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

WMUR:JER
Project M-5

Mr. Jimmy R. Wilkins, Forest Supervisor
U.S. Department of Agriculture
Forest Service
Grand Mesa, Uncompahgre and Gunnison
National Forests
P. O. Box 138
Delta, Colorado 81416

Dear Mr. Wilkins:

As agreed in a meeting with Dennis Keaton at our offices on July 31, 1979, the following enclosure is submitted as the NRC staff comments and responses to portions of the July 13, 1979 National Wildlife Federation Statement of Reasons to support their notice of appeal of May 29, 1979. You will note that we have included staff comments on a number of socio-economic issues as well as those we were requested to address.

Sincerely,

J. E. Rothfleisch
Uranium Recovery Licensing Branch
Division of Waste Management

Enclosure:
As stated

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RESPONSES TO JULY 13, 1979 NATIONAL WILDLIFE
FEDERATION STATEMENT OF REASONS

Page 2, Item A.1.a.2

FSM 1952.4(8)(f) requires a discussion of each alternative which is potentially viable. Alternative tailings disposal sites are discussed in Sections 10.2.2 and 10.2.3. The staff concluded that no net environmental advantages would accrue from offsite location for reasons stated in Section 10.2.3. Section 10.4 discusses Alternative Methods for Tailings Management. The evaluation criteria used specific to this contention are presented in Section 10.4.1 of the FES.

Twelve tailings disposal alternatives were considered in detail in Section 10.4.2. Each is evaluated in Section 10.4.3. The staff concluded that the proposed tailings management plan presented as Alternative 1 meets the performance objectives developed by NRC and adopted by the Colorado Department of Health and is therefore considered to be acceptable.

Alternatives 10 and 11, which are essentially the same as Alternative 1 except that they include means for decreasing the inventory of tailings solution in impoundment, have additional environmental advantages, but the cost-benefit balance is questionable.

The reclamation plan for Alternatives 1, 10, and 11 was developed to eliminate the need for long-term maintenance of the deposited tailings. Details are presented on pages 10-10 and 10-11 of the FES. The proposed spillway will minimize the possibility of erosion cutting back into the tailings; also, because the elevation of the spillway will be higher than the highest level of tailings, erosion cannot cut through the overburden or clay cap to expose the tailings. As water flows down Hale Gulch changing from the natural slope of about 10% to the 0.2% slope, deposited sediment will form a delta over the stabilized tailings. Sediment buildup should continue until the slope over the stabilized tailings approaches the natural slope, thus burying the tailings under several additional meters of earth. Therefore, rather than the risk of exposure of the tailings increasing with time, this proposed reclamation plan should cause the risk to decrease with time.

Present Colorado regulations and expected license conditions would require that a monitoring and maintenance program be established following reclamation to ensure stability of the tailings.

A major benefit of the proposed program will be a high degree of protection for the buried tailings from wind and water erosion. In addition, there will be a reduction in gamma radiation and radon release to acceptable levels.

The question of tailings erosion over longer times was also advanced by the Department of Interior (page A12, FES) with the staff responding:

"When the tailings impoundment is reclaimed, the slope in Hale Gulch will be changed from 10 to 0.2% to promote deposition of sediment on the tailings. The concrete spillway will act as an ultimate control on the erosion and deposition that is experienced on the reclaimed tailings area. Because the spillway is lower than the top of the reclaimed dam, it will be the drain point or low point in the drainage system upstream from the dam and the point of natural drainage discharge. Over a geologic time frame, water may again flow over the dam face. Because no marked erosion is evident in Hale Gulch at present, the inevitability of tailings erosion appears questionable. Please note that, although the goal is to eliminate the need for long-term maintenance, Colorado regulations require an ongoing monitoring and maintenance program funded by the applicant in the form of a bond."

No diversionary canals are required for the proposed method disposal. The staff did consider the foreseeable long term impacts of tailings disposal by eliminating potential problems.

Alternative 12 which may also be environmentally acceptable has a few unresolved technical issues including accurate determination of the groundwater table and the development of a reliable method for preventing long-term erosion at the proposed disposal site. If these issues can be resolved satisfactorily, however, this alternative may prove to be the most economically and environmentally desirable plan. The Forest Service does not choose which plan will be implemented.

The Radiation and Hazardous Waste Control Division of the Colorado Department of Health is responsible for designating a tailings management plan that is authorized in accordance with the issuance of a Radioactive Materials License for the milling operation.

Unavoidable effects, long and short-term relationships, and irreversible and irretrievable resource commitments from tailings disposal alternatives are as stated in Sections 7, 8, and 9 respectively. Other effects are discussed throughout the FES.

Page 3, Item A.1.a.3

In reactor licensing evaluations, the benefits of the energy produced are weighed against related environmental costs, including a prorated share of the environmental costs of the uranium fuel cycle. These incremental impacts in the fuel cycle are justified in terms of the benefits of energy generation (Section 11.1). The EIS for an individual fuel-cycle facility such as the Homestake mine and mill under FSM 1952.4(8)(f) addresses only those significant changes (effects) in physical, biological, economic and social components of the environment associated with implementation of each alternative available to the specific project.

The generic problems of "high level waste (spent fuel) disposal" are the responsibility of the USNRC as recognized by the petitioners in the case references cited.

This is consistent with new CEQ Regulations, 40 CFR 1502.20, 43 FR 55997 (November 29, 1978):

"Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review."

The FES properly within its scope assesses only the impacts of the Homestake project.

Page 4, Item A.1.b.1

This question was addressed in detail in the FES as responses to comments from Department of Interior, No. 5., page A-11; Environmental Protection Agency, No. 3, page A-20; Colorado Department of Health, No. 20, page A-45 and others.

In addition, as stated in Section 2.4.1.4, "Deep groundwater flow from the project area may support streamflow offsite, but there is no evidence in Figs. 2.6 and 2.7 or in Table 2.4 to support this conclusion."

Also pertinent to the contention and the reference cited, Sections 4.3.1.2 and 4.3.1.3 discuss potential degradation of groundwater during operation. It is recognized that pit water flowing through ore may be contaminated and if discharged to Indian Creek, rather than used in the mill circuit, will be treated as necessary to meet NPDES permit requirements. This is the situation described by Kaufman. Once the uranium is removed no further contamination would be expected. The leaching tests on composited low grade wastes (0.013% U₃O₈) substantiate this view.

Figure 2.6, page 2-15, demonstrates groundwater presently stands at the expected lake level over the ore body. The alleged "tremendous pressure" is presently doing to groundwater flow what the lake level will.

Page 5, Item A.1.b.2

The groundwater piezometric surface maps in Fig. 2.6 and 2.7 together with water level changes with time in Table 2.4 demonstrate no flow abnormalities indicating rapid water transport offsite. They also indicate the planned monitoring system should be effective.

Fracturing per se does not imply greater transmissivity except in the immediate region of the fracture.

As shown in Table 6.1, selenium is one of the substances that will be monitored routinely. Selenium was below the detection limit and therefore not included in Table 2.6. Many other parameters below detection limits or of no environmental consequence were also omitted. Selenium was included in Table 2.8 along with other heavy metals to demonstrate they were not present in toxic amounts in these available for use surface waters. (NOTE: Argon should read Arsenic in Table 2.8.)

The entire project affected drainage area (1.77 sq. mi.) is small when compared to the drainage area feeding the Blue Mesa reservoir (1340 sq. mi.). There is no potential for ground or surface water drainage from the site affecting the water quality in the Blue Mesa Reservoir.

The potential effect of tailings dam failure on the Blue Mesa reservoir was considered on page 5-7 of the FES and found to be negligible.

The staff did consider the "hydrologic implications" of the project and found them to be of minor consequence.

Page 6, Item A.1.c.1

This contention was addressed in the response to comment no. 3 on page A-67 and comment no. 2 on page A-80 as well as in Section 4.8.7 (page 4-21) of the FES.

Because occupational exposures are measured and kept as low as reasonably achievable as well as below permissible regulatory limits no concept of "potential" exposure is applicable.

Page 7, Item A.1.c.2

The staff discussed this contention in detail on pages A-111, and A-112 in the response to William Lochstet's comments. The evaluation presented is supported by the preliminary conclusion in the draft Generic Environmental Impact Statement on Uranium Milling (NUREG-0511) issued by the NRC in April 1979.

Page 7, Item A.1.d.1

(a) On page 2-47 of the FES it is stated that in Salida about 40 new single family homes per year are constructed and 100 older homes per year are put up for sale each year. Even if 40 older home sellers move into the new units 60 dwelling units per year become available. The mobile home vacancy rate is quoted as 7% or about 9 units.

In Gunnison only about 10 single family units and 14 multifamily units are built each year for a total of about 66 units. Land is available in existing mobile home parks to increase capacity to any level required by the Pitch Project.

As stated in Section 6.9.4 of the FES, "The applicant will maintain contact with the cities of Gunnison and Salida and the counties of Gunnison and Chaffee to inform city and county officials of employment plans. The purpose of such communications will be to aid advance planning so that housing impacts will be minimized."

The need for 40 available dwelling units over a period of months does not represent an impact requiring formal planning since about 126 units of standard housing become available annually plus the capability of mobile home space expansion as required.

(b) Using the data given in Section 2.10.2.2 the staff calculates that the number of registered unemployed (i.e., actively seeking work) in Saquache, Gunnison and Chaffee counties from 1970 to 1976 ranged from 347 to 539 persons.

Since the 40 imported employees are the skilled labor component of the work force, the staff is of the opinion most if not all of the 110 jobs can be filled by local hiring without the necessity of importing labor. This would represent a decrease of about 1.2% in the unemployment rate.

The staff expects that underemployed, present workers would obtain the Pitch Project jobs and their positions would in turn be filled by less qualified members of the local labor pool.

(c) Mine and mill employment will represent less than 2% of the present employment in Saquache, Gunnison and Chaffee counties. Using Table 2.16 in the FES the population is estimated to grow about 43% from 1980 to 2000 with a commensurate increase in employment. The staff did not conjecture on the socioeconomic effect of project termination but the effect will not be significant in a boom or bust context.

Page 8, Item A.1.d.2

The staff properly declined to include the impacts of a speculative project which is not within the time frame of Pitch Project initiation.

The following story from the Wall Street Journal of July 27, 1979, indicates the present uncertainty of the Mt. Emmons project:

Amax, 2 Private Concerns Begin Mine Royalty Talks

Denver, Colorado - Amax Inc., said it and U.S. Energy Corp. and Crested Butte Silver Mining Inc., two privately held concerns that hold mineral and royalty interests in the Mt. Emmons molybdenum project have begun negotiations on the sale of those royalties to Amax, which owns the property.

The Mt. Emmons property had about 165 million tons of molybdenum with an average ore grade of about 0.4%. Molybdenum is used to strengthen steel. Preliminary work is being done to determine the commercial feasibility of the project, which is expected to cost hundreds of millions of dollars to develop.

The three companies stressed that their negotiations may take several months and that there is "no assurance that the companies will be able to come to terms and enter into an agreement."

Note that the commercial feasibility is not yet established nor have agreements been made which would allow its implementation.

Page 9, Item A.2. b.

The FES was prepared using 1973 guidelines under Executive order 11514(1970). These guidelines are confined to Subsection (c) of Section 102(2) of NEPA. CEQ Regulations, 40 C.F.R. 150C-1508, 43 Fed. Reg. 55990-56006 (Nov. 29, 1978) did not become effective until July 30, 1979.

As stated on page A-68 in partial answer to comment No. 6; "The staff has reviewed the national need for uranium, and this updated information is required in Section 10.6. Nuclear reactors presently under construction will require an expansion of U.S. production of uranium or will require the purchase of uranium from foreign sources.

Uranium produced by the Pitch Project will aid the national balance of payments and provide fuel for reactor presently under construction, enabling the timely delivery of needed electrical power. The conclusions in Sections 10.7 and 11.4 remain valid."

The National Energy Plan (April 1977) quoted on page 10-31 states that both coal and nuclear electrical generation facilities will be needed to meet estimates of U.S. energy requirements through the year 2000 even if conservation goals of the plan are met. DOE/EIA 0036/2 does not alter this conclusion.

The FES fairly presents the status of Alternative Energy Sources in Section 10.6. Utilization of more recent estimates would not affect the conclusions drawn; therefore, the section is adequate as presented.

Page 10, Item A.2.C.1

Mitigative measures to maintain air quality are presented in Section 6.1.2.

- (a) The highwalls are not expected to contain radioactive material after mining is complete.
- (b) Section 6.1.2 of the FES (page 6-2) contains the following statement: "4. To reduce fugitive dust, all haul roads will be sprinkled as needed (ER, p. 3-74). Exposed construction areas will be watered as needed and will be reclaimed with rapid-growth grasses (ER, p. 4-3). Overburden, ore stockpiles, and the tailings area will be kept moist with water or chemical wetting agents as needed to minimize dusting." See also page vi, condition j.
- (c) See answer to (b) above.
- (d) Occupational exposure to yellowcake dust is not expected to pose any appreciable hazard. As indicated in the response to comment 2 on page A-80 of the FES:

"Occupational radiological hazards will be evaluated in the Homestake Mining Company safety analysis report. Detailed conditions will be included in the Radioactive Materials License issued by the Colorado Department of Health. These will cover area and personnel monitoring, action levels, decontamination procedures, etc., to keep all occupational exposures 'as low as is reasonably achievable.' The Mine Safety and Health Administration and Colorado Division of Mines will also be involved. (See response to Gunnison Planning Commission comment 3 for discussion of risks associated with occupational doses)."

With regard to this contention, it is not evident to the staff that any decrease in worker exposure would be realized since the same drying and packaging time would be required at another site.

Page 10, Item A.2.C.2

Mitigative measures to reduce socioeconomic impacts are considered in Section 6.9 of the FES.

(a) Section 6.9.1 is specific to this contention.

(b) Section 6.9.2 is specific to this contention. Section 4.9.5 estimates the total new city and county level expenditures to be \$26,320/yr in Chaffee County and \$53,360/yr in Gunnison County. The incremental rise in school operations costs was estimated to be \$42,800/yr in Gunnison and \$41,200/yr in Salida caused by 40 new skilled employees and their families. The taxes received locally from the new residents and the company will offset these costs except for the Salida school district. No subsidization is needed after mill operation commences.

(c) The construction period is essentially staggered because of inclement winter weather (see Table 4.7). Maximum employment will occur during the summer months. Since about 2100 students normally leave Western State College at Gunnison during the summer months (page 2-44), temporary housing becomes available. It is probable that mill construction-related employment will come primarily from the local labor pool since the short-term employment opportunity will not attract immigrant labor. Many of the unskilled jobs may be filled by local college students seeking funds to further their education.

(d) The short construction period would make company-built housing wasteful of resources. The present plan (Section 6.9.4) is considered to be over the short construction time frame.

Page 11, Item A.2.c.3

Section 11.1 of the FES points out that in reactor licensing evaluations the benefits of the energy produced are weighed against related environmental costs, including a prorated share of the environmental costs of the uranium fuel cycle. The incremental environmental cost for the Homestake Pitch Project has been shown to be very small as discussed in Section 11.3 and amplified in Section 4. The incremental socioeconomic benefits offset these incremental costs.

The costs of enrichment and fabrication, disposal of high level wastes, security against sabotage of facilities or supply, proliferation of nuclear materials, and decommissioning power plants once their useful life ends are considered in Policy and Generic documents and reactor environmental statements.

To reiterate this material in the FES would negate the intent of CEQ Regulations, 40 CFR (1500.4(1) 43 FR 55991, November 29, 1978.)