Of and for Western Colorado . . .

August 21, 1978

Mr. Jimmy Wilkens
Forest Supervisor
Grand Mesa-Uncompahgre-Gunnison
National Forests
P.O. Box 138
Delta, Colorado 81416

Dear Supervisor Wilkens:

Club 20's Board of Directors' policy stand on the development of energy resources is that the economic survival of the U.S. depends upon the expeditious development of all our resources, particularly in areas of new fuels to replace our vanishing crude petroleum reserves. They also recognize that sound environmental practices should be used in the development of these resources.

We have reviewed both the Homestake Pitch Project Environmental Impact Statement and the development plans submitted by the Homestake Corporation. The company should be commended for their sound environmental approach during development and in final restoration of the project.

The urgency of the nation's energy needs is not fully understood by many of our citizens today. Unless needed new sources are created, they are going to discover their houses are cold and their jobs gone because we have delayed too long.

Sincerely,

John D. Vanderhoof
President - Executive Director

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John D. Vanderhoof, Club 20, August 21, 1978

Response: No response required.

The draft environmental impact statement points out that each generation should act as trustee of the environment for succeeding generations.[1] I believe in this, and that is why I am here tonight. The nuclear issue is the most important issue facing mankind today. It is an issue on every level: moral, political, economic, social, environmental and health. I truely believe that this issue will affect the future survival of man on this earth. So I bring you these thoughts as a keeper of our environment for future generations. I have serious doubts about having a uranium mine and mill on Marshall Pass. I believe it is a great risk to our area. In reviewing the draft environmental impact statement I found several areas that deeply disturbed me, and I would like to discuss them.

My biggest area of concern is the proposed tailings site. It worries me because of the past record of the handling of tailings areas by the Cotter Corp., Commonwealth Edison Co. and the Colorado Department of Health in Canon City; and the Homestake Mine and Environmental Protection Agency in Grants, N.M. In both areas private business and government both failed to protect the environment and the public. In Canon City it took only ten years for radiation in the groundwater to affect a site only two moles for the tailings pond to the extent that farming and ranching could not take place there.[2] In Grants the quality of water is deemed not even suitable as waste water. Yet the employees and public were drinking it.[3] In both cases the tailings sites could not contain the radioactive wastes, and the groundwater was contaminated. (1)

In this draft environmental impact statement we can be given no assurance that the 69 acre tailings site will not leak wastes. Homestake proposes to line the site with clay as a stop gap measure, but regardless of this we are told that our groundwater will be contaminated. These are quotes form the draft environmental impact statement. "Some liquid percolation from the tailings impoundment (through the bottom and dam) will enter the underlying strata."[4] "As the tailings impoundment fills with wastes, some of the liquid will seep through the bottom and sides of the impoundment and contaminate the near-surface groundwater."[5] (2)

Homestake estimates the seepage will be 48 to 64 acre feet per year.[6] This is, of course, an estimate for no one knows what will really happen. The clay liner of the tailings site is proposed to make us feel safe, but the fact remains that contaminated wastes will reach our groundwater. Considering (3)

the elevation of the mine and mill site and the watershed, it is only common sense to realize that in a matter of time these wastes will be in our rivers and streams. We know the half-life of Uranium 238 is 4.5×10^{10} years.[7] This is forever. I believe we must keep this uppermost in our minds in considering this tailings pond. It will be radioactive forever, and it will be seeping radioactive wastes forever. How many years will it be before the build up of these wastes in our groundwater makes ranching impossible in the Gunnison Valley? How many years until human habitation is impossible?

Again, in trying to sooth us, Homestake reports that under the tailings site is a layer of igneous or impermeable rock. They hope tailings seepage will not permeate this layer to reach the sedimentary, permeable rock below. But again this thought is no comfort since we are told some contaminated groundwater "may ultimately recharge deeper water-bearing rocks such as the Precambrian, Paleozoic, and Cenozoic rocks in the area."[8] We are told the area has a "relatively complex geologic structure,"[9] and that "the dominant structures of the project area are faults."[10] Homestake admits this area has not been thoroughly geologically studied. It is not known for sure if there are any faults or fractures in the rock layers under the tailings site that would allow further seepage. Homestake assumes there are not. (4)

It is noted in this draft statement that the mine area was once glaciated.[11] This is true. It is estimated that glaciers covered the Sawatch Range between 11, 000 and 42, 000 years ago.[12] Given this fact and the length of time that the radioactive tailings site will exist, I believe Homestake should consider the environmental impact of a future ice age on the mine site. There is a great possibliity of the tailings site shifting in some future movement of the earth since the area is ridden with faults and susceptible to glaciation. What assurances for the protection of the environment can Homestake give us considering these facts? (5)

Noting all these things it seems we must accept with the mill the future pollution of our water. Homestake proposes no way we can be protected from this. And, indeed, it seems there is no way.

So we are asked to accept the contamination of our water. We are also asked to accept that a part of our area will be closed off, or as Homestake puts it, the "(39 acre) tailings impoundment . . . must be considered unavailable

for the foreseeable future for further productive surface uses."[13] In effect, we are removing one small area of our earth from human habitation. This seems insignificant, except that every time we allow a uranium mine or mill we do the same thing. We limit the space we have to live in on a very small planet.

Homestake reports that the tailings site "will be restricted as long as required by regulations in effect at the time of reclamation."[14] This seems very vague to me considering the half-life of the radiation in the tailings site. Homestake may restrict the area, but how will they do it, and who will be ultimately responsible? No matter how long regulations in effect at the time deem it necessary to restrict this area, it will not equal the time these wastes will be radioactive, which is longer than man has lived on this earth. After Homestake is released from guarding the site, it will still be a hot spot. Who will care for it then? Must the National Forest Service or the public pay the price for guarding this site from possible disturbances through eternity. (6)

The value of the ore in the ground at present prices is $250, 000, 000.[15] The cost of maintaining this 69 acre tailings site for 80, 000 years at $10, 000 a year is $800, 000,000. This amount certainly exceeds the amount of any profits that could be made.

Homestake promises us a bond "satisfactory to the State of Colorado to guarantee stabilization of the tailings impoundment and surveillance thereafter consistent with the regulations of the State of Colorado and the Forest Serviee assuring reclamation."[16] Since the area can never truely by "reclaimed", I suggest that this bond be equal to the cost of maintaining the site for 80, 000 years. Homestake should not be allowed to pull out leaving this chore to the government and/or public to finish. Let them realize and pay the full cost.

Finally, I wish to comment on one item I did not see mentioned in the draft environmental impact statement. This is a concern for the health of the Homestake employees. The report tells us that the workers at the Fitch Project will be exposed to 305 millirems of radiation a year.[17] The Atomic Energy Commission in 1969 adopted 500 millirems as the highest dose allowed any individual per year. Scientists feel, though, that the average dose of 170 millirems per year would in time find us with 32,000 cases of fatal cancer plus leukemia occuring every year.[18] Homestake has not (7)

considered how to protect their workers from exposure to these excesively high concentrations of radiation, or to prevent them from taking the dust and dirt of work with them to their homes and families. This is certainly an environmental issue of great importance for it brings contamination directly into our community.

Homestake proposes to mine and mill an extremely poisonous substance in our area. They tell us everyone in a 50 mile radius will be affected.[19] They tell us we will be affected through our water, our air, and our food chain.[20] We must look at the facts. The poisons from this substance will not go away for 80,000 years. There is a known health risk associated with this substance. This substance is not really necessary. It is a most dangerous form of energy to be developing when harmless and essentially free forms of energy are also waiting to be developed. Homestake feels they are providing a public service by developing this energy.[21] They minimize the effects on every level telling us they will be minimal. But I say, even when and if the land involved is reclaimed, certain activities can never again take place near the tailings site because the health risk is too great. These activities would include grazing, hunting, fishing, and other recreating. Our water will never have the same quality, nor will our air. The effects of the mine are in no way minimal because we have to have water, we have to have air, and we must have food. I object to these understatements in the draft, and I object to the doublethink of the Homestake Mining Co. who propose that they are doing us a favor by reducing the quality of our life necessities. Given the ideas brought forward here tonight, I hope that the draft environmental impact statement will be carefully reconsidered, and that the alternative of no licensing action will be carefully considered.

Lyda Mary Hardy
306 N. 9th St. #5
Gunnison, CO 81230

Footnotes

[1]Draft Environmental Statement for Homestakes Mining Company's Pitch Project. p. xix.

[2]"Uranium mill will expand," Rocky Mountain News. June 26, 1978. p. 8.

[3]Nader, Ralph. The Menace of Atomic Energy. p. 182.

[4]Draft Environmental Statement. p. iii.

[5]Ibid. p. 4-4.

[6]Ibid. p. 4-4.

[7]Van Nostrand's Scientific Encyclopedia. p. 1359.

[8]Draft Environmental Statement. p. 2-6.

[9]Ibid. p.2-6.

[10]Ibid. p. 2-24.

[11]Ibid. p. 2-23.

[12]Turekian, Karl K. The Late Cenozoic Glacial Ages. p. 319.

[13]Draft Environmental Statement. p. iii.

[14]Ibid. p. 6-2.

[15]Homestake Mining Co. 1976 Annual Report. pp. 14-15.

[16]Draft Environmental Statement. p. v.

[17]Ibid. p.2-38.

[18]Nader. p. 73.

[19]Draft Environmental Statement. p. 4-13.

[20]Ibid. p. 4-14.

[21]Ibid. p. 1-5.

Lyda Mary Hardy, August 23, 1978

Response:

(1) See responses to EPA comment 27 (p. A-26) and Lund comment (p. A-130).

(2) See response above.

(3) See responses to EPA comment 36 (p. A-28), Gunnison County Planning Commission comment 2 (p. A-66), and Gunnison County comment 7 (p. A-71).

(4) See response to EPA comment 3 (p. A-20).

(5) See response above.

(6) Note response to 1 above, and responses to Peterson comment 1 (p. A-121) and Lochstet comment (p. A-111).

(7) See response to Erickson comment 3 (p. A-133).

Steven C. Schechter
Gunnison, Co.

> "At present there does not seem to be any existing, realistic project on how to deposit radioactive wastes; but there are a multitude of optimistic speculations on how to do so. The problem is how to keep radioactive waste in storage until it decays after hundreds of thousands of years. The deposit must be absolutely reliable as the quanities of poison are tremendous. It is very difficult to satisfy these requirements for the simple reason that we have had no practical experience with such a long term project. Moreover, permanently guarded storage requires a society with unprecedented stability."[1]
>
> Hannes Alfven- Nobel laureate in physics

Homestake Mining Company wants to mill uranium at the at the Marshall Pass Pitch project so that this country will have an abundant source of "cheap, clean energy." But all evidence points to the fact that nuclear power is neither cheap or clean. Mining and milling of uranium is just the beginning of the nuclear fuel cycle, a cycle that is harmful to Man and nature at every step. Homestake is proceeding with the beginning of the cycle, while no satisfactory solution has been found for disposal of high level nuclear wastes which are end products of the nuclear fuel cycle. Homestake cannot ignore the fact that they are directly or indirectly responsible for the [illegible] poisons produced at the tail end of the cycle. To ignore these facts Homestake is plainly telling us that they have neither foresight or concern about future generations,

only concern with short term profits. This lack of Homestake's foresight and responsibility will become quite apparent as this paper proceeds.

Can Homestake be trusted, in view of its past uranium mining and milling operations, to be responsive to the health and safety of its Fitch employees and the population of Gunnison County in general? Let us take some examples from its past uranium mining and milling operations in the Grants, N.M. area.

> Example #1: "In May 1975, an attorney at the Freedom of Information Clearinghouse in Washington, D.C., received a phome call from an unidentified New Mexico state official who wanted advice on how documents relating to uranium mines could be kept secret, because release of the documents would upset people. When the offical refused to divulge more, the attorney explained that the Clearinghouse was concerned about freedom of information, not its suppression. At that point the unidentified official hung up, but the attorney relayed his conversation to the Public Interest Research Group (PIRG).
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> After two specific Freedom of Information requests, PIRG obtained documents on surveys of water near uranium mines and mills performed for the state of New Mexico by the U.S. Environmental Protection Agency(EPA). The documents contained some rather alarming information.
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> According to the EPA documents, the New Mexico Environmental Improvement Agency in September 1974 requested the EPA to conduct a survey to evaluate the quality of surface and ground water in the Grants Mineral Belt of western New Mexico. The EPA completed its preliminary report in June 1975 and a more extensive report in July of that year. Neither of these reports was released to the public until PIRG made its request.
>
> Large amounts of underground water in the Grants area had to be pumped out of the uranium mines to prevent flooding. When removed, the water is either discharged directly out of the mines or run through an ion exchanger to remove redidual uranium from the water. Some of the water passing through the ion exchanger is used

for drinking water at both the mines and at uranium mills located near the mines. It was this water which was contaminated.

The EPA surveyed six drinking water supplies and found all six excessively contaminated with alpha radiation and radioactive uranium. Alpha radiation levels were 200 times those allowed by drinking water standards proposed by EPA; radium levels were 8 times the allowed levels. Even more serious was that the water from the mines also supplied the drinking water for mobile home camps near the mines, where the spouses and children of some of the mine and mill crews lived. The one drinking water sample that was taken from a mobile home contained alpha radiation 70 times higher than the proposed standard.

One EPA report stated: "All industry potable water supply systems surveyed exceeded existing and planned gross alpha limits for potable water. All but one exceeded existing and planned radium limits. Such water is supplied to families of miners at the United Nuclear Corporation Churchrock mine. These conditions are considered intolerable as they bear on the long-term health of those using the supplies." Selenium is a nonradioactive substance which is chemically similar to sulfur. Its toxicity is described as similar to that of arsenic. Another EPA report warned that radium in drinking water could produce leukemia.

The mining companies identified with radioactive drinkings water were Kerr-McGee and the United Nuclear Corporation. Numerous environmental violations from water discharged into streams were also discovered. Mines and mills of Kerr-McGee, United Nuclear, Homestake Partners, and the Anaconda Company were found to have violated either EPA regulations, AEC regulations, or New Mexico water quality standards. Particularly outrageous was the fact that some of the drinking water supplies did not even meet EPA and AEC requirements for waste discharge into streams. Not only was the drinking water unfit to drink, it was unfit even as waste water.

The situation in the Grants Mineral Belt area was easily remedied without plant shutdowns or worker layoffs: bottled drinking water was shipped in, until water treatment facilities were installed or improved, with the operations allowed to continue. As simple as this procedure was, it did not begin until PIRG released its information on the problem.

The drinking water problem in the Grants area posed no such catastrophic problem to the population as a nuclear reactor accident might have.

> But it clearly demonstrates the ability of the nuclear fuel cycle to contaminate workers, to degrade the environment, and—by contaminating streams and drinking water supplies—to generate latent hazards, which may lurk undetected for years, for the general population. The prolonged history of this situation demonstates the startling inertia of government agencies in enforcing minimum health standards, the negligence of large corporations in making even the simplest reforms, and the insidious danger to workers in the atomic industry."[2]

> Example #2: "One such similar operation is the Grants, N.M. uranium mill operated by Homestake in partnership with United Nuclear Corporation. On Feburary 5, 1977, its 70 foot tall tailings dam burst, spilling an estimated 50,000 tons of slimes and solids and millions of gallons of waste over 60 acres of adjacent land.
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> The News obtained an internal report in which an inspector for the U.S. Nuclear Regulatory Commission said that the envirormental impact of the accident was impossible to assess since the mill had already ruined the surrounding area.
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> In the report dated March 11, 1977, the NRC's Ernest P. Resner noted: "The areas adjacent to the mill sited appear to be devoid of vegetable gardens. . . . Vegetation in the areas appears to consist predominantly of sage brush. During the tour through the area, meat and milk-producing animals were not seen."
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> The compliance history of the mill "has been less than satisfactory," Resner said. "The mill, over the years, has history of poor housekeeping."
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> "Any insult to the environment resulting from the tailings spill would be difficult to differentiate from the environmental insults that has resulted from 19 years of mill operations." "[3]

From these examples it is easy to see that Homestake cannot be trusted to follow any environmental, health, or safety laws that exist. Their plans on paper in the Environmental impact statement speak of noble concerns, but the reality of their past actions shows these words to be quite hollow. They have designs for a tailings dam and impoundment that must weather 80,000 years of harsh mountain climate; but the reality of their Grants, N.M. impoundment

shows that it only lasted 19 years.. When we are dealing with radioactive tailings, designs must necessarily match the demands of reality.

Now we come to the point of whether the agencies responsible for regulating Homestake can be trusted to insure that even minimum standards of health and safety are enforced.

There is the case of the Cotter uranium mill in Canon City, Co. that illustrates how the Nuclear Regulatory Commission does not regulate the nuclear industry, it only promotes the industry.. The Colorado Department of Health has also ignored its responsibilities to promote a healthy environment for Canon City's residents. For ten years the Health Department has known about the radioactive contamination of Canon City's ground water and several private wells through leakage at the at the Cotter uranium mill tailings ponds and has done little to remedy the situation.

> "The health department's radiological hazards and water quality control branches repeatedly have urged a number of control measures on Cotter, principally asking the firm to install impermeable liners in the bottoms of tailings ponds, but have done virtually nothing to enforce their recommendations. . . Over the years,. the health department apparently has failed to apprise Fremont County officals of the ground water problem,, which has remained one of the area's best kept secrets."[4]

This example of Health Department ineptness and the NRC's inaction shows who's side they are on and what little concern they have towards the public's health and safety. Not only have they shirked their responsibilities, they have adopted the additude that if anything is found that might disturb the public, then this information should re-

main secret.

From the Environment draft statement of Homestake's Pitch project summary and conclusions it states that :

> "The applicant shall evaluate the ecomomics and the environmental effects of storing dewatered tailings in the above impoundment. This information shall be supplied to the Colorado Department of Health, Radiation and Hazardous Wastes Control Division which has the responsibility for selecting the most environmentally acceptable method of tailings within the present economic and engineering state-of-the-art."[5]

From this statement we are able to glean several important facts: (1) Homestake will make the decision as to which options and information shall be supplied to the Colorado Department of Health. (2) In doing so Homestake will only present options that are ecomonically feasible to the Pitch operation. (3) Thus the Colorado Department of Health will only have a "stacked deck" of options from which to choose; leaving out the most environmentally desirable methods because the cost is too high for the project to bear.

Instead of deciding which method of disposal is most environmentally acceptable in relation to cost, the Colorado Department of Health should demand the <u>most</u> environmentally acceptable method of disposal irregardless of cost. For it should be remembered that this tailings impoundment has to contain the radioactive wastes for 80,000 years.[6] If Homestake considers the <u>most</u> environmentally desirable method toc costly, then the project should be scraped all together.

Homestake will probably want to counter this last

argument with the impact statement 1.7 titled, Need for Licensing Action which states:

> "There is a need for new mill capacity prior to 1981 (probably as early as 1979). The customary interval from the issuance of a Radioactive Materials License for a new mill to the loading of reactor fuel is five years. This Homestake mill is one of a small number of new mills that have been proposed in the last several years; a deferral of its operation could extend the time required for delivery of needed fuel and could affect adversely the ability of reactors now operating or under construction to deliver needed electrical power,. Such a short fall of electrical energy is generally construed to be harm- to the public interest."[7]

Here Homestake forgets that the traditionally high growth of energy consumption has slowed in recient years. They have also omitted the fact the Americans waste about one-half of the energy they consume. "Sweden, Denmark, and Switzerland consume about one-half of the per capita energy consumed by the United States, yet in 1974 each had a higher per capita gross national product."[8] Homestake has also ignored the fact there are much cheaper and safer sources of energy that have yet to be explored.

Not only has Homestake over-estimated the need for nuclear generated power; they have also decided that a shortage of electricity is more a concern and more harmful to the public then are the millions of gallons of high level nuclear wastes that have been generated and will be generated. Homestake is more concerned with the inconviences of electrical shortages on the American people than it is with the health problems presented to future generations because the nuclear industry has not

found a safe and permanent method for disposal of high level nuclear wastes. Homestake has shown that it has no human concerns, only monetary concerns.

It is my proposal that Homestake should not be given a license to operate a uranium mill by fact of its previsous milling safety, health and environmental irregularities. A license should not be issued until Homestake can guarantee it will act responsibly; and then only if the nuclear industry has solved the problems involved in long term storage of high level nuclear wastes.

FOOTNOTES

[1]Ralph Nader and John Abbotts, The Menace of Atomic Energy, New York, 1977, p. 151.

[2]Ibid., pp. 180-183.

[3]Rocky Mountain News, Monday, July 31, 1978, Radiation safeguard failed before, p. 8.

[4]Article by Myron Levin, Rocky Mountain News, June 26, 1978, Uranium mill will expand, p. 8.

[5] Homestake Mining Company, Draft Environmental Statement for Pitch Project, summary and conclusions, 7-c., page V.

[6]Article by Myron Levin, Rocky Mountain News, Monday, July 31, 1978, Gunnison mine, mill public debate slated, p. 8.

[7]Homestake Mining Company, Draft Environmental Statement for Pitch Project, Chapter I, Section 7, p. 1-5.

[8]Ralph Nader and John Abbotts, The Menace of Atomic Energy, New York, 1977, p.236.

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Nader, Ralph and Abbotts, John. The Menace of Atomic Energy. New York. 1977.

Steven C. Schechter, August 23, 1978

Response: The overall issues of nuclear power generation, past production, and past enforcement are not considered to be within the scope of the Pitch Project Environmental Impact Statement. Other points related to health and safety, dam construction and milling alternatives are adequately discussed in the EIS. See, also, response to comments from EPA (pp. A-18 to 36) Colorado Department of Health (pp. A-42 to 56).

The Colorado Mountain Club

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OFFICE HOURS MONDAY THRU FRIDAY 9 A.M. TO 2 P.M. AND TUESDAY AND THURSDAY EVENINGS 7 TO 9 P.M.

My name is Anne Vickery. I am chairman of the Conservation Committee of the Colorado Mountain Club. The Mountain Club is a state-wide organization of over 5,000 members. Our activities are directed towards recreation and conservation. As a group, we are major users of the national forests. As individuals we are consumers of the commodities produced from the forests. We seek a balance between use and preservation of the forests for the enjoyment of future generations. The term preservation applies to water, wildlife, scenic and visual resources as well as to timber and forage.

We have been interested in the Pitch Project since it was first proposed and have followed carefully each step of development. Following are comments on the Draft Environmental Statement.

(1) Section 3.1.3, under reclamation, states that a detailed reclamation plan has been submitted to the Colorado Mined Land Reclamation Division and this plan will be amended over time. In reality, this detailed reclamation plan is a large box containing various volumes and loose additions which a member of the public, the Forest Service or the Mined Land Reclamation Board will have to sift through in order to ferret out necessary information. The plan may be detailed, but it is not available in a clear, concise form. Before including such a statement in the Draft, the Forest Service should make sure that such information is available in useable form.

(2) According to the Draft, the open pit is to be reforested with lodgepole pine and some Engelmann spruce. The soils for the reclamation of the open pit are described as a mixture of overburden, fines and coarse materials. An analysis of the soils in the mine area, Table 2.9, page 2-29 and table 2.11, page 2-31, indicates that these soils will have only 1.3% organic matter and very little nitrogen. Under these circumstances, the sucess of this particular reclamation prodedure is very much in doubt, and flat statements such as "Slopes of waste dumps and benches within the open pit will be reforested," are not consistent with other facts presented in the document.

(3) Page 3-13, section 3.1.3.2, states that 20 ft. of overburden will be placed over any radioactive material in the bottom of the pit to prevent leaching. Other information about the containment of radioactive material indicate that nothing but a clay liner both above and below the radioactive material will prevent signifigant leaching. If a lake does form in the pit, leaching will occur both into surface water and into any underground water seeping out of the pit. This is a serious problem that is not adequately addressed in the Draft.

(4) The final land use of the open pit, if the lake forms, is described as including "recreational activities and a source of livestock and wildlife water", page 3-1, section 3.2. The problem of the leaching of radioactive materials from the bottom of the pit must be addressed before such a final land use is acceptable. Also, it is unclear what is meant by recreational activities.

(5) The section on groundwater, 2.4, states that the information about the groundwater regime at the site is incomplete at this time, that near surface groundwater will tend to move downhill and discharge at lower elevations, that the groundwater is the major source of springs in the area and is used for stock watering and domestic supplies. It is not clear whether this refers to groundwater at the mine, the mill, the tailings pond or the whole area. If it refers at all to Hale Gulch or to the area as a whole there is a real question as to whether any contamination of groundwater from radioactive materials can be tolerated.

(6) Section 3.31, page 3-26 states "Liquid wastes may seep from the tailings pond into the local groundwater system." The leakage rate through the dam is estimated at 20 gpm and through the pond bottom at 30 to 40 gpm. (page 3-28, section 3.3.7). This is a sizable flow. Section 2.4.2.2, page 2-13 states: "The flow through the tuff...at the tailings dam has been estimated by the applicant to be approximately 30 gpm." This is also a sizeable flow. The conclusion from these two sections/that liquid wastes from the tailings may seep at a rate between 20 to 40 gpm into groundwater which is flowing at approximately 30 gpm. The DES indicates that contaminated groundwater will be caught and pumped back into the tailings pile (page 3-28, section 3.3.7). At the public meeting in Gunnison, when the question was raised as to who would monitor the tailings after the operation was closed down, NRC indicated that the tailings would not leak or seep and that long-term or perpetual monitoring was not necessary. The DES does not address how such monitoring will take place and by whom. Obviously there is serious confusion over this point and it must be adequately addressed before the project is allowed to proceed.

(7) Pages 3-6 and 3-7 discuss accidental releases of radioactive material into Indian Creek, Marshal Creek and the Blue Mesa reservoir. This question is uppermost in the mind of the public, particularly those living downstream on the Colorado River. Tables 3.2, 3.3 and 3.4 are too scientific and complex to be easily understood. However the operation is on public lands, involves public water and the public paid for the DES. The table must be clarified and expressed in terms that are consistent throughout all three tables. The bottom line in table 3.4 indicates that if liquid was accidentally released from the tailings ponds, the amount of Radium 226 in Marshal Creek even under favorable conditions would be above the maximum permissible concentration. There are serious impacts of such concentrations and the impacts must not only be expressed in the DES but must be considered when evaluating the usefulness of the Pitch Project as a whole.

(8) The DES does not say specifically how much ore will be brought into the mill from outside the Pitch Project. The question is, will more or less ore affect the amount of radioactive materials in the tailings? Will the amount of ore affect the amount of radioactive material which seeps out of the tailings ponds or which could be accidentally released.

(9) The DES has based an environmental evaluation of the Pitch Project on an assumed need for nuclear energy in this country. What the DES has not done and what it should have done is discuss the relationship between a large radioactive mining and milling operation and the national forest in which it is situated. The mine, dump and mill will affect approximately 405 acres which will be cleared of timber. How will the clear cutting affect the watershed? Watershed is a major concern of forest management, yet the question is not addressed. The mine itself is expected to supply ore for approximately 11 years, but the life of the mill is predicted at 25 years or longer. Where will

the additional ore come from? Will it come from the National Forest? How many timber will be cut to mine the additional ore? How will it affect the watershed? If a mill capacity, above and beyond that of the mine, is to be considered in this document, the environmental effects of supplying ore to the mill must be discussed. The proposed mill, once built, will be used to justify more mining, more timber cutting. The reclamation potential of the open pit is questionable. What is the reclamation potential of the additional lands that will be disturbed to supply the mill? The DES must restrict analysis to a mill equal to the capacity of the mine, or it must analyze the impacts of supplying additional ore to the mill.

(10) In January of 1978, the Colorado Mountain Club in correspondence with the Forest Service requested that this DES address, from an environmental point of view, locating the mill and tailings ponds in an area which did not affect the headwaters of the Colorado River. We also requested that the alternative of Homestake using an existing mill be addressed. The DES rejects these alternatives on the basis of shipping costs, milling fees and the loss of 150 temporary construction jobs and 70 permanent jobs. These jobs do not even exist. (page 10-17, 10.5). The benefit of these alternatives is stated as the reduction of total land requirements for the projects. There is no other discussion of the greatly reduced impact on the forest and the alleviation of potential groundwater problems. Other uranium mills and tailings ponds have experienced serious problems with water contamination. The DES gives the impression that it is better to create new potential problem sites than to limit the sites where problems could occur and where extensive monitoring must take place. The economic argument of shipping costs, milling fees and the loss of non-existant jobs is unacceptable as a basis for rejecting these alternatives.

(11) The final comment refers to Appendix C, page C-3. This section is the basis for evaluating the Pitch Project and includes, in total, a discussion of the nuclear fuel cycle, the use of nuclear fuel in reactors, a table forecasting nuclear capacity and graph illustrating demand and production levels. If this is to be the basis for evaluating the project, the discussion must include the point that the whole nation is becoming painfully aware that we can not, in any acceptable way dispose of our nuclear waste. And the discussion must relay the fact that the state of Wisconsin recently placed a moratorium on the construction of nuclear power plants because of cost and safety questions. The debate over nuclear power is not as the DES describes it. There are no facts to back up the assumptions in this statement on the need for nuclear energy. This statement involves public lands and is paid for by public funds. As a public organization we state that the biases in the document are unacceptable. The evaluation of the project does not mention the site in a National Forest, the reclamation problems or the water contamination potential. These are not included, in spite of the fact that this is an environmental analysis.

In conclusion, each point that has been raised should be addressed before any approval is given to expand the Pitch Project.

Thank you for this opportunity to testify.

Anne Vickery, Colorado Mountain Club, August 24, 1978

Response:

(1) The reclamation plans submitted to the Forest Service are available for public review and are in a useable form. The Forest Service has no control on the filing system of others. The reclamation plan, of course, is subject to revision as new knowledge and technology become available.

(2) Reclamation is an ongoing process and may take decades. The goal of reclamation for the pit is reforestation and the reclamation plan is deemed suitable to accomplish the goal. Note, also, that the pit is now owned by Homestake and that the jurisdictional responsibilities have changed.

(3) Ongoing studies indicate there will be little deterioration of groundwater in the mine pit. More specific information and discussion are found in responses to EPA comments 3, 24, 37, 38, and 55 (pp. A-20 to 36).

(4) See responses to EPA comment 51 (p. A-31) and Colorado Department of Health comment 20 (p. A-45).

(5) Section 2.4 discusses groundwater characteristics for the mine, mill site, waste dumps, and the tailings disposal site. See, also, responses to EPA comment 3 (p. A-20), USDI comment 2 (p. A-14), San Luis Council of Governments comment (p. A-61), Saguache County comment 1 (p. A-74), and COSC comment 8 (p. A-80).

(6) See responses to Gunnison County Planning Commission comment 2 (p. A-66), EPA comment 36 (p. A-28) and Gunnison County comment 7 (p. A-71). Monitoring after conclusion of operations will be required (see COSC comment 12, p. A-81).

(7) See responses to Gunnison County Planning Commission comments 2 and 3 (pp. A-66 to 67), Gunnison County comment 12 (p. A-72), COSC comments 3 and 9 (pp. A-80 and 81), and Lund comment (p. A-130).

(8) The Forest Service knows of no plans to mill any uranium ore other than that from the proposed Pitch Project.

(9) This subject is discussed in Section 4.6 (pp. 4.8 and 4.9). The loss of timber will have no significant effect on the watershed.

The mining operation is expected to conclude in 11 years. The milling operation takes longer because it proceeds at a slower rate.

(10) No comment required.

(11) Discussion of the overall issues of nuclear power generation is not considered to be within the scope of the Pitch Project Environmental Impact Statement.

Robert N. Mason
Representing the Gold Hill Committee on Mining
and the Environment

Preliminary Comments on the DEIS for the Pitch Project

Good afternoon, ladies and gentlemen. My name is Robert Mason. I am chairperson of the Gold Hill Committee on Mining and the Environment, a body authorized to speak on behalf of the Gold Hill Town Meeting, Incorporated.

The Committee was formed in response to citizen concern about the possibility of uranium mining and milling in Boulder County and, more particularly, in the mountainous regions of Boulder County. These concerns have led us to make progressively wider-ranging and more detailed inquiries into the nuclear power industry and the government/industrial network which supports it, as well as into the relevant technical, environmental and economic issues raised by pursuit of the nuclear option.

These investigations have led us to identification of a number of important concerns which bear directly upon consideration of the DEIS before us today. I would like briefly to summarize these and indicate their relevance to this discussion. It is the Committee's intention to submit a more detailed and properly documented set of comments within a few days.

The first point to be made is that a substantial and growing body of evidence exists suggesting that the radiological health impacts of low-level radiation, i.e., alpha radiation, have been grossly underestimated or understated. In particular, the work of Goffmann, Mancuso, Martell, Johnson and numerous others indicates that inhalation of radioactive dust particles of respirable size may be directly related to elevated incidences of lung cancer, leukemia and atherosclerosis, as

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well as forming a link in the aetiological chain leading to bone cancer, cancer of the gonads, the lymphatic system, etc.

The DEIS for the Pitch Project does not, in our opinion, adequately address this issue, nor does it offer any contingency action to be implemented, should these serious concerns be substantiated by further research.

Secondly, the nuclear power industry, seen from the point of view of systems engineering, displays a number of serious, perhaps fatal deficiencies. The first of these is that, at the production end of the cycle, insufficient reserves exist to provide more than an insignificant fraction of the electrical energy required according to current estimates. Even assuming that additional sources can be found, there is no assurance that these can be extracted at acceptable cost in capital and environmental degradation. (2)

Conversion and enrichment capabilities do not currently exist to support the indicated enriched uranium use rates, and the energy use costs and capital necessary to provide them are very substantial. Historic industry reluctance to undertake development in this area suggests that the true economics of this enterprise are not attractive.

Fabrication is an area in which we have little data and less expertise. Yet the tragic death of Karen Silkwood and the unsavory stories of the circumstances of her death which have circulated since it occurred, have forced some of us to express concern that all is not well.

Power generation has been plagued from the beginning with the problem of low capacity factors and apparent premature aging of facilities, so that the Pitch DEIS lower limit of 60% overstates this factor by 10%,

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if it applies to nuclear plants of over 800 MWe, as it surely must for most new construction. The engineering difficulties associated with verification of the emergency core cooling system, a system of fundamental importance to reactor safety, are well known. Lack of verification of the effectiveness of this system makes meaningful calculation of risk factors impossible, and this fact has obvious implications for the benefit/risk trade-offs under examination in the present case.

Perhaps most importantly, serious and generally recognized problems exist with the waste processing and disposal system. These problems are so serious that a form of "system constipation" has developed at the "back end" of the fuel cycle. It has been seriously proposed by responsible people that a moratorium on further operation of nuclear reactors should be imposed pending resolution of these problems. This situation has obvious implications for the present DEIS, yet no discussion of the problem appears in the sections with which we are familiar.

The third main concern is that the root technical, economic and social issues related to nuclear power have in general not been discussed in any depth at a level of discourse understandable to the general public. In particular, the relationships between capital-intensive investment and unemployment, between nuclear power system operational requirements and civil liberties, or between the development of renewable-resource-based technology and the survival of the American system, to pick three issues at random, have not been addressed. The present DEIS contributes virtually nothing in any of these areas, but rather clings to the highly questionable assumptions of the nuclear industry that the indefinite prolongation of exponential growth is prima facie evidence of pursuit of the public good. ③

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We must reluctantly conclude that the present DEIS is seriously deficient or misleading in several areas which are of fundamental importance to an objective appraisal of the proposal. Further, estimates of specific impacts are in some cases based upon hidden assumptions which deserve careful study by qualified and objective investigators.

Our recommendation, therefore, is that no action be taken to issue a license at this time. Rather, a citizen committee should be formed, to include qualified professional and interested lay persons, the purpose of which would be, first, to examine certain of the DEIS issues in greater depth; and, second, to develop, conjointly with Homestake Mining Company and other interested parties, constructive alternatives to the present proposal.

August 24, 1978.

Robert N. Mason, Gold Hill Committee, August 24, 1978

Response:

(1) These concerns will be addressed in the Colorado Department of Health review of the Homestake Application for a Radioactive Materials License. (See response to Erickson comment 3, p. A-133.)

(2) The nuclear fuel produced by the Pitch Project is for nuclear energy generating facilities currently under construction. The need or availability of additional nuclear fuel and the overall issues of nuclear power generation are not considered to be within the scope of the Pitch Project Environmental Impact Statement.

(3) See previous responses.