



ALBUQUERQUE OFFICE

Alan D. Cox
Manager - Grants & Southwest U.S.

13 November 2002

Ms. Elaine Brummett
U.S. Nuclear Regulatory Commission
Office of Nuclear Materials Safety and Safeguards
Division of Fuel Cycle Safety and Safeguards
Chief of Fuel Cycle Facilities Branch (Mailstop T8-A33)
C/o Document Control Desk
11545 Rockville Pike
Two White Flint North
Rockville, MD 20852-2738

**RE: Homestake Mining Company – License SUA-1471
Docket 40-8903**

Grants Reclamation Project – Request for Additional Information on Radiation Protection Administrator (RPA/RSO) Qualifications

Dear Ms. Brummett:

This letter is in response to your letter dated July 24, 2002 requesting additional information concerning my qualifications to meet the education, health physics experience, specialized training, and specialized knowledge requirements as specified in current NRC regulatory guidance – Regulatory Guidance 8.31, Section 2.4.1, and as required by License Condition 21.

As mentioned in our May 24, 2002 letter, the Homestake Grants site will continue, as in the past, with utilizing Dr. Ken Baker – Environmental Restoration Group (ERG) on a consulting basis as required and appropriate to support my RPA/RSO role at the project. This arrangement is similar to his role in supporting the previous RPA at the site. We also have a radiation technician / specialist on staff at the Grants site with over 25 years experience at the project.

As you are well aware, the Grants site is in final closure and reclamation with the majority of activities associated with ground water cleanup and restoration. Milling operations were discontinued at the site a number of years ago and the processing facilities removed and placed in an on-site repository. Mill tailings are presently covered with final radon barrier or interim cover until final reclamation can be accomplished after groundwater cleanup is complete. Potential for exposure to radioactive materials and associated health risks have been significantly reduced compared to active uranium milling operations

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Attached is a response detailing my qualifications in relation to Regulatory Guidance 8.31 – Section 2.4.1. I trust that the attached qualification information is responsive to your request for additional information as it pertains to the RPA designation for the Grants site.

If you have any questions, please contact me in the Albuquerque office.

Sincerely yours,



Alan D. Cox
Manager - Grants &
Southwest U.S.

Enclosures

Cc: M. Purcell – EPA - Region VI, Dallas
B. Spitzberg – NRC, Region IV, Arlington
B. Ingersoll – BMC Salt Lake City
J. Gleadle – HMC Grants

**Radiation Protection Administrator / Radiation Safety Officer
Qualifications Response**

Alan D. Cox – Homestake Mining Company, Manager – Grants & Southwest U.S.

GENERAL

Mr. Cox has 27 years experience in various environmental management positions and oversight responsibilities at mining, milling, and processing facilities. Much of the work has been associated with coal and hard rock mining, including over-site responsibilities for uranium mining and mill sites.

Mr. Cox has had direct responsibility for regulatory compliance, monitoring, and reporting at a uranium mine site for the last 7 years. The site is licensed by the state of Colorado and is in the final reclamation and closure phase. Responsibilities continue to include environmental, health, and safety compliance and related monitoring programs pertinent to the site radioactive materials license. He was also responsible for management of an operating radium treatment plant, which was dismantled in 2001. He continues to have direct responsibility for assuring compliance with license conditions, modifications to the license as required, review of site radiation protection programs, internal ALARA audits, and all regulatory agency communications.

Education:

Bachelor of Science Degree in Agricultural Sciences – Colorado State University, Ft. Collins – 1975

Graduate studies – MBA program – University of Nevada – Reno – 1983 (1/3 complete)

Relevant uranium mine and treatment plant experience as summarized above (1995 – present).

Health physics experience:

Relevant experience:

Mr. Cox has worked at the Homestake Grants Uranium Mill Site for the last nine months, gaining first-hand experience in the aspects of the radiation protection and environmental monitoring programs. He has been actively involved in regulatory compliance, procedures reviews, radiation measurements for all activities, contamination control assessments, environmental reports, and preparing radiation work permits.

He has taken on specific assignments prior to coming to Grants that involved radiation and radioactive material. For example, he conducted a site characterization of a historic uranium mine site in Colorado in 1997 where gamma radiation instrumentation was used to establish background levels and define areas where site remediation was required.

Over his 27-year career, he has had extensive experience in establishing, calibrating, and operating water quality and air monitoring equipment conforming to programs regulated by

the government. He has served as a company auditor or provided over-site management of environmental monitoring programs at mining and processing facilities in the U.S., Canada, Australia, and Eastern Europe.

Specialized training:

Mr. Cox received Radiation Safety Officer (RSO) training and certification in April 2002, a course taught by Ray Johnson in Maryland. He also recently completed the on-site annual refresher training course, where internal dosimetry calculations were emphasized. Future on-site refresher training will be continued on an annual basis along with off-site training on a biannual basis as a minimum.

He has attended many workshops and training courses over his career along with self-study to assure competence in the environment, health and safety (EHS) disciplines. Some of the more recent courses are listed below.

<u>Year</u>	<u>CourseTitle</u>
2002	EHS Management Systems Audit Training
1995	EHS Management Systems
1995	EHS Auditor Workshop
1994	Environmental Compliance Audit Training
1993	Environmental Audits Workshop

Specialized knowledge:

Recent experience and training in the health physics field have provided understanding of dose assessment methods, contamination / exposure pathway identification and control methods, radiation monitoring, and associated radiation safety concerns. Review and assessment of radiochemistry data over the last 7 years has provided experience with understanding laboratory analytical methods and QA/QC programs for laboratory analytical and field sample collection activities. Experience in the environmental water quality field throughout his career has also provided understanding in the analytical methods and QA/QC program areas.

Since Homestake is committed to assuring high quality administration of the environmental safety and health program at the Grants site, a contract has recently been issued to continue the services of Dr. Kenneth Baker to perform specific duties and assist the RPA on an as-needed basis. His qualifications are attached.

Attachment 2

Dr. Kenneth R. Baker has been retained as a consultant to assist Alan Cox in his duties as Radiation Protection Administrator (RPA). Dr. Baker has been performing these duties for Homestake since 1994. In particular, he is actively involved in the Grants Site radiation safety and environmental programs reviewing and preparing procedures, preparing technical and management reviews and reports, and conducting employee annual training and ALARA audits. He will continue to be available on an as-needed basis to administer the program.

He meets the requirements in Regulatory Guide 8.31, Section 2.4.1, as required by License Condition 21 as indicated below:

Education:

He has a Ph. D in nuclear physics from Vanderbilt University in 1972. He also completed a three-year A.E.C. Health Physics Fellowship at that institution where he took health physics courses and a practicum at Argonne National Laboratory. This work is considered equivalent to a Masters Degree in health physics. He has published more than 30 refereed papers in nuclear, atomic, and health physics.

Health Physics Experience:

He has worked in the health physics field since 1974. Some of the more relevant experience has been:

- a). As a consultant, worked at the Bluewater Uranium Mill over a three-year period conducting site characterization, preparing regulatory documents, acting as QA/QC for radiation safety and environmental protection, and assisting in the management of the decommissioning of the mill site.

- b). As a consultant, served as the Radiation Safety Officer for Dow Chemical Company for more than three years where more than 2,000 rail car loads of thorium contaminated soil was removed and transported to a disposal site. The State of Illinois and the U. S. NRC regulated the sites.

- c). As a contractor, he currently serves as the Project Radiation Safety Officer for the cleanup of thorium contaminated training sites at Kirtland Air Force Base licensed under the Air Force Master Materials License with the U. S. NRC.

- d). He currently owns and maintains a large inventory of health physics monitoring equipment for use at nuclear facilities and for lease to environmental contractors. He personally is involved in writing characterization plans, calibrating equipment, and managing field programs.

Specialized Knowledge:

Dr. Baker is considered an expert in radiation measurements and has developed many radiation safety programs. He has spent significant time at the Bluewater, Homestake Grants, Lucky Mc, Shirley Basin, Atlas, and Shootering Mill Sites. He understands dose assessment methods, contamination control methods, the milling processes, and the associated effluent and radiation safety concerns. He also has the education and experience to address the more highly technical issues at a mill site.