40-3453

Gary A. Hazen
Post Office Box 422
Moab, Utah 84532

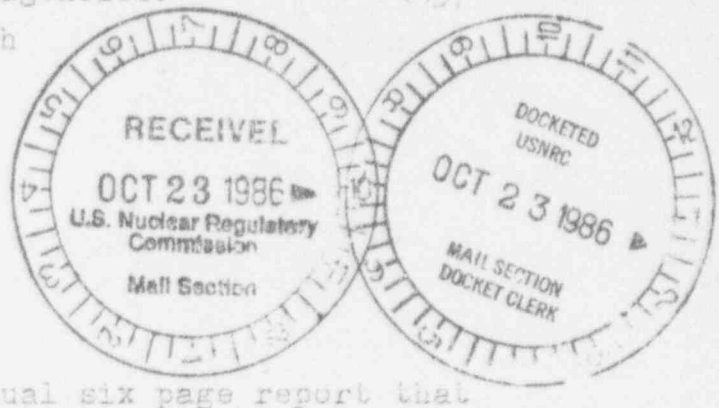
WM DOCKET CONTROL CENTER

10 October 1986

'86 OCT 16 P1:51

Copies of enclosed report forwarded U.S. certified post to the following eight (8) offices and agencies:

Office of the Governor, State of Utah
Nuclear Regulatory Commission
U.S. Department of Energy
U.S. Environmental Protection Agency
U.S. Department of Transportation
U.S. Department of Interior
Office of Technology Assessment
Bureau of Land Management



To whom it may concern;

Please find enclosed an individual six page report that requires a full technical response from your office concerning the "overall status" of Atlas Uranium Milling Operation located in Moab, Utah. Your agency's technical response will be reviewed and utilized to fullfill the code of federal law governing any such response.

I look forward to each response supplied by your office.

Sincerely,

Gary A. Hazen

NRC FILE CENTER COPY

WM Record File

WM Project

Docket No.

PDR

LPDR

Distribution:

(Return to WM, 623-SS)

9409140214 861010
PDR ADOCK 04003453
C PDR

87-052

BPP

09 October 1986

ATLAS URANIUM MILLING OPERATION, LOCATED IN MOAB, UTAH - ON THE BANKS OF THE COLORADO RIVER

Purpose and intent of the following information of said 'uranium mill tailings'; is to expose the U.S. Federal Code of laws governing all 'uranium mill tailings'.

The point-blank subject of this report is Atlas Uranium Milling Operation located in Moab, Utah; on the bank of the Colorado River - within several hundred yards of the water line. This particular and for all practical purposes - abandoned uranium milling operation is currently: "diametrically opposed to the Constitutional Law of the United States Government.

****

The governmental policing agencies bound to these federal laws are the following: Environmental Protection Agency (EPA) - Since 1970 EPA has been charged with providing federal guidance for all radiation directly or indirectly affecting health, and with setting generally applicable environmental standards outside the boundries of sites that possess radioactive materials. Thus, EPA is responsible for developing environmental protection criteria for handling and disposal of all radioactive wastes. The Uranium Mill Tailings Radiation Control Act of 1978 also requires EPA to establish environmental standards for uranium mill sites.

In addition, the Department of Energy (DOE) is in charge of handling inactive uranium mill tailing sites. DOE also gives the Department of Transportation (DOT) technical advice regarding regulation of radioactive material transportation, although DOT is not bound by such advice, DOE does conduct safety inspections of its own nuclear material transportation shipments.

The Nuclear Regulatory Commission (NRC) is an independent board whose five members are appointed by the President. The NRC regulates all U.S. commercial nuclear activities - including active uranium mill tailing sites. All private nuclear facilities must be licensed by the NRC before starting operation.

****

THE UNDERSTANDING

Uranium ore is crushed and chemically processed to produce a compound (U_3O_8) known as "yellowcake". This operation releases small amounts of radon gas and uranium dust. After the refining process, the leftover ore is discharged to a settling pond where the finely ground tailings are suspended in water. The water gradually dissipates through seepage and evaporation, leaving behind a slurry and eventually a relatively dry pile containing radium - which decays into radon and other radioisotopes.

Yellowcake is converted to uranium hexaflouride (UF_6), the process produces wastes that are mostly solids or sludge, with a small part discharged as gas.

Uranium mill tailings are residues from uranium milling operations that contain low concentrations of naturally occuring radioactive materials. It is the very large volume of the tailings (which are in the form of fine sand) and their long lifetimes that make them the object of scrutiny. Uranium milling presently generates the largest quantity of Low-level Waste (LLWs), in the form of uranium tailings.

The most neglected of all radioactive wastes has been uranium mill tailings; nearly all uranium produced between 1947 and 1970 was produced for the federal government. When a uranium mill closes, the tailing piles are abandoned and left unprotected. A 1976 study done for the Energy Research and Developement Administration (ERDA) revealed that radium has leached from each tailings pile studied - anywhere from two to nine feet into the subsoil. Atlas Uranium Milling Operation tailings is already contaminating the surface groundwater of the Colorado River - this does include all the water reserved in Lakes Powell and Mead.

To state that 1/6th (40,000,000) of this nation's population depends on the water in the Colorado River is not far from the truth. The Uranium Mill Tailings Radiation Control Act requires the federal government to eliminate hazards associated with inactive tailing piles left from past uranium milling operations carried on under Atomic Energy Commission contracts. The federal government will pay 90 percent of the clean-up costs, the state 10 percent. It is certain that Atlas Uranium Milling Operation and it's abandoned tailings cannot be stabilized and rendered innocuous in place (i.e., by covering them with loose earth or clay) but will have to be moved and treated elswhere; simply because of it's location to the Colorado River. It is certain that Atlas Uranium Milling Operation's largest client was contracts for the Atomic Energy Commission.

Uranium mill tailings at active mills generally present less risk than abandoned tailings because they are mixed with water and this moisture helps slow the release of radon. However, seepage of radioactive materials from these active mill tailings has occurred. It is clear that unless tailing management practices are improved for Atlas Uranium Milling Operation for it's location to the Colorado River: "that continued contamination by radioactive waste of one of our nation's number one natural resources will become an increasingly very serious health problem for our nation's population".

In response to these pressures, DOE has started to develop a national LLW strategy, overall. Congress has already considered legislation that would permit states to form compacts for investigating, buying and managing LLW sites. Unfortunately the State of Utah seems to be 20 years behind the rest of the nation, in the already dead uranium industries 30 years it took to 'burn out'.

The goal of the federal government's nuclear waste management program, in the words of the DOE, which is now the responsible agency, is: "To develop the technology and facilities necessary to provide for the permanent isolation of civilian and military wastes from the bioshpere so that these wastes pose no significant threat to public health and safety." DOE

will work with the states in their efforts to establish a regional network of LLW disposal sites. The State Planning Council will give LLW management early and high-priority attention. The NRC's expanded licensing authority includes storage and disposal of nondefense LLW in any new government owned and managed facilities that might be built. Under existing law, NRC licenses DOE facilities for disposal of LLW.

The fiscal 1981 budgets for military and commercial radioactive waste management total nearly $700 million; that is almost $100 million more than was budgeted for all other civilian programs associated with nuclear fission. It is about $150 million over the 1980 waste management budget. We are fast approaching 1987, there are $100s of millions to be dispersed for radioactive waste management - LLW and otherwise for a single fiscal year budget. With a fiscal budget of such proportions, the State of Utah and the community of Grand County, Utah should be hard pressing the EPA, DOE and the NRC to conduct an Environmental Impact Statement (EIS) for the "Decommissioning" of Atlas Uranium Milling Operation on the banks of the Colorado River. Of the four methods outlined by the NRC for "decommissioning" only one is acceptable by the NRC, EPA and DOE; bound by federal laws for Atlas Uranium Milling Operation on the Colorado River: "Dismantlement" - dismantlement defined by these three agencies is the total removal of all radioactive components from the site to a radioactive waste disposal facility.

A priority precedent is being outlined for the future of Atlas Uranium Milling Operation and the future generations fresh water supply of the Southwestern United States.

****

A brief summary of the following technical terms will enlighten the readers full understanding.

Radon is a radioactive gas resulting from the decay of uranium. As for health effects from nuclear wastes specifically, uranium mill tailings pose the most direct health hazard to the general public because they release more radioactivity directly into the atmosphere than any other phase of the nuclear fuel cycle. Specifically, they release radon gas at up to 500 times the natural backround rate. The Environmental Protection Agency (EPA) is the federal agency charged with establishing standards limiting the radiation dose to the general population, not only from nuclear power plants but also from other parts of the nuclear fuel cycle. According to the Department of Energy (DOE) officials, most Low-level Waste (LLW) will decay to the hazard level of uranium ore after 100 years.

A basic biological effect of LLW radiation: Alpha radiation is the most energetic (densely ionizing) but the least penetrating type of radiation - it can be stopped by a sheet of paper. Beta radiation is a more penetrating type of ionizing radiation than alpha; some beta particles can penetrate skin and damage cells. Like alpha particles - may be most serious in their effects when alpha and beta-emitting isotopes are inhaled or ingested. Uranium mill tailings are major sources of alpha radiation. Radiation can kill or damage cells. Thus, one consequence of radiation is death.

Radioisotope is an unstable radioactive chemical element that will eventually undergo radioactive decay (i.e., disintigration). Radioactivity is the spontaneous emission of radiation from the constantly disintigrating nucleus of an atom. Elements of radio isotopes lose particles and energy through this process of radioactive decay. Radiation is nulcear particles which is involving atomic nuclei - the central part of an atom.

The term "half-life" is the period it takes for any radioactive substance to be reduced by half. The half-life of the radioisotope Thorium-230 is 76,000 years. Starting with a pound of Thorium-230, for example, in 76,000 years there will be a half pound of Thorium-230, in another 76,000 there will be a quarter pound and so on. A pound of actual material remains but it gradually becomes a stable element through the disintigration process and the stable element that radioactive decay becomes is lead. Thorium is a naturally occurring element that has several isotopes, of special interest is Thorium-230, found in uranium tailings. Radium is another naturally occurring element that has several isotopes. Of special interest is Radium-226, which is also found in uranium tailings and decays into Radon-222. Radon is a radioactive gas resulting from the decay of uranium, thorium and radium.

****

The following, recent and diverse news releases discloses to the public - information of the public health and law.

The following paragraph excerpts appeared in the July 10, 1986 issue of the Times-Independent in an article titled: Ground water near uranium mill tailings bring scrutiny from NRC

Paragraph excerpts: "The Nuclear Regulatory Commission is considering amending its regulations on uranium mill tailings to incorporate ground-water protection requirements published by the Environmental Protection Agency.

The action is being taken to comply with the Uranium Mill Tailings Radiation Control Act of 1978 and the NRC Authorization Act for 1982 and 1983, which require the NRC to bring its tailins regulations into conformity with the standards issued by the EPA.

The proposed NRC rules would also require licensees too establish a detection and compliance monitoring program to detect any leakage from the disposal area and ensure that the ground water complies with standards set by the Commission. If the standards are exceeded, a corrective action program must be put into operation as soon as it is practicable, and in any event within 18 months."

On August 15, 1986 ABC Network Radio News reports: "The Environmental Protection Agency discloses the deadly threat of radon gas entering the homes of America through the water supply. Up to 30,000 lung-cancer deaths a year are attributed directly to radon gas. The radon is transported into the home by the water supply, where it escapes in the home as a gas and is ingested through the respitory system."

Newsweek: August 18,1986 issue (two page article): Radon Gas: A deadly Threat - A natural hazard is seeping into 8 million homes

Paragraph excerpts: "Radon - invisible, tasteless and odorless - is now the most dangerous source of radiation in America. The gas is probably responsible for as many as 20,000 lung-cancer deaths annually, and the Environmental Protection Agency believes it may be present in as many as 8 million homes all over the country. Radon has been detected in at least 30 states...

Radon is as old as the planet and as natural as oxygen. It is a gas born of the decay of underground uranium, a very common radioactive ore. The radioactive gas leaks through bedrock and percolates up throgh the earth. Once airborne, the particles attatch themselves to dust. When that deadly stuff is breathed it can damage lung tissue and cause cancer."

Included in this Newsweek article is a picture of water being tested in New Hampshire.

U.S. News and World Report: August 25, 1986 issue (¼ page art.): EPA SPEAKS Radon - no threat to sneeze at

Excerpts: "The EPA said radon levels may be high enough in 12 percent of the nation's 75 million homes to expose residents to a 5 percent risk of lung cancer - equivalent to smoking half pack of cigarettes a day."

"..., radon came to national attention after the 1984 discovery that a Pennsylvania family's home exposed them to a radon equivalent of 455,000 chest X-rays a year."

"Radon, a natural product of the decay of uranium in rocks, is harmless in the open but a potential killer when it seeps into homes."

Except for the newspaper, radio, magazine excerpts and a few personal notations - all of the technical information in this report was obtained from the League of Women Voters Education Fund's 1980 publication titled: A Nuclear Waste Primer.

****

What I, as an individual, have done in this report is review and edited out from this publication and condensed in an orderly fashion an understanding of the technical information with a point-blank subject - the secondary concern of this educational publication. The initial purpose of this 'project paper' was to initiate a topic of discussion for the First Annual Southern Utah Wilderness Alliance Round Up being held the weekend of October 11th, near Moab, Utah. The conference objective is to provide a much needed opportunity for a public forum in which topics concerning wilderness issues in Southern Utah can be discussed and debated. Two of us local Moab residents decided to attend specifically for the purpose to air our view of Atlas Milling to the Saturday, October 11th afternoon session, titled: The Future of Southern Utah: Dollars and Sense.

To be perfectly honest with the reader, this report with a week more time devoted to it's presentation could be a quality piece for legislative debate. Of course, the sophmoric term-

paper presentation, because of the conference dead line date - makes four days to edit and organize, sufficient and allowable in the pursuit of legislative debate. The specific objective and the point of this report: is immediate action by our federal government for a very serious health hazard.

I as an individual, plainly understand the information of this report, though it is a product of my emotional lunar cycle. Other information that I understand does me little good. Gravitational physics reminds me that the element lead in this biosphere does not percolate up. Any professional world historian will recount the decline and fall of the Roman Empire was the ignorant use of lead plumbing and food utensils by the wealthy and governing government and in a very brief period of time. Atlas Uranium Milling Operation located in Moab, Utah on the bank of the Colorado River is the single largest polluting health hazard agent on the entire 3000 mile course of the Colorado River. Atlas Uranium Milling Operation for it's present location can easily be said to be located right on the shoreline of Lake Powell or Grand Canyon National Park Proper. Granting that the man-made Lakes Powell and Mead are not the Great Lakes, they are at least ecologically significant. Certainly the United States Government would never ignore the 1985 United Nations World Report that approximately states that fresh water is the world's number one threatened and in short supply natural resource, more so than food. I understand that presently there is no monitoring of any sort at Atlas milling operation and there hasn't been for many months. I understand that this report is the most pressure applied to this health hazard.

I am not a professional - no one has all the answers, that is why agencies are created. Even still; what would you do? There is one major commercial low-level disposal site located in Beatty, Nevada and another major DOE low-level disposal site close by to Beatty, Nevada - the Nevada Test Site. Both these locations are approximately 800 miles from Atlas Uranium Milling Operation. Why can't one of the several dozen 'underground nuclear test craters' be lined with 3 feet of clay and Atlas tailings be 'entombed' on the Nevada Test Site?

I don't know! I want to know. The public and I have the right to know. And now that this can of worms is fully dumped; I demand to know exactly what is the "overall status" of Atlas Uranium Milling Operation located in Moab, Utah? Attatched to this report are the names and addresses of offices and agencies who received a copy of this report and who's primary purpose is to answer this question. I expect the common courtesy of a formal reply from these addresses. Any other ideas, suggestions and remarks will be gratefully appreciated.

There is a viable government sanctioned economic tax base to be taken advantage of by the suffering economically depressed Southern Utah communities. With this kind of understanding, I can't imagine any reason for further delay.

In obvious earnest,

G. Hazen
P.O. Box 422
Moab, Utah 84532

Government agencies notifyed by certified post of 09 Oct 86 report.

U.S. Department of Energy
Office of Civilian Radio-
active Waste Management
1000 Independence Ave, SW
Washington, D.C. 20585

Nuclear Regulatory Commission
Division of Waste Management
Office of Nuclear Material
Safety & Standards
1717 H Street, NW
Washington, D.C. 20555

Office of Technology Assessment
U.S. Congress
Washington, D.C. 20510

U.S. Department of Interior
Geologic Survey Public Inquiries
1028 General Services Administration
Office
19th & F streets, NW
Washington, D.C. 20244

Bureau of Land Management
18th & C Streets, NW
Washington, D.C. 20240

U.S. Department of Transportation
Research & Special Programs Admin.
Office of Hazardous Materials Reg.
Materials Transportation Bureau
400 7th Street, SW
Washington, D.C. 20590

U.S. Environmental Protection Agency
Office of Radiation Programs
401 M Street, SW
Washington, D.C. 20460

Office of the Governor, State of Utah
Governor Norman Bangerter
State Capitol
Salt Lake City, Utah