

February 20, 2003

Mr. T. W. Hardgrove
Pathfinder Mines Corporation
935 Pendell Boulevard
P.O. Box 730
Mills, Wyoming 82644

SUBJECT: PATHFINDER MINES CORPORATION - LUCKY MC MILL/TAILINGS SITE
AMENDMENT NO. 64 FOR ADMINISTRATIVE CHANGES TO SUA-672
(TAC:L52503), AND ANNUAL ADJUSTMENT OF THE SURETY FIGURE
(TAC:L52486)

Dear Mr. Hardgrove:

Pathfinder Mines Corporation (PMC) submitted, by letter dated December 5, 2002, a license amendment application requesting an amendment, to the above referenced license, to modify or delete various license conditions that have become obsolete in light of the near completion of the tailings reclamation at the Lucky Mc mill/tailings site, located in the Gas Hills region of Wyoming. PMC also submitted, by letter dated September 24, 2002, a request to reduce its required surety figure. The request is for a decrease of \$2,919,796, from the previously approved value. The staff's technical evaluation of these requests is provided in Enclosure 1.

The Nuclear Regulatory Commission (NRC) staff has determined that PMC has adequately demonstrated that the changes will neither pose a substantial present nor potential hazard to human health or the environment. Therefore, staff approved of the proposed changes. The amended license is provided as Enclosure 2.

The NRC staff has determined that this licensing action contains changes that are administrative (such as the deletion of obsolete procedures); organizational (such as new management); and/or procedural (such as the elimination of inspections, and since the facility ceased operations (surveillance's no-longer required). Thus, this action meets the categorical exclusion provisions of 10 CFR Part 51.22(c)(11). Therefore, this amendment does not require either an environmental assessment or an environmental report from the licensee.

If you have any questions about this letter, or the enclosures, please contact the NRC Project Manager for your facility Mr. Michael Raddatz, at phone: (301) 415-6334 or by e-mail at MGR@NRC.GOV.

In accordance with 10 CFR 2.790 of the Nuclear Regulatory Commission's (NRC) "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/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Daniel M. Gillen, Chief
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No. 40-2259
License No. SUA-672

Enclosures: Technical Evaluation Report
License Amendment #64

cc: D. Wichers, COGEMA
A. Kleinrath, DOE
G. Beach, WDEQ

T. Hardgrove

2

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CLOSES TAC L52486

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OFC	FCFB		FCFB		FCFB		FCFB	
NAME	MRaddatz*		BGarrett*		GJanosko*		DGillen	
DATE	2/06/03		2/12/03		2/14/03		2/20/03	

*see previous concurrence

OFFICIAL RECORD COPY

**TECHNICAL EVALUATION REPORT
AMENDMENT TO THE PATHFINDER MINES CORPORATION
- LUCKY MC SITE -
WYOMING**

DOCKET NO.: 40-2259

LICENSE NO.: SUA-672

DATE: December 05, 2002

FACILITY: Pathfinder - Lucky Mc, Gas Hills Mining District, Wyoming

TECHNICAL REVIEWER: Michael Raddatz

PROJECT MANAGER: Michael Raddatz

SUMMARY AND CONCLUSIONS:

Pathfinder Mines Corporation (PMC) submitted, by letter dated December 5, 2002, a license amendment application requesting an amendment to the above referenced license to modify or delete various license conditions that have become obsolete in light of the near completion of the tailings reclamation at the Lucky Mc mill/tailings site, located in the Gas Hills region of Wyoming. The staff has reviewed the application and determined that PMC has adequately demonstrated that the proposed changes will neither pose a substantial present nor potential future hazard to human health or the environment. PMC also submitted, by letter dated September 24, 2002, a request to reduce its required surety figure. The request is for a decrease of \$2,919,796 from the previous, tentatively approved value. The staff determined that PMC had provided adequate justification for the reduction. Therefore, staff recommends the approval of the proposed changes.

BACKGROUND:

The Lucky Mc site is located in west central Wyoming in the Gas Hills region. There are currently no downstream or down-gradient residences within 32 km (20 miles) of the facility. The nearest residence is a ranch located approximately 6 km (4 miles) northwest of the site and is located in the Muskrat drainage to the west of Fraser draw. This area is mainly used for mining/milling and for livestock, and is sparsely populated. Uranium milling began at this site in 1958 and continued through 1988 with a total of 12 million tons of ore processed. The mill utilized a conventional acid leach process.

Ground-water pumping operations at the facility have been ongoing since 1980. The corrective action consisted of ground-water pumping to evaporation ponds and the injection of fresh water to remove contamination and impede the flow of contaminated ground water in the aquifer. A total of 197 million gallons of contaminated water were collected from the Wind River Channel and 193 million gallons of fresh water injected as part of the remedial effort and approximately 217 million gallons of water were pumped from the tailings by the end of 2001. On December 20, 2002, Alternate Concentration Limits (ACLs) were approved for the Lucky Mc site, and all active correction actions ceased, such as pumping and injection. The ACLs are contained within Amendment 63 to License SUA-672.

The climate in this region is arid. Fraser and Reid Draws are surface-water drainages adjacent to the site. Flow in these draws only occurs during higher precipitation events or snow-melt. The main surface-water body in the vicinity of the site is the Area 5 mine reclamation reservoir which is approximately 1.6 km (1 mile) to the east of the tailings. The ground-water surface is below the surface-water level, therefore no contaminated ground-water is expected to seep into Fraser Draw or Reid Draw. The first surface-water use in Fraser Draw is approximately 11.3 km (7 miles) down-gradient of the site. The first ground-water use is more than 17.7 km (11 miles) from the site where a windmill provides water for livestock.

TECHNICAL EVALUATION:

Milling operations at the Lucky Mc site have not been conducted for many years and the facility is well on its way to be decommissioned. The changes to license SUA-672, requested by the applicant, are detailed below:

1. Modification of Condition 11.

The licensee has asked that the license be modified to only reference Sections 5.3.5, 5.4, and 7.6, and Figure 2-3 of the license renewal application, dated December 1982. This action would delete reference to the balance of Section 5.3, all of Sections 5.5 and 6.4, and Figure 5-2; reference to the site organization structure should also be deleted. Site security should be modified to delete reference to, "site personnel during regular business hours". In addition, reference to the submittal dated February 27, 1995, should be replaced with the following language, "The radiation safety requirements shall consist of the program as outlined in the submittal dated December 5, 2002."

Discussion:

The staff has reviewed the applicant's contention that early in 2003 there will not be any Pathfinder employees at the site on a routine basis; specifically, the only Pathfinder employees will be there to conduct periodic inspections. The licensee has committed that individuals, working at the site, will receive routine safety training at the Shirley Basin site, and that a contractor will perform any future environmental monitoring, such as the required well sampling on a quarterly basis, until license termination. The licensee contends, that with the exception of the No. 4 temporary evaporation pond and the northwest corner of the tailings system, all mill site operations have ceased and the reclamation of the tailings system have been completed. The staff questioned the licensee, on remaining work at the site, and received the following response via e-mail:

"Lucky Mc – With the exception of the No. 4 evaporation pond (encompassing some 5 acres), all tailings and mill site reclamation has been completed, including radon barrier and erosion protection placement. Because the remaining evaporation pond holds solution, the potential for wind dispersion of contaminated material from the pond is nil. As soon as the surface-water evaporates from the pond, it will be covered by the

radon barrier and erosion protection, scheduled for summer, 2004. Considering the low levels of radionuclides as measured by the environmental monitoring program over the past few years, and effective the first of this year, the lack of full time site personnel, the proposed reductions in the environmental monitoring and radiation safety programs are justified.”

The staff has reviewed the environmental monitoring data provided by the licensee, and the proposed changes to the environmental monitoring programs, and concurs that the low levels of contaminants detected coupled with the suspension of operations at the site warrant approval of the requested changes to the monitoring program. Because of the suspension of operations at this facility, the staff has decided to eliminate the provision to maintain an organizational chart as part of the license. However, to ensure the protection of both worker and public health and safety, the Radiation Safety Officer shall always report directly to the general manager. This relationship is subject to inspection to ensure compliance.

2) Delete Condition 29.

The first two paragraphs of Condition 29 read:

“The licensee shall decommission the Lucky Mc Uranium Mill in accordance with the proposed plan submitted by letter dated March 30, 1992, as modified by letters dated December 23, 1992; July 20 and 23, 1993; and January 12, March 21, May 9, and May 13, 1996. Standard Operating Procedures included in the March 30, 1992, submittal shall be reviewed and revised in accordance with Condition No. 33 of this license.

All decommissioning activities shall be documented. Within 90 days following the completion of mill demolition and disposal activities, the licensee shall submit to NRC a report documenting the activities and providing summaries of all data generated as part of the radiation safety program for mill decommissioning. In addition, within 90 days following the completion of the soil cleanup and verification program, the licensee shall submit to NRC a report documenting the cleanup activities and providing the results of all soil sampling and gamma surveys conducted to verify the adequacy of cleanup.”

Discussion:

The staff agrees that because mill decommissioning has been completed, and the mill decommissioning report has been submitted to NRC, these references are no longer required. Since they document the status of two important aspects of the site remediation, the last paragraph, which refers to the acceptability of the windblown tailings cleanup report, and the 'no action' alternative for Reid Draw, will be retained.

3) Delete Condition 30.

Condition 30 reads as follows:

“Occupational exposure calculations shall be performed and documented within 1 week of the end of the regulatory compliance period as specified in Table 2 of the submittal dated February 27, 1995.”

Discussion:

The staff reviewed the contentions made by the applicant, and agree that occupational exposures have been very low over the past few years. This fact, coupled with the demolition and disposal of the mill, and the covering of the tailings, has reduced potential for any significant exposure. When, beginning of 2003, the lack of full time employees, at the site, is factored in, the staff felt that a convincing argument was made for the deletion of this requirement. Therefore, condition 30 will be deleted.

4) Delete Condition 31.

Condition 31 requires, “The tailings impoundment area shall not be expanded by raising the height of the present dam or constructing a new dam except as authorized by this license.”

Discussion:

The tailings system has been reclaimed, and all of the tailings dams throughout the system have been breached therefore, the staff agrees that this condition is no longer required and it will be deleted.

5) Delete Condition 32.

Condition 32 requires, “The licensee shall implement an interim stabilization program which consists of the placement of a soil cover over all exposed tailings. The effectiveness of the soil cover shall be evaluated by means of a monthly documented inspection of all tailings areas. Written procedures which address the monthly inspections and the corrective actions to be taken in response to inspection findings shall be established.”

Discussion:

The staff acknowledges that the tailings system has been reclaimed, thus, eliminating any need for interim stabilization of tailings. Therefore, this condition will be deleted.

6) Modify Condition 34.

Condition 34 requires, “The licensee shall implement the embankment inspection program specified in Section 5.5.7.8 of the license renewal application, with the exceptions that embankment settlement surveys shall be conducted at least

semiannually, and that dam inspections need not be conducted on company holidays and weekends when personnel are not present onsite. All embankment inspections shall be documented. The monitored piezometers and the settlement monuments shall consist of those presented in the licensee's submittal by letter dated November 9, 1998."

Discussion:

The licensee has asked that all of the present language in condition 34 be deleted and replaced with a requirement to perform a documented inspection of the dikes, surrounding the No. 4 temporary evaporation pond, at least biweekly. The staff agrees that because all tailings dams in the system have been breached there is no further need for dam inspections. Condition 34 will be modified to state:

The licensee will implement a documented inspection of the dikes, surrounding the No. 4 temporary evaporation pond, at least biweekly.

7) Delete Condition 37.

Condition 37 states, in part: "The licensee shall conduct at least an annual ALARA audit of the radiation safety program and shall submit a written report to the corporate management.

Discussion:

The current status of the site, where there are no full time employees, is such that there is limited potential for any measurable exposure of contractor personnel. The staff agrees, the preparation of an annual ALARA audit is not necessary. The condition requiring the preparation of an annual ALARA report will be deleted.

8) Delete Condition 38.

Condition 38 requires in part: "The licensee shall be required to use a Radiation Work Permit (RWP) for work or non-routine maintenance jobs where the potential for significant exposure to radioactive material exists and for which no standard written operating procedures already exist."

Discussion:

Because the site is in decommissioning, and has permanently ceased operations there is no need for a RWP program. This condition requiring the use of RWP's will be deleted.

9) Delete condition 39.

Condition 39 requires: "For the area sampling of airborne radioactivity, the sample volume and analysis shall be sufficient to achieve a lower limit of detection of 10 percent of the MPC listed in Table 1 of Appendix B to 10 CFR Part 20."

Discussion:

The licensee stated, "This condition related to area sampling in a milling environment. Meeting this lower limit of detection for any air sampling that would be done in the field (would be in the open air) would require an inordinately long sampling period." The staff agrees and because the site is in decommissioning, and has permanently ceased operations there is no need for this condition, and it will be deleted.

10) Delete Condition 40.

Condition 40 requires: "The licensee shall perform quarterly spot checks for surface contamination in eating rooms and offices when such facilities are being utilized by personnel during remaining site reclamation activities."

Discussion:

The licensee states: There is no exposed by-product material on site as a potential source of contamination that would be evident in the remaining office. No contact with the solution left in the temporary evaporation pond will occur. Further, the office (located outside of the restricted area) will be demolished or removed from the site during 2003. The staff concurs with the applicant's request to eliminate the spot checks with the understanding that all materials will be surveyed and cleared before release from the site.

11) Delete Condition 41.

Condition 41 requires: "The licensee shall conduct safety meetings at least semiannually when personnel are routinely working within the restricted area. The licensee shall maintain a record of attendees and subjects covered."

Discussion:

The licensee stated that no personnel will be working routinely within the restricted area after the end of 2002. Contractor personnel that may frequent the site will be subject to training at the commencement of their activities. Contractors also are responsible for providing their own safety program for their personnel. The staff concurs with the deletion of this requirement, with the understanding that the licensee is responsible for verification that contractors, working on their site, maintain an adequate safety program.

12) Delete Condition 48.

Condition 48 requires, in part: "The licensee shall implement the effluent and environmental monitoring program specified in Table 5.5.7.1 of the renewal application..."

Discussion:

As discussed in the modification to Condition 11 (above), the effluent and environmental monitoring program, which was associated with an operating mill and the reclamation of the tailings system, is no longer necessary. Ground-water monitoring as discussed in Condition 60 will continue, therefore this condition will be deleted.

13) Delete Condition 50.

Condition 50 states: "The licensee is authorized to begin dismantling Dam No. 4, in accordance with its plan submitted by letters dated October 20, and November 9, 1998."

Discussion:

Because the No. 4 dam has been dismantled and breached, this condition is no longer required and will be deleted.

14) Deleted Condition 54Q.

Condition 54Q states: "As committed in its letter dated November 7, 1997, on placement of a suitable base layer that will support a drill rig, the licensee will collect samples at 20 locations. All samples will be analyzed for Ra-226 and Th-230. The licensee may select 20 of the samples for radon emanation coefficient measurements and use the mean value to model the flux; otherwise, NRC default value of 0.35 shall be used."

Discussion:

The required sampling program was completed and a modified barrier design was submitted to NRC for review and approval, therefore this condition is no longer required, and will be deleted.

15) Delete Condition 59.

Condition 59 requires in part: "The licensee is authorized to use protection factors for respirators not to exceed the values specified in Appendix A of 10 CFR Part 20 for the purpose of assigning an exposure to airborne radionuclides provided that the respiratory protection program specified in Standard Operating Procedure No. 02.100.00 and its attachments, submitted to NRC on November 14, 1984, and modified by letter dated January 14, 1985, is implemented.

Further, the Radiation Safety Officer (RSO) shall perform qualitative fit tests using irritant smoke for all employees required to wear respirators before the initial use of a respirator and annually thereafter. During the annual fit test, the RSO shall assure that the employee is correctly performing negative pressure fit checks and shall instruct the employee that the fit check is to be performed each time a respirator is donned and before entering an area where respirators are required. The fit tests and fit check instruction shall be documented.

Discussion:

The respiratory protection program has been terminated at the site. There will be no regular employees on site subject to such a program if it was in effect, and any contractor personnel will not be engaged in activities that would warrant respiratory protection. The staff agrees and because the site is in decommissioning, and has permanently ceased operations, there is no need for this condition, and it will be deleted.

16) Modify Condition 27.

Condition 27 requires, in part: "The licensee shall maintain an NRC-approved financial surety arrangement, consistent with 10 CFR Part 40, Appendix A, Criteria 9 and 10, adequate to cover the estimated costs, if accomplished by a third party, for decommissioning and decontamination of the mill and mill site, reclamation of any tailings or waste disposal areas, ground-water restoration as warranted, and the long-term surveillance fee."

The licensee has asked for a reduction in the surety figure (specifically a decrease of \$2,919,796).

Discussion:

In a submittal dated September 24, 2002, PMC asked that staff review and approve a reclamation surety of \$1,454,656. The licensee's surety figure represents a further decrease of \$2,919,796 from the previous, approved value of \$4,374,452¹. The reduction request is based on significant work items completed subsequent to the previously-approved surety. A contingency of 15 percent for decommissioning and reclamation activities has been added. In response to NRC's questions, PMC has also included a line item, "for contractor profit, mobilization / demobilization" in the amount of 10 percent.

NRC staff has reviewed the surety arrangements proposed by the licensee, in its letter dated September 24 2002, for the Lucky Mc site, and based on this review, finds the surety documents acceptable. A construction inspection was conducted by Staff on July 10, 2002 (See Inspection Report No. 004-06622/01-01). During this inspection, the Staff verified that a significant amount of work had been completed, and that the work completed was consistent with statements provided in the licensee's request to reduce the surety. The staff also visually verified the acceptability of the placement of erosion protection, and filter material. The staff also reviewed records that indicated the completed work met the requirements of the construction specifications.

Based on the information provided in the licensee's submittal, the estimate of the amount of remaining work appears reasonable, and is consistent with the Staff's review of construction drawings, plans, and specifications, as well as observations made during the July 2002, construction inspection.

¹ Letter to T.W Hardgrove approving reduction of surety amount dated January 31, 2002.

Given the above, it is concluded that the proposed surety amount of \$1,454,656. is acceptable. However, should it be warranted by NRC's ongoing inspection process, PMC may be required to review, and possibly modify, the surety value at a later date.

Condition 27 will be modified as follows:

Pathfinder Lucky Mc's currently approved surety, Irrevocable Letter of Credit No. SB 22.151, issued by Compagnie Financiere de CIC et de l'Union Europeenne, New York Branch, in favor of the NRC, shall be continuously maintained in an amount not less than \$1,454,656 for the purpose of complying with 10 CFR part 40, Appendix A, Criteria 9 and 10, until a replacement is authorized by the NRC.

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and the applicable parts of Title 10, Code of Federal Regulations, Chapter I, Parts 19, 20, 30, 31, 32, 33, 34, 35, 36, 39, 40, 51, 70, and 71, 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. Pathfinder Mines Corporation Lucky Mc Uranium Mill		3. License Number SUA-672 Amendment 64	
2. P.O. Box 730 Mills, Wyoming 82644		4. Expiration Date Until Terminated	
		5. Docket No. 40-2259 Reference No.	
6. Byproduct Source, and/or Special Nuclear Material	Form	7. Chemical and/or Physical May Possess at Any One Time	8. Maximum amount that Licensee Under This License
Natural Uranium		Any	Unlimited
9. Authorized place of use: The licensee's Lucky Mc Mill site located in Fremont County, Wyoming. [Applicable Amendments: 29, 36]			
10. The licensee is hereby authorized to possess byproduct material in the form of uranium waste tailings generated by the licensee's milling operations authorized by this license.			
11. For use in accordance with statements, representations and conditions contained in Sections 5.3.5, 5.4, and 7.6, and Figure 2-3 of the license renewal application dated December 1982, except where superseded by license conditions below. Whenever the word "will" is used in the above referenced sections, it shall denote a requirement.			
Site security shall be provided by limiting access by means of locked gates at times when site personnel are not present. Radiation safety requirements shall consist of the program as outlined in the submittal dated December 5, 2002. No change room facility on a routine basis shall be required.			
[Applicable Amendments: 7, 29, 45, 64]			
12. DELETED by Amendment No. 29.			
13. DELETED by Amendment No. 29.			
14. DELETED by Amendment No. 45.			
15. The results of sampling, analyses, surveys and monitoring; the results of calibration of equipment; 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 NRC regulations, all such documentation shall be maintained for a period of at least 5 years.			

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16. DELETED by Amendment No. 29.

17. DELETED by Amendment No. 45.

18. Release of equipment or packages from the restricted area shall be in accordance with guidance entitled, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct or Source Materials" dated September, 1984.

[Applicable Amendment: 63]

19. Mill tailings other than samples for research shall not be transferred from the site without specific prior approval of the NRC in the form of a license amendment. The licensee shall maintain a permanent record of all transfers made under the provisions of this condition.

20. In order to ensure that no disturbance of cultural resources occurs in the future, the licensee shall have an archeological and historical artifact survey of areas of its property, not previously surveyed, performed prior to their disturbance, including borrow areas to be used for reclamation cover. These surveys must be submitted to the NRC and no such disturbance shall occur until the licensee has received authorization from the NRC to proceed.

In addition, all work in the immediate vicinity of any buried cultural deposits unearthed during the disturbance of land shall cease until approval to proceed has been granted by the NRC.

21. The licensee shall conduct an annual survey of land use (private residences, grazing areas, private and public potable water and agricultural wells, and non-residential structures and uses) in the area within 5 miles (8 km) of any portion of the restricted area boundary and submit a report of this survey to NRC. This report shall indicate any differences in land use from that described in the last report.

[Applicable Amendments: 42, 44]

22. The results of all effluent and environmental monitoring shall be reported in accordance with 10 CFR 40.65 with copies of the report sent to NRC. Monitoring data shall be reported in the format shown in guidance entitled, "Sample Format for Reporting Monitoring Data."

[Applicable Amendments: 11, 12, 19, 42, 44, 63]

23. DELETED by Amendment No. 29.

24. The licensee shall immediately notify the NRC Operations Center at (301)951-0550, by telephone, of any failure to the tailings dam or tailings discharge and solution return system which results in a release of radioactive material and/or of any unusual conditions which if not corrected could lead to such a failure. This requirement is in addition to the requirements of 10 CFR 20.

[Applicable Amendments: 42, 63]

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25. Before engaging in any activity not previously assessed by the NRC, the licensee shall prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not assessed or that is greater than that assessed, the licensee shall provide a written evaluation of such activities and obtain prior approval of the NRC in the form of a license amendment.
26. DELETED by Amendment No. 55
27. The licensee shall maintain an NRC-approved financial surety arrangement, consistent with 10 CFR 40, Appendix A, Criteria 9 and 10, adequate to cover the estimated costs, if accomplished by a third party, for decommissioning and decontamination of the mill and mill site, reclamation of any tailings or waste disposal areas, ground water restoration as warranted, and the long-term surveillance fee. With submittal of a revised reclamation/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 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, Criteria 9 and 10, shall be submitted to the NRC at least 3 months prior to the anniversary date which is designated as December 15 of each year. If the NRC has not approved a proposed revision to the surety coverage 30 days prior to the expiration date of the existing surety arrangement, the licensee shall extend the existing surety arrangement for 1 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 fee, changes in engineering plans, activities performed and any other conditions affecting estimated costs for site closure. The basis for the cost estimate is the NRC approved reclamation/decommissioning plan or NRC approved revisions to the plan.

Pathfinder Lucky Mc's currently approved surety, Irrevocable Letter of Credit Credit No. SB 22.151, issued by Compagnie Financiere de CIC et de l'Union Europeenne, New York Branch, in favor of the NRC, shall be continuously maintained in an amount not less than \$1,454,656 for the purpose of complying with 10 CFR Part 40, Appendix A, Criteria 9 and 10, until a replacement is authorized by the NRC.

[Applicable Amendments: 14, 16, 21, 24, 26, 30, 33, 40, 42, 43, 47, 49, 54, 61, 63, 64]

28. Prior to termination of this license, the licensee shall provide for transfer of title to byproduct material and land, including any interests therein (other than land owned by the United States or the State of Wyoming), which is used for the disposal of such byproduct material or is essential to ensure the long term stability of such disposal site to the United States or the State of Wyoming, at the State's option.
29. The licensee's windblown tailings cleanup completion report submitted by its letter dated February 16, 1999, is considered acceptable. Furthermore, the licensee's environmental report on the cleanup status of Reid Draw with 'no action' alternative submitted by letter dated August 28, 1998, as revised, is accepted.

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[Applicable Amendments: 29, 39, 46, 57, 58, 64]

30. DELETED by Amendment No. 64.

31. DELETED by Amendment No. 64.

32. DELETED by Amendment No. 64.

33. Standard written operating procedures (SOPs) shall be established for nonoperational activities to include environmental monitoring, and instrument calibrations. All written procedures shall be reviewed and approved in writing by the RSO before implementation and whenever a change in procedure is proposed to ensure that proper radiation protection principles are being applied. In addition, the RSO shall perform a documented review of all existing operating procedures at least annually.

[Applicable Amendments: 29, 45]

34. The licensee will implement a documented inspection of the dikes surrounding the No. 4 temporary evaporation pond, at least biweekly.

[Applicable Amendments: 29, 41, 45, 55, 64]

35. The RSO shall have the following education, training and experience:

A. Education: A bachelor's degree in the physical sciences, industrial hygiene, or engineering from an accredited college or university or an equivalent combination of training and relevant experience in uranium mill radiation protection. Two years of relevant experience are generally considered equivalent to one year of academic study.

B. Health physics experience: At least 1 year of work experience relevant to uranium mill operation in applied health physics, radiation protection, industrial hygiene, or similar work. This experience should involve actually working with radiation detection and measurement equipment, not strictly administrative or "desk" work.

C. DELETED by Amendment No. 45.

D. Specialized knowledge: A thorough knowledge of the proper application and use of all health physics equipment used in the restricted area, the chemical and analytical procedures used for radiological sampling and monitoring, and methodologies used to calculate personnel exposure to uranium and its daughters.

[Applicable Amendment: 45]

36. DELETED by Amendment No. 45.

37. DELETED by Amendment No. 64.

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38. DELETED by Amendment No. 64.
39. DELETED by Amendment No. 64.
40. DELETED by Amendment No. 64.
41. DELETED by Amendment No. 64.
42. DELETED by Amendment No. 45.
43. DELETED by Amendment No. 13.
44. The RSO shall conduct an investigation of the employee's work record and exposure history when an action level of 25 percent of the maximum permissible time weighted exposure for the week or quarter is reached depending on the material solubility. Any personnel exposure exceeding 25 percent of the maximum permissible external exposure in any calendar quarter shall also be investigated. Corrective action shall be promptly initiated.
45. DELETED by Amendment No. 29.
46. DELETED by Amendment No. 45.
47. The licensee shall follow the lower limits of detection contained in the guidance entitled, "Proposed Alternate Lower Limits of Detection for Environmental Monitoring at Lucky Mc Mill," for analysis of samples collected pursuant to the environmental monitoring program required in License Condition No. 48.
- [Applicable Amendments: 3, 63]
48. DELETED by Amendment No. 64.
49. DELETED by Amendment No. 29.
50. DELETED by Amendment No. 64.
51. DELETED by Amendment No. 29.
52. DELETED by Amendment No. 29.
53. DELETED by Amendment No. 55.

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(BBB) The licensee shall reclaim the tailings disposal area in accordance with Sections 3 through 7 and 10 through 11 of the July 21, 1992, submittal titled Lucky Mc Mine Tailings Reclamation Plan, Source Material License No. SUA-672, Volumes I and II, as modified by letters dated June 4, June 11, and June 21, 1993; April 7, December 16, and December 29, 1994; September 26, 1995; April 7, and December 17, 1997; May 6, May 29, and July 29, 1998; and March 11, May 7, and August 6, 1999, except as stipulated below. Items A-K shall be submitted to the NRC for review and approval at least 90 days prior to initiation of construction. Items L-N shall be included in the licensee's quality control program and implemented during construction.

A. DELETED by Amendment No. 50.

B. DELETED by Amendment No. 62.

C. DELETED by Amendment No. 44.

D. DELETED by Amendment No. 44.

E. DELETED by Amendment No. 44.

F. DELETED by Amendment No. 44.

G. DELETED by Amendment No. 44.

H. DELETED by Amendment No. 44.

I. DELETED by Amendment No. 44.

J. DELETED by Amendment No. 44.

K. DELETED by Amendment No. 44.

L. DELETED by Amendment No. 44.

M. DELETED by Amendment No. 44.

N. DELETED by Amendment No. 44.

O. Before the nuclear density gauge (ASTM D-2622) can be used to determine the in place density of the fill, an acceptable correlation between the test results from the nuclear density gauge (ASTM D-2622) and the sand cone apparatus (ASTM D-1556) shall be established. The definition of an acceptable correlation and the procedure for determining that an acceptable correlation exists shall be submitted to NRC for review and approval prior to use of the gauge in the quality control program.

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P. A completion report including as-built drawings, verifying that reclamation of the site has been performed according to the approved plan, shall be provided within 6 months of the completion of construction. The report shall also include summaries of results of the quality assurance and control testing to demonstrate that the approved specifications were met.

Q. DELETED by Amendment No. 64.

55. DELETED by Amendment No. 29.

56. DELETED by Amendment No. 29.

57. DELETED by Amendment No. 28.

58. DELETED by Amendment No. 29.

59. DELETED by Amendment No. 64.

60. Based on the application for Alternate Concentration Limits (ACL) for ground water, dated December 21, 2000, as revised January 11 and November 4, 2002, the licensee shall implement a compliance monitoring program containing the following:

A. Sample wells T1-12 (POC), AL-1, AL-6 (POE), AL-7, AL-8, AL-9, and T1-6 (background) on a quarterly frequency for chloride, nitrate + nitrite, TDS, sulfate, pH, conductivity, water level, arsenic, beryllium, cadmium, chromium, nickel, combined radium-226 and 228, thorium-230, selenium, and uranium.

B. Comply with the following ground water protection standards at point of compliance (POC) well T1-12 with background being recognized in well T1-6:

arsenic = 0.05 mg/l, beryllium = 0.07 mg/l, cadmium = 0.02 mg/l, chromium = 0.05 mg/l, nickel = 0.85 mg/l, combined radium-226 and 228 = 7.5 pCi/l, selenium = 1.10 mg/l, thorium-230 = 13.2 pCi/l and uranium = 1.70 mg/l.

Submit a semiannual ground water monitoring report, on or before January 30, and July 30 of each year. This report must include ground water contour maps; iso-concentration maps for selenium, uranium, combined radium-226 and 228, sulfate, chloride, and TDS; and time versus concentration graphs for selenium, uranium, combined radium-226 and 228, sulfate, chloride, and TDS.

C. DELETED by Amendment No. 63.

D. If a ground water protection standard (as stated in Condition 60.B) at the point of compliance is exceeded, the licensee shall notify the NRC within 30 days and shall increase the sampling frequency to monthly, until it is determined by the NRC staff, that a true exceedance has occurred.

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If it is determined that a true exceedance has occurred, the licensee shall comply with the requirements per 10 CFR Part 40, Appendix A, Criterion 5D. If the NRC staff determines that it is not a true exceedance, the licensee will revert back to quarterly monitoring as indicated in License Condition 60.A.

[Applicable Amendments: 4, 5, 15, 17, 19, 22, 28, 35, 38, 41, 42, 44, 63]

61. The licensee shall complete site reclamation in accordance with the approved reclamation plan and ground-water corrective action plan, as authorized by License Condition Nos. 54 and 60, respectively, in accordance with the following schedules.
- 1) To ensure timely compliance with target completion dates established in the Memorandum of Understanding (MOU) with the Environmental Protection Agency (56 FR 55432, October 25, 1991), the licensee shall complete reclamation to control radon emissions as expeditiously as practicable, considering technological feasibility, in accordance with the following schedule:
 - (1) Windblown tailings retrieval and placement on the pile - September 30, 1996.
 - (2) Placement of the interim cover to decrease the potential for tailings dispersal and erosion - April 30, 1993.
 - (3) Placement of final radon barrier designed and constructed to limit radon emissions to an average flux of no more than 20 pCi/m²/s above background - December 31, 2004.
- B. Reclamation, to ensure required longevity of the covered tailings and ground-water protection, shall be completed as expeditiously as is reasonably achievable, in accordance with the following target date for completion:
- 1) Placement of erosion protection as part of reclamation to comply with Criterion 6 of Appendix A of 10 CFR Part 40 - December 31, 2004.
 - (2) DELETED By Amendment No. 63.
- C. Any license amendment request to revise the completion dates specified in Section A must demonstrate that compliance was not technologically feasible (including inclement weather, litigation which compels delay to reclamation, or other factors beyond the control of the licensee).
- D. Any license amendment request to change the target dates in Section B above, must address risk to the public health and safety and the environment, with the due consideration to the economic costs involved and other factors justifying the request such as delays caused by inclement weather, regulatory delays, litigation, and other factors beyond the control of the licensee.

[Applicable Amendments: 53, 63]

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62. Required written notice to NRC under this license should be sent: c/o Document Control Desk, Chief, Fuel Cycle Facilities Branch, Division of Fuel Cycle Safety and Safeguards, Mailstop T8-A33, U.S. Nuclear Regulatory Commission, 11545 Rockville Pike, Rockville, MD 20852-2738.

Incident and event notifications, which require telephone notification under 10 CFR 20.2202 and 10 CFR 40.60, shall be made to the NRC Operations Center at (301) 816-5100.

[Applicable Amendment: 63]

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Date: February 20, 2003

Daniel M. Gillen, Chief
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards