elevated concentrations of U-Nat or Ra 226-228.*

## **2.2 Facility Description**

The facility consists of a uranium mill housed in two (2) buildings (one for grinding, leach, countercurrent decantation and yellowcake and a second for solvent extraction), a maintenance shop, an administration building, a tire and lube building and other ancillary structures. The facility is described in detail in the revised Environmental Report submitted to NRC in August 1994.

Additional descriptive information, including site maps, may be seen in the "Request for Renewal", dated July 24, 2014.

## **2.3 Regulatory and Licensing History**

The original license was issued to Minerals Exploration Company on February 16, 1979 by the NRC. This followed submission of the original Environmental Report for the facility dated November 1976 and the notice of availability of a Final Environmental Impact Statement for the facility dated January 15, 1979. An application for renewal of the license was filed on April 3, 1984. The license was renewed following issuance of an Environmental Assessment by the NRC dated May 29, 1985 and a Finding of No Significant Impact (FONSI). The license was renewed again when transferred from Minerals Exploration Company to Kennecott Uranium Company on June 23, 1992. This renewal followed a second Environmental Assessment dated March 24, 1992 and a second Finding of No Significant Impact (FONSI). The Commission granted the first five-year postponement of the initiation of decommissioning for the Sweetwater Uranium Project by letter dated June 18, 1996. This letter is attached in Appendix 7. The license was placed in timely renewal pending review of the submittals for a new performance based operating license. This new license was granted on August 18, 1999.

A second postponement of the initiation of decommissioning for the facility was granted by letter dated July 17, 2001. This letter is included in Appendix 7. The facility's license was renewed for a ten-year period on November 10, 2004. A third postponement of the initiation of decommissioning for the facility was granted by letter dated September 25, 2006. This letter is included in Appendix 7. A fourth postponement of the initiation of decommissioning for the facility was granted by letter dated October 4, 2011. This letter is included in Appendix 7.

A Request for Renewal - Source Material License SUA-1350 for a Ten (1) Year Term dated July 24, 2014 was submitted. A copy of the timely renewal letter, acceptance review letter and public hearing notice are included in Appendix 1. No requests for public hearing were made.

## **3. Reasons for Granting a Five (5) Year Postponement for the Sweetwater Uranium Project**

Kennecott Uranium Company is the operator and manager of the Sweetwater Uranium Project. The project is part of the Green Mountain Mining Venture (GMMV) which also owns the Jackpot Deposit and the Big Eagle Mine on Green Mountain approximately thirty (30) miles north of the Sweetwater Uranium Project. The entire Green Mountain Mining Venture (GMMV) is owned since September 11, 2000 by Kennecott Uranium Company and Wyoming Coal Resource Company (a Kennecott Uranium Company affiliate).

The Green Mountain Mining Venture acquired the Sweetwater Uranium Project from its former owner, Minerals Exploration Company, a wholly owned subsidiary of Unocal, expressly for the purpose of processing ore extracted from the proposed Jackpot Mine. The mill was constructed and operated by Union Oil Company (Unocal) to process ore from the Sweetwater Pit located near the mill. The mill was shut down and placed under care and maintenance on April 15, 1983 due to the loss of a contract for production from the mill following the processing of approximately 2.5 million tons of ore from the Sweetwater Pit. The mill has remained on standby until the present day.

The Sweetwater Uranium Project was acquired by the Green Mountain Mining Venture before the proposed Timeliness in Decommissioning rule was announced. The Green Mountain Mining Venture acquired the project at a time when uranium prices were low but in the belief that the uranium market would rebound in the future, as it has done now to some extent. The time of market rebound was expected to be years in the future. The Green Mountain Mining Venture acquired the property

understanding that it would take years to permit and develop the Jackpot Mine and revise the Source Material License for the Sweetwater Uranium Project for resumed operation. A Bureau of Land Management (BLM) Record of Decision for the Jackpot Mine was received and a Wyoming Department of Environmental Quality (DEQ) Permit to Mine (Permit to Mine #660) was received dated June 26, 1996. The facility can be used to process ore from deposits on Green Mountain, and could also be used to process alternate feed materials.

The following is a list of reasons why a five (5) year postponement of the requirements of Timeliness in Decommissioning should be granted by the Nuclear Regulatory Commission:

### **3.1 Exemplary Project Compliance History and Safety Record**

#### **3.1.1 NRC Compliance History**

The Sweetwater Uranium Project has an excellent compliance history with the NRC. A review of the inspections back to 1991 reveals no cited violations. The facility received a single non-cited violation in the 2009 inspection. One of the arguments for promulgating Timeliness in Decommissioning was that **"...there is a risk that safety practices at the inactive facility or the inactive portion of the operating facility may become lax as key personnel relocate..."** The exemplary compliance history of the Sweetwater Uranium Project shows that practices have not become lax in spite of years of suspended operations. A copy of the 2013 inspection report is included in Appendix 8. Inspection reports for years 2007 and 2009 were included in the fourth application. Inspection reports for years 2001 and 2004 were included in the third application. Inspection reports for 1996, 1997 and 1998 were included in the second application and reports for 1991, 1992, 1994 and 1995 were included in the first application.

The tailings impoundment is currently under a groundwater Corrective Action Program (CAP) mandated by License Condition 11.3. This program continues to remove contaminants from the groundwater around the tailings impoundment. The groundwater CAP has been expanded to include groundwater contamination related to the Catchment Basin by license amendment. Six (6) additional monitor wells were completed west of the Mill and Solvent Extraction (SX) Buildings in 2007.

Practices at the facility have not become lax. Substantial and costly remediation work as described previously has been done at the facility to address problems that occurred prior to ownership by Kennecott Uranium Company and remove environmental liabilities.

#### **3.1.2 Lost Time Accident History**

The facility has not experienced a lost time accident involving a Kennecott Uranium Company employee or contractor employee in over thirteen (13) years at any of its properties and over twenty five (25) years at the Sweetwater Uranium Project, again showing that safety practices have not become lax. The facility safety program includes regular safety meetings, Mine Safety and Health Administration (MSHA) required annual refresher training, annual safe driver training, biennial first aid training, and NRC required annual radiation refresher training and monthly radiation safety meetings. Additional training such as crane operations training and lockout/tag out training has also been provided. The facility is inspected by the Office of the State Mine Inspector of Wyoming and, of course, the Nuclear Regulatory Commission.

#### **3.1.3 Compliance History with the Office of the State Mine Inspector**

The facility is inspected by an inspector from the Office of the State Mine Inspector. The inspections routinely refer to the facility's housekeeping as being "good"; see attached copies of the Inspection Reports from 2014 and 2015, in Appendix 8.

### 3.1.4 Environmental Protection Agency Compliance History

#### 3.1.4.1 40 CFR Part 61 Subpart W Compliance History

Required Method 115 testing of the facility's tailings impoundment for radon emissions has been conducted annually since 1990. The impoundment has always been in compliance with 40 CFR Part 61 Subpart W. The results of these tests are listed below, and show that the facility remains well below the regulatory limit of 20 pCi/m<sup>2</sup>sec:

Test Date	Flux
	pCi/m <sup>2</sup> -sec
August 7, 1990	9.0
August 13, 1991	5.1
August 5, 1992	5.6
August 24, 1993	5.0
August 23, 1994	5.0
August 15, 1995	3.59
August 13, 1996	5.47
August 26, 1997	4.23
August 11, 1998	2.66
August 10, 1999	1.27
August 8, 2000	4.05
August 14, 2001	6.98
August 13, 2002	4.10
August 12, 2003	7.11
August 17, 2004	6.38
August 16, 2005	7.63
August 15, 2006	3.37
August 13, 2007	6.01
August 16, 2008	4.59
July 30, 2009	1.60
August 10, 2010	1.44
August 9, 2011	2.17
July 31, 2012	4.31
July 30, 2013	8.48
August 6, 2014	8.97
August 4, 2015	7.14

#### 3.1.4.2 40 CFR Part 61 Subpart I Compliance History

The facility has been in compliance with 40 CFR Part 61 Subpart I. In fact, measured doses to airborne radionuclides other than radon-222 and its daughters have been low enough that reporting is not required. Compliance with this standard during future operation has been shown in Section 5.0 of the revised Environmental Report for the facility dated August 1994. This rule was rescinded on December 30, 1996.

#### 3.1.4.3 Compliance with the Constraint Rule (10 CFR 20.1101(d) Effective January 9, 1997

The facility has been in compliance with this rule since its inception, as

radioactive airborne particulates downwind of the facility have been at background levels. Compliance is reported annually in the ALARA Report.

**3.1.4.4 40 CFR 190 Subchapter F Part 190 Subpart B (40 CFR 190.10(a))**

The facility has been in compliance with 40 CFR 190.10(a), the 25 millirem (whole body)/75 millirem (thyroid)/25 millirem (any other organ) dose limits to member of the public (radon and its daughters excepted) from uranium fuel cycle operations which include uranium milling. Compliance with this standard during future operations is demonstrated in Section 5.0 of the revised Environmental Report. Compliance is reported annually in the ALARA Report.

**3.1.5 State Of Wyoming Department of Environmental Quality (DEQ) Compliance History**

As of May 12, 1992, the area containing the Sweetwater Mill and the tailings impoundment were excluded from the DEQ Permit to Mine No. 481 and the associated reclamation bond and placed directly under NRC bonding. This situation continues to the present day. The facility also has an excellent record with the State of Wyoming DEQ.

**3.2 Stability of Staff**

One reason given for implementation of Timeliness in Decommissioning was that "...**safety practices...may become lax as key personnel relocate...**" The Facility Supervisor (who is also the Radiation Safety Officer) has been on site for twenty-seven (27) years and has an aggregate of thirty-nine (39) years of experience in the uranium recovery industry.

**3.3 General Condition of the Facility**

The facility has been maintained in excellent condition. It has been visited by Joseph J. Holonich, former Chief of the Uranium Recovery Branch, on September 21, 1995. The facility has also been visited by Charlotte Abrams, formerly of the Uranium Recovery Branch staff, on October 13, 1994 as well as Elaine Brummett of the uranium recovery licensing staff on June 7, 1999. The facility was visited as recently as Wednesday, April 26, 2006 by Stephen Cohen and Bob Lukes of the Commission staff. In addition, the facility was visited by Commissioner Merrifield and his staff on August 9, 2001. Regular care and maintenance work is performed at the facility by site staff and contract personnel as required.

Photographs of the exterior of the facility, Grinding, Leaching, Counter-Current Decantation (CCD) and Solvent Extraction (SX) areas of the mill, as well as a photograph of a pump are included in Appendix 9. These photographs clearly show that the facility is well maintained.

**3.4 Radiologic Cleanliness of the Facility**

The facility was thoroughly cleaned at the time of shutdown in the spring of 1983. Most areas of the mill were decontaminated with the exception of the yellowcake area which was only externally decontaminated, which can be substantiated by contamination survey records.

**3.5 Financial Surety**

Decommissioning and reclamation costs for the NRC bonded area are covered by a surety instrument in the amount of \$11,695,000.00 as described in License Condition 9.7. The surety for the facility was rebaselined by a submittal included with the license renewal request dated July 24, 2014. This surety rebaselining included a complete recalculation of the site's surety by an outside consultant.

**3.6 Radiation Doses to the General Public**

Doses to members of the general public from the facility have always been well below regulatory limits. Radiation doses are documented by ambient gamma radiation surveys,

airborne particulate monitoring and radon monitoring required by license condition 11.5 of SUA-1350. The results of this monitoring are submitted semiannually in the form of the required 10 CFR 40.65 Reports. The facility is extremely isolated. The nearest community to the facility is Bairoil, Wyoming which is approximately 22 air miles northeast of the Site. This town has a population of 105 (2010 Census).

The tailings impoundment is partially below grade with above ground embankments surrounding it as seen in Figure 1 in Appendix 10. Continuous particulate airborne monitoring is performed downwind of this impoundment. Airborne particulate levels are always well below 10 CFR Part 20, Appendix B, Table 2 – Effluent Concentrations, as documented in the facility's semiannual 40.65 Reports. A summary regarding dose to the general public is provided in Appendix 10.

### **3.7 Radiation Doses to Employees**

Doses to site employees are well below regulatory limits. In fact, doses are so low that individual monitoring is not required pursuant to 10 CFR 20.1502. These doses are discussed and documented in the As Low As Reasonably Achievable (ALARA) Audit Report submitted to the NRC annually. A summary from the 2015 (most recent) ALARA Report is provided below:

The Sweetwater Uranium Project's occupational exposure data was reviewed and a discussion of it prepared by Randy Whicker, a Senior Health Physicist with SENES Consultants, and is included below:

#### ***Doses to Workers***

*Doses to workers are estimated on an annual basis based on a combination of gamma surveys, personal dosimeters, radon and air particulate monitoring, and bioassay sampling. Results are compiled in annual internal reports to confirm that worker doses remain below regulatory thresholds that require a formal worker dose monitoring program. Summary estimates of annual doses and uranium intakes for the maximally exposed worker since the last license renewal are shown in Table 5.8-1.*

*All doses since the last license renewal are well below the 10 CFR 20.1502 threshold (500 mrem/yr) that requires worker dose monitoring. All calculated or measured uranium intakes have remained well below 10% of the applicable Allowable Limits on Intake (ALI's) specified in Appendix B to 10 CFR 20. These results verify that the radiation protection program at the Sweetwater Uranium Project facility is effective at maintaining doses to workers that are as low as reasonably achievable (ALARA).*

**Table 5.8-1: Annual external dose (calculated estimate and personal dosimeter result), internal dose (from radon and air particulates), reported total effective dose equivalent (TEDE), and uranium intake data for the maximally exposed worker from 2004 through 2015**

Annual Dose and Uranium Intake Data for the Maximally Exposed Worker								
Year	External (calculated) (mrem)	Personal Dosimeter (mrem)	Radon (mrem)	Air Particulate (mrem)	TEDE (mrem)	Radiation Work Permit Dose (mrem)	Weekly Maximum Calculated Soluble U-nat Intake (mg)	Bioassay U-nat (µg/L)
2004	78	≤1	0	100	191	12	1.5	< 5
2005	96	≤1	45	135	276	-	2	< 5
2006	58	≤1	46	35	139	-	0.1	< 5
2007	114	35	7	72	193	-	0.3	< 5
2008	132	27	4	26	166	1	0.3	< 5
2009	96	3	5	19	120	-	0.2	< 5
2010	90	2	4	44	138	-	0.7	< 5
2011	44	4	12	87	143	-	0.3	< 5
2012	26	6	3	36	65	-	0.03	< 5
2013	13	2	4	15	33	-	0.01	< 5
2014	8	≤1	4	17	29	-	0.02	< 5
2015	5	1	9	9	23	-	0.05	<5

**Note:** This table has been updated since the license renewal application with 2015 data.

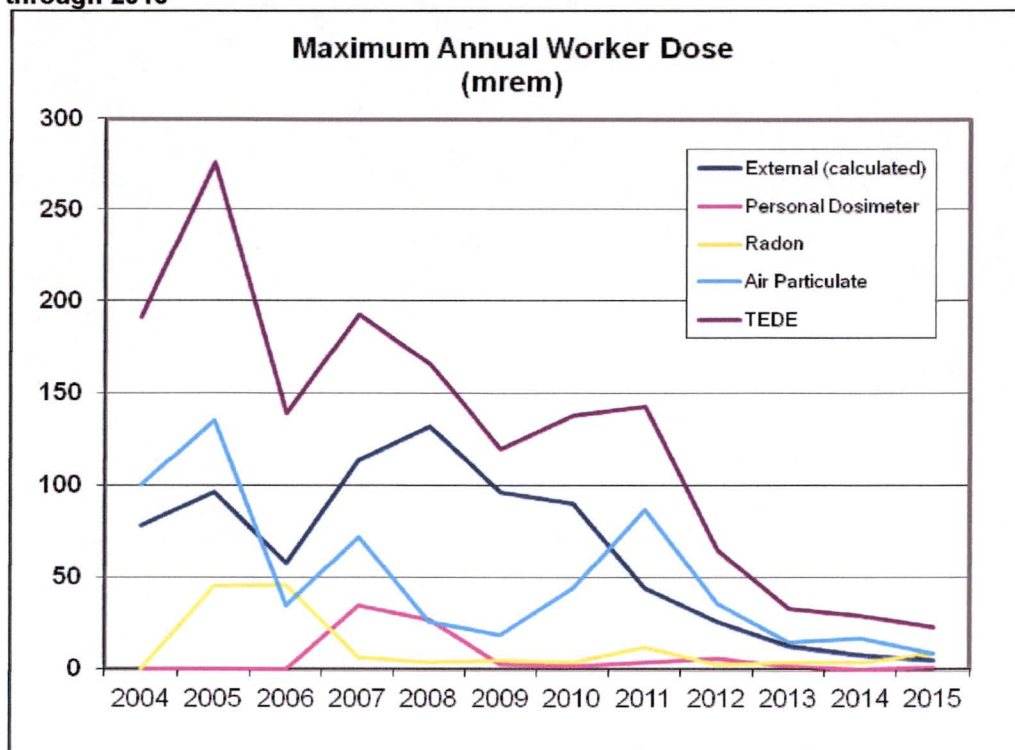
Please note that the sum of the calculated external dose, radon dose, air particulate dose, and if applicable, radiation work permit dose may not add to precisely the reported TEDE due to various rounding errors.

Annual doses from external, radon and air particulate inhalation pathways, along with the corresponding total effective dose equivalent (TEDE) to the maximally exposed worker, are shown graphically in Figure 5.8-1. There is a clear trend of decreasing worker doses over the past decade. Calculated doses are likely to be overestimates as conservative assumptions are used for a number of input parameters. For example, prior to 2012 if a worker entered the Mill or Solvent Extraction Buildings or the tailings impoundment on a given day (as evidenced by a completed line in the Alpha Monitor Record) the entire ten (10) hour work day was assigned to that area regardless of the actual time spent in the area which almost always was considerably less. This method of tracking time greatly increased the calculated worker exposures. Beginning in 2012, workers were required to note the time in and time out of an area in the Alpha Monitoring record. This resulted in much lower calculate doses for times spent in the restricted areas since actual times were being used. This is why calculated worker doses were lower in 2012 and 2013.

Officially reported external gamma dose is based on gamma survey data with conservative estimates of actual worker exposure durations. Personal dosimeter monitoring results, collected in part to verify calculated values, are consistently significantly lower than calculated values. Despite a clear and long-term demonstration that worker monitoring is not required, Kennecott nevertheless continues to issue worker dosimeters to all employees and contractors to monitor the primary potential exposure and dose pathways. This is done to monitor the effectiveness of the radiation protection

program, to verify that doses are being kept ALARA, and to continually verify that a formal monitoring program is not required.

**Figure 5.8-1: Annual external dose, internal dose (from radon and air particulates), and total effective dose equivalent (TEDE) for the maximally exposed worker from 2004 through 2015**



Note: This graph has been updated since the license renewal application with 2015 data.

The preceding table, graph, and text are from the Request for Renewal – Source Material License SUA-1350 for a Ten (10) Year Term dated July 24, 2014. The table and graph are updated and the text, table and graph were originally prepared by:

Randy Whicker  
 SENES Consultants  
 8310 South Valley Highway, Suite 135  
 Englewood, CO USA 80112  
 May, 2014

### 3.8 Changes in the Uranium Market

Recent changes in the uranium market have occurred. These changes include:

#### 3.8.1 Price Decreases

The current Uranium Exchange (UX) Broker Average Price (BAP) price is \$28.69 per pound as of Thursday, May 19, 2016. Table 1 which follows shows monthly uranium prices since January 1988 and Figure 1 is a graph of those prices.

While prices have declined, in part due to the Fukushima incident that resulted from a tsunami, it is believed that they will rebound. Regarding the future of uranium, Tom Gitzel, President and Chief Executive Officer of Cameco stated the following in their 2015 Annual Report:

*"Today, we are on track to continue this trend. We remain on track with our tier-one*

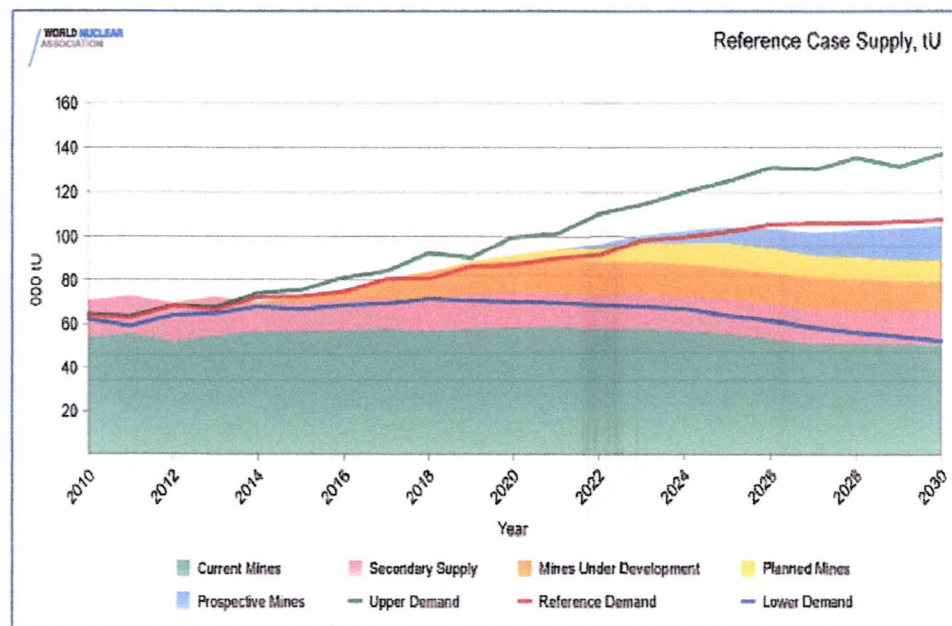
strategy, which focuses on our best-margin assets. We remain on track at Cigar Lake, which should reach full production of 18 million pounds per year in 2017. And, we remain on track to be ready when the market calls for more uranium.

*Because it is a question of 'when', not 'if' more uranium is needed. The strong fundamentals that made us wonder five years ago how we would meet the growth in demand have not greatly changed; for the most part, they have just been moved further out in time. There is still a growing population that requires access to electricity. Nuclear is still an important part of the energy portfolio for many countries, especially those needing more baseload power. There is still investment in nuclear occurring that has not been seen in decades. And there is still going to be a need for more uranium – perhaps even more so now that many projects have been delayed or cancelled in the wake of low uranium prices. Those are prospects that keep us excited."*

**Tim Gitzel**  
President and CEO  
March 14, 2016

These decreases are believed to be temporary and will be eclipsed in the future by increased demand for nuclear energy driven in part by concerns regarding climate change.

The above belief in the future requirement for more uranium is substantiated by the chart below:



Source: World Nuclear Association (WNA)

<http://www.world-nuclear.org/information-library/nuclear-fuel-cycle/uranium-resources/uranium-markets.aspx>

This chart shows the upper demand for uranium exceeding projected supply beginning in the present time.

### 3.8.2 Renewed Interest in Nuclear Power in the United States and Elsewhere

There has been a renewed interest in nuclear energy in the United States and elsewhere in the world especially in light of concerns regarding climate change. The International Atomic Energy Agency's (IAEA's) paper *Climate Change and Nuclear*

Power 2014 states:

*Projections of future nuclear generating capacity point to a continued increase in the use of nuclear power in the longer term. The Fukushima Daiichi accident slowed the projected growth rate of nuclear capacities — the IAEA 2014 high projection for 2030 is about 3% lower than what was projected in 2013 — but did not reverse the upward trends of nuclear power capacities and output. Nuclear capacity is estimated to expand to 401 GW(e) in the low and to 699 GW(e) in the high IAEA projection by 2030 and reach 413 GW(e) in the low and 1092 GW(e) in the high projection by 2050. The principal reasons for the growing interest in nuclear power in recent years have not changed.*

*Climate change mitigation is one of the salient reasons for increasingly considering nuclear power in national energy portfolios. Other reasons include fears of sustained high fossil fuel prices, price volatility and supply security. Nuclear power is also considered in climate change adaptation measures, such as seawater desalination or hedging against hydropower fluctuations.*

The document contains the following projections regarding nuclear power:

Some foreign nations led by China and India are planning to vastly expand their nuclear electric generation base.

**3.9 Receipt of a Performance Based Operating License**

The facility, after almost seven years of permitting work (Fall 1992 – Conceptual Design – Tailings Management Plan, to August 18, 1999 – Receipt of the license), received a performance based operating license. The length of time required to obtain the operating license (almost seven years) exceeds the extension of the implementation of Timeliness in Decommissioning being requested. This license was renewed for a ten year period on November 10, 2004 and is currently in timely renewal.

**3.10 Permitting of the Jackpot Mine**

Permit to Mine #660 was received for the Jackpot Mine from the State of Wyoming Department of Environmental Quality on June 26, 1996.

**3.11 Public Interest Considerations**

The NRC regulation, 10 CFR 40.42(e) states, "The Commission may grant a request to delay or postpone initiation of the decommissioning process if the Commission determines that such relief is not detrimental to the public health and safety and is otherwise in the public interest."

The continued existence of the Sweetwater Mill is in the public interest and in the interest of the United States of America in that its continued existence preserves uranium production capacity in the United States. The Sweetwater Mill is one of only three (3) standing uranium mills in the United States and the only one remaining in Wyoming

In the July 17, 2001 letter granting a five year postponement of implementation of timeliness in decommissioning, the Commission stated: "The continued existence of the mill is in the public interest as it is one of only six uranium mills remaining in the United States and the only one remaining in Wyoming." The mill is now one of the only three (3) conventional mills remaining in the United States.

In addition, at such time as the uranium market permits the resumption of operations at the Sweetwater Uranium Project, the mill and the associated mine will provide primary and secondary employment in the area and tax revenues. These economic benefits are clearly in the public interest. The project benefits related to the mill are described in Sections 8 and 11 of the revised Environmental Report submitted to NRC in August 1994.

Clearly, granting of a fifth five year postponement of the initiation of the requirements of timeliness in decommissioning is in the public interest. Preservation of existing source material processing capability in the United States is also consistent with the stated goals of the National Energy Policy, which clearly supports the expansion of the use of nuclear power to generate electricity. Furthermore it is very well maintained, has a high level of cleanliness, has an exemplary safety record and is located at a remote site with the nearest neighbor being 18 miles away.

### 3.12 Reasonableness of a Five (5) Year Postponement

A five (5) year postponement is reasonable given the ten (10) year length of source material licenses. This extension of license periods was done as a means of reducing NRC staff workload. The facility currently has a ten year license issued on November 10, 2004 that expired on November 10, 2014, and is in timely renewal. A five (5) year postponement is reasonable in light of the lengthy period of time required to renew a license. The renewal application was submitted dated July 24, 2014 and the projected renewal date is February 2017.

A five (5) year postponement is reasonable in light of the time required to permit and start a major uranium mining and milling operation and in light of all of the other factors discussed in this application. In fact, shorter time frames are unreasonable. Revision of SUA-1350 for resumed operation required almost seven years from starting of preparation of the Conceptual Design – Tailings Management Plan (Fall 1992) to receipt of the performance based operating license (August 18, 1999).

The permitting process for the Jackpot Mine took even longer and was costly. The permitting process was initiated by Anaconda in December 1977, with a request for a License to Explore. Anaconda continued the permitting process until they ceased working on the property in 1984. The property was returned to U.S. Energy in 1986 and the permitting process was resumed. The process was continued by the Green Mountain Mining Venture (GMMV), a joint venture between Kennecott Uranium Company, U.S. Energy Corp and a joint venture between U.S. Energy Corp and Crested Corp, which was formed in 1990. A revised permit to mine application was submitted by the GMMV in 1993. The DEQ Permit to Mine was received on June 26, 1996. Permitting for the Jackpot Mine from the initiation of exploration to mining approval was ongoing for nineteen (19) years and cost an estimated \$8.3 million. In light of the above described time frame a five (5) year postponement is definitely not too long.

A five year postponement is also reasonable in light of the time frames required to make business decisions and to wait out unfavorable, but improving, market conditions. This issue was previously raised by members of the uranium recovery industry in comments on the proposed rule. Please see Comments on Timeliness in Decommissioning of Materials Facilities (RIN 3150-AD85) dated April 19, 1993 (Section III), in Appendix 12.

### 3.13 Payment of Full Annual Fees and Hourly Charges

The Sweetwater Uranium Project pays the full annual fee required of an operating uranium mill in spite of its standby status. The project has paid the following annual fees:

**Annual Fees Paid:**

Year	Fees Paid	Year	Fees Paid
1991	\$100,100.00	2004	\$4,681.00 *
1992	\$168,082.00	2005	\$34,125.00
1993	\$100,133.00	2006	\$58,350.00
1994	\$74,670.00	2007	\$65,900.00
1995	\$60,900.00	2008	\$18,700.00
1996	\$57,000.00	2009	\$10,300.00
1997	\$57,000.00	2010	\$31,200.00
1998	\$61,800.00	2011	\$18,054.00 *

1999	\$61,700.00	2012	\$32,300.00
2000	\$131,000.00	2013	\$23,600.00
2001	\$94,300.00	2014	\$27,900.00
2002	\$73,800.00	2015	\$33,800.00
2003	\$60,150.00	2016	\$36,100.00

*\*The Commission refunded \$30,794 in annual fees in 2004 due to over-collected amounts and a decrease in the annual fee. The Commission refunded \$20,246.00 in 2011.*

The facility is regularly inspected by the NRC and the costs of the inspections are borne by the licensee through the hourly charges. In addition, the costs of review of all submittals made to the agency are paid by Kennecott Uranium Company. The project has paid the following hourly charges:

**Hourly Charges Paid:**

Year	Charges Paid	Year	Charges Paid
1991	\$9,720.00	2004	\$10,258.00
1992	\$25,175.00	2005	\$22,271.00
1993	\$6,300.00	2006	\$7,170.00
1994	\$11,940.00	2007	\$31,841.00
1995	\$29,142.00	2008	\$27,286.00
1996	\$14,088.00	2009	\$68,009.00
1997	\$12,138.00	2010	\$63,315.00
1998	\$51,988.00	2011	\$36,782.75
1999	\$76,733.00	2012	\$5,328.50
2000	\$17,443.00	2013	\$16,940.00
2001	\$5,123.00	2014	\$159,759.00
2002	\$5,683.00	2015	\$261,849.25
2003	\$2,105.00	2016*	\$103,113.00

\* To date

In spite of its standby status, the facility receives substantial regulatory oversight, the cost of which is borne by the licensee.

#### 4. Conclusions

Kennecott Uranium Company is requesting a five year postponement of the implementation of the requirements of Timeliness in Decommissioning for the Sweetwater Uranium Project licensed under Source Material License (SUA-1350). Kennecott Uranium Company believes that a five year postponement should be granted for the following reasons:

- 4.1 Record of safe operation to both employees and the general public during suspended operations. Members of the public routinely stop by the site for assistance, including bicyclists and hikers in need of water or wanting to use the telephone. In 2013, a motorcyclist had an accident nearby and was transported to the Carbon County Memorial Hospital in Rawlins, Wyoming by site personnel in a company vehicle. Two (2) men with mules traveling along the Continental Divide Trail in need of water for their animals received assistance at the facility.
- 4.2 Record of regulatory compliance during suspended operations to all applicable State and Federal regulations including NRC, EPA, Wyoming DEQ and other regulations.
- 4.3 Adequate surety in place in the amount of \$11,695,000.00 as per License Condition 9.7.
- 4.4 Renewal of a performance based operating license for the facility on November 10, 2004 for a ten year term, with the license currently in timely renewal.
- 4.5 Long term positive outlook for the uranium market given concerns regarding climate change.
- 4.6 Issuance of the Wyoming DEQ Permit to Mine #660 (Jackpot Mine) and possession of Permit

to Mine #451 (Big Eagle Mine) and Permit to Mine #481 (Sweetwater Uranium Project).

- 4.7** Excellent facility condition and cleanliness.
- 4.8** No detriment to public health and safety or the environment.
- 4.9** History of low radiation doses to employees making individual monitoring of doses unnecessary as per 10 CFR 20.1502.
- 4.10** Continued existence of the mill is in the public interest as it is one of only three (3) uranium mills remaining in the United States and the only one remaining in Wyoming.
- 4.11** Renewed interest in the United States and other nations in nuclear power due to concerns regarding climate change.
- 4.12** Completion from 2011 to 2014 of an exploration program in the Great Divide Basin involving analysis of existing geologic data, surface mapping, airborne geophysics, drilling and surface trenching.

## Appendix 1

October 22, 2014

Mr. Oscar Paulson  
Facility Supervisor  
Kennecott Uranium Company  
Sweetwater Uranium Project  
P.O. Box 1500  
42 Miles Northwest of Rawlins  
Rawlins, Wyoming 82301-1500

SUBJECT: ACKNOWLEDGMENT OF TIMELY RECEIPT OF LICENSE RENEWAL  
APPLICATION FOR THE SWEETWATER URANIUM PROJECT, LICENSE  
SUA-1350

Dear Mr. Paulson,

The U.S. Nuclear Regulatory Commission (NRC) has received, by letter dated July 24, 2014, your request for renewal of NRC Source Material License SUA-1350 for the Sweetwater Uranium Project. The application meets the requirement for a timely renewal as stated in 10 CFR 40.42. Unless you chose to withdraw the renewal application, License-1350 will remain in timely renewal beyond the current expiration date of November 10, 2014, until the NRC makes a final determination either to deny the renewal application or otherwise state an expiration date. A Notice of Opportunity for Hearing will be published in the *Federal Register* after the staff has deemed the application acceptable for review.

In accordance with 10 CFR 2.390 of NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at: <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions concerning this matter, please contact me at (301) 415-6252 or by email at [James.Webb@nrc.gov](mailto:James.Webb@nrc.gov)

Sincerely,

/RA/

James Webb, Project Manager  
Uranium Recovery Licensing Branch  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs  
Office of Nuclear Materials Safety  
and Safeguards

Mr. Oscar Paulson  
Facility Supervisor  
Kennecott Uranium Company  
Sweetwater Uranium Project  
P.O. Box 1500  
42 Miles Northwest of Rawlins  
Rawlins, Wyoming 82301-1500

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APPLICATION FOR THE SWEETWATER URANIUM PROJECT, LICENSE  
SUA-1350

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If you have any questions concerning this matter, please contact me at (301) 415-6252 or by email at [James.Webb@nrc.gov](mailto:James.Webb@nrc.gov)

Sincerely,

/RA/

James Webb, Project Manager  
Uranium Recovery Licensing Branch  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs  
Office of Nuclear Materials Safety  
and Safeguards

ML14293A830

OFFICE	NMSS	NMSS	NMSS	NMSS
NAME	JWebb	SAchten	BVonTill	JWebb
DATE	10/21/14	10/21/14	10/22/14	10/22/14

OFFICIAL RECORD COPY



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

November 25, 2014

Mr. Oscar Paulson  
Facility Supervisor  
Kennecott Uranium Company  
P.O. Box 1500  
Rawlins, Wyoming 82301-1500

SUBJECT: ACCEPTANCE FOR REVIEW OF MATERIALS LICENSE APPLICATION,  
KENNECOTT URANIUM COMPANY (KUC), SWEETWATER URANIUM  
PROJECT, SWEETWATER COUNTY, WYOMING (TAC J60488)

Dear Mr. Paulson,

By letter dated July 24, 2014, KUC submitted to the U.S. Nuclear Regulatory Commission (NRC) a Renewal Source Material license SUA-1350 for the Sweetwater Uranium Project in Sweetwater County, Wyoming. The application was publicly available in NRC's Agencywide Documents Access and Management System (ADAMS) on September 8, 2014. A processing delay was encountered from the time of receipt to becoming publicly available. The staff has completed the acceptance review and found the application sufficient for a detailed technical and environmental review. Please be advised that the detailed technical and environmental review may identify issues that require additional information.

Because the application was found acceptable for technical review, pursuant to 10 CFR Part 2, Subparts A, and C, a Notice of Opportunity for Hearing regarding the Sweetwater Uranium Project will be published in the *Federal Register*, specifying a 60-day request period, starting from the date of publication of the notice. In addition, the Sweetwater Uranium Project materials license application will be listed for the same 60-day period under the heading Opportunities to Request a Hearing or Petition to Intervene on the NRC's Public Website at the following web address: <http://www.nrc.gov/about-nrc/regulatory/adjudicatory/hearing-license-applications.html#4>

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of ADAMS. ADAMS is accessible from the NRC Web site at: <http://www.nrc.gov/reading-rm/adams.html>.

O. Paulson

2

If you have any questions, please contact me at [James.Webb@nrc.gov](mailto:James.Webb@nrc.gov) or (301) 415-6252.

Sincerely,

A handwritten signature in black ink that reads "James Webb". The signature is fluid and cursive, with the first name "James" and last name "Webb" clearly distinguishable.

James Webb, Project Manager  
Uranium Recovery Licensing Branch  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

cc: Linda Gersey, Region IV  
Ray Kellar, Region IV

*Type of Review:* Extension of a currently approved collection.

*Agency:* Bureau of Labor Statistics.

*Title:* General Inquiries to State

*Agency Contacts:*

*OMB Number:* 1220-0168.

*Affected Public:* State, Local, or Tribal Government.

*Total Respondents:* 54.

*Frequency:* As needed.

*Total Responses:* 23,890.

*Average Time per Response:* 40 minutes.

*Estimated Total Burden Hours:* 15,927.

*Total Burden Cost (capital/startup):* \$0.

*Total Burden Cost (operating/maintenance):* \$0.

Comments submitted in response to this notice will be summarized and/or included in the request for Office of Management and Budget approval of the information collection request; they also will become a matter of public record.

Signed at Washington, DC, this 4th day of February 2015.

**Kimberley D. Hill,**

*Chief, Division of Management Systems,  
Bureau of Labor Statistics.*

[FR Doc. 2015-02646 Filed 2-9-15; 8:45 am]

BILLING CODE 4510-24-P

## NUCLEAR REGULATORY COMMISSION

[Docket No. 40-8584; NRC-2015-0025]

### Kennecott Uranium Company; Kennecott Facility

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** License renewal application; opportunity to request a hearing and to petition for leave to intervene.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) has received an application from Kennecott Uranium Company for renewal of Materials License No. SUA-1530, which authorizes the operation of a uranium milling facility in Sweetwater County, Wyoming (Kennecott Facility). If approved, the license renewal would allow the Kennecott Facility to be operated for an additional 10-year period through November 2024.

**DATES:** A request for a hearing or petition for leave to intervene must be filed by April 13, 2015.

**ADDRESSES:** Please refer to Docket ID NRC-2015-0025 when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2015-0025. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; email: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by email to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced in this document (if that document is available in ADAMS) is provided the first time that a document is referenced.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

**FOR FURTHER INFORMATION CONTACT:** James Webb, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-6252, email: [James.Webb@nrc.gov](mailto:James.Webb@nrc.gov).

### SUPPLEMENTARY INFORMATION:

#### I. Introduction

By letter dated July 24, 2014, Kennecott Uranium Company submitted an application to renew Materials License No. SUA-1530 for the Kennecott Facility in Sweetwater County, Wyoming (ADAMS Accession No. ML14251A113). This license was issued under Part 40 of Title 10 of the *Code of Federal Regulations* (CFR), "Domestic licensing of source material," and allows Kennecott Uranium Company to operate a uranium recovery facility and possess certain uranium and uranium byproduct material generated from these operations. The license's current expiration date is November 10, 2014. However, in accordance with 10 CFR 40.42, the existing license will not expire during the pendency of the NRC staff's review of the renewal application. If granted, the license would be renewed for another 10 years, through November 2024.

An NRC administrative completeness review, dated November 25, 2014, found

the application acceptable to begin a technical review (ADAMS Accession No. ML14314B032). Prior to approving the license renewal application, the NRC will need to make the findings required by the Atomic Energy Act of 1954, as amended (the Act), and the NRC's regulations. The NRC's findings will be documented in a safety evaluation report and an environmental assessment. The environmental assessment will be the subject of a subsequent notice in the **Federal Register**.

#### II. Opportunity To Request a Hearing and Petition for Leave To Intervene

Within 60 days after the date of publication of this notice, any person(s) whose interest may be affected by this action may file a request for a hearing and a petition to intervene with respect to the application to renew Materials License No. SUA-1530. Requests for a hearing and a petition for leave to intervene shall be filed in accordance with the Commission's "Agency Rules of Practice and Procedure" in 10 CFR part 2. Interested person(s) should consult a current copy of 10 CFR 2.309, which is available at the NRC's PDR, located in One White Flint North, Room O1-F21 (first floor), 11555 Rockville Pike, Rockville, Maryland 20852. The NRC's regulations are accessible electronically from the NRC Library on the NRC's Web site at <http://www.nrc.gov/reading-rm/doc-collections/cfr/>. If a request for a hearing or petition for leave to intervene is filed within 60 days, the Commission or a presiding officer designated by the Commission or by the Chief Administrative Judge of the Atomic Safety and Licensing Board Panel will rule on the request and/or petition. The Secretary or the Chief Administrative Judge of the Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR 2.309, a petition for leave to intervene shall set forth, with particularity, the interest of the petitioner in the proceeding and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted, with particular reference to the following general requirements: (1) The name, address, and telephone number of the requestor or petitioner; (2) the nature of the requestor's/petitioner's right under the Atomic Energy Act of 1954, as amended, to be made a party to the proceeding; (3) the nature and extent of the requestor's/petitioner's property, financial, or other interest in the proceeding; and (4) the possible

effect of any decision or order which may be entered in the proceeding on the requestor's/petitioner's interest. The petition must also set forth the specific contentions which the requestor/petitioner seeks to have litigated at the proceeding.

Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the requestor/petitioner shall provide a brief explanation of the bases for the contention and a concise statement of the alleged facts or expert opinion that support the contention and on which the requestor/petitioner intends to rely in proving the contention at the hearing. The requestor/petitioner must also provide references to those specific sources and documents of which the petitioner is aware and on which the requestor/petitioner intends to rely to establish those facts or expert opinion. The petition must include sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the renewal application under consideration. The contention must be one which, if proven, would entitle the requestor/petitioner to relief. A requestor/petitioner who fails to satisfy these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing with respect to resolution of that person's admitted contentions, including the opportunity to present evidence and to submit a cross-examination plan for cross-examination of witnesses, consistent with NRC regulations, policies, and procedures. The Atomic Safety and Licensing Board will set the time and place for any prehearing conferences and evidentiary hearings, and the appropriate notices will be provided.

Petitions for leave to intervene must be filed no later than 60 days from the date of publication of this notice. Requests for hearing, petitions for leave to intervene, and motions for leave to file new or amended contentions that are filed after the 60-day deadline will not be entertained absent a determination by the presiding officer that the filing demonstrates good cause by satisfying the three factors in 10 CFR 2.309(c)(1)(i)-(iii).

A State, local governmental body, federally-recognized Indian tribe, or agency thereof, may submit a petition to

the Commission to participate as a party under 10 CFR 2.309(h)(1). The petition should state the nature and extent of the petitioner's interest in the proceeding. The petition should be submitted to the Commission by April 13, 2015. The petition must be filed in accordance with the filing instructions in the "Electronic Submissions (E-Filing)" section of this document, and should meet the requirements for petitions for leave to intervene set forth in this section. A State, local governmental body, Federally-recognized Indian tribe, or agency thereof may also have the opportunity to participate under 10 CFR 2.315(c).

If a hearing is granted, any person who does not wish, or is not qualified, to become a party to the proceeding may, in the discretion of the presiding officer, be permitted to make a limited appearance pursuant to the provisions of 10 CFR 2.315(a). A person making a limited appearance may make an oral or written statement of position on the issues, but may not otherwise participate in the proceeding. A limited appearance may be made at any session of the hearing or at any prehearing conference, subject to the limits and conditions as may be imposed by the presiding officer. Persons desiring to make a limited appearance are requested to inform the Secretary of the Commission by April 13, 2015.

### III. Electronic Submissions (E-Filing)

All documents filed in NRC adjudicatory proceedings, including a request for hearing, a petition for leave to intervene, any motion or other document filed in the proceeding prior to the submission of a request for hearing or petition to intervene, and documents filed by interested governmental entities participating under 10 CFR 2.315(c), must be filed in accordance with the NRC's E-Filing rule (72 FR 49139; August 28, 2007). The E-Filing process requires participants to submit and serve all adjudicatory documents over the internet, or in some cases to mail copies on electronic storage media. Participants may not submit paper copies of their filings unless they seek an exemption in accordance with the procedures described below.

To comply with the procedural requirements of E-Filing, at least ten 10 days prior to the filing deadline, the participant should contact the Office of the Secretary by email at [hearing.docket@nrc.gov](mailto:hearing.docket@nrc.gov), or by telephone at 301-415-1677, to request (1) a digital identification (ID) certificate, which allows the participant (or its counsel or representative) to digitally sign

documents and access the E-Submittal server for any proceeding in which it is participating; and (2) advise the Secretary that the participant will be submitting a request or petition for hearing (even in instances in which the participant, or its counsel or representative, already holds an NRC-issued digital ID certificate). Based upon this information, the Secretary will establish an electronic docket for the hearing in this proceeding if the Secretary has not already established an electronic docket.

Information about applying for a digital ID certificate is available on the NRC's public Web site at <http://www.nrc.gov/site-help/e-submittals/getting-started.html>. System requirements for accessing the E-Submittal server are detailed in the NRC's "Guidance for Electronic Submission," which is available on the agency's public Web site at <http://www.nrc.gov/site-help/e-submittals.html>. Participants may attempt to use other software not listed on the Web site, but should note that the NRC's E-Filing system does not support unlisted software, and the NRC Meta System Help Desk will not be able to offer assistance in using unlisted software.

If a participant is electronically submitting a document to the NRC in accordance with the E-Filing rule, the participant must file the document using the NRC's online, Web-based submission form. In order to serve documents through the Electronic Information Exchange System, users will be required to install a Web browser plug-in from the NRC's Web site. Further information on the Web-based submission form, including the installation of the Web browser plug-in, is available on the NRC's public Web site at <http://www.nrc.gov/site-help/e-submittals.html>.

Once a participant has obtained a digital ID certificate and a docket has been created, the participant can then submit a request for hearing or petition for leave to intervene. Submissions should be in Portable Document Format (PDF) in accordance with NRC guidance available on the NRC's public Web site at <http://www.nrc.gov/site-help/e-submittals.html>. A filing is considered complete at the time the documents are submitted through the NRC's E-Filing system. To be timely, an electronic filing must be submitted to the E-Filing system no later than 11:59 p.m. Eastern Time on the due date. Upon receipt of a transmission, the E-Filing system time-stamps the document and sends the submitter an email notice confirming receipt of the document. The

E-Filing system also distributes an email notice that provides access to the document to the NRC's Office of the General Counsel and any others who have advised the Office of the Secretary that they wish to participate in the proceeding, so that the filer need not serve the documents on those participants separately. Therefore, applicants and other participants (or their counsel or representative) must apply for and receive a digital ID certificate before a hearing request/petition to intervene is filed so that they can obtain access to the document via the E-Filing system.

A person filing electronically using the NRC's adjudicatory E-Filing system may seek assistance by contacting the NRC Meta System Help Desk through the "Contact Us" link located on the NRC's public Web site at <http://www.nrc.gov/site-help/e-submittals.html>, by email to [MSHD.Resource@nrc.gov](mailto:MSHD.Resource@nrc.gov), or by a toll-free call at 1-866-672-7640. The NRC Meta System Help Desk is available between 8 a.m. and 8 p.m., Eastern Time, Monday through Friday, excluding government holidays.

Participants who believe that they have a good cause for not submitting documents electronically must file an exemption request, in accordance with 10 CFR 2.302(g), with their initial paper filing requesting authorization to continue to submit documents in paper format. Such filings must be submitted by: (1) First class mail addressed to the Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemaking and Adjudications Staff; or (2) courier, express mail, or expedited delivery service to the Office of the Secretary, Sixteenth Floor, One White Flint North, 11555 Rockville Pike, Rockville, Maryland, 20852, Attention: Rulemaking and Adjudications Staff. Participants filing a document in this manner are responsible for serving the document on all other participants. Filing is considered complete by first-class mail as of the time of deposit in the mail, or by courier, express mail, or expedited delivery service upon depositing the document with the provider of the service. A presiding officer, having granted an exemption request from using E-Filing, may require a participant or party to use E-Filing if the presiding officer subsequently determines that the reason for granting the exemption from use of E-Filing no longer exists.

Documents submitted in adjudicatory proceedings will appear in the NRC's electronic hearing docket which is

available to the public at <http://ehd1.nrc.gov/ehd/>, unless excluded pursuant to an order of the Commission, or the presiding officer. Participants are requested not to include personal privacy information, such as social security numbers, home addresses, or home phone numbers in their filings, unless an NRC regulation or other law requires submission of such information. However, a request to intervene will require including information on local residence in order to demonstrate a proximity assertion of interest in the proceeding. With respect to copyrighted works, except for limited excerpts that serve the purpose of the adjudicatory filings and would constitute a Fair Use application, participants are requested not to include copyrighted materials in their submission.

Dated at Rockville, Maryland, this 22nd day of January 2015.

For the Nuclear Regulatory Commission.

**Christopher McKenney,**

*Acting Deputy Director, Division of Decommissioning, Uranium Recovery, and Waste Programs Office of Nuclear Material Safety and Safeguards.*

[FR Doc. 2015-02708 Filed 2-9-15; 8:45 am]

BILLING CODE 7590-01-P

## SECURITIES AND EXCHANGE COMMISSION

### Proposed Collection; Comment Request

Upon Written Request, Copy Available From: Securities and Exchange Commission, Office of FOIA Services, 100 F Street NE., Washington, DC 20549-2736.

*Extension:* Rules 8b-1 to 8b-33; SEC File No. 270-135, OMB Control No. 3235-0176.

Notice is hereby given that, pursuant to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*), the Securities and Exchange Commission ("Commission") is soliciting comments on the collection of information summarized below. The Commission plans to submit this existing collection of information to the Office of Management and Budget ("OMB") for extension and approval.

Rules 8b-1 to 8b-33 (17 CFR 270.8b-1 to 8b-33) under the Investment Company Act of 1940 (15 U.S.C. 80a-1 *et seq.*) ("Investment Company Act") set forth the procedures for preparing and filing a registration statement under the Investment Company Act. These procedures are intended to facilitate the registration process. These rules

generally do not require respondents to report information.<sup>1</sup>

The Commission believes that it is appropriate to estimate the total respondent burden associated with preparing each registration statement form rather than attempt to isolate the impact of the procedural instructions under Section 8(b) of the Investment Company Act, which impose burdens only in the context of the preparation of the various registration statement forms. Accordingly, the Commission is not submitting a separate burden estimate for rules 8b-1 through 8b-33, but instead will include the burden for these rules in its estimates of burden for each of the registration forms under the Investment Company Act. The Commission is, however, submitting an hourly burden estimate of one hour for administrative purposes.

The collection of information under rules 8b-1 to 8b-33 is mandatory. The information provided under rules 8b-1 to 8b-33 is not kept confidential. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Written comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the Commission, including whether the information has practical utility; (b) the accuracy of the Commission's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology. Consideration will be given to comments and suggestions submitted in writing within 60 days of this publication.

Please direct your written comments to Pamela Dyson, Acting Director/Chief Information Officer, Securities and Exchange Commission, C/O Remi

<sup>1</sup> Although the rules under Section 8(b) of the Investment Company Act are generally procedural in nature, two of the rules require respondents to disclose some limited information. Rule 8b-3 (17 CFR 270.8b-3) provides that whenever a registration form requires the title of securities to be stated, the registrant must indicate the type and general character of the securities to be issued. Rule 8b-22 (17 CFR 270.8b-22) provides that if the existence of control is open to reasonable doubt, the registrant may disclaim the existence of control, but it must state the material facts pertinent to the possible existence of control. The information required by both of these rules is necessary to insure that investors have clear and complete information upon which to base an investment decision.

## Appendix 2

February 2, 1995

Mr. James E. Gilchrist, Vice President  
Environmental Affairs  
American Mining Congress  
1920 N Street N.W., Suite 300  
Washington, DC 20036-1662

SUBJECT: SUMMARY OF JANUARY 10, 1995, MEETING TO DISCUSS FINAL RULE ON  
TIMELINESS IN DECOMMISSIONING OF MATERIALS FACILITIES

Dear Mr. Gilchrist:

Enclosed is a summary of the meeting held on January 10, 1995, to discuss the final rule on Timeliness in Decommissioning of Materials Facilities. Anthony Thompson and Traci Stegemann represented the American Mining Congress (AMC) at the meeting. The meeting summary will serve to record the approach this Office intends to take toward licensee requests for delays in initiating and completing decommissioning. Please let me know if this resolves AMC concerns with the rule.

Sincerely,

Joseph J. Holonich, Chief  
High-Level Waste and Uranium  
Recovery Projects Section  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

Enclosure: As stated

cc: Anthony Thompson  
Traci Stegemann  
Shaw, Pittman, Potts  
& Throwbridge

## MEETING SUMMARY

Date/Time of Meeting: January 10, 1995, 3:30 p.m.

Location of Meeting: Two White Flint North  
Room T6A-1

Attendees: Attachment

The meeting was held at the request of the American Mining Congress (AMC) to discuss AMC concerns with the final rule on Timeliness in Decommissioning of Materials Facilities, published in the Federal Register on July 15, 1994. AMC has initiated a court proceeding, challenging the applicability of the rule to uranium mills. At the request of AMC, the court is holding the litigation in abeyance while AMC attempts to resolve its concerns with NRC.

AMC identified two primary concerns related to the application of the rule to uranium milling facilities. AMC argued 1) that the requirement to complete decommissioning within 24 months may be impossible to meet for most mills and 2) that the requirement for initiating decommissioning if a facility has not operated for 24 months does not adequately take into account the cyclical nature of the mineral extraction industry.

### 1. Requirement to complete decommissioning within 24 months

AMC stated that it may be impossible for most mills to complete decommissioning in 24 months. At many mills, at least some of the waste or rubble from the decommissioning of the mill structures will be disposed of in the tailings impoundment. The impoundment, which will be reclaimed on a separate schedule in accordance with Criterion 6A of 10 CFR Part 40, Appendix A, may not be ready to accept the decommissioning wastes within the 24 month time frame.

NRC pointed out that the Statement of Considerations for the rulemaking recognizes this potential need to extend the date for completion of decommissioning at uranium recovery facilities. Requests for such delays can be accommodated through the provisions in § 40.42(h). Additionally, if a specific date for completion of decommissioning is incorporated in a license, as is the case for most sites, the date in the license would take precedence over the timeliness rule provisions.

### 2. Requirement to initiate decommissioning within 24 months

AMC stated that the requirement to initiate decommissioning within 24 months of suspension of milling does not adequately take into account the cyclical nature of the mineral extraction industry. AMC argued that mills typically shut down, sometimes for periods of many years, when the price of the mineral is low. The mill operator anticipates remaining in standby until the price of the mineral rises enough for it to be attractive to restart the mill. This is true, not only for the uranium industry, but for many other mineral extraction operations. During the time a uranium mill is on standby, it is under license to NRC, subject to NRC inspection, and paying an annual fee; it also has a surety that is reviewed annually. These facilities, according to AMC

therefore, do not present the same potential problems of safety practices becoming lax or financial resources necessary for decommissioning becoming unavailable, as other facilities that are covered under the rule.

NRC pointed out that a licensee can request a delay or postponement of the initiation of decommissioning under § 40.42(e). In order for NRC to grant that request, the licensee must show that the delay a) "is not detrimental to the public health and safety" and b) "is otherwise in the public interest." The licensee would have to make a formal request addressing these issues.

NRC stated that addressing the issue of public health and safety should be relatively simple and straightforward. The licensee can reference the safety requirements already contained in its license and NRC inspections of its facility as the demonstration that it is maintaining an adequate level of protection of public health and safety. NRC envisions a relatively short statement from the licensee addressing this aspect of § 40.42(e).

The licensee will also have to discuss why its proposal to delay decommissioning is in the public interest. One aspect of this issue was discussed in detail. All licensees are required by regulation to have in place, financial assurance based on an NRC-approved reclamation plan. There have been situations in which it was recognized that the approved reclamation plan needed upgrading. In some of those situations it was also recognized that the cost to implement the revised reclamation plan, and thus the amount of surety needed, would be substantially greater than for the existing, approved plan. However, until the revised reclamation was formally approved by NRC and incorporated in the license, the surety remained based on the old reclamation plan. It can sometimes take several years of review, discussion, and revision to achieve a reclamation plan that is approved by NRC, during which time the public interest may not be protected with an adequate surety. Therefore, if a mill operator requests a delay in decommissioning, under § 40.42(e), and there is a revision to the mill's reclamation plan under review, NRC will not consider it to be in the public interest to grant the delay unless the licensee's surety accounts for the reclamation plan under review. The surety amount does not need to be based on an NRC-approved cost estimate; it can be based on the licensee's estimated cost to implement the reclamation plan under review.

ATTENDEES  
NRC-AMC MEETING  
JANUARY 10, 1995

Tim Johnson  
Mary L. Thomas  
Robert L. Fonner  
Dan Gillen  
Myron Fliegel  
Joe Holonich  
Mal Knapp  
Traci Stegemann  
A.J. Thompson  
Steve Crockett

NRC/DWM  
NRC/RES  
NRC/OGC  
NRC/DWM  
NRC/DWM  
NRC/DWM  
NRC/DWM  
Shaw Pittman/AMC  
Shaw Pittman/AMC  
NRC/OGC

301-415-7299  
301-415-6230  
301-415-1643  
301-415-7295  
301-415-6627  
301-415-6643  
301-415-6708  
202-663-8820  
202-663-9198  
301-415-1620

## **Appendix 3**

March 8, 1995

By Hand Delivery

Mr. Joseph J. Holonich, Chief  
High-Level Waste and Uranium Recovery  
Projects Section  
Division of Waste Management  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852

Re: American Mining Congress v. Nuclear Regulatory  
Commission and The United States, Docket No. 94-1619  
- Challenge to Final Timeliness in Decommissioning  
Rule

Dear Mr. Holonich:

Thank you for taking the time to meet with us on January 10, 1995 to discuss resolution of the American Mining Congress' (AMC) judicial challenge to the Nuclear Regulatory Commission's (NRC) final timeliness in decommissioning rule (59 Fed. Reg. 36,026, July 15, 1994). As you may be aware, on February 13, 1995, AMC merged with the National Coal Association to establish the National Mining Association (NMA) so henceforth your dealings on these issues will be with the new organization.

NMA appreciates your sending a draft of the January 10, 1995 meeting's minutes. NMA believes that the meeting made significant progress towards addressing its concerns with the final rule. NMA does, however, wish to take this opportunity to express its ongoing objection to routine regulation by waiver, exemption, or exception. This type of regulatory

Mr. Joseph J. Holonich

March 8, 1995

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practice continually poses the potential for inconsistent decisions over time, particularly, when there are major changes in agency personnel.

This letter, written on behalf of NMA, sets forth its uranium recovery facility licensee members' understanding of how NRC will apply the requirements of the timeliness rule to their facilities. NMA requests that NRC confirm in writing whether NMA's understanding is correct. Assuming NMA's understanding is correct, NRC's response should provide an adequate basis to settle and dismiss the above-referenced action. If there are aspects of NMA's understanding that NRC deems incorrect, further discussions will be necessary.

(1) First, with respect to the 24-month timeframe for completion of decommissioning activities, NMA recognizes that this requirement is intended to apply only to the mill areas and not to the tailings. The final rule notes that "§40.42 applies to the uranium processing facilities." 59 Fed. Reg. at 36,031. It also states in 10 C.F.R. §40.42(k): "Specific licenses for uranium and thorium mills are exempt from paragraphs (d)(4)(f) and (g) of this section with respect to reclamation of tailings impoundments and/or waste disposal areas." *Id.* at 3603. At many sites, however, it may not be possible to dispose of the mill within 24 months because of specific license requirements that schedule burial at some appropriate time which may not be within the 24-month period. Site reclamation is an integrated process based on site specific circumstances, management decisions and approved plans and submittals.<sup>14</sup> It is inappropriate to simply assume that mill disposal can automatically be completed within 24 months from the beginning of the site closure process. Thus,

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<sup>14</sup> In addition, not all mills are disposed in the tailings pile but may be buried somewhere else on site. To the extent that any such portion of a site is being "used for disposal of byproduct material" it, along with the tailings, will be transferred to the state or federal government for perpetual licensing as a restricted site and, thus, would not be subject to the decommissioning requirements in Part 20 but rather would be subject to the requirements of 10 C.F.R. Part 40, Appendix A.

Mr. Joseph J. Holonich

March 8, 1995

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specific timetables for the various components of site closure must be and are established in site licenses.

NMA's Conclusion: It is NMA's understanding that where specific license provisions regarding the completion of decommissioning activities exist, or are required in the future, these specific license timetables will be controlling rather than the general requirements of the timeliness rule.

(2) Second, with respect to the 24-month inactivity period for facilities on "standby," NMA understands that NRC believes "flexibility has been built into the final rule so that a licensee can file for an exemption from having to commence decommissioning following 24 months of inactivity." 59 Fed. Reg. at 36,032. The rule provides that extensions of the 24-month period of inactivity can be granted if NRC determines that "this relief is not detrimental to the public health and safety and is otherwise in the public interest." *Id.* The criteria by which this broad standard may be satisfied are not explained. At our meeting, NRC indicated that an exemption from the 24 month inactivity trigger would be granted if the criteria noted above are satisfied (which it assumes will not be a major undertaking) and the licensee has posted adequate surety.

NMA's Conclusions:

a. With respect to showing that continued standby status is "not detrimental to the environment" and is "otherwise in the public interest", NMA assumes that, unless a licensee plainly has failed to fulfill its license requirements or has done so haphazardly (which would presumably result in a pending or contemplated enforcement action), this determination would be a *pro forma* exercise for NRC since NRC must regulate and oversee licensees whether they are on standby or not. And, presumably, NRC would not have granted a license in the first place unless these requirements were going to be met.

Mr. Joseph J. Holonich  
March 8, 1995  
Page 4

Uranium recovery facility licenses contain multiple requirements, including financial surety, protection of on-site workers, and other elements that protect the environment and the public interest whether the site is actively in production or not. Indeed, NRC asserts that it exercises full and complete oversight over standby sites and, therefore, charges them the same annual fee as that for an actively operating facility. See 59 Fed Reg. 36895 (July 20, 1994). Also, NRC not only has a "history" of site compliance but a history of licensee submittals both to prepare a facility for standby and to prepare it for resumption of operations. Thus, almost by definition, unless NRC is not fulfilling its responsibilities, the licensee must be satisfying the "not to the detriment of the environment," and "otherwise in the public interest" requirements.

b. With respect to the surety requirement, it is NMA's understanding that the amount of the surety would be based on the amount approved by the Commission or, if there is no approved amount, on the licensee's estimate of costs for final site reclamation. If there is no approved amount or no estimate, then the amount of the surety required would be subject to discussions between by NRC and the licensee.

(3) Finally, given the nature of the uranium recovery market, NMA anticipates that licensees may need to make multiple requests for extensions of the 24 month inactivity period.<sup>24</sup> However, NMA notes that this seems both cumbersome and unnecessary when the Commission could simply put a specific condition in the license allowing a longer standby term since the licensee must satisfy the "not to the detriment" and "in the public interest" criteria notwithstanding the requirements of the general timeliness in decommissioning standard. This would be a sensible approach since, as noted above, the general provisions of the rule will

<sup>24</sup> It is worth noting that virtually any site requiring a site specific advisory board, (SSAB) as proposed in NRC's decommissioning and decontamination rulemaking proceeding (59 Fed. Reg. 43,200, August 22, 1994), will likely require multiple extensions as well.

Mr. Joseph J. Holonich

March 8, 1995

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not control the time of mill reclamation or for that matter any other reclamation activities required by specific license conditions.

NMA's Conclusions: NMA assumes that there is no limit on the number of 24 month extensions that a licensee can receive. If the requisite conditions have been met (adequate surety and not detrimental to the environment and otherwise in the public interest), a facility will, if necessary, be granted continued extensions of the 24 month period.

NMA and its licensee members look forward to your response. If you have any questions about the substance or intent of this letter, please do not hesitate to call me at 202/663-9198.

Sincerely,

Anthony J. Thompson

AJT/clc

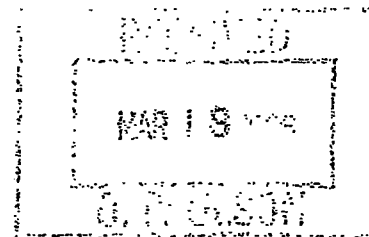
## **Appendix 4**



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

February 16, 1996



Anthony J. Thompson, Esq.  
Shaw, Pittman, Potts & Trowbridge  
2300 N Street, N.W.  
Washington, DC 20037-1128

SUBJECT: TIMELINESS IN DECOMMISSIONING RULE

Dear Mr. Thompson:

This letter is in response to your letter of August 25, 1995, to Steven F. Crockett of the Nuclear Regulatory Commission's Office of the General Counsel. Your letter, written in behalf of the National Mining Association (NMA), set forth the NMA members' understanding of how NRC will apply the Timeliness in Decommissioning rule (59 FR 36026, July 15, 1994) to uranium mills. Based on your letter, we believe there needs to be additional clarification of the NRC staff's positions. Therefore, I have attempted to address the conclusions highlighted in your letter by clearly restating the NRC's positions. The enclosure contains the clarifying information.

I hope you find that the information provided clarifies our position. Because the 24 month time period for submitting notification to NRC as required by the rule, expires next August, it is important that licensees begin preparing their requests if they wish to remain in standby status and not begin decommissioning activities.

If you have any questions on the enclosure, please feel free to contact either me or Mike Fliegel of my staff. I can be reached at (301) 415-7238 and Dr. Fliegel can be reached at (301) 415-6629.

Sincerely,

Joseph J. Holonich, Chief  
Uranium Recovery Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

Enclosure: As stated

U.S. Nuclear Regulatory Commission Staff Response  
to National Mining Association Comments on Decommissioning Timeliness Rule

Comment 1

National Mining Association (NMA) Comment

It is NMA's understanding that where specific license provisions regarding the completion of decommissioning activities exist, or are required in the future, these specific license timetables will be controlling rather than the general requirements of the timeliness rule.

Staff Response

The staff agrees with this conclusion.

Comment 2

NMA Comment

With respect to showing that continued standby status is "not detrimental to the environment" and is "otherwise in the public interest", NMA assumes that, unless a licensee plainly has failed to fulfill its license requirements or has done so haphazardly (which would presumably result in a pending or contemplated enforcement action), this determination would be a *pro forma* exercise since the U.S. Nuclear Regulatory Commission must regulate and oversee licensees whether they are on standby or not, particularly if licensees are being charged for it. And, presumably, NRC would not have granted a license in the first place unless these requirements were going to be met. To the extent there are concerns raised by an extension, additional license conditions could address any such concerns and provide NRC with the necessary comfort level.

Staff Response

The staff believes there are a number of clarifications that need to be made in response to this comment.

1. The standard requires a determination that continued standby status "...is not detrimental to the public health and safety [emphasis added]," not "the environment" as stated in the NMA conclusion.
2. The determination is not a *pro forma* exercise. The licensee must show that continued standby status will not be detrimental to public health and safety. In a meeting held on January 10, 1995, and documented in the NRC letter to James E. Gilchrist of the American Mining Congress dated February 2, 1995, NRC stated that addressing this issue should be relatively simple and straightforward. The licensee can reference the safety requirements already contained in its license and NRC inspections of its facility as the demonstration that it is maintaining an adequate level of protection of public health and safety. We stated that NRC envisions a relatively short statement from the licensee addressing this

aspect of § 40.42(e). However, as was stated by the staff during the January 10, 1995 meeting, the review would involve at a minimum an evaluation of the license to ensure that all necessary conditions were included and correct. The staff review was not characterized as a *pro forma* exercise.

3. The determination that continued standby status "...is otherwise in the public interest" is separate from the public health and safety determination. NRC stated at the January 10, 1995, meeting that the licensee will have to discuss why its proposal to delay decommissioning is in the public interest. NMA's conclusion that unless a licensee is not fulfilling its license requirements, the fact that it was originally granted a license resolves this issue, is clearly incorrect for the following reasons:
  - a. Properly fulfilling its license requirements is a necessary condition for being in the public interest but not necessarily a sufficient condition. It is not clear how the fact that a facility is complying with its license leads one to conclude that continual standby is in the public interest.
  - b. NRC originally granted licenses, in most cases many years ago, to these facilities to produce uranium. The public interest now, or in the future, for uranium production may be different than when the original license was granted. Furthermore, the standby request is not to produce uranium but to await changes to market conditions that might (or might not) eventually lead to uranium production. Therefore, a request for an exemption would have to show why continuation in a standby status is in the public interest. For more on the public interest showing, see the Staff Response to Comment 3.

### Comment 3

#### NMA Comment

With respect to the surety requirement, it is NMA's understanding that the amount of the surety would be based on the amount approved by NRC or, if there is no approved amount, on the licensee's estimate of costs for final site reclamation. If there is no approved amount or no estimate, then the amount of the surety required would be subject to discussions between NRC and the licensee.

#### Staff Response

As stated by NRC at the January 10, 1995, meeting, the surety issue is tied to the determination of whether continued standby status is in the public interest. All licensees are required by regulation to have in place, financial assurance based on an NRC-approved reclamation plan. In many cases, the surety based on the approved plan will be the surety that satisfies the public interest. However, there have been situations in which it was

recognized that the approved reclamation plan needed upgrading. In some of those situations it was also recognized that the cost to implement the revised reclamation plan, and thus the amount of surety needed, would be substantially greater than for the existing, approved plan. However, until the revised reclamation was formally approved by NRC and incorporated in the license, the surety was based on the old reclamation plan.

It can sometimes take several years of review, discussion, and revision to achieve a reclamation plan that is approved by NRC. Although the licensee would have a surety based on an NRC accepted value, the public interest may not be protected because the NRC accepted value may not result in an adequate surety. Therefore, if a mill operator requests a delay in decommissioning, under § 40.42(e), and there is a revision to the mill's reclamation plan under review, NRC will not consider it to be in the public interest to grant the delay unless the licensee's surety accounts for the reclamation plan under review.

#### Comment 4

##### **NMA Comment**

NMA assumes that there is no limit on the number of extensions that a licensee can receive. If the requisite conditions have been met (adequate surety and not detrimental to the environment and otherwise in the public interest), a facility will, if necessary, be granted continued extensions. Indeed, given the unique nature of the uranium industry's stand-by situation, licensees could request an exemption from the 24 month period for a period of time ranging from 24 months to years. At the end of the agreed upon time, the licensee would have the option of requesting another exemption/extension. NRC's processing of these requests would be *pro forma*, unless specific concerns are identified by the licensee or raised by NRC.

##### **Staff Response**

Several aspects of this conclusion repeat the misunderstandings of previous conclusions (i.e., the test is related to public health and safety, and the adequacy of surety is a component of the test of being in the public interest) and it again assumes a *pro forma* processing of request. Please see the clarification provided for those comments. The conclusion that there is no limit to the number of extensions that a licensee can receive, is correct.

#### Comment 5

##### **NMA Comment**

In the alternative, the appropriate timeframe could be established as a license condition which would be controlling over the general requirements of the timeliness rule.

**Staff Response**

The staff does not view a license condition as an alternative approach. We expect that in any instance in which we grant an extension of the time a licensee can remain on standby, the extended time period would be established in the license. Since that extension would have been granted in conformance with § 40.42(e), we do not see a conflict between the rule and the license condition.

## **Appendix 5**

**AMC**  
**AMERICAN**  
**MINING**  
**CONGRESS**  
FOUNDED 1897

1920 N Street NW, Suite 300  
Washington, DC 20036-1662  
202/861-2800  
Fax: 202/861-7535

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\* Immediate Past Chairman  
† Honorary

September 15, 1993

The Honorable Ivan Selin  
Chairman  
U.S. Nuclear Regulatory Commission  
Rockville, Maryland 20852

Dear Chairman Selin:

During your visit to Wyoming and Colorado, you had a variety of discussions with, among others, uranium fuel cycle licensees. The American Mining Congress (AMC) which represents many of those licensees in NRC regulatory proceedings was a participant at one of those meetings which covered a variety of topics. One of those topics that was raised by Michael H. Gibson, who is Vice President of Kennecott Uranium Company and the Chairman of AMC's Uranium Policy Council (UPC), is the focus of this letter -- namely, the relevance of NRC's proposed "Timeliness in Decommissioning" rulemaking (58 Fed. Reg. 4099-4110) to AMC's member company uranium recovery licensees.

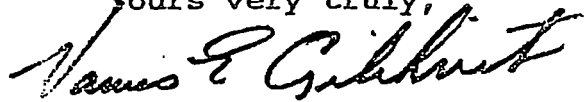
Mr. Chairman, as you may recall, AMC has grave concerns regarding the presumptions in the proposal about when facilities become "inactive" and thereby subject to decommissioning timetables. As AMC noted in its comments on the proposed rules (copy attached), the concept of arbitrary timetables for determining when a business becomes inactive is particularly problematic for mineral processing facilities in general, and specifically for both conventional and in situ uranium production necessarily generic approach to decommissioning timetables in the proposal will inevitably lead to requirements that, for uranium recovery licensees, often would be based on inappropriate assumptions. These licensees are already subject to comprehensive regulation during active operations, standby and closure, and their operating and closure decisions are highly licensee and site specific.

At our meeting with you in Denver, after AMC's concern about arbitrary closure requirements for such facilities was broached by a Mr. Gibson, you suggested that it might make good sense to provide a "blanket exemption" from the timeliness in decommissioning requirements for uranium

recovery facilities. AMC agrees that this would be the simplest and most cost-effective means of preserving necessary operational flexibility for uranium recovery licensees without jeopardizing public health and safety.

AMC hopes that by refreshing your recollection of this discussion you will look into the potential for such an exemption.

Yours very truly,

A handwritten signature in cursive script, appearing to read "James E. Gilchrist".

James E. Gilchrist  
Vice President

Enclosure

## **Appendix 6**



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D C. 20555-0001

June 3, 1996

Anthony J. Thompson, Esq.  
Shaw, Pittman, Potts & Trowbridge  
2300 N Street, N.W.  
Washington, D.C. 20037-1128

SUBJECT: TIMELINESS IN DECOMMISSIONING RULE

Dear Mr. Thompson:

I am responding to your March 25, 1996, letter on behalf of the National Mining Association (NMA). I hope that, by clarifying the U.S. Nuclear Regulatory Commission's position on one matter, I can move us closer to resolution of what appears to be the only issue remaining between us.

In your letter you ask us to clarify what we mean by "otherwise in the public interest." You are particularly concerned that paragraph 3.b of my response to comment 2 in my February 16, 1996, letter to you may mean that the NRC intends to judge the best economic interests of licensees.

We have no such intention. Paragraph 3 was meant to make two chief points, both of which are ultimately tied to the agency's safety mission, and not to any desire by the NRC to exercise judgement about private economic interests. First, compliance with safety standards is necessary for a time extension, but not sufficient. Second, the time extension must also be "otherwise in the public interest," and while adequate surety, of the sort discussed in the attachment to my February letter, is an important part of being "otherwise in the public interest," it is not the whole. Our chief concern here remains, as always, health and safety. We want to know that there are good reasons for believing that it is in the public interest to allow an inactive facility to remain undecommissioned.

In reaching a determination about the public interest, the NRC does not intend to judge whether continuation of standby status is in the applicant's best economic interests. Those interests might, or might not, coincide with the public interest. A public interest argument might be based, for example, on Federal concern for the domestic uranium mining industry. Existing statutes oblige the Secretary of Energy to gather information on the uranium mining industry and to have a "continuing responsibility" for the domestic industry, "to encourage use of domestic uranium." See 42 U.S.C. §§ 2201b and 2296b-3. Although this responsibility is not the NRC's, the NRC recognizes that the viability of the industry is a Federal concern. Paragraph 3.b in the enclosure to my February letter permits an applicant to argue that the policies behind the cited provisions support the application for time extension.

There may be other, similar, arguments that could be made, e.g., a public interest argument based on possible future needs of the electric utility industry or on national defense. Some of these arguments may depend on

Enclosure

A. Thompson

2

circumstances unique to a given applicant. Therefore, we have avoided attempting to define exhaustively "the public interest." The NRC's rule permits each applicant for a time extension to make the arguments most relevant to its circumstances.

I hope that this clarification removes NMA's remaining concern, and that this letter, together with your March 25, 1996, letter, my February 16, 1996, letter, and your August 25, 1995, letter, constitute a sufficient record to guide members of the NMA who want to file for time extensions. I would hope also that the same letters can serve as the basis for filing a motion for voluntary dismissal in the D.C. Circuit. I look forward to your response.

Sincerely,



Joseph J. Holonich, Chief  
Uranium Recovery Branch  
Division of Waste Management  
Office of Nuclear Material  
Safety and Safeguards

A. Thompson

2

circumstances unique to a given applicant. Therefore, we have avoided attempting to define exhaustively "the public interest." The NRC's rule permits each applicant for a time extension to make the arguments most relevant to its circumstances.

I hope that this clarification removes NMA's remaining concern, and that this letter, together with your March 25, 1996, letter, my February 16, 1996, letter, and your August 25, 1995, letter, constitute a sufficient record to guide members of the NMA who want to file for time extensions. I would hope also that the same letters can serve as the basis for filing a motion for voluntary dismissal in the D.C. Circuit. I look forward to your response.

Sincerely,

[Original signed by]

Joseph J. Holonich, Chief  
Uranium Recovery Branch  
Division of Waste Management  
Office of Nuclear Material  
Safety and Safeguards

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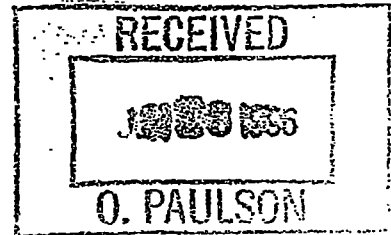
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OFC	URB <i>MF</i>	<i>H</i>	OGC <i>e-mail</i>		URB <i>MF</i>	E			
NAME	MFliegel/dh		SCrockett <i>#76ko</i>		JHolonich				
DATE	6/13/96		6/13/96		6/11/96				

## **Appendix 7**



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001  
June 18, 1996



Kennecott Uranium Co.  
ATTN: Oscar Paulson, Facility Supervisor  
Sweetwater Uranium Mill  
P.O. Box 1500  
Rawlins, Wyoming 82301-1500

SUBJECT: REQUEST TO POSTPONE INITIATION OF THE REQUIREMENTS OF TIMELINESS  
IN DECOMMISSIONING PURSUANT TO 10 CFR 40.42(e)

Dear Mr. Paulson:

By your letter dated March 20, 1996, Kennecott Uranium Company submitted a request for postponement of the initiation of the requirements of Timeliness in Decommissioning pursuant to 10 CFR 40.42(e) for the Sweetwater Uranium facility, Source Material License SUA-1350. Under 10 CFR 40.42(e), "The Commission may grant a request to delay or postpone initiation of the decommissioning process if the Commission determines that such relief is not detrimental to the public health and safety and is otherwise in the public interest." The U.S. Nuclear Regulatory Commission staff has completed its review of Kennecott's request and considers the request for a five (5) year postponement of the initiation of decommissioning of the Sweetwater Uranium facility to be acceptable. The bases for the staff's decision are discussed below.

1. Record of regulatory compliance.

In June 1992, the license for the Sweetwater Uranium facility was transferred from Minerals Exploration Company to Kennecott Uranium Company. Since the time of that transfer, the facility has maintained an excellent inspection record. A review of inspection records for the last ten years indicates that Kennecott Uranium Company has received no Notices of Violation for the Sweetwater facility and, previous to the transfer to Kennecott, no safety violations were identified at site inspections. In addition, the facility has a good record of compliance with the State of Wyoming Department of Environmental Quality and the applicable requirements of the U.S. Environmental Protection Agency (EPA).

2. Public health and safety/maintenance of facility.

Based on NRC staff observations at site visits and inspections, the facility continues to be maintained in good condition. Radiological and monitoring requirements have been met as prescribed by the license and reporting by the licensee is timely. No detrimental impacts to the public health and safety or the environment have been identified.

3. Surety in place.

Decommissioning and reclamation costs for the site are covered by a surety instrument that is reviewed annually. This annual review is a basis by which the staff ensures that the licensee's surety is adequate. If the licensee submits a revised reclamation plan, at such time as it receives approval to resume operation and/or construct additional facilities at the site, the licensee will increase its surety accordingly.

4. "...in the public interest."

The site is covered by an adequate surety (See 3, above); therefore, the public interest in continued health and safety is protected from a financial default that could preclude decommissioning of the site. In addition, existing statutes oblige the Secretary of Energy to have a "continuing responsibility" for the domestic uranium mining industry, "to encourage use of domestic uranium." See 42 U.S.C. §§ 2201b and 2296b-3. The NRC recognizes that the viability of the industry is a Federal concern, that there is a public interest in uranium supply, and that this factor may be meaningful where the licensee has actively maintained the mill in a condition to operate, evidencing an honest expectation to operate and support industry viability. Because each mill's status will be judged on its own merits, the number of mills in such a condition is not relevant. Neither, as was mentioned in my letter of June 3, 1996, to Anthony J. Thompson (enclosed), is the price of uranium, nor the economic business decisions of the licensee.

5. Planned resumption of operations.

In March 1993 the Sweetwater facility submitted the first of a number of documents necessary for NRC's approval to resume operation of the Sweetwater mill. Since that time, Kennecott has submitted a revised tailings management study, a revised Environmental Monitoring Manual, an environmental report, a background groundwater study, and geologic and seismic reports for NRC staff review. Work on final documents have been delayed pending a decision from the EPA regarding use of an existing tailings impoundment. Since the submittal of the subject request for postponement, Kennecott has received approval from the EPA and plans to submit the additional information necessary for NRC review and approval for resumption of mill operation in the near future. Given the time needed for preparation of submittals and review and approval of resumed operations, the staff considers the licensee's request for a postponement of decommissioning to be reasonable.

Mr. O. Paulson

3

If you have any questions regarding this letter, you may contact the NRC Project Manager, Ms. Charlotte Abrams, at (301) 415-5808.

Sincerely,

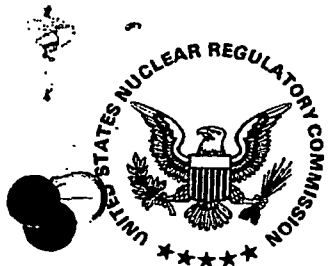


Joseph J. Holonich, Chief  
Uranium Recovery Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

Enclosure: As stated

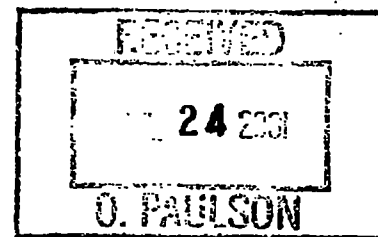
Docket No.: 40-8584

License No.: SUA-1350



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

July 17, 2001



Mr. Oscar Paulson  
Sweetwater Uranium Facility  
Kennecott Uranium Company  
P.O. Box 1500  
Rawlins, WY 82301

SUBJECT: SWEETWATER URANIUM MILL (SUA-1350) - FIVE (5) YEAR  
POSTPONEMENT OF INITIATION OF DECOMMISSIONING

By letter dated May 31, 2001, Kennecott Uranium Company (KUC) requested a 5 - year postponement of the implementation of the requirements of Timeliness in Decommissioning (10 CFR 40.42(d)) for the Sweetwater Uranium Project licensed under Source Material License SUA-1350. The Sweetwater mill facility was shut down and has been under care and maintenance (stand-by status) since April 1983. The Timeliness in Decommissioning Rule became final in 1994. After a request by KUC, the Nuclear Regulatory Commission (NRC) granted a 5 - year postponement of initiation of decommissioning for the Sweetwater site by letter dated June 18, 1996. Also, the NRC letter of February 16, 1996, to the National Mining Association, indicated that there is no limit to the number of extensions that can be granted. The NRC staff has determined that another 5 - year postponement should be granted, as allowed by 10 CFR 40.42(f), because "...such relief is not detrimental to the public health and safety and is in the public interest," as discussed below.

1. Record of regulatory compliance

During suspended operations, the facility has a record of regulatory compliance with all applicable State and Federal regulations including those of the NRC, Environmental Protection Agency, and the Wyoming Department of Environmental Quality. The NRC inspections back to 1991 have noted no violations.

2. Public health and safety protected

The site has been and is maintained such that the public health and safety and environment are protected. The facility has a record of safe operation for both employees and the general public during suspended operations, with low radiation doses to employees, excellent safety record, and good facility condition. The environmental monitoring data demonstrate that the radon flux from the tailings pile is well below the limit, measured radioactive airborne particulates downwind of the facility have been at background levels, and doses to members of the public have been well below regulatory limits.

3. KUC is prepared to resume operations which is in the public interest

KUC obtained a performance based operating license for the facility on August 18, 1999. The uranium market has been improving, as the price increased 25 percent from January to May of 2001 (Uranium Exchange prices). Also, KUC obtained the Wyoming Permit to Mine #660 for the Jackpot and Big Eagle uranium mines (about 30 miles from the Sweetwater mill) which the company owns. Thus, KUC could resume uranium mining and milling when market conditions allow.

July 17, 2001

O. Paulson

-2-


The continued existence of the mill is in the public interest as it is one of only six uranium mills remaining in the United States and the only one remaining in Wyoming. There is renewed interest in the United States in nuclear power as clearly expressed in the National Energy Policy of May 2001. Nuclear power plants have increased power output the past several years, several plants have recently renewed operating licenses for 20 years, and new facilities are being considered. In addition, statutes oblige the Secretary of Energy to encourage the use of domestic uranium. Maintaining the domestic capacity to provide the raw material for nuclear power is in the public interest.

4. Adequate surety in place

The documents submitted by KUC on September 12, 2000, indicate a surety in the amount of \$6,471,986.00, and this required amount was incorporated in the license by the NRC letter of September 29, 2000. The facility's license also indicates that the surety amount must be increased annually, based on the inflation rate, and must be increased before any new structures (ponds, buildings) are built.

If you have any questions regarding this letter, please contact the NRC Project Manager, Ms. Elaine Brummett, at (301) 415-6606 and she also can be reached by e-mail at [esb@nrc.gov](mailto:esb@nrc.gov). In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

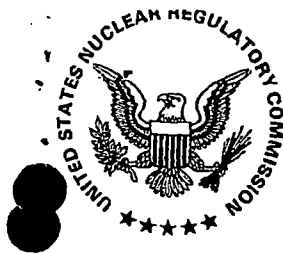
Sincerely,



Melvyn Leach, Acting Chief  
Fuel Cycle Licensing Branch  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 40-8584  
License No.: SUA-1350

cc: R. Atkinson, Kennecott  
R. Chancellor, WY DEQ



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

September 25, 2006

Mr. Oscar Paulson, Facility Supervisor  
Sweetwater Uranium Project  
Kennecott Uranium Company  
P.O. Box 1500  
Rawlins, WY 82301-1500

SUBJECT: FIVE-YEAR POSTPONEMENT OF INITIATION OF DECOMMISSIONING,  
KENNECOTT URANIUM COMPANY, SWEETWATER URANIUM PROJECT,  
SOURCE MATERIALS LICENSE SUA-1350 (TAC LU0139)

By letter dated June 7, 2006, Kennecott Uranium Company (KUC) submitted, to U.S. Nuclear Regulatory Commission (NRC) staff, a request for a five-year postponement of the implementation of the requirements of Timeliness in Decommissioning (10 CFR 40.42(d)) for the Sweetwater uranium mill licensed under Source Materials License SUA-1350. KUC placed the Sweetwater mill on standby status in April 1983 before the Timeliness in Decommissioning Rule became effective in 1994. After a request by KUC, the NRC granted the first five-year postponement of decommissioning, by letter dated June 18, 1996. By letter dated July 7, 2001, NRC staff granted a second, five-year postponement of decommissioning.

NRC staff has reviewed KUC's June 7, 2006 postponement request and has determined that a third five-year postponement should be granted, as allowed by 10 CFR 40.42(f). In its review, NRC staff determined that this postponement is not detrimental to public health and the environment and is in the public interest, as discussed below. Furthermore, a letter from NRC staff to the National Mining Association dated February 16, 1996, stated that there is no limit to the number of extensions that can be granted.

1. Record of regulatory compliance.

During standby operations, the facility has a record of regulatory compliance with all applicable State and Federal regulations including those of the NRC and Wyoming Department of Environmental Quality. NRC staff's July 17, 2001 postponement indicated that no violations were noted between 1991 and 2001. During this current review, NRC staff did not find any violations between 2001 and 2006. Furthermore, KUC has been actively reclaiming ground water and soils contaminated with radionuclides and organic compounds.

2. Public health and safety protected.

The site has been and is maintained in a manner that public health and the environment are protected. The facility has a record of safe operation for both employees and the general public during standby operations, with low radiation doses to employees, excellent safety record, and good facility conditions. A review of environmental monitoring data, including the most recent August 22, 2006 10 CFR 40.65 report, indicates that doses to members of the public is generally zero mrem. Furthermore, radon and particulate emissions are generally at background levels.

3. Sweetwater mill is likely to resume operations.

Maintaining the standby status of the Sweetwater mill is in the public interest, because it is the only conventional mill in Wyoming and only one of four conventional mills in the United States. Furthermore, the uranium market has been improving, as the price increased more than seven-fold from December 2000 through the present (see The Ux Consulting Company, LLC website at [http://www.uxc.com/review/uxc\\_Prices.aspx](http://www.uxc.com/review/uxc_Prices.aspx)). Therefore, market conditions are sufficiently improving to the point where conventional milling would become profitable. As evidence of these improved conditions, KUC's parent company, Rio Tinto Energy America, has entered into an agreement with sxr Uranium One, Inc. (Uranium One) to sell the Sweetwater mill. Uranium One intends to operate the Sweetwater mill beginning in 2007.

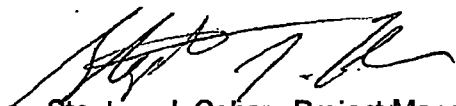
4. Adequate surety in place.

The documents submitted by KUC on July 12, 2006, indicate a surety in the amount of \$8,349,000, and this required amount was incorporated into the license by the NRC letter of September 20, 2006. The facility's license also indicates that the surety amount must be increased annually, based on the inflation rate, and must be increased before KUC constructs any new structures (ponds, buildings).

If you have any questions regarding this letter, please contact me at (301)415-7182, or by e-mail, to [sic7@nrc.gov](mailto:sic7@nrc.gov).

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,



Stephen J. Cohen, Project Manager  
Uranium Processing Section  
Fuel Cycle Facilities Branch  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

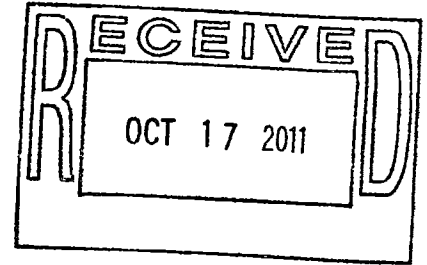
Docket No.: 40-8584  
License No.: SUA-1350

cc: J. Wagner, WDEQ  
M. Thiesse, WDEQ



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 4, 2011



Mr. Oscar Paulson, Facility Supervisor  
Sweetwater Uranium Project  
Kennecott Uranium Company  
P.O. Box 1500  
Rawlins, WY 82301-1500

SUBJECT: FIVE-YEAR POSTPONEMENT OF IMPLEMENTATION OF  
DECOMMISSIONING, KENNECOTT URANIUM COMPANY, SWEETWATER  
URANIUM PROJECT, MATERIALS LICENSE SUA-1350 (TAC J00648)

By letter dated June 1, 2011, Kennecott Uranium Company (KUC) submitted, to U.S. Nuclear Regulatory Commission (NRC) staff, a request for a 5-year postponement of the implementation of the requirements of Timeliness in Decommissioning (10 CFR 40.42(d)) for the Sweetwater uranium mill licensed under Materials License SUA-1350. KUC placed the Sweetwater mill on standby status in April 1983, before the Timeliness in Decommissioning Rule became effective in 1994. After a request by KUC, the NRC granted the first 5-year postponement of decommissioning, by letter dated June 18, 1996. By letters dated July 7, 2001, and September 25, 2006, NRC granted a second and third 5-year postponement of decommissioning, respectively.

NRC staff has reviewed KUC's June 1, 2011, postponement request and has determined that a fourth 5-year postponement should be granted, as allowed by 10 CFR 40.42(f). In its review, the staff determined that this postponement is not detrimental to public health and the environment and is in the public interest, as discussed below. It should be noted that a letter from NRC staff to the National Mining Association dated February 16, 1996, stated that there is no limit to the number of extensions that can be granted.

1. Record of Regulatory Compliance

During standby operations, the facility has a record of regulatory compliance with all applicable State and Federal regulations including those of the NRC and Wyoming Department of Environmental Quality (WDEQ). NRC staff's September 25, 2006, postponement indicated that no violations were noted between 2001 and 2006. During this current review, NRC staff did not find any violations during the 2007 inspection (NRC Inspection Report 040-08584/07-001) and only one violation in the 2009 inspection (NRC Inspection Report 040-08584/2009-001). The violation was cited for failure to collect all groundwater monitoring well sample, as stipulated by the license. This violation was treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the Enforcement Policy. KUC has been actively reclaiming groundwater and soils contaminated with radionuclides and organic compounds.

## 2. Public Health and Safety

The site is maintained in a manner that is protective of public health and the environment. NRC staff reviewed KUC submittals of Semi-Annual 10 CFR 40.65 Reports from 2007 to 2010. All Semi-Annual 10 CFR 40.65 reports do not report any public doses in excess of 10 CFR 20.1301 and 10 CFR 20.1302 limits. In the February 24, 2011, Semi-Annual 10 CFR 40.65 report, the licensee reported that the public doses were zero. Based on its review of the most recent 10 CFR .... reports, the staff has determined that public doses were below the regulatory limits of 10 CFR 1301 and 10 CFR 1302.

NRC staff also reviewed KUC's annual ALARA Audit reports from 2007 to 2010. The annual ALARA Audit report focuses on the occupational radiation safety aspects of the Radiation Protection Program. In the most recent Annual ALARA Audit Report, dated February 24, 2011, the licensee indicated that external gamma radiation surveys were less than 5.0 mR/Hr and no radiation posting was necessary. The licensee also reported the maximum exposed individual was estimated at 0.138 rem per year. This is below the regulatory limit of 5000 mrem per year. Based on its review of the most recent ALARA reports, the staff has determined that the occupational exposures were minimal due to suspension of operations.

## 3. Resumption of Operations

The general condition of the facility is well maintained. Equipment appears to be kept in good working condition and no visual damage or decay was observed during a tour visit in 2009 by NRC staff. Structures appear to be intact with no visual observation of decay. Kennecott staff maintains regular care and maintenance of the facility. The staff notes that equipment, structures, and components may need to be added or updated to operate the facility. A Bureau of Land Management Record of Decision for the Jackpot Mine was issued and a WDEQ Permit to Mine (Permit to Mine No. 660) was issued June 26, 1996. The Jackpot Deposit and the Big Eagle Mine on Green Mountain are part of the Green Mountain Mining Venture (GMMV). GMMV is owned by Kennecott Uranium Company and Wyoming Coal Resource Company (a Kennecott Uranium Company affiliate). KUC indicated that the current Uranium Exchange (UX) spot market price is \$56.50 per pound as of May 9, 2011. NRC staff has determined that KUC can resume operations pending License Condition 9.4.

## 4. Financial Surety

The current financial surety amount is \$10,318,000.00, as described in NRC's letter dated October 7, 2010, and supplemented by an email dated October 12, 2010. This surety amount includes costs for catchment basin reclamation work that was completed previously. In a letter dated July 25, 2011, from KUC to NRC, KUC is requesting an update of the financial surety from \$10,318,000.00 to \$10,686,214.00. This request is currently under review by NRC staff. Based on the most recent surety review, the staff has determined that KUC has sufficient funds available for decommissioning.

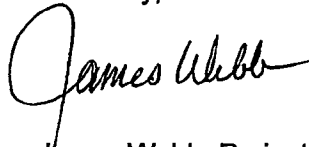
O. Paulson

2

If you have any questions regarding this letter, please contact me at (301) 415-6252 or by email at James.Webb@nrc.gov.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

A handwritten signature in black ink that reads "James Webb". The signature is fluid and cursive, with the first name "James" and last name "Webb" clearly distinguishable.

James Webb, Project Manager  
Uranium Recovery Licensing Branch  
Decommissioning and Uranium Recovery  
Licensing Directorate  
Division of Waste Management  
and Environmental Protection  
Office of Federal and State Materials  
and Environmental Management Programs

Docket No.: 40-8584  
License No.: SUA-1350

cc:  
Deborah Harris  
Wyoming DEQ  
510 Meadowview Drive  
Lander, WY 82520

Melissa L. Bautz  
Wyoming DEQ/LQD  
510 Meadowview Drive  
Lander, WY 82520

Kennecott Uranium Company  
42 Miles NW of Rawlins  
P.O. Box 1500  
Rawlins, WY 82301-1500  
USA  
T +1 (307) 328 1476  
F +1 (307) 324 4925

March 9, 2016

**Via E-mail and Courier**

Ms. Andrea Koch, Deputy Director  
Division of Decommissioning, Uranium Recovery, & Waste Programs  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
11545 Rockville Pike  
Rockville, Maryland 20852-2738

Dear Ms. Koch:

**Subject: Kennecott Uranium Company - Sweetwater Uranium Project  
Docket Number: 40-8584 - Source Material License SUA-1350  
Proposed Response Schedule to the Set of Requests for Additional  
Information (RAIs) dated February 12, 2016**

Kennecott Uranium Company is in receipt of a letter dated February 12, 2016 from the Nuclear Regulatory Commission (NRC) containing a set of **Requests for Additional Information (RAIs) pertaining to its Request for Renewal of Source Material License SUA-1350 for a Ten (10) Year Term** dated July 24, 2014. The letter requested that Kennecott Uranium Company either respond to or propose a schedule for responding to the Requests for Additional Information (RAIs) within thirty (30) days.

Kennecott Uranium Company is proposing, in this letter, the following schedule to respond to this set of Requests for Additional Information (RAIs). The schedule is shown in the table below:

**Table 1 Summary of Approach and Schedule for Ultimate Response to Set of Requests for Additional Information (RAIs)**

RAI Number	RAI Topic	Approach Summary	Scheduled Date for Ultimate Response
Compliance with 10 CFR 51.60			
RAIs 1 - 13	Requirement to provide a separate Environmental Report	A supplemental ER will be prepared in accordance with relevant guidance including NUREG-1748	June 3, 2016

Safety Review			
RAI 1	Document the review of data sources for requested elements of site characterization	These items will be addressed in the supplemental ER	June 3, 2016
Safety Review RAI 2	Location of new tailings impoundments relative to existing groundwater contamination and POCs and monitoring	Provide details regarding the proposed facilities, including leak detection equipment and procedures, explain how these will meet applicable requirements and address potential concerns regarding the existing plume	June 3, 2016
Safety Review RAI 3	MILDOS input parameters	Submit copies of MILDOS input parameters	April 1, 2016

The table above constitutes Kennecott Uranium Company's response to the letter dated February 12, 2016. Please note that the responses to requests #1 to #13 are all grouped under the requirement to provide a separate and stand-alone environmental report. The preparation of this letter was discussed with James Webb of your staff in a telephone conversation at 11:00 a.m. on Thursday, March 3, 2016.

If you have any questions please do not hesitate to contact me.

Sincerely yours,



Oscar Paulson  
Facility Supervisor

cc: James Webb – Project Manager (2)  
Director – NRC – DRSS – Region IV  
Rich Atkinson – Cedar Mountain Ventures, LLC.

## **Appendix 8**



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
1600 EAST LAMAR BLVD  
ARLINGTON, TEXAS 76011-4511

September 23, 2013

Mr. Oscar A. Paulson  
Facility Supervisor  
Kennecott Uranium Company  
P.O. Box 1500  
Rawlins, WY 82301-1500

SUBJECT: NRC INSPECTION REPORT 040-08584/2013-001

Dear Mr. Paulson:

This refers to the announced, routine inspection conducted on August 28, 2013, at Kennecott Uranium Company's Sweetwater Project in Sweetwater County, Wyoming. The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and the conditions of your license. Within these areas, the inspection consisted of selected examinations of procedures and representative records, observations of activities, and interviews with personnel. The inspection findings were discussed with you at the exit briefing conducted at the conclusion of the onsite inspection. No violations were identified and no response to this letter is required.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, should you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy or proprietary information so that it can be made available to the Public without redaction.

Should you have any questions concerning this inspection, please contact Ms. Linda M. Gersey, Health Physicist, at 817-200-1299, or the undersigned at 817-200-1191.

Sincerely,

*/RA/*

D. Blair Spitzberg, Ph.D., Chief  
Repository and Spent Fuel Safety Branch  
Division of Nuclear Materials Safety

Docket: 040-08584

License: SUA-1350

Enclosure:

NRC Inspection Report 040-08584/13-001

cc w/encl:

Deborah Harris

Geology Supervisor

Water Quality Division

Wyoming Department of Environmental Quality

510 Meadowview Drive

Lander, Wyoming 82520

Melissa Bautz

Land Quality Division

Wyoming Department of Environmental Quality

510 Meadowview Drive

Lander, Wyoming 82520

Director, Wyoming Radiation Control Program

Should you have any questions concerning this inspection, please contact Ms. Linda M. Gersey, Health Physicist, at 817-200-1299, or the undersigned at 817-200-1191.

Sincerely,

*/RA/*

D. Blair Spitzberg, Ph.D., Chief  
Repository and Spent Fuel Safety Branch  
Division of Nuclear Materials Safety

Docket: 040-08584  
License: SUA-1350

Enclosure:  
NRC Inspection Report 040-08584/13-001

cc w/encl:  
Deborah Harris  
Geology Supervisor  
Water Quality Division  
Wyoming Department of Environmental Quality  
510 Meadowview Drive  
Lander, Wyoming 82520

Melissa Bautz  
Land Quality Division  
Wyoming Department of Environmental Quality  
510 Meadowview Drive  
Lander, Wyoming 82520

Director, Wyoming Radiation Control Program

**DISTRIBUTION w/encls:**

A. Vogel

V. Campbell

M. Herrera

J. Webb, FSME/DWMEP/DURLD

W. B. VonTill, FSME/DWMEP/DURLD

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ADAMS: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		<input checked="" type="checkbox"/> SUNSI Review Complete	Reviewer Initials: LMG
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		<input type="checkbox"/> Non-publicly Available	<input type="checkbox"/> Sensitive
DNMS:RSFS	C: RSFS		
LMGersey	DBSpitzberg		
<b><i>DBSpitzberg for</i></b>	<b><i>/RA/</i></b>		
09/23/2013	09/23/2013		

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U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket: 040-08584

License: SUA-1350

Report: 040-08584/2013-001

Licensee: Kennecott Uranium Company

Facility: Sweetwater Project

Location: Sweetwater County, Wyoming

Dates: August 28, 2013

Inspector: Linda M. Gersey, Health Physicist  
Nuclear Materials Safety Branch B

Approved by: D. Blair Spitzberg, PhD, Chief,  
Repository and Spent Fuel Safety Branch  
Division of Nuclear Materials Safety

Attachment: Supplemental Inspection Information

Enclosure

## **EXECUTIVE SUMMARY**

### **Kennecott Uranium Company, Sweetwater Project NRC Inspection Report 040-08584/2013-001**

The inspection included a review of radiation protection, operator training/retraining, maintenance and surveillance, management organization and controls, transportation activities, onsite construction, radioactive waste management, environmental protection, and emergency preparedness. In summary, the licensee was conducting site operations in accordance with regulatory and license requirements.

#### **Radiation Protection; Operator Training/Retraining; Maintenance and Surveillance Testing**

- The licensee implemented a radiation protection program in compliance with 10 CFR Part 20 requirements and the license. Occupational exposures for 2011-2012 were below regulatory limits. (Section 1)

#### **Management Organization and Controls; Transportation Activities**

- The licensee was conducting routine site operations in accordance with license and regulatory requirements. (Section 2)

#### **Onsite Construction; Radioactive Waste Management**

- The earthen component of the tailings impoundment continues to be in good condition. (Section 3)

#### **Environmental Protection**

- The licensee conducted environmental monitoring and annual land use surveys in accordance with regulatory and license requirements. The licensee's records indicate that no radioactive material was released from the site in concentrations greater than regulatory limits during 2011-2012. (Section 4)

#### **Emergency Preparedness**

- The licensee had established an emergency preparedness program as required by the license. (Section 5)

## Report Details

### **Site Status**

The Sweetwater Project uranium milling facility was constructed in 1980. The mill operated from 1981 to 1983. The mill has been in standby since 1983. Structures still in place at the site include the uranium mill building, solvent extraction building, maintenance shop, administrative building, and other miscellaneous buildings. A 60-acre tailings impoundment was located at the site, and the impoundment contained approximately 2.5 million tons of tailings material.

In recent years, the licensee reclaimed the former catchment basin, excavated soils from underneath the former diesel tanks, and re-graded the material located within the tailings impoundment.

The licensee excavated about 450,000 cubic yards of diesel-contaminated soil from underneath the former diesel tanks. The licensee constructed a land farm for bio-remediation of the diesel-contaminated soil. During the inspection, the licensee stated that the remediation of the soil was almost complete.

Activities in progress during the inspection included routine license compliance work, such as sampling, maintenance, environmental monitoring, and implementation of the groundwater corrective action program.

### **1      Radiation Protection; Operator Training/Retraining; and Maintenance/Surveillance Testing of Safety Controls (83822/88010/88025)**

#### **1.1      Inspection Scope**

Ensure that the licensee's radiation protection program is in compliance with Title 10 of the Code of Federal Regulations (CFR) Part 20 requirements and the license.

#### **1.2      Observations and Findings**

According to 10 CFR 20.1502(a)(1), the licensee is not required to conduct individual monitoring of external and internal occupational dose if an adult is likely to receive in one year a dose less than 10 percent of the limits in 20.1201(a) from sources external to the body. The licensee continues to document that occupational doses are less than 10 percent of the limit in each annual As Low As Reasonably Achievable (ALARA) Audit, in accordance with License Conditions (LCs) 9.3D and 12.3. For Calendar Year (CY) 2012, the licensee reported the highest occupational total effective dose equivalent (TEDE) was to a Tailings Repair Worker who received 1.41 milliSievert (141 millirem). The TEDE includes the external dose and the internal dose as determined by dosimeters, time spent in the plant or tailings area, and air sampling. The inspector observed that the TEDE was below 10 percent of the annual limit of 50 milliSievert per year (5000 mrem/yr). According to the licensee, no radiation work permits were issued during this period.

The licensee conducted monthly bioassays for uranium in urine for employees, which is more frequently than required by the license. Bioassays for contractors working near the tailings cell are taken prior to work, monthly, and upon completion of work. The inspector reviewed bioassay results for individuals from August 2011 through August

2013 and found all results reported as non-detectable, less than 5 micrograms of uranium per liter of urine (ug/L). Urinary uranium concentrations less than 15 ug/L require no action by the licensee.

The licensee conducted gamma exposure rate surveys every 6 months in restricted and unrestricted areas. The restricted areas included the mill, ion exchange areas, solvent extraction buildings, and tailings impoundment. The unrestricted areas include the health safety and environmental quality office desk, administration kitchen, analytical laboratory, and maintenance shop. The inspector reviewed the gamma exposure rate surveys for June 2011 through June 2013 and found no gamma exposure rates in excess of the minimum radiation level for radiation posting, which is 5 millirems per hour, or 5000 microRoentgens/hour (uR/hr). The maximum reported gamma exposure rate survey result was 4820 uR/hr between two precipitation tanks in the mill.

During site tours, the inspector conducted independent measurements using a Ludlum Model 19 microRoentgen meter (NRC 015540, calibration due date of July 18, 2014, calibrated with radium-226). The highest measurement observed by the inspector was 1000 uR/hr between the two precipitation tanks in the mill. The inspector determined that the measurements were consistent with the licensee's measurements. Background was measured in an unrestricted area, and background gamma exposure rates were approximately 20 uR/hr. The average reported gamma exposure rate in the tailings impoundment was 132 uR/hr.

The licensee conducted contamination control surveys for total alpha surface contamination (fixed and loose surface) every 6 months in the restricted and unrestricted areas. The areas are the same as the locations surveyed during the semiannual gamma exposure rate surveys. Loose surface contamination control measurements are taken by the licensee, and the swipe samples are sent to a contractor laboratory for counting. The inspector reviewed the contamination survey results for June 2011 through June 2013. There are no regulatory limits for alpha contamination in the restricted area. The highest total alpha contamination in a restricted area was 79,509 disintegrations per minute per 100 square centimeters (dpm/100 cm<sup>2</sup>) identified on vessel #71. Total alpha contamination in the unrestricted area was less than 1000 dpm/100 cm<sup>2</sup>, the limit provided in Regulatory Guide 1.86 for total alpha in an unrestricted area. The inspector determined that no areas exceeded the contamination limits.

Site operating procedures specify that survey instruments shall be calibrated every 6 months. Calibration of survey instruments was conducted offsite at a contractor laboratory. The licensee maintained a matrix to ensure that each meter was calibrated at the correct frequency. During the inspection, the inspector reviewed the calibration records for various alpha detectors, rate meters, and gamma detectors. The inspector observed that survey meters available for use were in calibration and being used appropriately for surveying out from restricted areas.

The licensee conducted in-plant air sampling in the restricted area using a high volume air sampler. The high volume air sampler was operated for approximately 24 hours and the licensee attempted to accumulate approximately  $2 \times 10^9$  milliliters of air for each air sample at each location. The inspector reviewed air sampling results from June 2011 through July 2013. The licensee sampled for natural uranium, thorium-230, and radium-226, lead-210 and polonium-210. In the table below are the maximum concentrations

reported by the licensee for the inspection period for each radionuclide and the associated 10 CFR Part 20, Appendix B, Table 1 value.

Radionuclide	Maximum Concentration (uCi/ml)	10 CFR Part 20, Appendix B, Table 1 Values (uCi/ml)
natural uranium	$1.35 \times 10^{-15}$	$2 \times 10^{-11}$ *
thorium-230	$5.87 \times 10^{-15}$	$6 \times 10^{-12}$ *
radium-226	$7.91 \times 10^{-15}$	$3 \times 10^{-10}$
lead-210	$8.86 \times 10^{-14}$	$1 \times 10^{-10}$
polonium-210	$5.72 \times 10^{-15}$	$3 \times 10^{-10}$

\*Asterisk denotes the most conservative classification

The inspector observed that all air concentrations for each radionuclide were well below the 10 CFR Part 20, Appendix B, Table 1 values.

The licensee used a contractor for annual radiation refresher training for all employees and contractors. Refresher training occurred during January of 2011, 2012, and 2013. The inspector reviewed the training documents and written exams and found them to be comprehensive and complete.

### 1.3 Conclusions

The licensee implemented a radiation protection program in compliance with 10 CFR Part 20 requirements and the license. Occupational exposures for 2011 and 2012 were below regulatory limits.

## 2 **Management Organization and Controls; Transportation Activities (88005/86740)**

### 2.1 Inspection Scope

Ensure the licensee and its contracted workforce were conducting activities in accordance with license and regulatory requirements.

### 2.2 Observations and Findings

At the time of the inspection, site employees consisted of the facility supervisor, who was also the radiation safety officer (RSO), an administrative coordinator, a senior facility technician, a site operations technician, and one security guard who performs additional site labor. The security guard is not performing any work related to radioactive material. In addition, the licensee used contractors as needed to conduct non-routine work, such as repairing the hypalon liners and repairing the lagoons on the tailings pile. The inspector concluded that the licensee had sufficient staff for maintaining compliance with the requirements of the license while the mill remained in standby.

In accordance with License Condition 9.3, the licensee is authorized to make changes to the facility, without prior NRC approval, under certain conditions. The inspector

reviewed the Safety and Environmental Review Panel (SERP) determinations since the previous inspection. SERP 21 was conducted on March 7, 2012, which replaced James Berson as President of Kennecott Uranium Company with Alexander Serebryakov. SERP 12 was conducted on December 17, 2012, and changed the reporting of the Facility Supervisor from Alexander Serebryakov to James Fraser, General Manager Commercial, Finance and Legal- Rio Tinto Energy. Also, the title of Mill Foreman was changed to that of Site Operations Technician. The inspector determined that these changes did not require prior NRC approval.

The licensee conducted routine radiation protection program audits. Annual reports are required to be submitted to the NRC by License Condition 12.3. The licensee included the as low as reasonably achievable (ALARA) audit and the radiation protection program review in the annual reports. The audits and reviews for 2011 and 2012 were comprehensive, and the licensee provided thorough documentation of these program reviews to the NRC.

License Conditions 9.6, 12.1, and 12.2 specify, in part, that site procedures be reviewed at least annually. The facility supervisor reviewed the procedures during December 2011 and 2012. The inspector reviewed the procedure manuals during the inspection and concluded that the procedures were thorough and accurate.

No radioactive material was received or shipped by the licensee since the previous inspection. Three of the licensee's staff received radioactive material transportation training in January 2012 and are certified to ship radioactive material in accordance with 49 CFR 172.704.

During the inspection, the inspector conducted site tours to observe activities in progress and equipment in operation. The mill was posted in accordance with LC 9.9 requirements. The inspector observed that the tailings impoundment embankments were in generally good condition. The inspector did not identify any leaks or significant erosion areas.

## **2.3 Conclusions**

The licensee was conducting routine site operations in accordance with license and regulatory requirements.

## **3 Onsite Construction; Radioactive Waste Management (88001/88035)**

### **3.1 Inspection Scope**

Verify that onsite construction activities were being conducted in accordance with the license application, license conditions, and construction specifications.

### **3.2 Observations and Findings**

The inspector toured the tailings impoundment and observed the current condition of the impoundment. The inspector noted that the freeboard between the top of the pond surfaces and the top of the pond embankments was greater than the license-required minimum level. The outer slopes of the tailings impoundment were observed to be in good condition.

The licensee had annual professional engineering evaluations conducted for the tailings impoundment embankments, diversion channel, and impoundment liner. The inspector reviewed the engineer's evaluations conducted since the previous inspection. The engineer did not identify any significant problems with the tailings impoundment,

The licensee conducted routine site inspections, including daily and weekly tailings impoundment inspections. The inspector reviewed the daily and weekly inspection reports that were generated by facility personnel and found them to be adequate.

### 3.3 Conclusions

The earthen component of the tailings impoundment continues to be in good condition.

## 4 **Environmental Protection (88045)**

### 4.1 Inspection Scope

Ensure the licensee's environmental monitoring program was in compliance with regulatory and license requirements.

### 4.2 Observations and Findings

#### a. Environmental Protection.

License Condition 11.5 provides, in part, the environmental monitoring program requirements. This license condition requires, in part, that the licensee submit the results of all effluent and environmental monitoring to the NRC on a semiannual basis. During mill standby, the licensee is required to conduct air particulate, radon, and gamma monitoring at a sample station located downwind of the tailings cells and at an upwind location.

The inspector reviewed the licensee's 2011, 2012, and the first half of 2013, semiannual effluent reports. These reports were determined by the inspector to be thorough and complete. The licensee obtained all environmental samples as required by the license, and the results were documented in the reports.

The inspector reviewed the 2011 through June 2013 air particulate sample filters that were composited and analyzed quarterly for natural uranium, thorium-230, lead-210, and radium-226 concentrations. Laboratory results indicated that all samples were less than the effluent concentration limits established in Appendix B to 10 CFR Part 20.

Ambient gamma exposure rates were measured during 2011-2013 at Sample Station 4A and at a controlled location in the administration building. Data collected during this period indicated that ambient gamma exposure rates at Sample Station 4A were comparable to background levels.

Radon-222 samples were collected at the two sample stations, Stations 2 (upwind location) and 4A (downwind location), during 2011-2013. The downwind location has two alpha track-etch monitors and are averaged. Radon measurements are consistently higher upwind than downwind due to higher radon naturally occurring upwind and the wind flowing over the tailings impoundment with very little radon emanation. The

average upwind radon result since the previous inspection was less than 5 picocuries per liter (pCi/L). In summary, the radon results were less than the effluent concentration limit established in 10 CFR Part 20, Appendix B.

The inspector reviewed annual effluent reports for 2011 and 2012 to assess doses to the general public. Doses were assessed for individuals at the background station and at the security trailer. During 2011-2012, doses at the security trailer were below the background station measurements. The inspector concluded that doses to the public were below the limits specified in 10 CFR 20.1301 and 10 CFR 20.1302. In addition, the licensee's records indicated that air emissions were below the 0.1 milliSievert (10 millirem) per year limit specified in 10 CFR 20.1101(d).

b. Groundwater Compliance Monitoring Program

License Condition 12.3 requires that the groundwater corrective action program review be submitted annually to the NRC. The licensee's annual corrective action program reports for 2011 and 2012 were reviewed during the inspection. The inspector determined that the licensee had maintained the groundwater corrective action program as required by License Conditions 11.3, 11.5, and 12.3.

The licensee's groundwater compliance program included monitoring at over 60 tailings monitoring wells, point-of-compliance wells, and groundwater recovery wells. Samples from these wells are required to be analyzed for a number of chemical and radiological constituents. Flow from the groundwater recovery wells was discharged into the tailings impoundment that contains an enhanced evaporation system to expedite disposal of the groundwater through evaporation. The licensee operated the pumps and associated evaporation system during 2011, 2012, and 2013 as required by the license.

License Conditions 11.3 and 11.5 specify the groundwater monitoring program requirements. The inspector reviewed the licensee's sample collection procedures and found them to be satisfactory. The inspector also reviewed the licensee's implementation of the groundwater monitoring program and found that this program had been implemented in accordance with license requirements.

c. Annual Land Use Survey

In accordance with License Condition 11.2, the licensee conducts annual land use surveys for areas located within 5 miles of the mill. Land use activities within 5 miles included uranium exploration, oil and gas development, and animal grazing. The annual land use surveys were included in the 2011 and 2012 annual reports to the NRC. The inspector confirmed the accuracy of the reports during site tours.

4.3 Conclusions

The licensee conducted environmental monitoring and annual land use surveys in accordance with regulatory and license requirements. The licensee's records indicate that no radioactive material was released from the site in concentrations greater than regulatory limits during 2011 and 2012.

## **5 Emergency Preparedness (88050)**

### **5.1 Inspection Scope**

Ensure that the licensee's emergency preparedness program was being maintained in a state of readiness.

### **5.2 Observations and Findings**

The licensee maintained an emergency preparedness program for handling contamination, spill, and discharge events. The emergency procedures manual contained emergency contact information as well as detailed duties for specific employees during various emergency situations such as fires, spills, and severe weather conditions.

The licensee tested critical equipment, such as the emergency generators and fire pumps, on a monthly basis. The licensee maintained a vehicle for emergency medical responses. Monthly safety committee meetings addressed issues such as emergency procedures. The licensee held fire training for site employees twice in 2011 and 2012.

### **5.3 Conclusions**

The licensee had established an emergency preparedness program as required by the license.

## **6 Exit Meeting Summary**

The inspector reviewed the scope and findings of the inspection during an exit meeting that was conducted at the conclusion of the onsite inspection on August 28, 2013. The licensee did not identify any documents or other information provided to, or reviewed by, the inspector, as proprietary.

## SUPPLEMENTAL INFORMATION

### PARTIAL LIST OF PERSONS CONTACTED

Kennecott Uranium Company

O. Paulson, Facility Supervisor

### INSPECTION PROCEDURES USED

IP 83822	Radiation Protection
IP 86740	Inspection of Transportation Activities
IP 88001	Onsite Construction
IP 88005	Management Organization and Controls
IP 88010	Operator Training/Retraining
IP 88025	Maintenance and Surveillance of Safety Controls
IP 88035	Radioactive Waste Management
IP 88045	Environmental Protection
IP 88050	Emergency Preparedness

### ITEMS OPENED, CLOSED AND DISCUSSED

Opened

None

Closed

None

Discussed

None

### LIST OF ACRONYMS USED

ALARA	as low as reasonably achievable
CY	calendar year
dpm/100 cm <sup>2</sup>	disintegrations per 100 square centimeters
IP	inspection procedure
LC	License Condition
µg/L	micrograms per liter
mrem/yr	millirems per year
pCi/L	picocuries per liter
RSO	radiation safety officer
SERP	Safety and Environmental Review Panel
TEDE	total effective dose equivalent
µR/hr	microRoentgen per hour



**Matthew H. Mead**  
Governor

# State of Wyoming

## Department of Workforce Services

Terry W. Adcock-State Inspector of Mines  
P.O. Box 1094  
Rock Springs, WY 82902  
307.362.5222 • Fax: 307.362.5233  
dws-wymineinsp@wyo.gov



**Joan K. Evans**  
Director  
**Lisa M. Osvold**  
Deputy Director

September 23, 2014

### INSPECTION REPORT

INSPECTION DATE: September 23, 2014

OPERATOR: Kennecott Uranium Co., P. O. Box 1500, Rawlins, WY 82301  
[Oscar.paulson@riotinto.com](mailto:Oscar.paulson@riotinto.com)  
[Carri.schutterle@riotinto.com](mailto:Carri.schutterle@riotinto.com)

FACILITY: Sweetwater Uranium Project & Mill/Red Desert

INSPECTION PARTY: Karl Kronfuss, Carri Schutterle, Rio Tinto, and Mike McCann Deputy State Inspector of Mines

An inspection was made for compliance under the Mining Laws of the State of Wyoming and Chapter Two of the General Mine Safety Rules for Surface Metal and Nonmetal Mines.

First Aid:	Yes	First Aid Training:	Yes
Housekeeping:	Yes	P.P.E:	Yes
Communications:	Yes	Emergency Numbers Posted:	Yes
Workplace Inspections	Yes	Inspection Reports:	Yes
Equipment Inspection	Yes	Fire Protection	Yes

There are **five** employees working one, ten-hour shift a day, four days a week. They have had **zero** lost time accidents in **2014** .There is a security guard at the site during the off-shift hours.

**WS 30-2-209 Inspections; reports; posting and distribution; interim reports. (iii) One (1) copy posted on a bulletin board at a prominent place on the premises where it can be conveniently read by the employees and to remain posted until the report of the succeeding examination is posted**

#### Areas Inspected-18

Main mill complex	Work place inspection log
Training records	Task training & continuity records
Pump house/ Gen set 600 kw	Fuel Depots/gas & diesel
Main shop/LC 100 Sub-station	John Deere Tractor # 2040
Caterpillar forklift- V60B/WABCO Blade	Motor Patrol WABO # ABCoo777B
Surface warehouse/John Deere # 2040	Tire & Lube shop
Flammable storage	FEL Michigan Clark, # 2302-275B
Solvent extraction building	First Aid Certification
Pre-shift inspections records	Fire protection

**Violations noted during inspection; 0**

**WS-2-210 Notice of violation; correction of condition constituting violation required; penalty upon failure to comply; continuing violations; authority to close operations; right of appeal. The State Mine Inspectors Office is requesting written five day abatement on the violations noted during the inspection of compliance.**

**The State Mine Inspector Office; encourages all miners to conduct a proper daily work place inspection and a proper mobile equipment inspection, in good faith and recorded these findings, as a means of preventing mine site reportable and lost time accidents.**

Cooperation gratefully acknowledged.

Deputy State Mine Inspector

Mike McCann



Matthew H. Mead  
Governor

**State of Wyoming**  
**Department of Workforce Services**

Terry W. Adcock-State Inspector of Mines  
P.O. Box 1094  
Rock Springs, WY 82902  
307.362.5222 • Fax: 307.362.5233  
dws-wyminesp@wyo.gov



Jon Cox  
Director  
Lisa M. Osbold  
Deputy Director

### INSPECTION REPORT

**INSPECTION DATE:** 09/02/2015;  
**REPORT DATE:** 09/02/2015  
**BUSINESS:** Rio Tinto Energy America, Inc.  
**FACILITIES INSPECTED:** Sweetwater Uranium Mill  
**INSPECTION PARTY:** Michael McCann - (Deputy Mine Inspector)  
David Brawley, Oscar Paulson, Mike McCann  
**PRIMARY CONTACT EMAILS:** Oscar.paulson@riotinto.com  
**ADDITIONAL CONTACT EMAILS:** Carri.schutterle@riotinto.com  
**WYO CONTACT EMAILS:** michael.mccann@wyo.gov

### OBSERVATION SUMMARY

An inspection was made for compliance with the Wyoming State Safety Rules and Regulations and the following conditions were observed:

<b>EMPLOYEES</b>	5	<b>LOST TIME ACCIDENTS</b>	0
<b>FIRST AID SUPPLIES:</b>	Present	<b>FIRST AID TRAINING:</b>	Yes
<b>FIRE PROTECTION:</b>	Present	<b>HOUSEKEEPING:</b>	Excellent
<b>COMMUNICATIONS:</b>	Phone-Radio	<b>EMERGENCY NUMBERS:</b>	Posted
<b>PPE:</b>	In Use	<b>INSPECTION REPORTS:</b>	Posted
<b>PRE-OP EQUIP</b>	Yes	<b>WORK AREA</b>	Yes
<b>INSPECTIONS:</b>		<b>INSPECTIONS:</b>	

House Keeping is in good shape at the Sweetwater Mill as noted and observed during the inspection for compliance.

### SUMMARY

When the annual electrical checks are done, the electrician must record the actual date of the test at each installation in the mine records.

WS 30-2-209. Inspections; reports; posting and distribution; interim reports. (iii) One (1) copy posted on a bulletin board at a prominent place on the premises where it can be conveniently read by the employees and to remain posted until the report of the succeeding examination is posted.

## AREAS AND EQUIPMENT INSPECTED

Areas	Fuel Depot	Auto Shop	Auto Shop MMC's	Main Mine Shop
	Office Complex & Lab			
Thiokol snowcat	#1			
Kent-worth dump truck	# 1			
FEL	275 B Michigan			
Fork Lift-Caterpillar	V60B			
Field Service Truck 7	6-16747-6-14865			
crane-3500 Chevrolet				
Pump truck-F-450	6-13740			

## VIOLATIONS- (0)

No Violations Reported.

## CONCLUSION

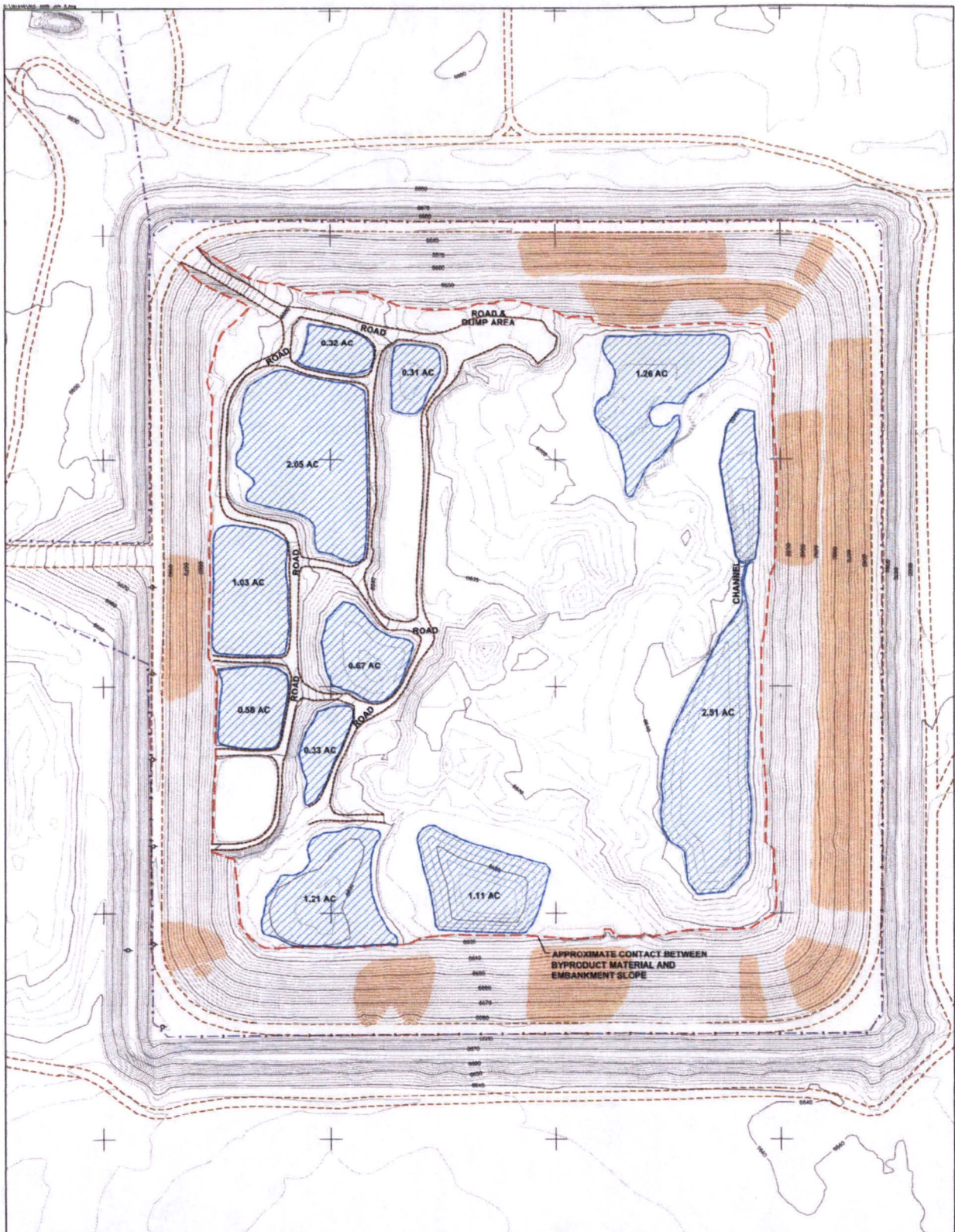
Had discussion with mine and mill personal about work place inspections and the proposed changes. All work place inspections records were in order. Good job-Thank You

Notice of violation; correction of condition constituting violations required; penalty upon failure to comply; continuing violations; authority to close operations; right of appeal. The State Mine Inspector's Office is requesting written or online five day abatement on the violations noted during the inspection of compliance.

Thank You

Mike McCann  
Deputy Mine Inspector

## Appendix 9



**NOTES:**

1. TOPOGRAPHY OF TAILINGS AREA FROM GPS SURVEY BY ROBERT JACK SMITH & ASSOC. AUGUST 23, 2005.
2. SUBSURFACING TOPOGRAPHY FROM NOVEMBER 3, 1996 AERIAL PHOTOGRAPHY.
3. APPROXIMATE TAILINGS POND AREAS FROM AUGUST 23, 2005 GPS SURVEY DATA AND JULY 25, 2005 DIGITAL PHOTOGRAPHY BY MFG, INC.
4. APPROXIMATE SYNTHETIC LINER AREAS FROM JULY 25, 2005 DIGITAL PHOTOGRAPHY BY MFG, INC.

**LEGEND:**

- APPROXIMATE POND AREAS, JULY-AUGUST 2005
- APPROXIMATE AREAS OF MINO-DAMAGED SYNTHETIC LINER, JULY 2005



NO.	DESCRIPTION	BY	CHKD.	DATE
1	PREPARED FOR REG. USE AND CONTRACTOR RECORDS	CJS	RLB	
2				
3				
4				
5				
6				
7				
8				
9				
10				

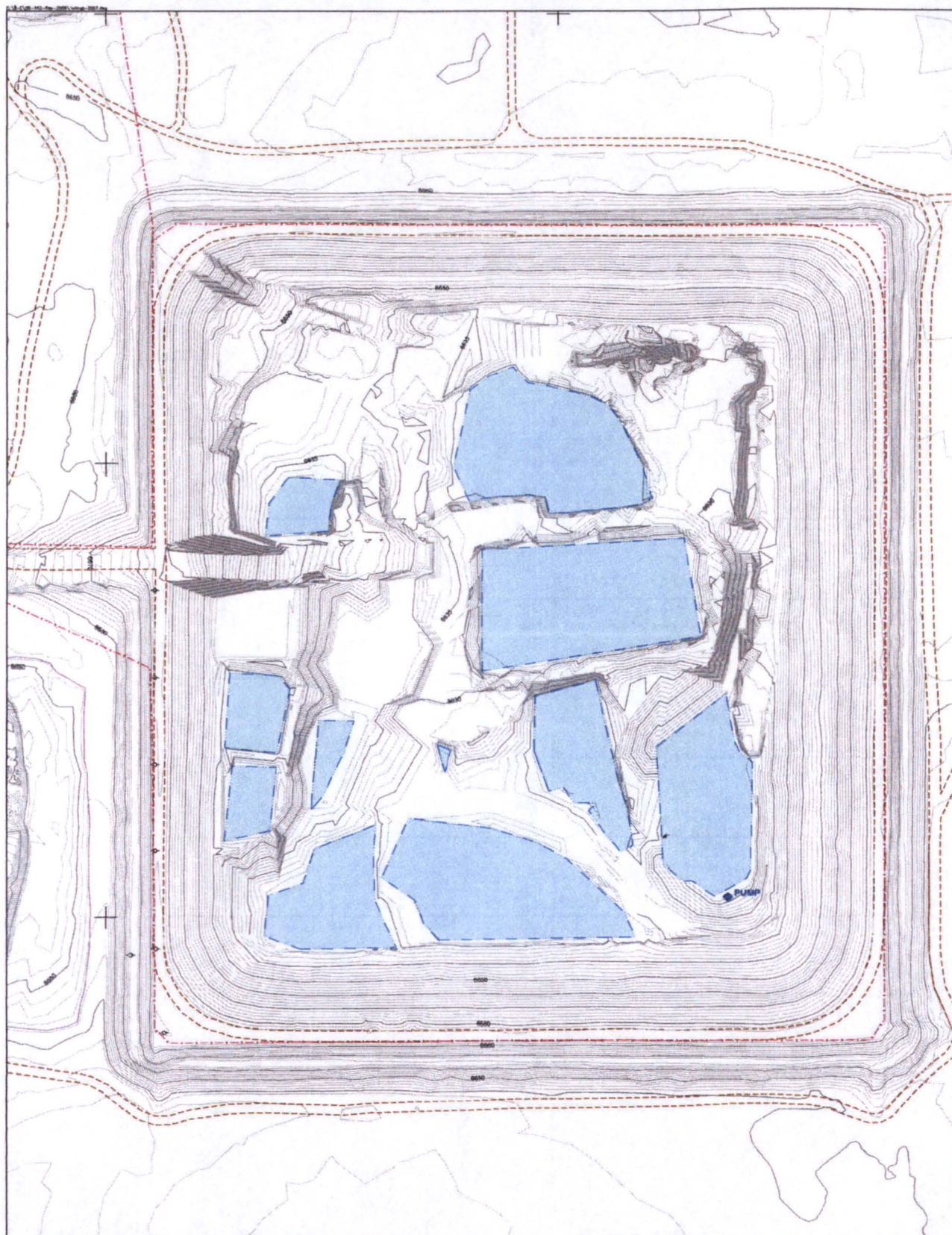
PREPARED BY  
  
 CONSULTING  
 SURVEYING AND  
 ENGINEERING

PREPARED FOR  
  
 KENNECOTT  
 Energy

**SWEETWATER URANIUM PROJECT**

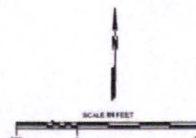
**EXISTING IMPOUNDMENT  
 CONFIGURATION**

PROJECT	REVISION	DATE	APPROVED BY	SCALE
REG. 000000	NO. 000000	JULY 25, 2005	REG. 000000	1" = 100'



LEGEND:

WATER COVERED AREA



REV.	DESCRIPTION	BY	CHKD.	DATE
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

PREPARED BY



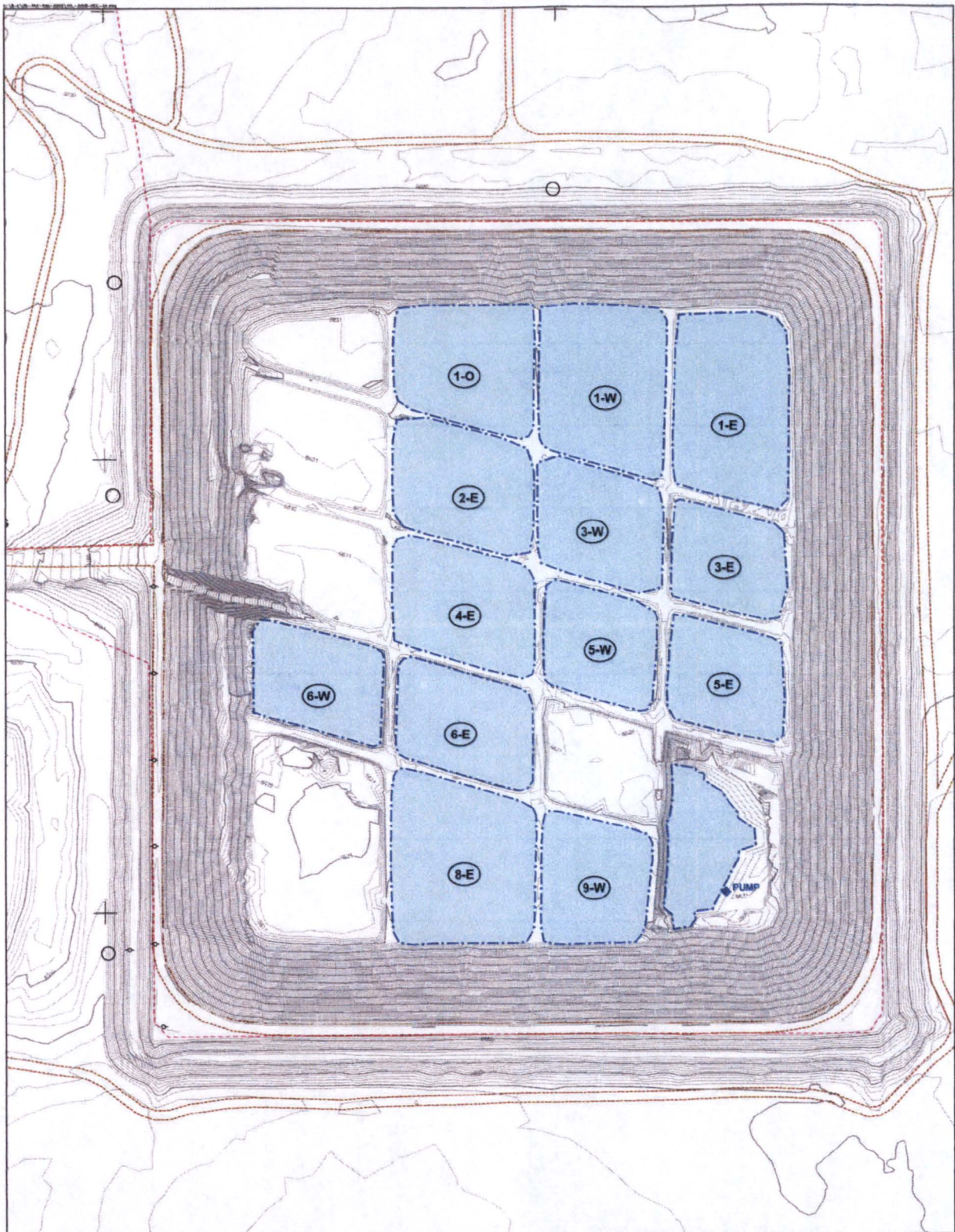
PREPARED FOR



SWEETWATER URANIUM PROJECT

EXISTING CONTOURS  
OCTOBER 2007

PROJECT: 18088 (181245) DATE: FEBRUARY 2008  
 SHEET: A3 0426M REVISION: 148.3400-2007.dwg  
 DRAWN: [signature] CHECKED: [signature]



LEGEND:

1W POND DESIGNATION

Water Covered Area

POST-REGRADING CONTOURS FROM DECEMBER 29, 2008



DESCRIPTION	BY	CHKD.	DATE

PREPARED BY

**TETRA TECH**

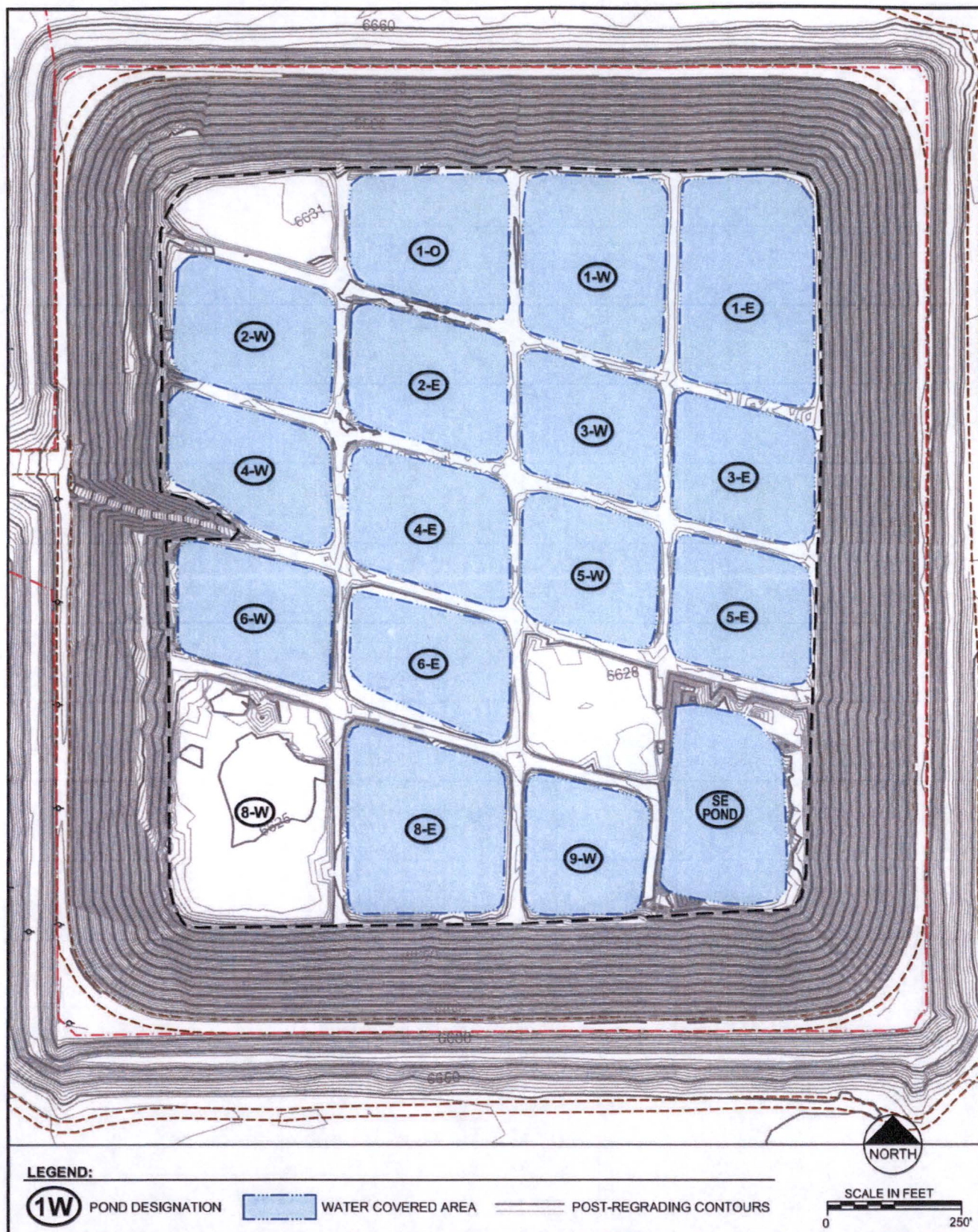
PREPARED FOR

**RIO TINTO**

**SWEETWATER URANIUM PROJECT**

EXISTING CONTOURS  
DECEMBER 29, 2008

PROJECT: 00000 (12/14/08) DATE: JANUARY 2008  
 TITLE: AS SHOWN SCALE: 1/8"=100'-0" (1:8000) REVISION: 1



**LEGEND:**

**1W** POND DESIGNATION      WATER COVERED AREA      POST-REGRAIDING CONTOURS

SCALE IN FEET  
0 250'



SWEETWATER URANIUM FACILITY  
TAILINGS IMPOUNDMENT - DECEMBER 2009

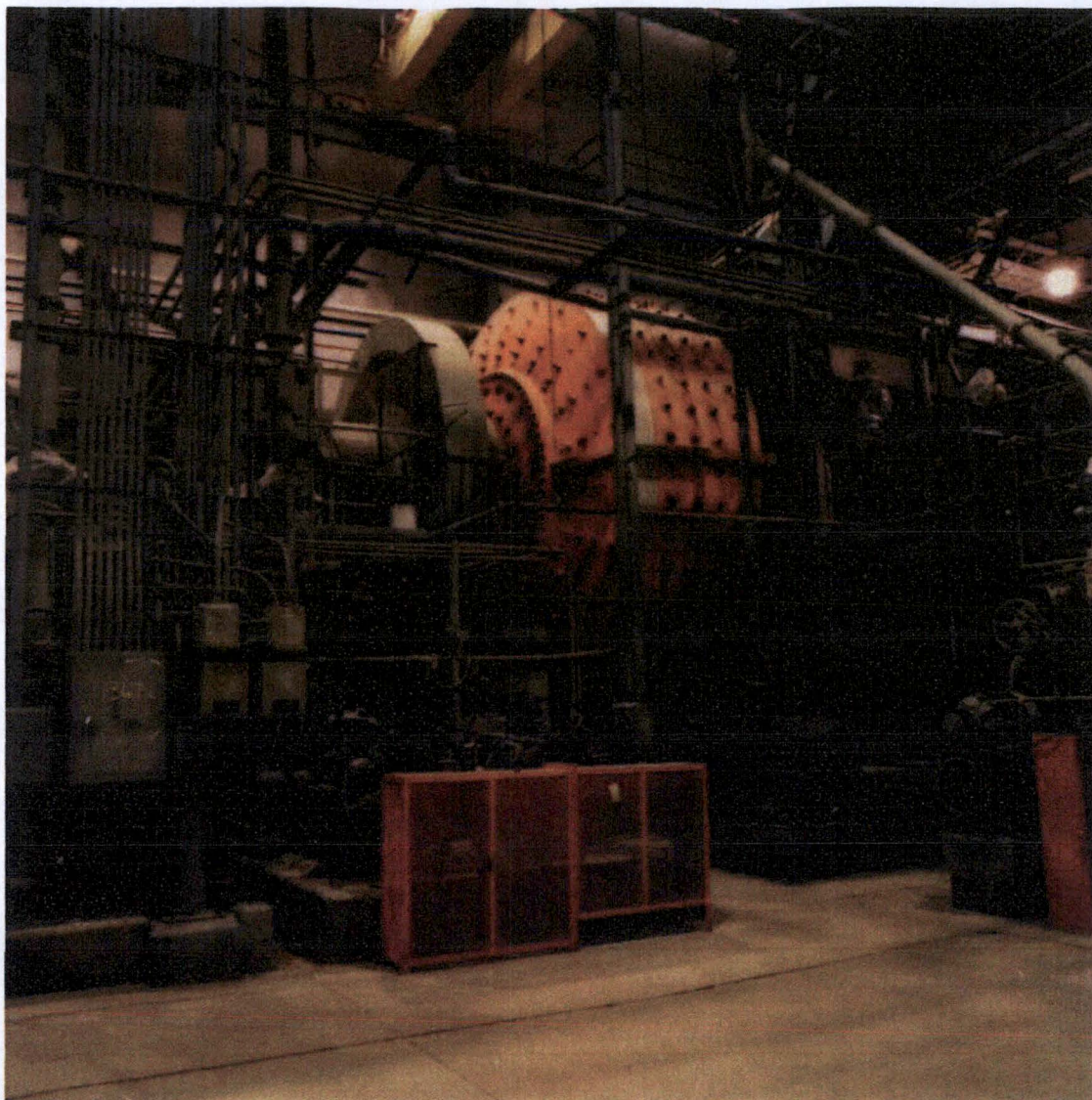
Date: FEBRUARY 2010  
Project: 06-442\REP2010\  
File: Tailings 2009-Dec.dwg



**Tailings Impoundment – July 5, 2009**  
Image from Google Earth



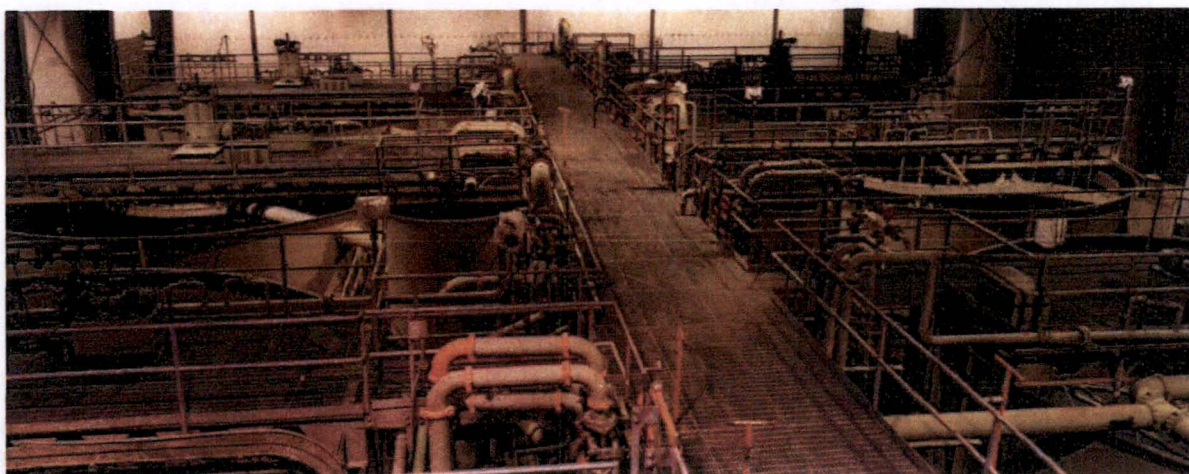
**Figure 1. Aerial View of the Sweetwater Uranium Project - 1980**



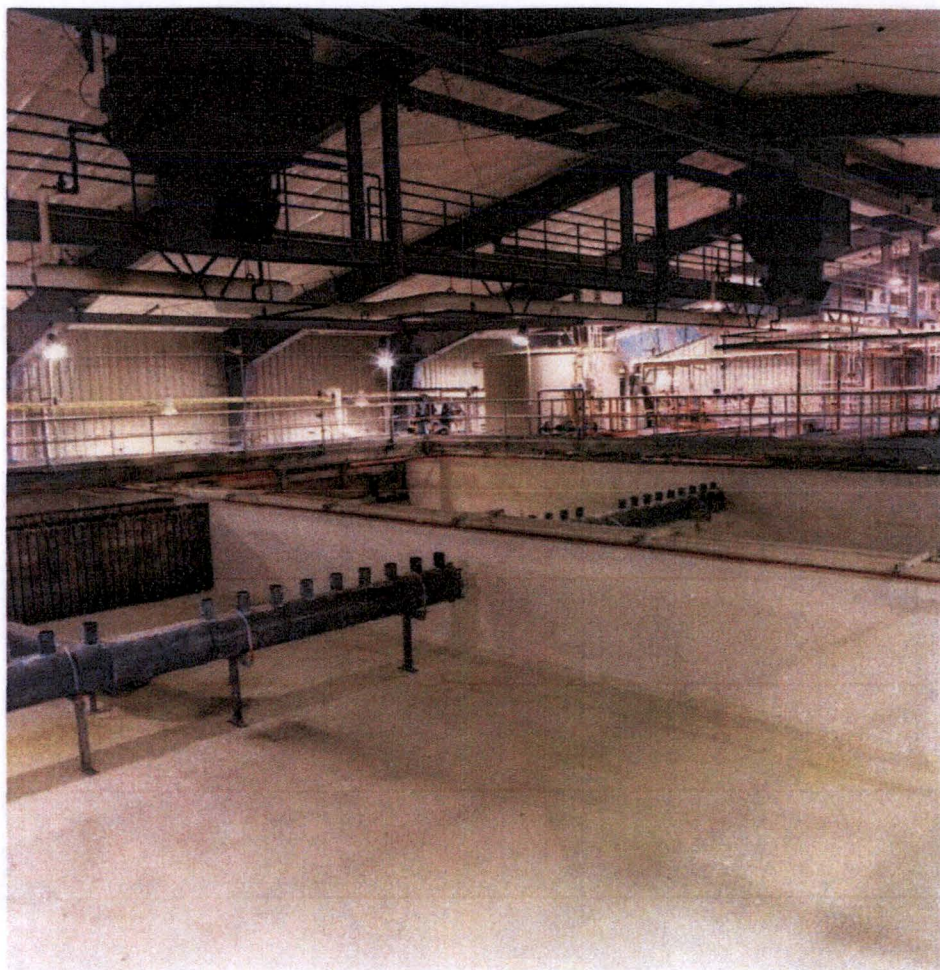
**Figure 2. Mill Building Interior - Semi-Autogenous Grinding Mill**



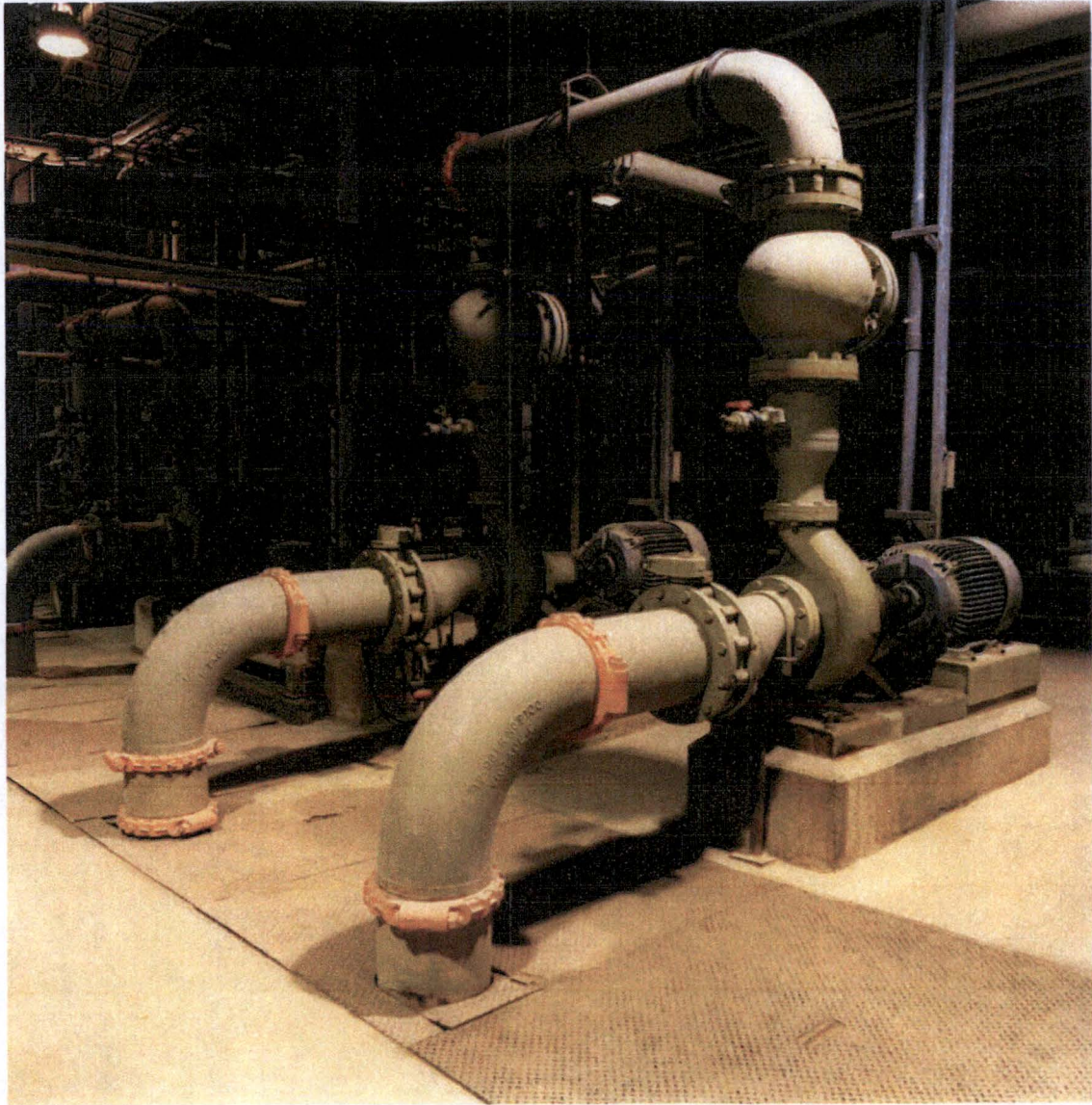
**Figure 3. Mill Building Interior - Leaching Area**



**Figure 4. Mill Building Interior - Counter Current Decantation (CCD) Area**



**Figure 5. Solvent Extraction (SX) Building Interior**



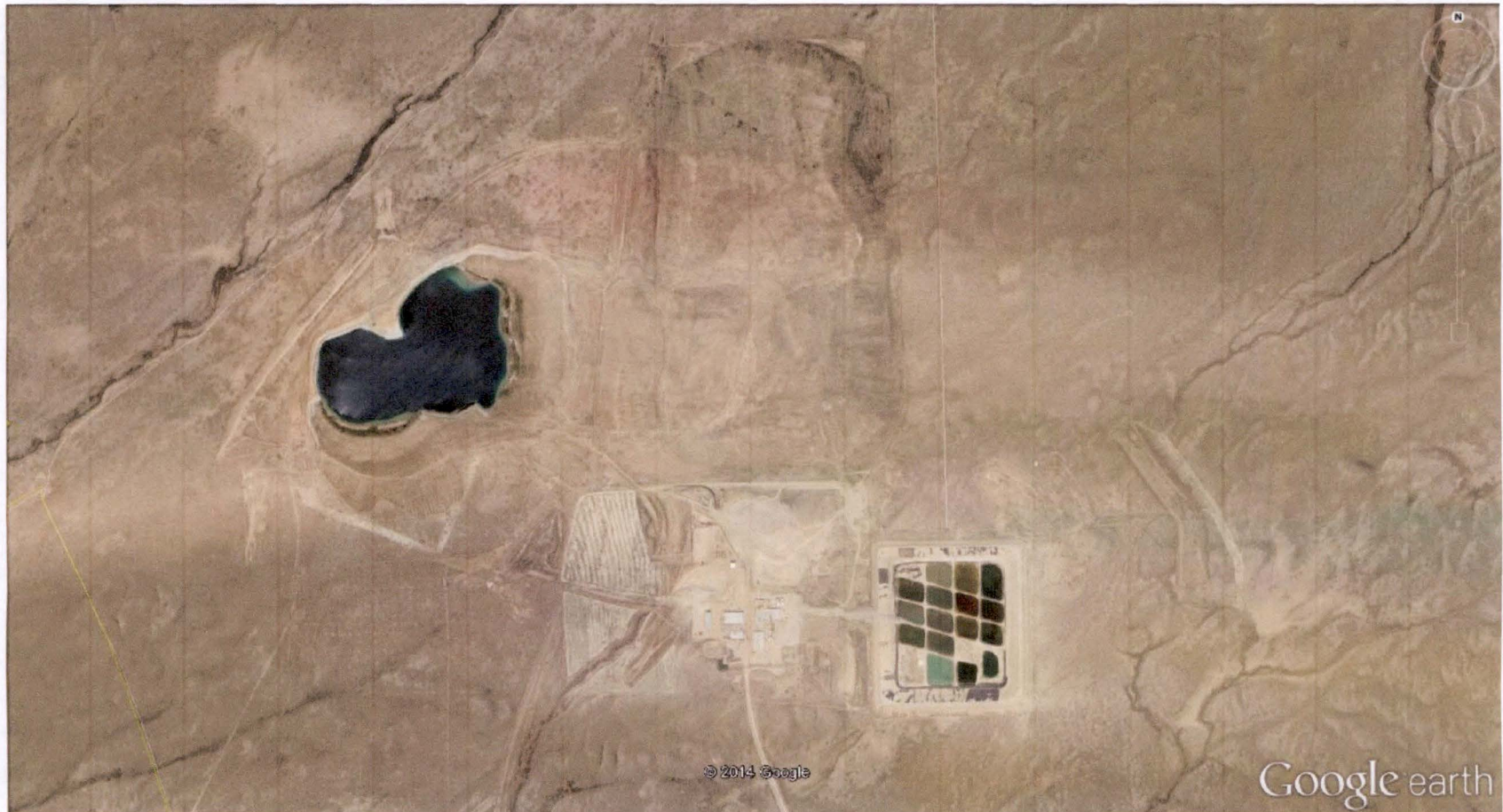
**Figure 6. Pumps in Mill Building**



**Sweetwater Mill – June 8, 2014**



**Tailings Impoundment – June 8, 2014**



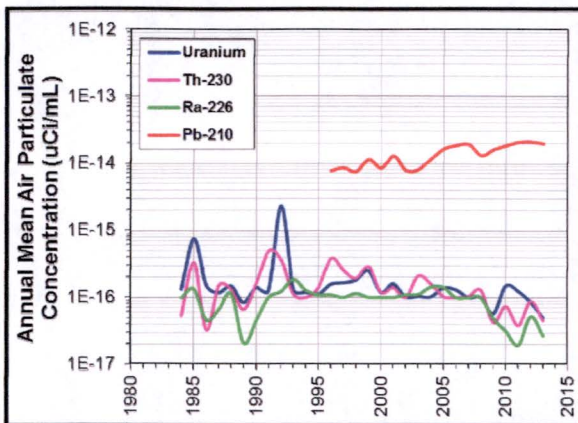
**Sweetwater Uranium Project – June 8, 2014**

## **Appendix 10**

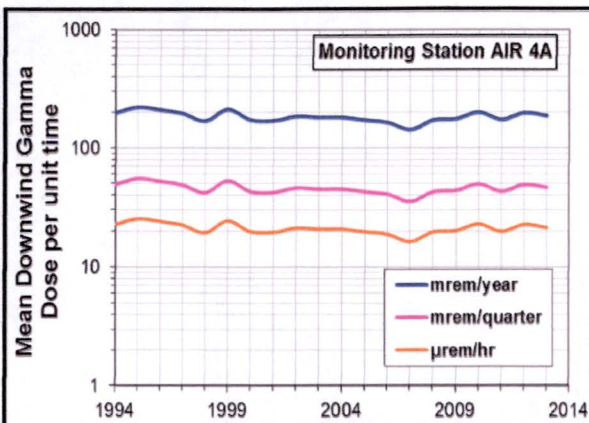
## Doses to the General Public

Excerpted from the July 24, 2014 **Request for a Renewal Source Material License SUA-1350 for a Ten (10) Year Term**

*The Sweetwater Mill is not operating, thus there are no releases from stacks related to the mill such as the dryer stack, exhausts from the Solvent Extraction (SX) Building, or any other stacks. There is no ore on the Ore Pad and the Ore Pad was cleaned following cessation of operations on April 15, 1983, thus there are no emissions (windblown ore dust or radon) from stockpiled ore. The tailings impoundment has been largely covered with fluid-filled, lined lagoons minimizing any windblown tailings.*

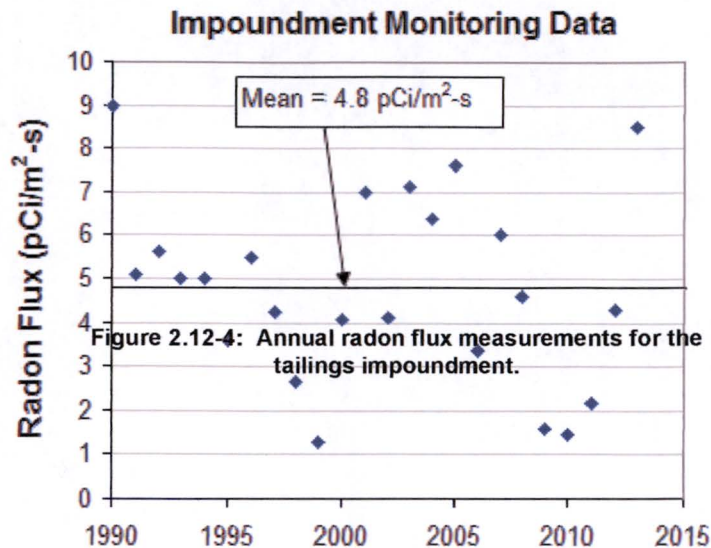


**Figure 2.12-2: Mean annual radionuclide levels in air particulates at the downwind monitoring station (AIR 4A). Values are far below regulatory effluent limits (less than 5% of 10 CFR 20, Appendix B, Table 2 limits in all cases).**



**Figure 2.12-3: Mean annual downwind gamma radiation dose rates at monitoring station AIR 4A. Virtually all historic values are below upwind background dose rates.**

*The impoundment is tested as required by 40 CFR Part 61 Subpart W annually to determine average Radon-222 flux, most recently on July 30 to 31, 2013. In addition, concurrent with the test, the impoundment is surveyed to determine the total area of 11(e).2 byproduct materials as well as the total water covered area. The results of the Method 115 Test and survey since 1990 are as follows:*



In 2013, the total area of 11(e).2 byproduct materials (157,448.7 square meters) had an average radon flux rate of 8.56 pCi/m<sup>2</sup>-sec. This equates to a total annual Radon-222 release from the impoundment of:

(8.56 pCi/m<sup>2</sup>-sec) (157,448.7 square meters) (365 days/year) (24 hours/day) (60 minutes/hour) (60 seconds/minute) = 4.25 E+13 pCi = 42.5 curies of Radon-222 per year.

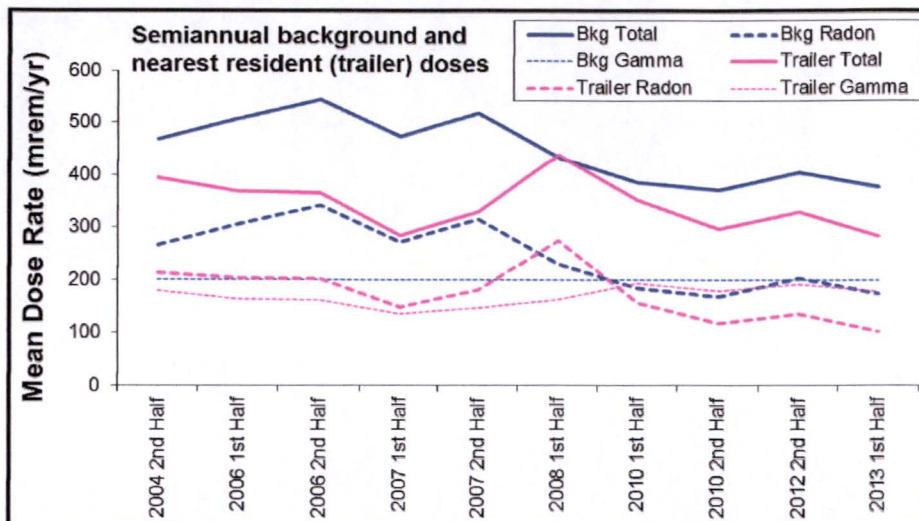
This average flux rate of 8.56 pCi/m<sup>2</sup>-sec is lower than the average background flux rate of 18.85 pCi/m<sup>2</sup>-sec based on five (5) background radon flux measurements taken concurrently with the 2013 Method 115 Test in undisturbed locations south and west of the facility. This circumstance of higher natural background flux rates south and west of the mill versus flux rates from the impoundment has been consistently observed. For at least the past two (2) decades, measured ambient Radon-222 concentrations in air upwind of the facility have consistently averaged greater than those measured downwind of the facility.

No reportable quantities of liquid effluents have been released from the facility since the 2004 license renewal (see Section 3.7.1.1). Three minor spills of non-reportable quantities of pumpback water have occurred on private (Kennecott Uranium Company owned) property due to line leaks that developed (e.g. during harsh winter weather). These minor spills were promptly remediated, voluntarily reported to the NRC via telephone and email with the Project Manager assigned to the license, and were included in the Annual Corrective Action Program (CAP) review since they were spills of pumpback water. All contaminated liquids as well as pump-back water are placed in the tailings impoundment.

### Public Doses

Based on Semiannual Effluent Monitoring Reports since the previous license renewal application in 2004, it is clear that radiological doses to the nearest member of the public, in this case to the security worker that partially resides onsite in the security trailer when not on duty, do not exceed normal doses from natural background sources of radioactivity (Figure 2.12-5). Qualitatively, there appears to be a small temporal trend towards slightly lower background doses and dose to the

nearest member of the public over the past decade. The relative fractions of the total dose attributed to radon and gamma radiation are roughly similar, though dose from radon tends to exceed the dose attributed to gamma radiation. The fraction attributed to measured air particulate radionuclide concentrations is negligible and is not shown in Figure 2.12-5



Because ambient background gamma radiation and air particulates are no longer monitored in upwind locations (Please note: This is due to the fact that the facility is not operating/on standby and such monitoring was suspended as per a letter from the Nuclear Regulatory Commission (NRC) dated September 23, 1983), respective dose contributions are assigned constant values based on the 1994 Revised Environmental Report. The primary reason that the estimated total annual dose rate to the nearest resident is, almost without exception, less than the annual background dose rate (Figure 2.12-5), is because ambient background radon concentrations at upwind locations are consistently higher versus downwind monitoring locations, including at the security trailer in which radon concentrations are measured to calculate associated dose to the nearest member of the public. This higher upwind radon phenomenon has been observed over several decades and is further discussed in Section 2.10. The downwind monitoring station is used to calculate air particulate dose to the nearest resident as theoretically, downwind locations are more subject to airborne particulates from disturbed mill facility areas.

During the current standby period the Sweetwater Mill is not operating, thus there are no releases from stacks related to the mill such as the dryer stack, exhausts from the Solvent Extraction (SX) Building, or any other stacks. There is no ore on the Ore Pad and the Ore Pad was cleaned following cessation of operations on April 15, 1983, thus there are no emissions (windblown ore dust or radon) from stockpiled ore. The tailings impoundment has been largely covered with fluid-filled, lined lagoons minimizing any windblown tailings as shown in the maps and drawings in Appendix 4. The only radionuclide release from the facility is a minimal amount of Radon-222 from the tailings impoundment. Since 40 CFR part 61 Subpart W requires annual Method 115 radon flux testing of the tailings impoundment, the total activity of released radon from the impoundment can be estimated. Such an estimate has been included in recent 40.65 Reports. The average flux rates for the impoundment as calculated for required reporting under 40 CFR Part 61 Subpart W are similar to background radon fluxes for the area.

### **Summary of Radiological Impacts to the Environment and Associated Public Doses**

In summary, radiological impacts to the environment at the Sweetwater Uranium Project, as well as associated public doses, have been minimal during the facility's history, and this has remained the case since the 2004 license renewal. Historic windblown contamination of surface soils in the vicinity of the tailings is spatially limited, as is soil contamination in the vicinity of the mill. There is no evidence from site monitoring that impacts to soil have changed measurably since the previous license renewal. Air particulate, radon and gamma radiation monitoring results remain very low and are consistent with natural background conditions. Without exception, doses to the public since the last license renewal have remained well below any regulatory limits and are also ALARA. Radiological and non-radiological impacts to groundwater as related to the Catchment Basin are discussed elsewhere in this renewal application, and remediation has been conducted in accordance with NRC and state requirements.

## **Appendix 11**



**AMERICAN  
MINING  
CONGRESS**  
FOUNDED 1897

1920 N Street NW, Suite 300  
Washington, DC 20036-1662  
202/861-2800  
Fax: 202/861-7535

April 19, 1993

Secretary  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

**Officers**

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*Vice Chairman and Chairman,  
Finance Committee:*  
Richard de J. Osborne  
*Vice Chairman:*  
Milton H. Ward \*  
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Charles F. Barber, New York †  
Ralph E. Bailey, Stamford †

\* Immediate Past Chairman

† Honorary

Attn: Docketing and Service Branch

Re: Comments on Timeliness in Decommissioning of  
Materials Facilities (RIN 3150-AD85)

Dear Secretary:

On January 13, 1993, the Nuclear Regulatory Commission (NRC) published a proposed rule that would require timely decontamination and decommissioning of the facilities of nuclear material licensees, including uranium recovery facilities other than waste disposal areas associated therewith. 58 Fed. Reg. 4099, 4101-02. The proposed rule would amend 10 C.F.R. Part 40 and establish specific time periods for decommissioning unused portions of operating uranium recovery facilities and for decommissioning the entire site upon termination of operations. These comments on the proposed rule are submitted by the American Mining Congress (AMC).

AMC is a national trade association representing: (1) producers of most of the United States' metals, uranium, coal, and industrial and agricultural minerals; (2) manufacturers of mining and mineral processing machinery, equipment and supplies; and (3) engineering and consulting firms and financial institutions that serve the mining industry. Many of AMC's member companies will be significantly and directly affected by the proposed rule.

AMC generally supports the idea of reasonable guidelines, and even milestones for certain appropriate decommissioning events. Such guidelines/milestones, if properly developed, can provide the public and NRC licensees with a framework to direct such activities. The time frames and assumptions that underly the current proposal, however, do not adequately address: (1) the detailed and comprehensive requirements applicable to uranium recovery facilities, (2) the nature of the uranium marketplace, (3) the impracticality of piece-meal closure at such facilities, or (4) the realistic likelihood that NRC

can fulfill its responsibilities in a timely manner based upon the past experience and the proposed closure of the Uranium Recovery Field Office (URFO). AMC, therefore, strongly urges NRC to build more flexibility into the proposed revisions to Part 40 affecting uranium recovery facilities. This flexibility is necessary to allow for consideration of site-specific and/or process-specific conditions. It would reflect a presumption that prolonged "standby status" adequately protects public health and safety, unless NRC makes an affirmative finding to the contrary.

## **I. General Comments.**

AMC recognizes that there is value in setting milestones for decommissioning activities. NRC licensees need to know what is expected of them as they begin to cease operations and prepare to close and decommission their facilities and terminate their licenses. AMC notes that the concept of an explicit time frame for decommissioning with milestones to measure progress toward closure is reflected currently in the context of decommissioning and closure of uranium mill tailings impoundments in both an NRC/Environmental Protection Agency (EPA) Memorandum of Understanding, 56 Fed. Reg. 55434 (October 25, 1991) (MOU), and in a proposed settlement agreement between AMC, EPA and the Environmental Defense Fund (EDF) relating to closure of such sites. 58 Fed. Reg. 17230 (April 1, 1993).

Both of the above referenced documents, however, address uranium mill tailings impoundment closure and decommissioning. The fact that tight time frames were developed for these facilities does not justify a similar, inflexible approach for other facilities. As discussed before, AMC requests that the proposed rule be revised to provide for more flexibility in the time frame for decommissioning. In addition, NRC must recognize that, for many sites, a longer time frame will be required than that which is proposed.

## **II. The Rule Must Provide Flexible and Reasonable Time Frames.**

Radon emissions from uranium mill tailings impoundments have been judged by both NRC and EPA to be the dominant potential threat to public health from uranium recovery operations.<sup>1</sup> Thus, as a result of its concerns about prompt closure of inactive tailings impoundments, EPA supported timeliness criteria. 54

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<sup>1</sup>See NRC Final Generic, Environmental Impact Statement on Uranium Milling ("GEIS"), NUREG-0706, Vol. I at 4, 6-72-74; Vol. II at A-15, 17, 25, 31, 35 (hereinafter "NRC GEIS"); See also, EPA, Final Environmental Impact Statement for Remedial Action Standards for Inactive Uranium Processing Sites, Vol. I at 63 (1982).

Fed. Reg. 51654, 51683 (December 15, 1989).<sup>2</sup> Even the public health risks from inactive tailings facilities are insignificant, however, and the risk from other aspects of uranium recovery operations is considerably smaller. Indeed, there is no suggestion that inactive uranium milling facilities or surface facilities at in situ leach (ISL) sites pose an equivalent public health concern. Therefore, tight time frames for decommissioning are not appropriate or necessary. This is particularly true in light of the multitude of regulatory controls and reporting requirements applicable to such facilities while operating at maximum capacity or on standby--even uranium mill tailings impoundments must meet the 20 pCi/m<sup>2</sup>/sec radon flux limit in 40 C.F.R. Part 61, Subpart W during standby conditions.

Both the EPA/NRC MOU and the proposed settlement agreement recognize the need for flexibility due to site specific conditions, including those beyond the control of the licensee. These documents provide licensees with protection with respect to meeting milestones or completing final closure when circumstances beyond a licensee's control affect its capability to comply in a timely fashion. The proposed settlement agreement even provides the licensees with the flexibility to keep portions of the tailings pile open to receive waste for an essentially open-ended time frame, so long as compliance with the flux limit is demonstrated. Thus, NRC and EPA have demonstrated more apparent flexibility towards closure of inactive tailings impoundments (which pose a greater potential risk), than the NRC does in the proposal related to decommissioning the related, but less risky, uranium recovery facilities.

Additionally, section 84(c) of the Uranium Mill Tailings Radiation Control Act (UMTRCA) explicitly provides licensees with the right to propose alternatives based on site specific factors (such as local or regional conditions, including geology, topography, hydrology and meteorology).<sup>3</sup> This kind of flexibility is necessary as site-specific and/or process-specific conditions may not fit neatly with generic requirements and assumptions. AMC believes that the NRC's proposed rule does not provide the necessary flexibility for uranium recovery licensees.

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<sup>2</sup>Although, as NRC has noted, even the potential radiation exposure to the public from uranium mill tailings piles presents no acute health hazard because "long and sustained exposure to radioactivity in the tailings pile would be required to produce any significant chance of adverse effect." NRC GEIS Vol. I at 12-31.

<sup>3</sup>"The NRC is obligated to consider site specific alternatives proposed by licensees by law and agency rules." See Memorandum from Herzel Plaine, General Counsel, USNRC, to the NRC Commissioners re: Uranium Mill Tailings--Jurisdictional Bases for EPA's standards, SECY-85-125 (April 10, 1985).

By fashioning timetables that do not take into account site-specific circumstances, factors beyond the control of the licensee, and the problematic nature of the international market place for the sale of uranium, the proposed rule as presently drafted could undermine the energy security of the United States. Forcing premature decommissioning of uranium production facilities which may be required in the future to provide uranium for electric power generation would be both unwise and unnecessary.

The proposed rule acknowledges the Commission may grant an extension to the 18-month time limit for decommissioning because of the problems with the availability of waste disposal facilities, reductions in dose or waste volume due to radioactive decay, technical feasibility of decommissioning, regulatory requirements of other government agencies, lawsuits, groundwater treatment activities, or monitored natural groundwater restoration. 58 Fed. Reg. at 4101. AMC believes that this time frame is wholly inadequate for application to uranium recovery facilities. Closure and final decommissioning of uranium milling facilities, or portions thereof, may necessarily have to await completion of certain tailings impoundment closure activities before they can be properly and appropriately accomplished. Portions of the milling facility may be necessary for groundwater remediation, and tailings closure (to include burying portions of the dismantled mill) generally has to wait for proper physical conditions. These events alone can take several years. Similarly, at ISL sites, surface facilities are necessary for groundwater restoration that can take years. Thus, a much more reasonable time frame is needed for uranium recovery facilities.

AMC also believes that whatever more reasonable time frame is adopted for uranium recovery facilities, the regulations still need to explicitly provide for flexibility in meeting timetables for any factors beyond the control of the licensee. Assuming the licensee is undertaking good faith efforts to achieve compliance, factors that should allow for delay in schedules include the following:

- site-specific physical conditions;
- inclement weather or climatic conditions (including an act of God);
- a judicial or administrative order or decision; or change to the statutory, regulatory, or other legal requirements applicable to the licensee's facility that would preclude or delay the performance of activities required for compliance;
- labor disturbances;
- any modification, cessation or delay ordered by state, federal or local agencies;

- delays that result from NRC failure to take final action after the licensee has made a good faith, timely effort to submit legally sufficient applications, responses to requests (including relevant data requested by NRC), or other information, including approval of the closure plan by NRC or the affected Agreement state; and
- an act or omission of any third party over whom the licensee has no control.

The regulations should make clear that the Commission will grant extensions of time for decommissioning schedules because of the above listed factors.

UMTRCA already provides the uranium recovery licensees with the right to propose alternatives, but the regulations for all licensees should explicitly provide for licensee-proposed alternative timetables that allow for site-specific and/or process-specific considerations and market fluctuations. Alternative timetables should be acceptable provided the licensee is substantially in compliance with 10 C.F.R. Part 20 and other parts applicable to the type of license held by the facility and the facility represents no significant potential hazard to employees, the public or the environment.

### III. Stand-By Situations and the Nature of the Uranium Marketplace Must Be Considered.

The proposed rule states that "with respect to making business decisions on further use of inactive facilities, the Commission considers a period of approximately 24 months to be reasonable." 58 Fed. Reg. 4101. The 24-month period, however, is entirely inadequate for the uranium production industry, and it does not represent a reasonable business cycle for virtually any kind of mining.

As a general matter, the mining industry is very cyclic. Mineral production from beginning to end can be a lengthy process. Many deposits that are being mined may have been under development for years before production began. Often, development and production are put on "standby" due to economic conditions in the international commodity marketplace where most minerals are traded. Market prices over which the mine operator has no control ultimately drive the pace of development and production until the mineral resource is exhausted, at which time reclamation begins. It is not at all unusual for a mining operation to be inactive for five to ten years and then resume operations when the market cycle allows a return to profitability. With respect to the uranium industry, the depressed nature of the market has been exacerbated by the changes in the Commonwealth of Independent States and the subsequent effects of its product in the United States market.

Licensees must be given the option to wait out down-turns in the market by "idling" the facilities and placing them on standby under an appropriate care and maintenance program until such time as operations can profitably be restarted. Uranium mills and ISL facilities represent large investments. The proposed rule could threaten operators' ability to recover necessary and appropriate returns on such investments. If NRC determines that a facility (or even portions thereof) must be decommissioned within 24 months, it essentially could result in NRC controlling and dictating the fate of the domestic uranium production industry.<sup>4</sup> Given the nature of the uranium production industry and in particular its current "nonviability," the proposed regulations should allow for a longer period than 24 months to commence decommissioning for a uranium production facility that is on standby.

Whatever the time frame that is ultimately promulgated for such facilities, there should be an explicit provision for uranium recovery licensees to, in effect, get an automatic renewal or extension for an equivalent time frame upon application to NRC, unless NRC makes an affirmative finding that a licensee's standby operation poses a threat to public health. The current emphasis in the proposal on licensees demonstrating that extensions would not be "detrimental to the public health and safety" and are "otherwise in the public interest" does not reflect reality. If such facilities do not protect public health and safety and the public interest, then they should not be licensed in the first place. Since they are licensed and subject to comprehensive controls, whether operating at maximum capacity or on standby, the presumption should be that NRC has acted appropriately in the public interest by licensing such facilities initially. Unless NRC finds to the contrary that as a result of changed circumstances, its initial licensing decision is no longer valid, the presumption should be that such facilities can remain on standby indefinitely.

Incorporating this kind of flexibility for uranium production facilities would not pose a hazard to employees, the public, or the environment. The proposed rule suggests that "[i]f decommissioning is delayed for long periods following cessation of operations, there is a risk that safety practices at the inactive facility or the inactive portion of the operating facility may become lax as key personnel relocate and management interest wanes." 58 Fed. Reg. 4100. The Commission further expresses concern that bankruptcy may further delay commissioning. These concerns are unfounded. As noted above, uranium production facilities must be bonded for decommissioning, and NRC

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<sup>4</sup>See the comments of the Rio ALGOM Mining Corp. and Quivera Mining Company on the "Timeliness in Decommissioning of Material Facilities" for discussion on the effects of the proposed rule on the Quivera Mining Company's Ambrosia Lake, New Mexico facility and the Smith Ranch Wyoming facility.

licensed facilities are heavily monitored and regulated by the NRC. Thus, renewal of a facility license on standby can be conditioned on ongoing protection of public health.

Facilities on standby are subject to the same rules and regulations as operating ones. To illustrate, these facilities are:

- (1) inspected by the NRC or Agreement State;
- (2) bonded and have adequate surety in place;
- (3) subject to reporting requirements including environmental reporting, ALARA reporting, land use reporting, annual surety updates, corrective action program reviews, and updates to environmental reports;
- (4) required to request license amendments for even minor changes in operations;
- (5) subject to environmental monitoring requirements including groundwater monitoring, air particulate monitoring, upwind and downwind radon gas monitoring, maintenance of a meteorological station, and ambient gamma radiation monitoring;
- (6) subject to health physics monitoring requirements including bioassay (urinalysis) programs for specific employees, workplace gamma radiation monitoring, workplace alpha radiation monitoring, workplace radon gas monitoring, workplace dust sampling, and employee personal breathing zone sampling;
- (7) subject to other health physics requirements such as issuance of radiation work permits for special or non-routine work by employees within specific areas of the facility and radiation training for employees; and
- (8) subject to EPA radon gas emission limits.

These requirements and regulations more than adequately ensure that an idle facility will not pose a threat to human health or the environment. It is not necessary to require automatic reclamation of any facility because of a lack of a "principal activity" when the facility does not present a danger to the public and is in compliance with the applicable regulations. Therefore, it is appropriate to allow facilities to propose their own alternative time schedules and to seek renewal as economic circumstances dictate with a presumption that such renewal will be granted.

#### IV. The End-of-Use Concept Is Inappropriate for Many Facilities.

The practicality of the "end-of-use" decommissioning concept has major problematic implications at uranium recovery facilities. The proposed regulations focus on end-of-use as a trigger point for decommissioning. Defining end-of-use, however, and applying it in practical terms is often very difficult. At many facilities it is not possible to decontaminate certain buildings or outdoor areas because everything is thoroughly interconnected. Piecemeal decommissioning in all cases of "end-of-use" may not be possible if final decommissioning is to be accomplished. For example, if a uranium mill is on standby then by definition, its crushing, leaching, and solvent extraction circuits are not in use. If these portions of the mill must be decommissioned for that reason, it essentially means the entire mill must be decommissioned, as a mill cannot function without these circuits.

Also as noted above, it is possible at a conventional mill or ISL site to use facilities that are not technically in production, and which may therefore fall within the end-of-use definition, to remediate groundwater. Indeed, at ISL sites, it is also possible to be producing from some well fields and restoring others at the same time. In reality, it would be enormously expensive, time consuming, burdensome, impractical (and maybe even impossible) to decommission certain of these nonproducing facilities or portions thereof.

The proposed rules should be modified to reflect reality at many of the uranium recovery facilities potentially subject to the proposed regulations. The 56-month proposed time frame for completing the decommissioning process is unrealistic for some uranium milling facilities as well as ISL facilities. Groundwater restoration (which requires the ongoing operation of surface processing facilities) is the major decommissioning element for in-situ facilities and can often take seven to ten years to complete. Groundwater corrective action at conventional milling facilities can often require equal or greater time frames. The proposed regulations should be revised to address these concerns.

#### V. Specific Comments

##### A. Redundant Regulations.

Redundant requirements should be carefully charted and removed. For example, the proposed rule requires a decommissioning plan to be submitted to NRC 12 months prior to cessation of principal activities. This requirement, however, is already contained in existing regulations and is generally included as a license condition.

**B. Section 40.42(d)(3) and (4).**

As noted in the above discussion, the 24 month time frame is not realistic for mineral recovery activities and, in particular, for the domestic uranium industry in light of its "nonviability." In light of the limited risk associated with such facilities and the comprehensive regulatory oversight applicable to them, ongoing "standby" status should be presumptively extended unless NRC affirmatively makes a finding otherwise in light of the limited risks associated with such facilities and the comprehensive regulatory oversight applicable to them.

**C. Section 40.42(e).**

For the reasons set forth in A above, the Commission should presumptively grant extensions to uranium recovery facilities.

**D. Section 40.42(e).**

This section should be rewritten to explicitly provide that uranium recovery licensees have a right to propose alternative schedules for decommissioning in accordance with section 83(c) of UMTRCA and that the Commission will presume that such alternatives will protect "public health and safety" and are "otherwise in the public interest" absent an affirmative finding to the contrary.

**E. Section 40.42(f)(4)(vi).**

Eighteen months is generally not sufficient to complete decommissioning of uranium recovery facilities and portions thereof. This provision should be modified to state that decommissioning will be completed as soon as practicable after a final decision to cease operations. Specific milestones can be added to facility licenses according to site-specific realities.

**F. Section 40.42 g(1) and (2).**

See comments on D above.

**G. Section 40.42(h).**

See comments on C, D & E above.

**H. Section 40.42(k).**

This provision allegedly exempts "waste disposal areas at uranium recovery facilities" because of the applicability of the provisions of Criterion 9 of Appendix A to 10 C.F.R. Part 40 and the requirements of Subpart T of 40 C.F.R. Part 61. 58 Fed. Reg. at 4101. However, as written, it exempts "specific licenses for uranium milling." *Id.* at 4107. This discrepancy would not cover waste disposal areas at ISL sites and in any event is too limited for the reasons set forth above.

I. Commission Review Period.

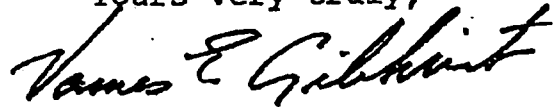
The proposal indicates that Commission review and approval of decommissioning plans is estimated to be six months or less. 58 Fed. Reg. 4101. This assumption appears wildly optimistic in view of industry history, including NRC's failure to approve reclamation plans for time frames in excess of five years. NRC's ability to timely address decommissioning plans from uranium recovery facilities would appear to be in jeopardy in light of the Commission's proposed closure of URFO.

VI. Conclusion.

For all the above reasons, AMC respectfully requests that NRC revise the proposed rule to: (1) explicitly provide for licensee proposed alternative timetables; (2) explicitly allow for the extensions of time for decommissioning schedules for factors beyond the control of the licensee; (3) provide for enough time for restoration of groundwater at in-situ sites; (4) re-define "end-of-use" to recognize that in some situations the facility or area at issue cannot practically be decommissioned because it is so interconnected with the rest of the area or rest of the process; and (5) make the specific changes set forth above.

If you have any questions or would like AMC to provide additional material, please contact me at 202/861-2876 or AMC's counsel on this matter, Anthony J. Thompson of Perkins Coie, at 202/628-6600.

Yours very truly,



James E. Gilchrist  
Vice President

JEG/clc

## **Appendix 12**

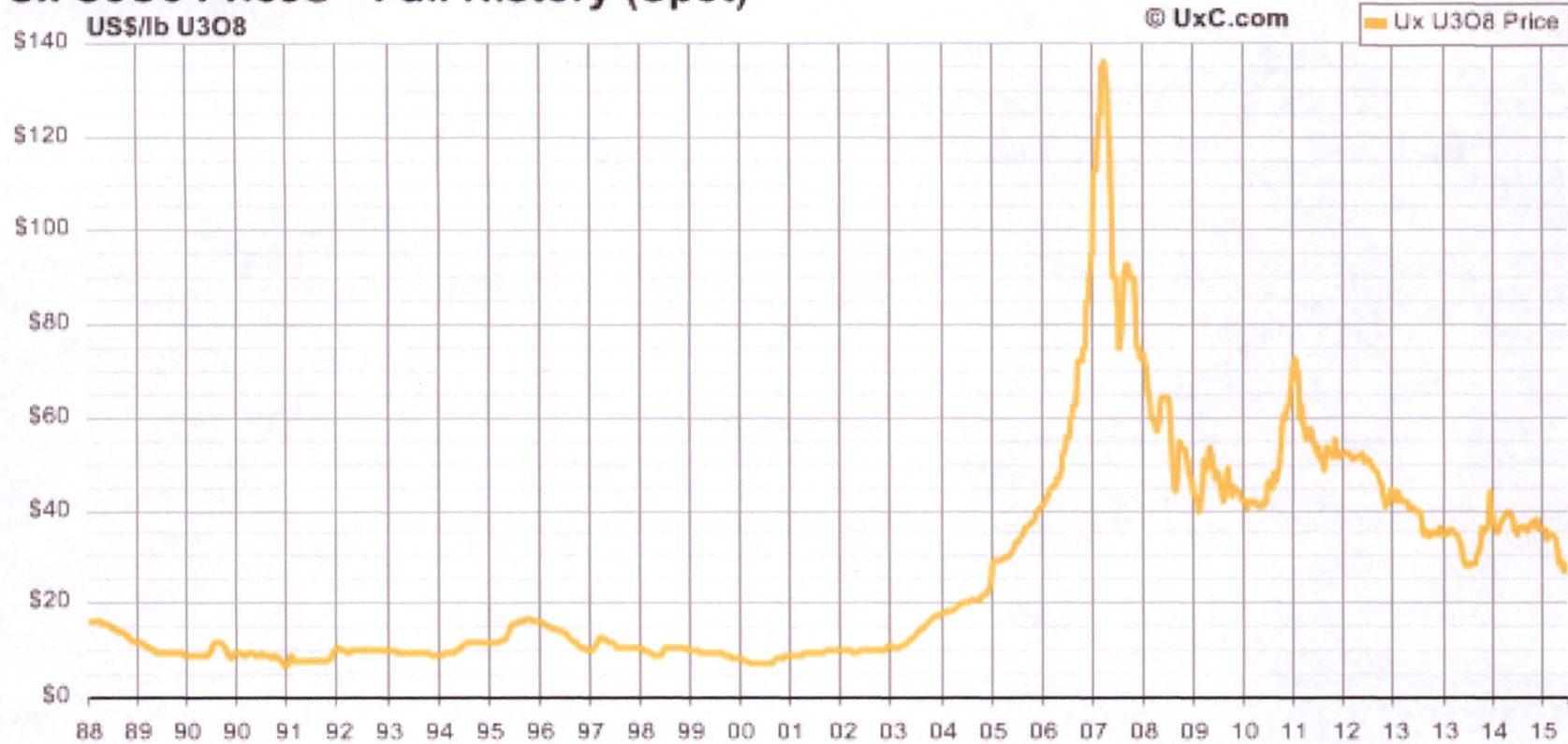
**Table 1.**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	\$34.70	\$32.15	\$28.70	\$27.50								
2015	\$37.00	\$38.63	\$38.36	\$37.13	\$35.00	\$36.38	\$35.50	\$36.75	\$36.38	\$36.13	\$36.00	\$34.23
2014	\$35.45	\$35.38	\$34.00	\$30.43	\$28.25	\$28.23	\$28.50	\$31.50	\$35.40	\$36.38	\$39.50	\$35.50
2013	\$43.88	\$42.00	\$42.25	\$40.50	\$40.45	\$39.60	\$34.75	\$34.50	\$35.00	\$34.50	\$36.08	\$34.50
2012	\$52.13	\$52.00	\$51.05	\$51.63	\$51.63	\$50.75	\$49.50	\$48.25	\$46.50	\$41.75	\$42.25	\$43.38
2011	\$72.63	\$69.63	\$60.50	\$55.25	\$57.00	\$52.88	\$51.75	\$49.13	\$52.25	\$51.88	\$51.63	\$51.88
2010	\$42.38	\$41.13	\$41.88	\$41.75	\$40.75	\$41.75	\$45.63	\$45.25	\$46.63	\$52.00	\$60.63	\$62.25
2009	\$47.50	\$44.50	\$42.00	\$44.50	\$49.00	\$51.50	\$47.00	\$46.00	\$42.88	\$48.00	\$45.38	\$44.50
2008	\$78.00	\$73.00	\$71.00	\$65.00	\$60.00	\$59.00	\$64.50	\$64.50	\$53.00	\$45.00	\$55.00	\$52.50
2007	\$75.00	\$85.00	\$95.00	\$113.00	\$125.00	\$136.00	\$120.00	\$90.00	\$85.00	\$85.00	\$93.00	\$90.00
2006	\$37.50	\$38.63	\$40.75	\$41.50	\$43.00	\$45.75	\$47.38	\$50.25	\$54.88	\$60.13	\$63.50	\$72.00
2005	\$21.10	\$21.75	\$22.55	\$25.00	\$29.00	\$29.00	\$29.50	\$30.10	\$31.63	\$33.25	\$34.75	\$36.38
2004	\$15.55	\$16.63	\$17.63	\$17.68	\$17.80	\$18.50	\$18.50	\$19.63	\$20.00	\$20.23	\$20.50	\$20.60
2003	\$10.15	\$10.15	\$10.10	\$10.88	\$10.95	\$10.90	\$11.05	\$11.30	\$12.23	\$12.73	\$13.75	\$14.45
2002	\$9.70	\$9.93	\$9.83	\$9.90	\$9.90	\$9.90	\$9.85	\$9.85	\$9.75	\$9.90	\$9.88	\$10.20
2001	\$7.23	\$7.95	\$8.20	\$8.85	\$8.85	\$8.83	\$8.93	\$9.10	\$9.40	\$9.48	\$9.50	\$9.55
2000	\$9.45	\$9.38	\$9.20	\$8.85	\$8.43	\$8.13	\$8.08	\$7.75	\$7.43	\$7.20	\$7.13	\$7.10
1999	\$10.50	\$10.50	\$10.85	\$10.85	\$10.63	\$10.35	\$10.25	\$10.05	\$9.83	\$9.73	\$9.68	\$9.60
1998	\$11.90	\$10.88	\$10.73	\$10.78	\$10.83	\$10.83	\$10.50	\$10.23	\$9.83	\$9.20	\$8.75	\$8.75
1997	\$14.25	\$13.70	\$13.00	\$12.18	\$11.45	\$10.60	\$10.50	\$10.25	\$10.93	\$12.63	\$12.75	\$12.10
1996	\$12.95	\$15.33	\$15.83	\$16.13	\$16.50	\$16.55	\$16.50	\$16.35	\$15.90	\$15.45	\$14.95	\$14.70
1995	\$9.68	\$10.38	\$11.08	\$11.55	\$11.78	\$11.83	\$11.88	\$11.80	\$11.75	\$11.75	\$11.83	\$12.23
1994	\$9.50	\$9.48	\$9.48	\$9.35	\$9.25	\$9.25	\$9.33	\$9.15	\$9.08	\$9.08	\$9.48	\$9.60
1993	\$9.75	\$10.05	\$10.10	\$10.20	\$10.08	\$10.15	\$9.90	\$10.05	\$10.25	\$10.23	\$9.95	\$9.88
1992	\$7.95	\$8.00	\$7.88	\$7.83	\$7.73	\$7.83	\$7.83	\$8.08	\$8.68	\$10.38	\$10.40	\$9.98
1991	\$9.15	\$9.45	\$9.35	\$9.05	\$9.23	\$9.08	\$8.65	\$8.88	\$8.33	\$7.38	\$7.40	\$8.75
1990	\$8.88	\$8.75	\$8.80	\$8.85	\$9.30	\$11.30	\$11.73	\$11.48	\$10.30	\$8.43	\$9.65	\$9.75
1989	\$11.55	\$11.23	\$10.73	\$10.15	\$9.80	\$9.73	\$9.73	\$9.65	\$9.60	\$9.40	\$9.25	\$9.00
1988	\$16.40	\$16.20	\$15.95	\$15.88	\$15.45	\$15.18	\$14.65	\$14.13	\$13.80	\$13.18	\$12.85	\$11.88

Source: Cameco Corporation

Figure 1

## Ux U3O8 Price® - Full History (Spot)



Source: The Ux Consulting Company, LLC

<http://www.uxc.com/>