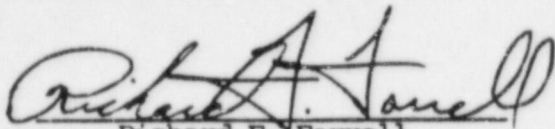


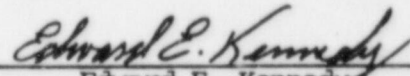
Homestake Mining Company
Grants Operation

ALARA-Radiation
Protection

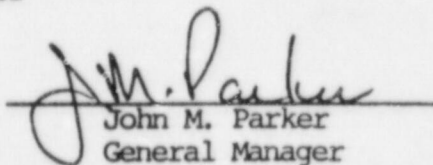
October 7, 1986



Richard F. Farrell
Radiation Protection Administrator



Edward E. Kennedy
Director of Environmental
Affairs



John M. Parker
General Manager

Take Out:

1-8

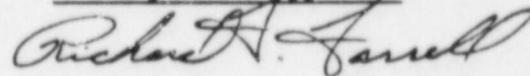
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Date:

12-15-86

RPA Signature Approval



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HOMESTAKE MINING COMPANY-GRANTS OPERATION

ALARA - Radiation Protection Program

Homestake Mining Company (Homestake) has in place at the Grants Operation design criteria, operating procedures, and administrative practices which assure that occupational exposure to radioactive materials in Homestake's uranium mill are maintained as-low-as-reasonably-achievable (ALARA). Paragraph 20.1(c) of the 10 CFR Part 20 states that licensees should make every reasonable effort to keep radioactive material to unrestricted areas, as far below the limits specified in Part 20 as is reasonably achievable. Homestake's ALARA Programs, discussed in detail in this document, was adopted by management to follow the employee exposure and environmental affairs corporate policy (see attachment) as well as satisfy the requirements of 10 CFR Part 20. Regulatory Guide 8.31, containing information relevant to ensuring ALARA practices are followed at uranium mills, was used as a reference for developing Homestake's program.

The major purpose of Homestake's occupational radiation protection program at the Grants Operation is to maintain radiation exposure ALARA for all employees, contractors, and visitors. In addition, some of the same controls and practices that keep occupational exposure to radioactive materials ALARA also tend to keep releases of these materials from the mill to the Environmental ALARA. The implementation and effectiveness of the program is the responsibility of all Homestake employees working at the mill. The individual responsibilities for operating the ALARA program, shared by management,

the Radiation Protection Administrator (RPA) and all mill workers, are discussed in following paragraphs.

Management is strongly committed to ensuring that the ALARA - radiation protection program is effectively operated. Management is responsible for developing, implementing, and enforcing rules, policies, and procedures necessary to maintain an effective program and ensure the health and safety of the workers. In addition an annual management audit will be conducted that reviews operational and radiation safety practices for maintaining exposures ALARA. It also evaluates competency of the radiation safety staff. The audit team will consist of 3 of the following Homestake management personnel: Corporate Environmental Manager, General Manager, Director of Environmental Affairs, Safety Director, Manager of Milling, Mine Superintendent, Personnel Manager. An audit report summarizing the following data shall be submitted to corporate management:

1. Employee exposure records (external and time-weighted calculations),
2. Bioassay results,
3. Inspection log entries and summary reports of daily, weekly and monthly inspections,
4. Documented training program activities,
5. Radiation safety meeting reports,
6. Radiological survey and sampling data,
7. Reports on overexposure of workers submitted to the NRC or Mine Safety and Health Administration (MSHA), and

8. Operating procedures that were reviewed during the time period of the audit.

The report shall discuss the following:

1. Trends in personnel exposures for identifiable categories of workers and types of operational activities,
2. Whether equipment for exposure control is properly used, maintained and inspected, and
3. Recommendations on ways to further reduce personnel exposures.

A training program is maintained by management which includes instruction in radiation safety and ALARA concepts for all uranium mill employees. Written or oral exams with questions directly relevant to the principles of radiation safety and health protection, shall be given to each worker. Homestake's Radiation Safety Program consists of the instruction and testing in at least the following categories:

1. Basic Radiological Health Protection
 - a. Discussion of nuclear decay and the different types of radiation relevant to Homestake's Operation.
 - b. How uranium and its daughter products enter and have impact on the body.
 - c. The ALARA policy and the reasons for its implementation.

2. Radiation Protection Regulations

- a. Discussion of the regulatory authority of the NRC, EPA, MSHA and the State.
- b. Discussion of the principal regulations dealing with the health and environmental aspects of radiation protection and the listed standards for protection from excessive levels of radiation.
- c. Discussion of permissible radiation exposure levels.

3. Personal Hygiene.

- a. Discussion of the use and availability of protective clothing.
- b. The correct use of respiratory protection equipment; a discussion of the operation's Respiratory Protection Program.
- c. Eating, drinking and smoking restriction.
- d. Discussion of the proper methods for decontamination.

4. Homestake Protection Program

- a. Ventilation systems and effluent controls.
- b. Cleanliness of the work place.
- c. Standard Operating Procedures.
- d. Security and access control to designated areas.

5. Health and Environmental Protection Programs

- a. In-plant Radiological Monitoring.
- b. Environmental Radiological Monitoring.
- c. Respiratory Protection Program.
- d. Bioassay Program.
- e. Personnel Dosimetry Program.
- f. Contamination Detection Program.

6. Mill Emergency Procedures

- a. Discussion of possible emergency situations which may occur and the appropriate actions to be taken.

Visitors are also required by management to complete a short class in radiation safety and hazards within the mill. Management shall ensure that the RPA will be retrained on at least a bi-annual (2 year) basis. The RPA shall ensure that the operation's radiation technicians will also receive training in radiation health physics and radiological monitoring at least every two (2) years.

The RPA has responsibility for the technical adequacy of the ALARA program and has continuing responsibility for radiation monitoring and enforcement action. The RPA is assigned the following:

- o Responsibility for the administration of the ALARA - Radiation Protection Program;
- o Authority to enforce regulations and administrative policies that apply to the ALARA program;
- o Input into planning for process or operating procedures changes to ensure that protection from radioactive materials is not adversely affected;

- o Authority to suspend operations should conditions warrant immediate emergency response.
- o Adequate resources to monitor the effectiveness of the ALARA program.
- o Briefings and training in radiation safety, including ALARA concepts for all uranium mill employees and when appropriate, for contractors and visitors

Homestake management feels that, under this program, sufficient authority is assigned to the RPA to ensure compliance with NRC's regulations and the license conditions pertaining to work radiation protection.

An ALARA program is only effective when all the workers comply with the rules of the program. Homestake recognizes this and requires all mill workers to adhere to all rules, notices, and operating procedures for radiation safety established by management and the RPA. In addition mill workers are expected to report equipment malfunctions or deviations from operating procedures which could increase employee exposure to radioactive materials. Finally, mill workers are encouraged by management to suggest ways to improve radiation safety in the mill.

The management of the ALARA program at Homestake's Uranium Mill is composed of the General Manager and the Director of Environmental Affairs. The Radiation Protection Administrator reports to the Director of Environmental Affairs, but has direct access to the

General Manager. Production responsibilities are not held by the RPA or the Director of Environmental Affairs. A staff of technicians assist the RPA in operating the ALARA - Radiation Protection Program.

Homestake management has established written standard operating procedures for all activities that involve handling, processing, or storing radioactive materials. These procedures include information pertinent to ensure radiation safety practices are followed. Written standard procedures are also established for environmental and occupational monitoring, analysis, and instrument calibration. Up-to-date copies of all written procedures are accessible to all employees and can be found in designated areas throughout the mill, as well as in the Director of Environmental Affairs' and the RPA's office.

The RPA has reviewed and approved in writing all standard procedures, which are implemented at the Homestake Mill, to ensure that proper radiation safety practices are being followed. In addition, all standard procedures are reviewed, and updated where necessary, annually by the RPA. For work on non-routine maintenance jobs where the potential for additional exposure to radioactive material exists (due to the nature of the work) and for which no standard operating procedure is implemented, a radiation work order is issued by management and approved by the RPA. The experience of the Mill Manager and Maintenance Superintendent is utilized to determine which non-routine maintenance jobs require the RPA's consideration; however, the RPA reviews the entire maintenance log at least monthly. The objective of the review is to determine that all jobs having potential for additional exposure to

airborne uranium, due to the nature of the work, are correctly processed through the radiation work order program.

Mill inspections are conducted at Homestake's uranium mill to ensure that the ALARA - Radiation Protection Program is being effectively operated on a routine basis. The RPA, or his designee, who is a qualified representative of the radiation safety staff, conducts a daily walk-through inspection of the mill to see that good radiation safety practices are being followed. The mill manager conducts a weekly inspection of all mill areas to observe radiation control practices. Weekly, the RPA and the mill manager will discuss the status of the mill condition from a radiological standpoint. Also, the RPA reviews the maintenance work logs on at least a monthly basis. The RPA prepares a monthly report, which is submitted to the Director of Environmental Affairs and the resident manager, that reviews the inspection observations and includes a summary of the month's environmental and occupational monitoring results.

All training, inspections, and the weekly mill status meetings relevant to this ALARA program will be documented.

7/11/80
J.W. (H)

HOMESTAKE MINING COMPANY
CORPORATE POLICY STATEMENT

TO Distribution

DATE July 3, 1980

FROM H. M. Conger

SUBJECT Statement of Policy
Environmental Affairs

During the recent past the mining industry has been thrust into the forefront of the so-called environmental movement, experiencing simultaneously social, political, and economic pressures that bear directly on the conduct of business.

Mining and associated processing activities by their very nature involve the disturbance of land, consumption or conversion of resources, and the creation of emission and waste products that make them a highly visible target for controls. Unfortunately, their visibility is heightened by a legacy of operations conducted in an era with values different from contemporary standards.

Concerns for conservation of resources, preservation of esthetic values, protection of the environment and public health are real, and are a manifestation of a growing awareness by the public of the interdependence between man and his environment. Recognition of these perceptions is a key step to continued, successful operations in today's world.

Homestake will meet all legally mandated environmental standards and is committed to surpass those standards when it is technically and economically feasible to do so.

Programs to meet this goal are underway in all areas; to realize fully the positive potential of these programs, they must be integrated into the Company's overall operations so that we can progress from a "fire-fighting" stance to a planning mode.

To facilitate this transition and to document Homestake's commitment, I am establishing a corporate policy for the conduct of the Company's environmental affairs; a copy is attached. As conditions warrant, guidelines and procedures will be formulated to implement this policy. It is the responsibility of each manager to see that this policy is communicated to appropriate staff personnel and that it is enforced.

Distribution:

Att.-Homestake Mining Company
Statement of Policy
Environmental Affairs

- Officers - Homestake Mining Company
- Managers - Operating Facilities
- Managers - Field Offices
- Managers - Foreign Operations