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

January 12, 1999

COGEMA Mining, Inc.
ATTN: Thomas W. Hardgrove, Manager
ISL Environmental and Regulatory Services
935 Pendell Boulevard
P.O. Box 730
Mills, WY 82644

SUBJECT: IRIGARAY/CHRISTENSEN RANCH ISL; REVIEW OF 1998-1999 ANNUAL SURETY UPDATE FOR SOURCE RENEWED MATERIAL LICENSE SUA-1341: AMENDMENT 1

Dear Mr. Hardgrove:

The U.S. Nuclear Regulatory Commission (NRC) has completed its review of Cogema Mining, Inc.'s annual surety update for the Irigaray and Christensen Ranch In-Situ Leach (ISL) Project, submittted by letter dated August 18, 1998. All information provided by Cogema was considered in reviewing the surety. NRC staff finds the proposed surety amount of $16,415,516 to be acceptable.

In the August 18 submittal, Cogema proposed a decommissioning cost estimate for the Irigaray and Christensen Ranch facilities that was $453,421 less than the approved surety for the previous year. While the new surety amount reflects a number of increases and decreases in costs for a variety of activities, two cost factors involving ground-water restoration most significantly contributed to this overall decrease. First, Cogema has used a smaller pore volume in calculating restoration costs for Mine Units 6 and 7 based on the smaller interval thickness of the "as-built" wellfields. This served to reduce electricity, labor, and chemical costs associated with ground-water sweep, reverse osmosis, and disposal operations. Second, $400,000 in capital costs for the purchase of a 500 gpm reverse osmosis unit at Christensen Ranch was eliminated because two 250 gpm reverse osmosis units were constructed for the restoration plant. NRC staff reviewed Cogema's wellfield descriptions, justifications for changes in the surety, reclamation projections, and costs for labor and disposal of wastes, and has concluded that all are competitive and within acceptable limits.

NRC staff also concluded that Cogema has applied an appropriate inflation factor for the projected decommissioning of the Christensen and Irigaray sites. The 9.4 adjustment to the surety adequately accounts for the effects of inflation during the period August 1994 (Consumer Product Index of 149) to June 1998 (CPI of 163).

With NRC approval of the revised surety amount, License Condition 9.5 of Source Material License SUA-1341 is hereby amended (license enclosed) pursuant to Title 10 of the Code of Federal Regulations, Part 40, to reflect a surety of $16,415,516 for the Irigaray and

Christensen Ranch ISLs. An environmental assessment is not required for this action because this action is categorically excluded under 10 CFR 51.22(c)(11).

If you have any questions concerning this amendment, please contact Harold Lefevre who has replaced Janet Lambert as the NRC project manager for the Irigaray and Christensen Ranch facilities, at (301) 415-6678.

Sincerely,

King Stablein

N. King Stablein, Acting Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Docket No: 40-8502
SUA-1341, Amendment No. 1

Enclosure: As stated.

cc: G. Cash, WDEQ-LQD
G. Mooney, WDEQ-LQD
R. Poyser, Cogema

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Sincerely,

[Signed by]

N. King Stablein, Acting Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Docket No: 40-8502
Case No. L51723 closed
SUA-1341, Amendment No. 1

Enclosure: As stated.

cc: G. Cash, WDEQ-LQD
G. Mooney, WDEQ-LQD
R. Poyser, Cogema

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MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee		
1. COGEMA Mining, Inc.	3. License Number	SUA-1341 Amendment No. 1
2. P.O. Box 730 Mills, Wyoming 82644	4. Expiration Date	June 30, 2008
	5. Docket or Reference No.	40-8502

6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License
Uranium	Unspecified	Unlimited

SECTION 9: **Administrative Conditions**

9.1 The authorized place of use shall be the licensee's Irigaray and Christensen Ranch Satellite facilities in Johnson and Campbell Counties, Wyoming.

9.2 All written notices and reports to the NRC required under this license, with the exception of reports submitted in accordance with 10 CFR 40.65, shall be addressed to the Chief, Uranium Recovery Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards, Mail Stop T 7-J-8, Nuclear Regulatory Commission, 11545 Rockville Pike, Rockville, MD 20852. Semiannual effluent monitoring reports required under 10 CFR 40.65 shall be addressed to Director, Division of Nuclear Material Safety, Region IV, Nuclear Regulatory Commission, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas, 76011.

Incident and event notifications that require telephone notification shall be made to the NRC Operations Center at (301) 816-5100.

9.3 The licensee shall conduct operations in accordance with the commitments, representations, and statements contained in the original January 5, 1996, license renewal application submittal as revised by the September 3, 1997 "Responses to NRC Comments on the License Renewal Application for Source Material License SUA-1341," and as supplemented by the December 13, 1996, submittal requesting a performance based license condition for approval of the startup of new well fields, including standard operating procedures, and hereinafter referred to as the "approved license application."

The above are hereby incorporated by reference except where superseded by license conditions below.

Whenever the word "will" is used in the above referenced sections, it shall denote a requirement.

9.4 A. The licensee may, without prior NRC approval, and subject to conditions specified in Part B of this condition:

(1) Make changes in the facility or process, as presented in the application.

(2) Make changes in the procedures presented in the application.

(3) Conduct tests or experiments not presented in the application.

B. The licensee shall file an application for an amendment to the license, unless the following conditions are satisfied:

(1) The change, test, or experiment does not conflict with any requirement specifically stated in the license (excluding information referenced in the approved license application), or impair the licensee's ability to meet all applicable NRC regulations.

(2) There is no degradation in the essential safety or environmental commitments in the license application, or provided by the approved reclamation plan.

(3) The change, test, or experiment is consistent with the conclusions of actions analyzed and selected in the most recent Environmental Assessment (EA) dated June 30,1998.

C. The licensee's determinations concerning part B of this condition shall be made by a Safety and Environmental Review Panel (SERP.) The SERP shall consist of a minimum of three individuals employed by the licensee. One member of the SERP shall have expertise in management and shall be responsible for approval of managerial and financial changes; one member shall have expertise in operations and/or construction and shall have the responsibility for implementing any operational changes; and one member shall be the RSO or equivalent, with the responsibility for assuring changes conform to radiation safety and environmental requirements. Additional members may be included in the SERP as appropriate, to address technical aspects such as health physics, groundwater hydrology, surface-water hydrology, specific earth sciences, and other technical disciplines. Temporary members or permanent members, other than the three above-specified individuals, may be consultants. One member of the SERP shall be designated as Chairman.

D. The licensee shall maintain records of any changes made pursuant to this condition until license termination. These records shall include written safety and environmental evaluations, made by the SERP, that provide the basis for determining that changes are in compliance with the requirements referred to in part B of this condition. The licensee shall furnish, in an annual report to the NRC, a description of such changes, tests, or experiments, including a summary of the safety and environmental evaluations of each. The annual report shall also include changed pages to the Operations Plan and Reclamation Plan of the approved license application to reflect changes under this condition.

9.5 The licensee shall maintain an NRC-approved financial surety arrangement, consistent with 10 CFR 40, Appendix A, Criterion 9, adequate to cover the estimated costs, if accomplished by a third party, for decommissioning and decontamination, offsite disposal of radioactive solid process or evaporation pond residues, and ground-water restoration as warranted. The surety shall also include the costs associated with all soil and water sampling analyses necessary to confirm the accomplishment of decontamination.

Within 3 months of NRC approval of a revised decommissioning plan, the licensee shall submit for NRC review and approval, a proposed revision to the financial surety arrangement if estimated

costs in the newly approved decommissioning plan exceed the amount covered in the existing financial surety. The revised surety shall then be in effect within 3 months of written NRC approval.

Annual updates to the surety amount, required by 10 CFR 40, Appendix A, Criterion 9, shall be provided to NRC by August 18 of each year. Financial surety coverage for the full amount of the NRC-approved decommissioning cost estimate shall not lapse for any time period prior to license termination. If NRC has not approved a proposed revision 30 days prior to the expiration date of the existing surety arrangement, the licensee shall extend the existing arrangement, prior to expiration, for one year. Along with each proposed revision or annual update, the licensee shall submit supporting documentation showing a breakdown of the costs and the basis for the cost estimates with adjustments for inflation, maintenance of a minimum 15 percent contingency, changes in engineering plans, activities performed, and any other conditions affecting estimated costs for site closure.

At least 90 days prior to beginning construction associated with any planned expansion or operational change which was not included in the annual surety update, the licensee shall provide for NRC approval an updated surety to cover the expansion or change.

The licensee shall also provide NRC with copies of surety-related correspondence submitted to the State of Wyoming, a copy of the State's surety review, and the final approved surety arrangement. The licensee must also ensure that the surety, where authorized to be held by the State, expressly identifies the NRC-related portion of the surety and covers the cost of above-ground decommissioning and decontamination, offsite disposal, soil and water sample analyses, and ground-water restoration associated with the site. The basis for the cost estimate is the NRC-approved site closure plan or the NRC-approved revisions to the plan. The reclamation/ decommissioning plan, cost estimates, and annual updates should follow the outline in the Appendix E to NUREG-1569 (NRC, 1997), entitled, "Recommended Outline for Site Specific *In Situ* Leach Facility Reclamation and Stabilization Cost Estimates."

The licensee's currently approved surety, Irrevocable Standby Letter of Credit issued by the Credit Commercial de France of New York in favor of the State of Wyoming, shall be continuously maintained in an amount no less than $16,415,516 for the purpose of complying with 10 CFR 40, Appendix A, Criterion 9, until a replacement is authorized by both the State of Wyoming and the NRC.

9.6 Written standard operating procedures (SOPs) shall be established and followed for all operational process activities involving radioactive materials that are handled, processed, stored, or transported by the licensee at or between the Irigaray and Christensen Ranch sites. SOPs for operational activities shall enumerate pertinent radiation safety practices to be followed in accordance with 10 CFR Part 20. Additionally, written procedures shall be established and followed for non-operational activities to include in-plant and environmental monitoring, bioassay analyses and instrument calibrations. An approved, up-to-date copy of each written procedure shall be kept in specified locations in the process area to which it applies.

All written procedures for both operational and non-operational activities shall be reviewed and approved in writing by the Radiation Safety Officer (RSO) before implementation and whenever a change in a procedure is proposed to ensure that proper radiation protection principles are being applied. Additionally, the RSO shall perform a documented review of all operating procedures at least annually.

9.7 The licensee shall dispose of 11e.(2) byproduct material from the Irigaray and Christensen Ranch Satellite facilities at a site licensed by NRC or an NRC Agreement State to receive 11e.(2) byproduct material. The licensee shall identify the disposal facility to NRC in writing. The licensee's approved waste disposal agreement must be maintained onsite. In the event the agreement expires or is terminated, the licensee shall notify NRC in writing, in accordance with License Condition 9.2, within 7 days after the date of expiration or termination. A new agreement shall be submitted for NRC approval within 90 days after expiration or termination, or the licensee will be prohibited from further lixiviant injection.

All contaminated wastes and evaporation pond residues shall be disposed of at a radioactive waste disposal site licensed to accept 11e. (2) byproduct material.

9.8 Release of equipment, materials, or packages from the restricted area shall be in accordance with the NRC guidance document entitled, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," dated May 1987, or suitable alternative procedures approved by NRC prior to any such release.

9.9 Prior to any developmental activity in the immediate vicinity of archaeological site 48CA533, described in Section 2.4 of the approved licensee application, the licensee shall provide documentation of its coordination with the State of Wyoming and the U.S. Bureau of Land Management to NRC.

Before engaging in any developmental activity not previously assessed by NRC, the licensee shall administer a cultural resource inventory. All disturbances associated with the proposed development will be completed in compliance with the National Historic Preservation Act of 1966 (as amended) and its implementing regulations (36 CFR Part 800), and the Archaeological Resources Protection Act of 1979 (as amended) and its implementing regulations (43 CFR Part 7).

To ensure that no unapproved disturbance of cultural resources occurs, any work resulting in the discovery of previously unknown cultural artifacts shall cease. The artifacts shall be inventoried and evaluated in accordance with 36 CFR Part 800, and no disturbances shall occur until the licensee has received authorization from NRC to proceed.

9.10 The licensee shall maintain restricted area boundaries at the Irigaray and Christensen Ranch facilities as described in Section 5.8.1 of the approved license application. Additionally, the Irigaray and Christensen Ranch well field buildings shall be restricted, if required, based on the results of radiological surveys.

Irigaray and Christensen Ranch well-field buildings shall be restricted if radiological surveys indicate appropriate radiological levels.

9.11 The licensee is hereby exempted from the requirements of Section 20.1902(e) of 10 CFR 20 for areas within the Irigaray and Christensen Ranch facilities, provided that all entrances to the facility are conspicuously posted in accordance with Section 20.1902(e) and with the words, "ANY AREA WITHIN THIS FACILITY MAY CONTAIN RADIOACTIVE MATERIAL."

9.12 The RSO shall have the health physics authorities, responsibilities, and technical qualifications identified in Regulatory Guide 8.31.

9.13 If evidence of the migratory bird and potentially endangered species, Mountain Plover, or its nesting sites is found at the Irigaray or Christensen sites, the licensee shall consult with the Fish and Wildlife Service before proceeding with development or ground disturbing activity in that area.

SECTION 10: Operations, Controls, Limits, and Restrictions

10.1 The licensee shall use a lixiviant composed of native groundwater, with added sodium bicarbonate and/or CO_2 gas and oxygen or hydrogen peroxide, as described in the approved license application.

10.2 The licensee shall construct all wells in accordance with methods described in Section 3.3.2 of the approved license application.

The licensee shall perform well integrity tests on each injection and production well before the wells are utilized and on wells that have been serviced with equipment or procedures that could damage the well casing. Additionally, each well shall be retested at least once every five years. Integrity tests shall be performed in accordance with Section 3.3.2.2 of the approved license application. Any failed well casing that cannot be repaired to pass the integrity test shall be appropriately plugged and abandoned, using procedures set out in Section 3.3.2 of the approved license application.

10.3 The licensee shall establish pre-operational baseline water quality data for all production units. Baseline water quality sampling shall provide representative pre-mining groundwater quality data and restoration criteria as described in the approved license application. The data shall be from wells established in the mining zone, the mining zone perimeter, the upper aquifer and the lower aquifer, with spacing and locations as specified in the approved license application. The data shall, at a minimum, consist of the sample analyses shown in Table 5.25 of Section 5.8.2.2 of the approved license application.

The wells used for obtaining baseline groundwater quality in current and future production areas shall be established at the following minimal density:

Monitored Unit	Density
Ore Zone Monitors	All
Ore Zone Baseline (restoration)	1 well per 4 acres of pattern area
Shallow Zone Monitors	1 well per 3.5 acres of pattern area
Deep Zone Monitors	1 well per 3.5 acres of pattern area

Wells utilized to establish baseline groundwater quality for past Irigaray production areas were as follows:

Monitored Unit	Wells per Monitored Unit
Irigaray Unit 1 Sandstone	2
Irigaray deep monitor zone	2
Irigaray perimeter and trend monitor wells (Units 1-9)	70 percent of installed wells

Baseline groundwater quality in previously approved production areas shall be the mean data values (well field average) from the following submittals:

Irigaray

Units 1–5	April 16, 1990 (refers to WDEQ permit 478)
Unit 6	April 4, 1988
Unit 7	November 2, 1987 (Table 4)
Units 8–9	January 28, 1988

Christensen Ranch

Unit 3 and Module 2 expansion	December 1, 1988 (Table 2)
Unit 3 expansion and Module 4A expansion	August 8, 1991 (Table 6)
Unit 2 south portion	November 27, 1992 (Table 2)
Unit 2 north portion	April 16, 1992 (Table 2)
Unit 4	April 1, 1994 (Table 6)
Unit 5	February 28, 1995 (Table 7)
Unit 6	September 24, 1996 (Table 6)

10.4 Prior to mining in each production unit, the licensee shall collect groundwater samples and establish Upper Control Limits (UCLs) in accordance with Section 5.8 of the approved license application. UCLs shall be applied to all monitor wells in conformance with the approved license application and appropriate SOPs. The UCL parameters shall be chloride, conductivity, and total alkalinity.

10.5 The licensee is authorized to conduct operations at a maximum flow rate of 4000 gallons per minute, exclusive of restoration flow. Annual yellowcake production shall not exceed 2.5 million pounds.

10.6 Solution evaporation ponds A, B, C, D and E, and the 517 ponds shall have at least 2 feet of freeboard. Ponds RA and RB shall have at least 8 feet of freeboard. The 8-foot freeboard may be temporarily changed to a 2 foot in either RA or RB as long as sufficient reserve capacity is available in the overall pond system to accept the contents of one of the ponds in case of leakage. The Christensen Ranch permeate storage ponds, brine ponds and filter backwash pond shall have at least 2 feet of freeboard.

Additionally, the licensee shall, at all times, maintain sufficient reserve capacity in the evaporation pond system to enable the transfer of the contents of a pond to other ponds. In the event of a leak and subsequent transfer of liquid, the freeboard requirements shall be suspended during the repair period.

10.7 All liquid effluents from process buildings and other process waste streams, with the exception of sanitary wastes, shall be returned to the process circuit, discharged to the solution evaporation

ponds, or disposed of by appropriate NPDES permit, in accordance with the approved license application.

Additionally, the licensee is authorized to dispose of process solutions, injection bleed, and restoration brine in the following wells:

COGEMA DW No. 1
Christensen 18-3
DW-1
DW-2

The licensee shall maintain a record of the volumes of solution disposed in these wells and submit this information in the semiannual 10 CFR 40.65 monitoring report.

10.8 The licensee shall maintain effluent control systems as specified in Section 4.0 of the approved license application, with the following additions:

A. Operations shall be immediately suspended in the dry/pack area of the plant if any of the emission control equipment for the yellowcake drying or packaging areas is not operating within specifications for design performance, or within the ranges permitted by WDEQ Air Quality Permit No. OP-254.

B. The licensee shall, during all periods of yellowcake drying operations, assure that the scrubber is operating within the manufacturer's recommended ranges for water flow and air pressure differential necessary to achieve design performance. This shall be accomplished by either (1) performing and documenting checks of water flow and air pressure differential approximately every four (4) hours during operation, or (2) installing instrumentation which will signal an audible alarm if either water flow or air pressure differential fall below the manufacturer's recommended levels. If an audible alarm is used, its operation shall be checked and documented daily.

C. Air pressure differential gauges for other emission control equipment shall be read and the readings documented once per shift during operations.

10.9 The licensee shall use a Radiation Work Permit (RWP) for all work or non-routine maintenance jobs where the potential for significant exposure to radioactive material exists and for which no standard written operating procedure exists. All RWPs shall be accompanied by a breathing zone air sample or applicable area air sample. The RWP shall be issued by the RSO or designee qualified by way of specialized radiation protection training, and RWPs shall include, as a minimum, the information described in Section 2.2 of Regulatory Guide 8.31.

10.10 The licensee shall sample particulates and radon progeny on a monthly frequency at the Irigaray and Christensen Ranch Satellite locations shown on Figures 5.2 and 5.3 of the approved license application.

10.11 If employees do not shower prior to leaving the restricted area, they shall monitor themselves with an alpha survey instrument prior to exiting in conformance with Regulatory Guide 8.30.

10.12 The licensee shall implement the bioassay program discussed in Regulatory Guide 8.22 and in Section 5.7.5 of the approved license application.

10.13 All radiation monitoring, sampling, and detection equipment shall be recalibrated after each repair and as recommended by the manufacturer or at least annually, whichever is more frequent. In addition, all radiation survey instruments shall be operationally checked with a radiation source each day when in use.

10.14 The licensee shall maintain an area within the restricted area boundary for temporary storage of contaminated materials. All contaminated wastes and evaporation pond residues shall be disposed of at a radioactive waste disposal site licensed to accept 11e.(2) byproduct material.

10.15 The licensee shall incorporate the 5I7 and USMT sites into Production Unit 10 as described in Attachment 3 to the October 31, 1988, amendment application.

10.16 The licensee shall conduct groundwater restoration and post-restoration monitoring as described in Section 6.1 of the approved license application. The primary goal of restoration shall be to return the groundwater quality, on a production-unit average, to baseline concentrations on a parameter-by-parameter basis. If the primary goal cannot be achieved, the groundwater will, at a minimum, be returned to the pre-mining use category.

Changes to groundwater restoration or post-restoration monitoring plans shall be submitted to NRC for review and approval at least 2 months prior to groundwater restoration in a mining unit.

10.17 The licensee shall include the following as part of the groundwater monitoring program:

Annual sampling and analysis for chloride and conductivity from 5I7 and USMT Wells M-1, NM-3, M-4, SM-1, M-219, M-220, and M-221.

10.18 The licensee shall implement the respiratory protection program as described in the approved license application.

10.19 The licensee is hereby authorized to receive contaminated process equipment for reuse from licensed uranium recovery operators. Records of all receipts shall be maintained.

10.20 The licensee is hereby authorized to transfer source material to any facility licensed by NRC or an NRC Agreement State to receive source material for purposes of drying and storage. The licensee shall follow Standard Operation Procedure No. E-11 in the event of a transportation or storage accident.

10.21 Prior to initiating vanadium separation processing, the licensee's SERP, in accordance with LC 9.4 shall assess the potential safety and environmental impacts of that process. If those impacts are outside the scope of the impacts considered by NRC in the EA as part of the license renewal review, the licensee shall submit a license amendment request to NRC for review and approval.

10.22 The licensee shall use its SOP PBLC-02, approved by NRC in December, 1996, including the guidance for evaluating hydrologic connectivity between aquifers, in assessing the potential startup of new mine units.

SECTION 11: Monitoring, Recording, and Bookkeeping Requirements

11.1 Injection manifold pressures and flow rates shall be measured and recorded daily. During well-field operations, injection pressures shall not exceed 120 psi at the Irigaray site, and 140 psi at the Christensen Ranch site. Also, during maintenance tasks, injection pressures shall not exceed the integrity test pressures.

11.2 All designated perimeter and upper aquifer monitor wells shall be sampled and tested no more than 14 days apart.

If during routine sampling, two UCL values are exceeded in a well, the licensee shall take a confirmation water sample within 48 hours and analyze it for chloride, conductivity, and total alkalinity. If the second sample does not indicate exceedance of two UCLs, a third sample shall be taken within 48 hours. If neither the second or third indicate exceedance of two UCLs, the first sample shall be considered in error.

If the second or third sample indicates an exceedance of two UCLs, the well in question shall be placed on excursion status. Upon confirmation of an excursion, the licensee shall notify NRC, implement corrective action, and increase the sampling frequency for the excursion indicators to once every 7 days. Corrective actions for confirmed excursions may be, but are not limited to, those described in the approved LRA. Also upon confirmation of the excursion, the licensee shall notify the NRC Operations Center at (301) 951-0550 by telephone within 24 hours, and shall notify the NRC Uranium Recovery Branch Chief by letter within 7 days from the time the confirmation sample was taken. The letter shall describe the excursion event, corrective actions taken, and results to date. An excursion is considered contained when the concentrations of excursion indicators are below the concentration levels defining an excursion for three consecutive samples collected 7 days apart.

UCLs for monitor wells established prior to the issuance of the Performance Based License Condition (PBLC) issued in December, 1996, are provided in Table 5.26 for the Irigaray site and Table 5.27 for the Christensen Ranch site in Section 5.8 of the approved license application.

Written progress reports describing the status of the excursion shall be made on a quarterly basis until the situation has been mitigated.

11.3 The licensee shall establish and conduct an effluent and environmental monitoring program in accordance with Section 5.8. of the approved license application.

11.4 The licensee shall perform and document weekly visual inspections of the Irigaray and Christensen Ranch Satellite evaporation pond embankments, fences and liners, as well as measurements of pond freeboard and checks of the leak detection system.

Anytime 6 vertical inches or more of fluid is detected in the leak detection system standpipes, it shall be analyzed for chloride, conductivity, pH and uranium. If analyses indicate that the pond is leaking, the licensee shall notify the NRC Operations Center at (301) 951-0550 shall be notified by telephone within 48 hours of verification and in accordance with License Condition 12.3, lower the

pond fluid level by transferring its contents to an alternate cell, and undertake repairs, as needed. Standpipe water quality samples shall be analyzed for the above parameters once every 7 days during the leak period and once every 7 days for at least 2 weeks following repairs.

Additionally, the licensee shall perform monthly checks of the Willow Creek R&D ponds. Anytime 12 inches or more of fluid is in the sumps, it shall be analyzed and reported as described in this license condition.

11.5 The licensee shall conduct the in-plant inspection and audit programs described in Section 5.3 of the approved license application. In addition, the RSO or designee shall document a daily walk-through of the Irigaray and Christensen Ranch Satellite facilities to determine if that radiation control practices are being implemented appropriately.

11.6 The results of the following activities, operations, or actions shall be documented: sampling, analyses, surveys and monitoring, survey/monitoring equipment calibration results of reports on audits and inspections, all meetings and training courses required by this license; and any subsequent reviews, investigations and corrective actions, shall be documented. Unless otherwise specified in the NRC regulations, all such documentation shall be maintained for a period of at least five (5) years.

11.7 The licensee shall monitor for external exposure in accordance with 10 CFR 20.1502(a)(1), Section 5.7.2 of the approved license application. The licensee shall monitor for internal exposure in accordance with 10 CFR 20.1502(b)(1) and Section 5.7.3 of the approved license application.

SECTION 12.0: Reporting Requirements

12.1 Effluent and environmental monitoring program results submitted in accordance with 10 CFR 40.65 shall be reported in the format shown in Table 3 of Regulatory Guide 4.14, (Rev. 1) entitled, "Sample Format for Reporting Monitoring Data." The report shall also include injection rates, recovery rates and injection manifold pressures.

12.2 In the event a lixiviant excursion is confirmed by groundwater monitoring, the NRC Operations Center at (301) 957-0550 shall be notified, by telephone within 24 hours and the NRC Uranium Recovery Branch Chief by letter within 7 days from the time the excursion is confirmed, in accordance with License Condition 9.2. A written report shall be filed with the NRC, within 60 days of excursion confirmation. The report shall describe the excursion event, corrective actions taken and results obtained to date. Written progress reports describing the status of the excursion shall on a quarterly basis until the situation has been mitigated.

12.3 In the event the evaporation pond standpipe analyses indicate that a pond is leaking, the NRC Operations Center at (301) 951-0550 shall be notified by telephone within 48 hours of verification, in accordance with License Condition 9.2. A written report shall be filed with NRC, within 30 days of first notifying NRC that a leak exists. This report shall include analytical data, describe the mitigative action, and discuss the results of that action.

12.4 Until license termination, the licensee shall maintain documentation on all spills of source or 11e.(2) byproduct materials, including mining solutions, and all spills of process chemicals. Documented

information shall include: date, spill volume, total activity of each radionuclide released, radiological survey results, corrective actions, results of remediation surveys, and a map showing the spill location and impacted area.

The licensee shall notify the NRC Operations Center at (301) 951-0550 by telephone within 48 hours of any significant spills of source or 11e.(2) byproduct materials, and all spills of process chemicals, which may have an impact on the environment.

For purposes of reporting "significant" spills to NRC, NRC staff has issued the following guidance:

(1) NRC staff considers any spill of 10,000 gallons or more to be significant from an operations standpoint, regardless of the chemical and radioactive characteristics of the spill.

(2) Any spill which has the potential to exceed the final site cleanup standards should also be reported.

(3) Any spill which leaves the NRC permitted area is a potential health and environnmental concern and should be reported.

This notification shall be followed, within 7 days, by submittal of a written report detailing the conditions leading to the spill, corrective actions taken and results achieved. This requirement is in addition to the reporting requirements in 10 CFR Part 20 and 10 CFR 40.60.

12.5 The licensee shall submit a final detailed decommissioning plan for the Irigaray, Christensen Satellite, and any remaining Willow Creek facilities to the NRC at least 12 months prior to planned shutdown of mining operations.

12.6 An annual ALARA audit of the radiation safety program shall be performed in accordance with Regulatory Guide 8.31 and Section 5.3 of the approved license application. A report of this audit shall be retained on-site for NRC inspection. The report shall discuss the Irigaray and Christensen Ranch Satellite facilities and include a summary of the daily walkthrough inspections.

12.7 The licensee shall report incidences in accordance with 10 CFR 20.2202. Additiionally, 1 month subsequent to a reportable incident, a written report shall be submitted to the NRC, detailing the conditions leading to the incident, corrective actions taken, and results achieved.

FOR THE NUCLEAR REGULATORY COMMISSION

Dated: 1/12/99

N. King Stablein, Acting Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards