

High Country

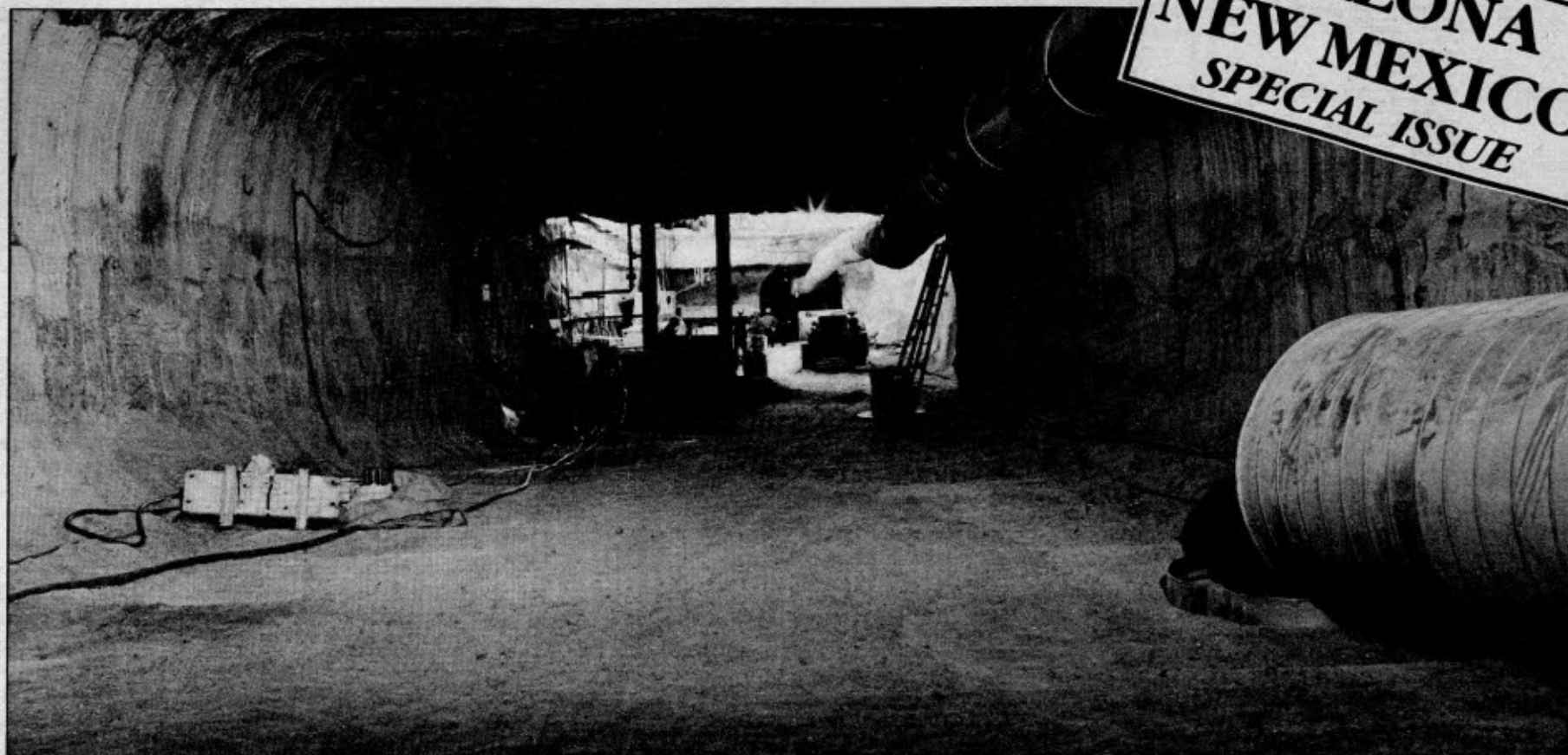
news

Friday, February 4, 1983

Vol. 15 No. 2

\$1.00

ARIZONA
NEW MEXICO
SPECIAL ISSUE



Construction in progress on the first WIPP tunnel approximately 2150 feet underground in bedded salt deposits

Nuclear waste disposal

WIPPing into shape in New Mexico

by Bruce C. Throne

At a place known as "Los Medanos" about 25 miles east of Carlsbad in southeastern New Mexico, the U.S. Department of Energy is busy digging a giant hole some two thousand feet deep into salt beds beneath a hummocky terrain mosaicked with shinny oak, mesquite, dune yucca and fluffgrass. In a semi-arid area known mainly for its nearby caverns, and its production of potash and oil, this is no ordinary excavation. It marks the beginnings of construction on the Waste Isolation Pilot Plant project — or WIPP — the nation's first attempt to build a permanent facility for the disposal of some of the hazardous radioactive wastes generated by the federal government.

As the WIPP project proceeds, both public awareness and controversy are rising over the potential dangers to health, safety and the environment which the transportation and disposal of radioactive wastes present. But officials trying to build WIPP are discovering that they must first solve a myriad of troublesome institutional problems which are tied into the continuing national debate over nuclear energy.

In 1972, Congress authorized WIPP as a research and development facility to demonstrate the safe disposal of radioactive wastes generated by defense activities of the U.S. government. The

facility will be located on about 19,000 acres, most of which is owned by the federal government.

It will include a waste handling building and various support structures above ground and four shafts to an underground disposal area approximately 2,150 feet deep in bedded salt deposits. The subterranean storage rooms will cover about 107 acres. The project will also involve the movement of radioactive wastes through New Mexico by truck and rail along existing transportation routes.

Since 1942, the United States has been generating both high-level and transuranic radioactive wastes from the production of nuclear weapons and the operation of military reactors used in the national defense program. Since that waste is sufficiently radioactive to require isolation from the biosphere, it has been either buried in trenches or placed inside specially designed temporary storage areas at government reservations around the country.

The difference in the physical properties of high-level and transuranic waste is significant. High-level waste includes reprocessed spent reactor fuel and unprocessed used fuel. It has high levels of penetrating radiation, high heat generation rates and a toxic life of hundreds and sometimes thousands of years.

Transuranic waste generally consists of items such as absorbent tissues, clo-

thing, gloves, equipment and fuel hulls contaminated during plutonium fuel fabrication and fuel reprocessing operations. Transuranium elements are man-made, very long-lived and extremely toxic but contain much lower concentrations of radioactivity and generate significantly less heat than high-level waste.

Most of the government's retrievable transuranic waste has been stored at the Idaho National Engineering Laboratory near Idaho Falls and at Hanford, Washington. As described in DOE's 1980 final environmental impact statement on WIPP, the purpose of the project is to establish a facility for the safe permanent disposal of all the transuranic waste currently held in "interim storage" at INEL, plus two-thirds of what is expected to be generated at all DOE facilities through 1990 and all of that expected to be produced from 1990 through 2003. DOE estimated that over its 25-year operating life, WIPP will receive about 6.5 million cubic feet of transuranic waste. In addition, the facility will receive approximately 150 cubic feet of high-level defense waste for experiments which would be removed before its closure.

WIPP has already had a tortuous and controversial history. In 1979, DOE announced it wanted WIPP to become a full-scale repository licensed by the U.S. Nuclear Regulatory Commission for the permanent disposal of both transuranic defense waste and at least 1,000 spent

fuel assemblies from commercial nuclear reactors.

That decision began a heated battle between the Carter administration, which wanted to study WIPP as part of an overall national waste disposal program, and the House Armed Services Committee, which wanted WIPP constructed without delay.

The committee opposed NRC licensing review of WIPP, claiming that it might set a bad precedent for other defense projects. It also opposed a Carter administration promise that New Mexico would have the right of "concurrence" — the right to stop the project if the government's plans were judged unsatisfactory. That surprised even those state officials who were willing to adopt a wait-and-see approach to WIPP. The committee appeared to ignore testimony by New Mexico's Sen. Pete Domenici (R) in 1979 that a state right to concurrence "poses no real threat to the continued operation of the nuclear weapons program."

Congress responded to the controversy by authorizing funding in 1979 for WIPP to proceed without NRC licensing review and limiting the project's mission to radioactive waste generated by defense activities. That legislation also denied New Mexico any right of concurrence over WIPP and ordered DOE to see an agreement with the state limited to "consultation and cooperation" on the project.

(continued on page 10)

WESTERN ROUNDUP



High Country News

Published biweekly by the High Country Foundation, 331 Main, Lander, Wyoming 82520. Telephone (307) 332-6970. Printed by the *Jackson Hole News*, Jackson, Wyoming. Second class postage paid at Lander (USPS No. 087480). All rights to publication of articles herein are reserved.

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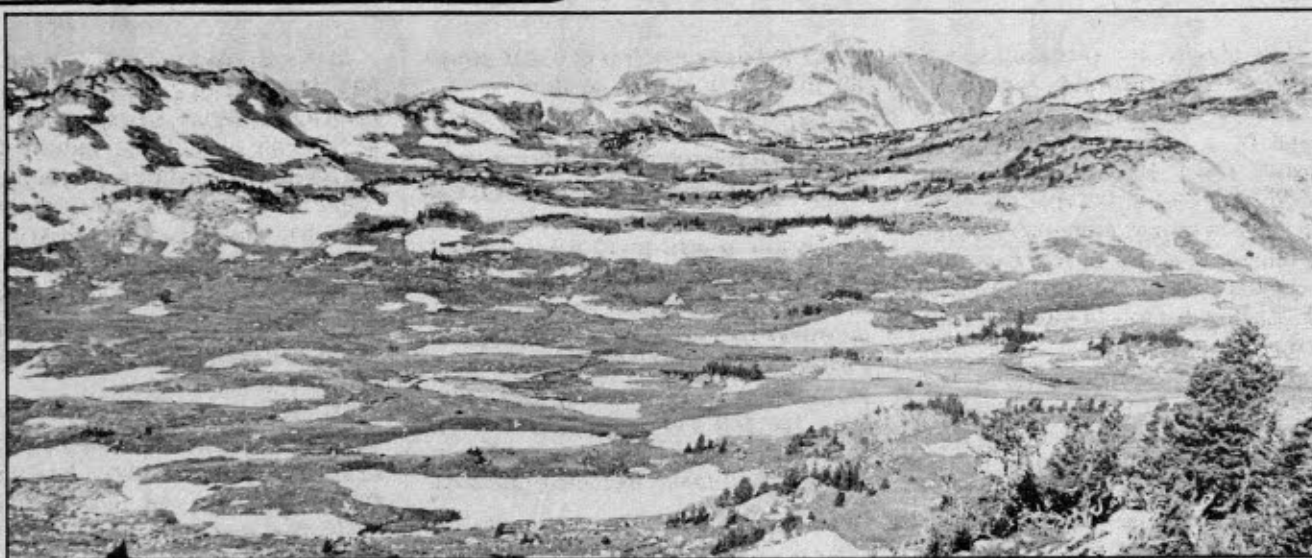
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Subscriptions are \$18 per year for individuals, \$25 per year for institutions. Single copies \$1.00 plus \$1.25 postage and handling.



Absaroka-Beartooth area in Wyoming and Montana

A not so RARE event

The U.S. Forest Service decision February 1 to replay RARE II (Roadless Area Review and Evaluation) has sent environmentalists, Congress and industry back into the ring for another round of battles over wilderness designation. Nationwide, about 28.7 million acres will have to be reviewed again.

Assistant Agriculture Secretary John Crowell said the decision is based on an October, 1982, ruling by the 9th Circuit Court of Appeals in California that declared the RARE II environmental impact statement inadequate on the study of 46 California roadless areas (*HCN*, 12/24/82). Crowell said that all roadless areas not yet designated as wilderness but inventoried in RARE II as non-wilderness, further planning and recommended wilderness areas will be subject to review. He said the review would take six to 24 months to complete and would cost between \$15 million and \$20 million. The reviews will be conducted as supplements to individual national forest plans. Most forest plans are presently near completion.

Primitive areas, areas already designated wilderness and congressionally mandated wilderness study areas will not be reviewed. Also exempt are states already covered by state wilderness bills — including Colorado, New Mexico, Alaska, Indiana, Missouri and West Virginia.

However, according to Bruce Hamil-

ton, regional representative of the Sierra Club, Crowell's decision is contrary to what the court declared inadequate. The Sierra Club contends that the courts declared the RARE II EIS "legally insufficient to support its non-wilderness allocations," but found that study of areas recommended for wilderness was sufficient. Hamilton said the court never asked for more study or information on recommended areas. He said the court also requested that no mineral development take place in areas until a sufficient study is done.

The Sierra Club also pointed out that the Forest Service could have appealed the decision to the Supreme Court or interpreted the decision to apply to the 46 California areas only. Instead it chose to interpret it to apply nationwide.

The Agriculture Department decision allows any development plans in the review to proceed. This eliminates the protection of areas designated for further planning.

Hamilton explained that there are four avenues that may be taken. One would be to conduct the review Crowell has suggested. Another would be an act of Congress declaring RARE II to be sufficient, thereby eliminating the need for another review. The third direction would be the same as the second, adding release language that would block any further consideration of non-wilderness areas for wilderness designation (*HCN*, 12/24/82).

The fourth avenue, which is the one the Sierra Club supports, would allow the new review to begin, but would at the same time call for passage of state by state wilderness bills.

The Sierra Club and other conservation groups feel that Crowell and the Reagan administration are aiming for the third plan, allowing RARE II to stand with release language. The Reagan administration has not been known for its support of wilderness designation and conservationists feel that pressuring Congress into quickly accepting release language will result in a substantial reduction of wilderness protection and will foreclose some areas from further consideration.

In Wyoming, four million acres will be under review again, including about one million acres that were recommended for wilderness but not yet acted upon. In Montana there are 200,000 acres in further planning, 630,000 acres of recommended wilderness and about four million acres that were declared non-wilderness.

In Utah there are about 500,000 acres recommended for wilderness, 140,000 for further planning and 2.4 million as non-wilderness.

In Idaho, 640,000 million acres are under further study, one million are recommended for wilderness and about 4.3 million are non-wilderness.

— Carol Jones

Lumber market spurts, then slows

A bubble of activity in the lumber market has lost some of its air after producing three weeks of wild trading and higher prices.

The surge, which resulted in a \$33 increase in the composite price for

framing lumber during the first two weeks of January, was in anticipation of higher demand this spring, according to Fred Reseburg, an economist for the Western Wood Products Association.

"Inventories were low, from the

retailer back through the pipeline to the sawmills," Reseburg said. "At the first sign of lower interest rates and new housing construction, everyone began to order at once."

Faced with a market demand 25 percent below normal, sawmill inventories in December had dropped to their lowest level in 10 years. In addition, speculators began buying lumber late last year, further reducing the available supply. As a result, the sudden rise in demand sent prices climbing to record one-week gains.

"The economic circumstances didn't warrant the demand," Reseburg explained. "If demand had stayed up, we'd have a log shortage. We didn't expect it to sustain."

Reseburg said, however, that more bubbles can be expected.

The lumber market began to deteriorate in late 1979 and it fell 35 percent below normal at its lowest point about a year ago. In the last three months of 1982, timber operators in Oregon and Washington removed 183 million board feet more than they could sell from national forests.

With that kind of surplus, Reseburg said he doubted there would be a flurry of logging activity resulting from the recent bubble.

— John Soisson

Dear friends,

News on the *HCN* front lately has been good to partly cloudy. No catastrophes have struck (no, this isn't another plea for money), but a few minor annoyances have crept in. And there is some decidedly good news about current and former staff members.

First, the good news. Former staff writer Michael Moss, now a reporter with the Grand Junction (Colo.) *Daily Sentinel*, was honored by the Colorado Press Association for the best story of 1982. His article concerned land use in Colorado. Congratulations, MM.

Former intern Jeff Stern also has good news. He has just been hired on the staff of the Powder River Basin Resource Council, a rancher-conservation group based in Sheridan, Wyoming.

And production assistant Phil Heywood, who in real life is a talented guitarist, has been hired to be the lead-in act for Leo Kottke when Leo appears at the

Log Cabin Saloon in Jackson, Wyoming, on February 18 and 19. Phil's Lander fans are organizing to go to the performance and cheer louder for Phil than we do for Leo.

On the negative side, our printer, the *Jackson Hole News*, goofed up in the press run for last issue and shorted us by about 400 copies. At first we thought that managing editor Dan Whipple had left a box or two of papers at the *News* by mistake.

No such luck.

We barely had enough to send one to every subscriber and there are exactly two copies left in the office. So, if you didn't get one, it won't do you any good to complain, because there aren't any more. If you did get one — especially if you're a Lander subscriber — we'd love to have it back when you get done with it. Drop it by the office and we'll reward you with our thanks.

— the staff

Judge voids New Mexico water law

A New Mexico law prohibiting the export of underground water to another state has been ruled unconstitutional by a federal judge in Albuquerque. Chief U.S. District Judge Howard C. Bratton ruled that the New Mexico water export embargo violates the commerce clause of the Constitution, which prohibits states from passing legislation that would interfere with interstate trade.

Bratton's decision has cleared the way for the city of El Paso, Texas, to acquire underground New Mexico water. The result could harm the ability of businesses and agriculture to maintain their prominence in southern New Mexico. Theoretically, anybody outside of New Mexico's border can now apply to claim unappropriated New Mexico water.

The opinion was issued in a suit filed by the city of El Paso in September, 1980, against New Mexico State Engineer Steve Reynolds (*HCN*, 7/9/82). The lawsuit was filed after 326 well applications by El Paso were turned down by Reynolds. The city had planned

to tap 296,000 acre-feet of water annually from New Mexico aquifers.

Bratton concurred with El Paso in ruling that the sole issue in the case was the validity of New Mexico's ban on the export of groundwater. He also ruled that water sought by El Paso was not previously appropriated under the 1938 Rio Grande Compact. New Mexico's attorneys had argued that the compact, established by the U.S. Congress, allocated Rio Grande water to Colorado, New Mexico and Texas, and that an adverse decision essentially would reallocate that water in violation of congressional intent.

A recent Supreme Court decision in a similar water case was cited by Bratton in support of his opinion. In its *Sporhase vs. Nebraska* ruling, the Supreme Court ruled that water is an article of commerce and as such is protected by the commerce clause of the Constitution (*HCN*, 7/9/82). The court also ruled that states can restrict the transport of water beyond their borders for conservation reasons.

In his decision, Bratton ruled that New Mexico had exaggerated its future need for the water, having based its projections on agricultural, industrial and energy use. According to his ruling, only water needed to provide public health and safety should be considered in making future determinations. As it stands, New Mexico's ban on the export of groundwater does not significantly advance the conservation and preservation of water.

The ruling on the El Paso lawsuit could have broad implications. Historically most Western states have determined priority of water usages. Bratton's ruling could be interpreted to mean that state authority to govern water resources within the state boundaries is limited.

Despite El Paso Mayor Jonathan Roger's hope that the conflict could be resolved without a costly appeal, New Mexico Gov. Toney Anaya (D) has announced the state will appeal the decision.

— Steve Hamp

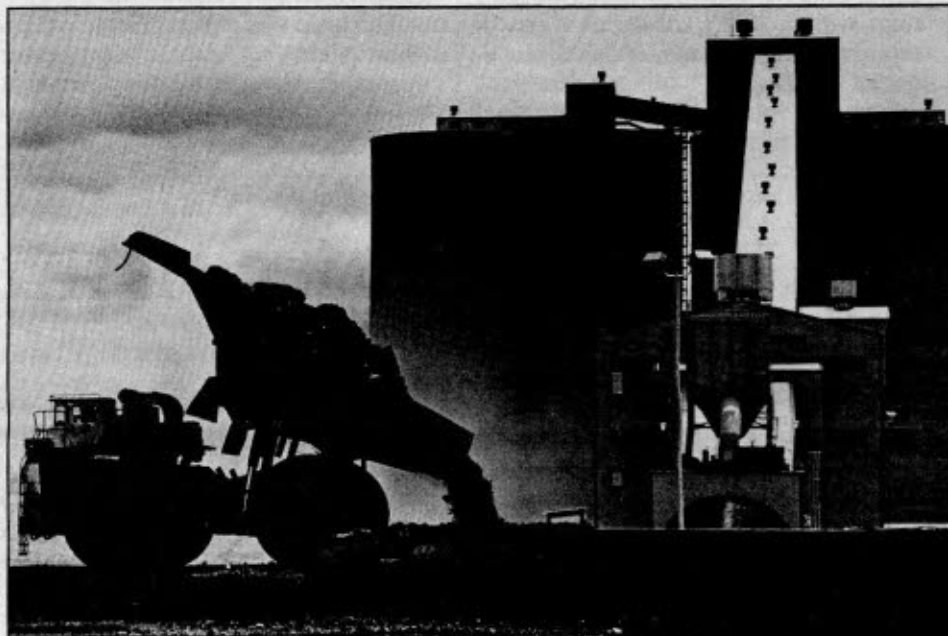
Stripping the mining rules

Announcing that it has strengthened the existing ban on mining in national parks, the Department of Interior recently released its final environmental impact statement on surface mining regulations. Interior agreed last year to complete the EIS as part of a settlement with the National Wildlife Federation over proposed changes to the regulations.

However, Norman Dean, counsel for the NWF, said the language protecting parks from mining is not concrete and may or may not protect the parks. According to Dean, the Interior secretary may use all his might to prevent mining even if there is a valid existing right to the minerals. It is the word "may" that gives the secretary discretion, he said.

The controversy centers around the definition of valid existing rights of private inholders in parks. Under the Carter administration, valid existing rights to mine were limited to those who had already obtained virtually all the required permits or had shown "good faith" in obtaining permits before the passage of the Surface Mining Act of 1977 (*HCN*, 9/17/82).

Dean said the EIS loosens the definition of valid existing rights to include those who had obtained only one of the required mining permits by the passage of the 1977 act. Dean said it will now be up to individual states to determine if claims are valid existing rights. And he said he feels sure this loosening of the definition will result in an increase of claims, which in turn, will increase the work level for the states that are already overburdened.



Frank Kelly, public affairs specialist with the Office of Surface Mining, said he could not comment on specific changes yet, because they have not happened. The EIS has a 30-day waiting period before any changes become final.

Another change that the EIS proposes is to permit strip mining on private lands registered as national historic properties. Ian Spatz, government affairs counsel for the National Trust for Historic Preservation, said most historic places are on private land. Spatz said his organization made its concerns known to Interior about the possible destruction of many historical places. Now, the trust is considering other options, he said.

Dean said the changes will also delete

a number of specific protections for fish and wildlife. One change would withdraw the requirement to fence in toxic waste ponds. Another would allow the use of persistent pesticides — those that do not break down quickly — on reclamation plots. And it would allow construction of structures and roads without any regard to the migratory patterns of wildlife.

Dean said the OSM is giving the states the option of replacing those protections.

The NWF will go back to federal court over the changes, Dean said. "We don't believe the changes comply with federal law or with the settlement agreement we had with Interior," he said.

— Carol Jones

Wyoming eyes Hampshire cautiously

Hampshire Energy will have to post a socio-economic impact bond if it proceeds with its synthetic gasoline plant in Gillette, Wyoming. That is one of more than 100 conditions attached to the company's industrial siting permit by the Wyoming Industrial Siting Council at a January meeting.

While the state has not required such a bond from previous projects, the council reasoned that this is the most speculative and the biggest project to be built (*HCN*, 11/12/82). The bond is designed to protect local communities and school districts if Hampshire were to begin construction and then pull out, after the local people had incurred significant debts.

Hampshire will also have to post a reclamation bond when it decides to

proceed with construction. The siting staff had suggested that a \$10,000 bond be paid now since Hampshire has already disturbed land by building roads and an air monitoring station. However, the council disagreed.

Hampshire announced in December that it was delaying its facility, but it did not withdraw its applications for state permits. The council inserted several conditions that reflect its members' concern with the uncertain future of the project. The siting permit will expire in two years if Hampshire cannot demonstrate that it can begin construction. In addition, the council could require that Hampshire prepare a new social economic study if conditions have changed substantially since the previous study.

To protect oil refiners in northeastern Wyoming, the council said Hampshire could not market its gasoline in that area unless the council approved a marketing plan, including a study of its impact.

The plant is designed to convert 15,000 tons of coal a day into 800,000 gallons of unleaded gasoline and by-products. Testimony at the two week siting hearing indicated this would disrupt local refiners' marketing, especially if the synthetic gasoline would enjoy federal price supports.

Despite its decision to delay its project, Hampshire applied in January to the U.S. Synthetic Fuels Corp. for price and loan guarantees.

— Marjane Ambler

HOTLINE



Protecting the Cabinet grizzlies

U.S. Borax has amended its 1983 drilling exploration plans in and near the Cabinet Wilderness in Montana in hopes of easing anticipated impacts on the grizzly bear. However, the Forest Service may ask the U.S. Fish and Wildlife Service for a formal biological opinion on the plan, according to the *Missoulian*. If the opinion indicates exploration would threaten the continued existence of the grizzly bear, the company would have to revise its drilling plans further. The Sierra Club Legal Defense Fund and the Defenders of Wildlife have asked the Forest Service to prepare a full environmental impact statement instead of the shorter environmental assessment now under way for the project. Both groups have said they will challenge any decision that, in their opinion, does not adequately protect the Cabinet Mountain grizzlies.

Light rail loses ground

Despite the fact that light rail is included in Denver's federally mandated long-range transportation plan (*HCN*, 6/25/82), the newly elected Regional Transportation District Board has placed a 90-day moratorium on spending for light rail studies. According to the *Denver Post*, RTD's budget includes \$1.1 million for light rail planning and \$1 million for land acquisition in 1983. RTD has already spent \$8.1 million on light rail although Denver area voters rejected a sales tax to pay for the system in 1980. The newly elected RTD board members are not convinced light rail is the way to go and will be studying the options before the public is asked to vote on a funding method again this spring.

Vying for SFC aid

The Synthetic Fuels Corporation is now looking at 46 possible synfuels projects for financial assistance. Only 17 of the applicants are new and of the 46 total, 10 are in Utah, four in Colorado, two in Wyoming and one in Alaska. Applicants in this round include 13 oil shale projects, 11 tar sands projects, 10 coal liquefaction projects and nine coal gasification projects. The other three fall into different categories, according to an Associated Press report. The SFC, which provides price and loan guarantees to boost the growth of synthetic fuels industry, will select candidates to receive aid sometime in 1984.

ASARCO violates rules

Asarco Inc. has been cited by Montana reclamation officials for two apparent violations of environmental permits issued to the company for its silver mining operations near Troy in northwestern Montana. A state inspection revealed Asarco did not comply with an approved plan for treating waste water discharged from the mine. The company constructed two waste water ponds not included in the plan and failed to stay within the approved plan in designing and constructing its 385-acre tailings pond at the mine. The pond is within 400 feet of Lake Creek which is considered one of the best fishing streams in that part of Montana.

HOTLINE

ETSI picks up more partners

Inter-North, an Omaha, Nebraska, natural gas firm has assumed 29.5 percent ownership interest in Energy Transportation Systems Inc., which plans to build a 1,400-mile coal slurry pipeline. ETSI plans to build the pipeline from Wyoming's Powder River Basin to power plants in southern states. Construction is scheduled to begin in 1984 with completion expected in 1986. Inter-North joined ETSI at a time when several project partners are changing their level of participation. Texas Eastern Corporation is increasing its interest in the project from 20 percent to 29.5 percent, Bechtel Group Inc. is reducing its interest from 30 percent to 21 percent and Lehman Brothers Kuhn Loeb is selling its 5 percent share.

Conservation thwarts coal plants

The Northwestern states will not need any new coal-fired power plants before at least 1996 because of potential savings through energy conservation. According to the Northwest Power Planning Council's draft power plan, the four states of Idaho, Washington, Oregon and Montana can save 4,800 megawatts of electricity through insulation and other means of conserving, thus eliminating the need for any new plant construction.

AMAX mines closed

AMAX Inc. has announced its molybdenum mines at Climax and Henderson, Colorado will remain closed indefinitely due to continuing poor markets and product glut. Less than 500 management and crew members are still on the job compared to the nearly 5,000 employed in December 1980. The mines had been shutdown late last year but were expected to open again this April. A major factor hurting the Colorado industry has been the severe depression of U.S. steel production.

More dams for the Colorado

The Loveland-based Northern Colorado Water Conservancy District has proposed building its \$800 million Azure dam and hydroelectric project which would flood one of the most popular river-rafting areas of the Colorado River. The project's main dam would be built on the Colorado River in an area about 10 miles southwest of Kremmling just below Gore Canyon, creating a four-mile long reservoir. Two other smaller dams, one on the Colorado and another on a tributary close to the main dam, would also be built. A Western River Guide association official said the project would wipe out \$6.8 million in annual float trip business. Project officials said it would produce 432.8 megawatts of power annually, much of which could be used to help utilities meet seasonal peaking demands more cheaply. The district intends to submit its plans to federal regulatory officials in April with hopes that construction would begin in 1985 at the earliest.

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WPPSS financial outlook gloomy

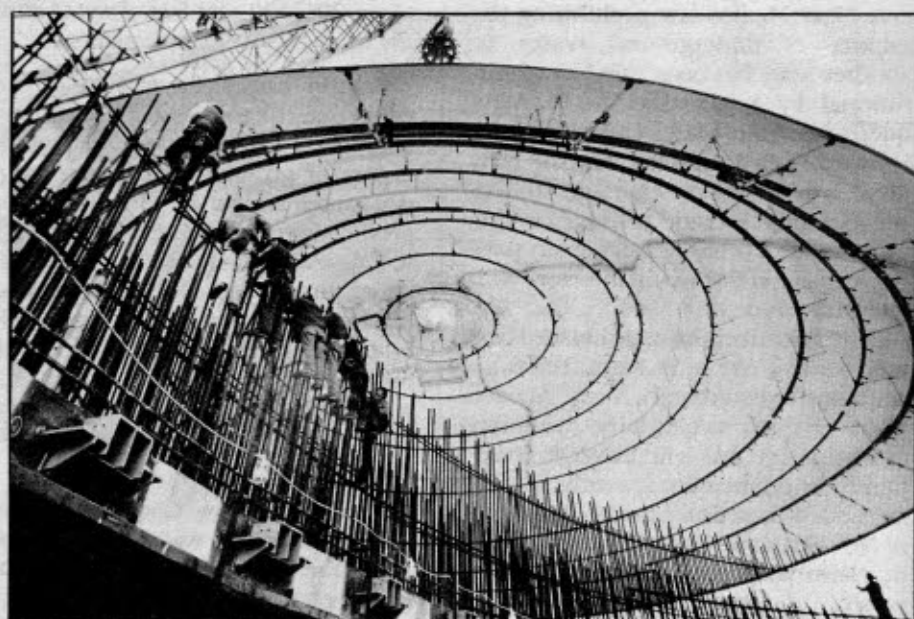
As expected, only a handful of the 88 member utilities of the Washington Public Power Supply System made payments January 25 on their multi-billion dollar debt, incurred when they terminated two of their five nuclear power plants a year ago.

Only two of the utilities — the Douglas County, Washington Public Utilities District and the Wells Rural Electric Company of Wells, Nevada — made payments directly to the supply system. Five other utilities made payments to a special escrow account established by the King County, Washington, Superior Court. One other utility paid into an escrow account of its own.

Several other utilities are expected to make payments to the court-created escrow fund in order to retain favorable credit ratings while court cases over the debt are pending. The debt has resulted in numerous legal challenges by utilities in Oregon, Washington, Idaho and Wyoming.

If all 88 utilities had paid by January 25, WPPSS would have collected about \$16 million for January. Collections totalled about \$1.1 million.

The termination of the two plants in January, 1982, left the WPPSS consortium with a \$2.25 billion debt. With interest over the next 30 years the total comes to about \$7 billion. The payments were scheduled to begin one year after termination.



WPPSS 3

The default on payments by the utilities almost assures a default by the system itself.

WPPSS officials said there is enough money on hand to cover interest payments on outstanding bonds until July. Without additional funds from the 88 utilities, however, WPPSS would be unable to make further payments and would then be in default, too.

The problems now threaten to engulf Plant Number 3, which is 60 percent complete. About \$1 billion is needed to bring it on line in 1986. Available construction funds will run out by May 1,

necessitating another bond sale for the plant. Because of the problems surrounding Plants 4 and 5, the terminated plants, the bond market is not expected to respond favorably to further sales.

Collapse of Plant 3 would leave WPPSS with only one plant. Plant 1 was mothballed last year. Plant 2, at the Hanford Nuclear Reservation, is about 94 percent complete. Officials are looking for ways to raise the \$149 million needed to finish it without selling more bonds.

— John Soisson

★REGIONAL LEGISLATIVE ROUNDUP★

Water tops legislative agendas

LEGISLATIVE UPDATE ★COLORADO★

While Republicans argue among themselves over solutions to Colorado's \$100 million budget shortage, and minority Democrats fight for a bigger voice in decision making, legislative committees have begun to wade through the bills presented for consideration.

The House Agriculture, Livestock and Natural Resources Committee is the busiest so far. Chaired by Rep. Walt Younglund (R-New Raymer), the committee unanimously approved a "blowing soil and property damage" bill sponsored by Rep. Charles Heim (R-Colorado Springs), which allows county commissioners to take action to correct severe erosion problems in cases in which land owners refuse to protect fragile soil. The bill now moves on to the full House.

Another bill from the same committee would increase state hunting and fishing license fees. If approved, the new fees would go into effect on January 1, 1984. Supporters of the increased fees say more money is needed to stock streams and lakes and make more private land available for hunting and fishing.

In the Senate, the Agriculture, Natural Resources and Energy Committee has approved a bill to license hunting and fishing guides in the state. The bill was passed with the support of the Colorado Guides and Outfitters Association. Guides and outfitters led an estimated 14,000 hunters on trips in 1982.

The same committee has passed a bill that continues the Colorado natural areas program. The bill also repeals a section of the law that provides for legislative review of the program. Started in 1977, the program has so far registered 39 sites, consisting of 63,000 acres, of diverse ecological habitat or unusual geological features.

Finally, a bill has received preliminary approval that would validate all existing

water conservancy districts. A lawsuit has been filed over the controversial Animas-La Plata water project near Durango in southwestern Colorado, challenging the legality of the conservancy district. If passed, this legislation would render the lawsuit moot. Opponents of the bill claim that creating special water conservancy districts, which help finance water projects, gives more voice to irrigated property owners than to other property owners.

— Diedre Duncan

LEGISLATIVE UPDATE ★UTAH★

The Utah State Senate has effectively killed resolutions favoring a nuclear freeze without debate on the merits. Through a series of procedural maneuvers, the Senate returned the resolution to the Natural Resources Committee for "fine tuning." It is not likely to re-emerge.

On January 28, the committee considered legislation sponsored by Sen. Terry Williams (D-Salt Lake) calling for an immediate and mutually verifiable freeze on the testing, production and deployment of nuclear weapons by the world's nuclear powers. Committee chairman Fred Finlinson (R-Salt Lake) then offered a substitute, which was essentially the "peace through strength" proposal of the Reagan administration, which calls for a freeze after the United States closes the allegedly inferior nuclear arms position it now holds behind the Soviet Union. Finlinson's substitute was reported out of committee favorably to the Senate.

Once on the Senate floor, however, Finlinson moved that the Senate not accept the committee report — his own bill — and return it to the committee. That motion was accepted. Williams then moved that the full Senate suspend its rules and consider the freeze resolution in its original form. This motion was defeated 19 to 8, defeating the freeze without debate.

In other areas, two of Gov. Scott Matheson's (D) top priorities ran into trouble early. The governor's \$50 million water bonding proposal, aimed at meeting the state's growing water and sewer needs, appeared to be making some initial progress. Proponents had worked out a compromise over earlier objections that would provide \$25 million to sewage treatment needs, \$10 million to domestic use and \$15 million for water storage.

However, in a classic turf struggle, the state Division of Water Resources, housed within the Department of Natural Resources, which handles water storage and some domestic use projects, has objected to the decision to place domestic use programs in the state's Safe Drinking Water Committee, a branch of the Department of Health.

While Water Resources quietly lobbied against the bill, the department also sent a note to the legislative fiscal analyst indicating that administrative costs for the water storage portion of the program would be \$500,000. The Safe Drinking Water Committee then sent a like-minded note, showing administrative costs of \$300,000. The size of these costs caught most legislators by surprise. As the governor struggled to keep the rival bureaucracies in line and make sure the administrative costs were justified, the bill's sponsor, Fred Finlinson, was forced to withdraw it from his committee's schedule until the agency bickering and financial issues were resolved.

Project BOLD, Matheson's program to trade three million acres of scattered state school sections with the federal government for consolidated, manageable blocks, was off to a good start, but also was clouded. The bill initially had 61 sponsors in the House when it was first introduced. While a number of these will probably drop off gradually, the bill's sponsor, Gayle McKeachnie (R-Daggett-Uintah) considered the initial interest very positive.

On the other side, Cal Black, county commissioner from San Juan County, long-time opponent of BOLD and a former legislator, was in Salt Lake argu-

ing against the proposal. Black, a member of the U.S. Interior Department's public lands advisory committee, is likely to have some sway with rural legislators. However, the Utah Association of Counties continues to support the legislation.

— Brec Cooke

LEGISLATIVE UPDATE

★IDAHO★

Beyond the battle of the budget, the few additional legislative issues to surface in the Idaho statehouse have gathered peculiar alliances.

Conservationists are supporting Idaho Power Company's 8,400 cubic feet per second water right on the Snake River, a water right recently upheld by the state Supreme Court. The high court ruled in November, 1982, that the utility never relinquished its 1906 water right at its archiac dam on the Snake River southwest of Boise. The decision means that IPC, which has traditionally supported agricultural and industrial development, can and perhaps must refuse any future water withdrawals in the southern half of the state. Department of Water Resources Director Ken Dunn told the House and Senate resource committees that the decision halts not only direct irrigation and other withdrawals from the Snake River, but also future water withdrawals in tributaries of the Snake River upstream of Swan Falls and in the massive Snake River Aquifer. In addition, Dunn reported that as much as a quarter million acres of irrigated land could be shut off from water in order to meet the utility's guaranteed flow in dry years.

All this encourages conservationists and wildlife advocates because it means a guaranteed minimum flow for fish and more water for hydroelectric generation, which means less demand for other additional generating facilities.

But to the agriculturally dominated Idaho legislature, the decision is a disaster and the members hope to do something about it.

Sen. Laird Noh (R-Kimberly), chairman of the Senate Resources and Environment Committee, said, "Some things are so bad you just can't believe they can happen, and this is one of those things." Noh said the House and Senate committees are awaiting the outcome of six public hearings scheduled throughout southern Idaho in mid-February before taking action. He said the hearings will serve to "alert the citizens" and "get an understanding of the parties affected."

Although Noh is withholding comment on possible solutions to the problem until after the hearings, the chairman of the House resources committee, Vard Chatburn (R-Albion) said that passing a memorial to the Federal Energy Regulatory Commission seems to be "about the only solution." The memorial would ask FERC to make relicensing of the Swan Falls Dam conditional on making the water right subordinate to irrigation. Chatburn said, "We could pass a bill that would subordinate the right, but we'd be in court the rest of our lives."

Idaho Power has said it does not intend to stop domestic and most commercial water developments, but additional irrigation would infringe on its water right. IPC spokesman Larry Taylor said, "We have a water right there that we have to protect — we don't have any choice."

The Idaho Conservation League is "supporting the concept" of a bill written by Vernon Ravenscroft, founder of Sagebrush Rebellion, Inc., corporate lobbyist, land developer, former legislator and gubernatorial candidate — and in this case, president of the Independent Power Producers Council. The bill would legislate what the Idaho Public Utilities Commission (PUC) is already enforcing — the mandatory purchase by

utilities of privately produced electricity.

A 1978 federal law, the Public Utilities Regulatory Act (PURPA), requires the purchase from such sources as private hydroelectric projects, wind generators and cogeneration plants. But Idaho Power is appealing the PUC's authority to dictate the terms of the utility-producer contract. Such legal protests make potential small power producers apprehensive. Ravenscroft said the bill is "an honest attempt to make those working relationships (between the utility and the small producer) more amiable." However, Idaho Power is reacting coolly toward the bill and may even oppose it.

The bill would require utilities to pay "full avoided cost" for the private electricity — that is, the amount the utility would have to spend to produce an equal amount of electricity by building a new generating facility. This provision concerns Idaho Conservation League lobbyist Renee Quick who said such guaranteed high rates may be unfair to the consumer. PUC Commissioner Conley Ward said mandating a relatively high rate is advantageous because a recalcitrant PUC could sabotage PURPA by setting rates so low that private producers would go out of business.

The Idaho Conservation League is cranking up its effort to pass a memorial opposing the sale of federal lands. The memorial would be a letter from the legislature to President Ronald Reagan urging "termination of the public land sale program." It has a sponsor in the Senate, but none yet in the House.

— Glenn Oakley

LEGISLATIVE UPDATE

★MONTANA★

A debate over the use of Montana water in proposed coal slurry pipelines captured conservationists' attention during the opening weeks of the 48th Montana legislature. Conservationists have teamed up with railroad unions, the Montana Farmers Union and the League of Women Voters against proposed measures that would eliminate Montana's statutory ban on the use of water in slurry lines.

Enacted in 1979, the ban declares that for purposes of conservation the use of water for coal transport is not a beneficial use under state water law. But last year's U.S. Supreme Court decision in *Sporbace v. Nebraska* now clouds the constitutionality of Montana's ban.

In *Sporbace*, the court treated water as an article of interstate commerce and struck down Nebraska's water export ban, which required that export to another state could occur only if the receiving state agreed to give water from another source back to Nebraska (HCN, 7/9/82).

For Montana the question now remains whether state law protecting water resources "for purposes of conservation" is strong enough to withstand a challenge against the slurry ban.

Ted Doney, former director of the Department of Natural Resources and Conservation (DNRC) and now a private consultant favoring coal slurry, said Montana's ban is "almost certainly unconstitutional."

Al Stone, professor of water law at the University of Montana, said, however, that the constitutionality of the ban "is a tough one to call." Stone gives it "a 50-50 chance" if challenged.

And the Powder River Pipeline Company of Billings, whose interest in Montana water spurred the whole debate in the first place, is waiting in the wings of the Capitol, meeting privately with officials of DNRC, and "watching the proposed legislation with interest."

Legislative proposals so far appear to favor removing the ban and devising a system to administer out-of-state export of water for sale to industrial users. The

legislation would also amend the Montana Major Facility Siting Act to cover large energy pipelines.

But so far these proposals are still in the bill-request hopper at the Legislative Council office. House Speaker Dan Kemmis (D), author of the 1979 ban, has reportedly given his bill request to DNRC for drafting. Prodded by Democratic Gov. Ted Schwinden, the agency has become a vocal proponent of coal slurry pipelines, despite a strong plank in the state Democratic Party platform against lifting the water ban or even studying the coal slurry issue through a legislative resolution. Kemmis has not yet said whether he will side with the Democrats or the governor.

Susan Cottingham, executive director of the Montana Environmental Information Center, has charged that DNRC officials have been "spouting half truths about coal slurry economics, the market for coal, water availability, and the effect of pipelines on railroad employment and shipping costs for agricultural commodities."

"The simple fact is that Montana officials are eyeing enviously the South Dakota water sale to ETSI," she said. ETSI is Energy Transportation Systems Inc. of Cheyenne, Wyoming, which plans a slurry line from Wyoming to Louisiana. "Some of our appointed officials appear willing to ignore rational solutions to our water law problems in their haste to capture revenues from the mysterious Powder River Pipeline Company," she said.

Meanwhile, the "mysterious" company has told Montana officials that it is considering buying waste water from South Dakota to ship Montana coal. Company officials have been quick to tell legislators that South Dakota will gain \$9 million a year in state revenues from its sale to ETSI.

"We feel coal slurry should have a chance in the market place and let the consumer be the judge," said Sandra Hawke of Powder River Pipeline.

— Don Snow

LEGISLATIVE UPDATE

★WYOMING★

The Wyoming state legislature does and does not want a general water policy. The state has the luxury of a \$100 million budget for water projects, but is balking at firm guidelines for spending the money. As one lobbyist said, "People are only interested in a water policy when it helps them."

Sen. Charlie Scott (R-Natrona) is the main impetus behind the water policy discussion. He wants one — provided it allows transbasin diversions that will benefit Casper, Wyoming's largest city, in his home district. Sen. Steve Majhanovich (D-Sweetwater) doesn't want one, except for a specific prohibition against transbasin diversions from the Green River, in Sweetwater County, one of Wyoming's richest mining areas. In the end, there probably will be no water policy at all, and the \$100 million will go to everybody's favorite pork barrel projects.

One of the environmentalists' pet projects — water for in-stream flows to benefit fish and wildlife — has sailed through the Senate, passing by a 24 to 6 vote on the third and final reading. It now goes to the House agriculture committee, where it will either die a quiet death or come out severely weakened.

Another pet environmental project, a bill to establish a trust fund for the benefit of wildlife, is in a very sensitive position. It is in the House recreation and wildlife committee with, apparently, four votes definitely in favor of a "do pass" recommendation, four votes definitely against and two votes on the fence. Committee chair Peg Shreve (R-Park), while personally opposed to the bill, has at least promised that she will not hold it hostage in committee and

will allow the full House to vote on it. Passage is questionable in the face of strong opposition from the agricultural community.

One bill that faced little or no opposition has been a reduction of the severance tax on coal mined underground from 10 percent to seven percent. The measure has been touted as a relief measure for underground coal mines, but there is currently only one in operation in the state. There are several other bills that offer relief to the mining industry, however, for which the underground coal measure may be viewed as a stalking horse.

In the course of the debate, however, as some legislators realized that they were allowing a \$1 million or more decrease in state revenues, the chances for passage of a similar measure to aid the ailing uranium industry probably suffered.

No issue in Wyoming in recent years has garnered as much controversy as exporting water for coal slurry pipelines. Nevertheless, Rep. Russ Donley (R-Natrona), House speaker, has introduced legislation that calls for allowing water to be exported in slurry lines and re-opening the Yellowstone Compact, the agreement between Yellowstone River Basin states that requires concurrence before any water can be shipped from the basin.

Donley's bill calls for renegotiation of article 10 of the compact, which contains the specific concurrence language. However, the likelihood of the Yellowstone Basin states agreeing to limit the renegotiations to that one article is slim. According to Paula Walker of Montana Gov. Ted Schwinden's (D) office, "We do not want to open the compact for renegotiation. Even though there are currently some ambiguities in the agreement, we are working with Wyoming officials to straighten these out. We prefer this route to complete renegotiations."

Besides, as one legislator put it, "Wyoming got a pretty good deal in the Yellowstone Compact in the first place. It's hard to imagine that things would improve in any renegotiation." Donley's bill may pass the legislature, but Gov. Ed Herschler (D), an outspoken slurry opponent, would almost certainly veto it.

— Dan Whipple

BARBS

It would probably improve the basketball team, though. An Idaho state senator said he was just kidding when he suggested selling Idaho State University to the Church of Jesus Christ of Latter-day Saints.

The happy couple will boneymoon in Gary, Indiana. Environmental Protection Agency administrator Anne Gorsuch and Bureau of Land Management director Bob Burford are getting married (to each other) on February 20.

E.T., phone earth. The National Aeronautics and Space Administration has told interested astronomers that it is willing to spend \$1.5 million to help develop a device that could determine the presence of intelligently constructed radio messages from outer space. In the past, thanks largely to the efforts of Sen. William Proxmire (D-Wis.), federal agencies have been specifically prohibited from spending money on the search for extraterrestrial intelligence (SETI — rhymes with yeti).

I'd rather have mine with peanut butter. A man charged with spreading a mixture of waste oil and toxic dioxin on Missouri roads told the state legislature that he did not know he was transporting hazardous waste: "You could have told me it was some kind of a new jelly and I'd have put it on toast and eaten it."

6-High Country News — Feb. 4, 1983

Bearing down on the *BISTI* BADLANDS



by Bryan Welch
Photography by Cathy Pate'

Driving through northwestern New Mexico's San Juan Basin, it's hard to believe that much of anything is happening there. The land is empty, seemingly, in every sense of the word. There are practically no inhabitants outside of a few small towns in the region. Few plants grow in the sandy soil which itself seems devoid of life to the point of being sanitary. Little wildlife is visible. Even the area's beautiful badlands are far less intimidating than similar formations in other parts of the country. They look as if they were formed slowly, with thought, rather than slashed out of the earth with a gigantic knife.

The region is, however, the center of one of the nation's most heated land-use controversies. It is a center of interest for several diverse groups hoping to utilize a collection of resources so varied that it boggles the mind.

The scientific community is enthralled with an elaborate system of roadways and communities which may be remnants of the most advanced prehistoric culture in the United States. Centered in the Chaco Canyon area, south of Farmington, some of the more than 250,000 archeological sites in the basin date from 12,000 years ago and span 10,000 years of occupation.

Other scientists have discovered fossils in the basin from the age of the dinosaurs and from the mysterious period during which the great reptiles became extinct and were replaced by increasing numbers of mammals.

And increasing numbers of persons have begun to treasure the region for its quiet, its clean air and the unique scenery. Three separate spots within the basin are currently on the Bureau of Land Management's list of wilderness study areas.

But the San Juan Basin also contains an abundance of resources more easily quantified than scientific and environmental concerns. Coal, uranium, oil and gas have been discovered there and the development of those mineral resources could damage or destroy many scientific sites and the region's wilderness beauty, according to those opposed to the energy development.

Coal is northwestern New Mexico's leading mineral resource. An estimated 200 billion tons of obtainable coal exists under the quiet desert, most of which could be mined by underground methods. The world's largest uranium producing area, the Grants Uranium Belt overlaps the southern San Juan and more than 10,000 oil and gas wells already exist in the basin, providing six percent of the state's oil and 45 percent of its gas, according to figures compiled by the BLM.

Most of the energy development in the area so far has been on private land, but the basin's largest property owner, the U.S. government, has a number of new proposals for using its land which are drawing mixed reviews.

The federal government began accepting lease applications for San Juan coal resources in the early 1970s, but deferred those applications pending the development of regulations for the federal coal program. The companies that submitted those original applications legally are entitled to obtain leases now, without going through competitive bidding. Those leases must be issued, according to federal regulations, before December, 1984, and the BLM is currently working on the exact stipulations for the leases.



Two billion tons of coal are included in the applications, located across 75,000 acres, 31,000 of which would be strip-mined.

At the urging of a subsidiary of the Public Service Company of New Mexico, BLM has also proposed to trade the utility company land in the San Juan where it hopes to construct an electricity generating plant for a larger parcel east of the basin in Taos County near the Rio Grande Wild and Scenic River area. The 2,000-megawatt generating station would be coal-fired, would be visible from one of the proposed wilderness areas, and would raise the levels of air pollution in the basin.

In addition to the two billion tons of federal coal to be leased non-competitively, the BLM has proposed to lease another 1.32 billion tons competitively, before the end of 1983.

Most of the nation's major environmental groups, including the Sierra Club and the Audubon Society have publicly opposed energy development in the San Juan beyond what is already under development. The leading group of detractors is an alliance called the Committee on Coal, made up of representatives from environmental groups throughout the state and organized solely to oppose the sale of coal leases within the San Juan.

The committee is fond of quoting a National Science Foundation study conducted around the beginning of the 1970s, the results of which suggested that the basin might be an appropriate "sacrifice area" to furnish large amounts of coal quickly in order to divert the energy crisis. PNM and the federal government continue to operate with that study in mind, the committee argues, despite the current world-wide coal surplus, the oil glut, and the fact the PNM already generates more electricity than can be used within the state.

"The public is being misled," said Kathy McElmury, a spokeswoman for the Committee on Coal. "The fact is that development in the San Juan Basin is neither necessary nor advisable. The only people it will benefit will be the energy companies. It appears the area could become a 'sacrifice' to their desires for more profits."

McElmury pointed out that the area's arid climate not only brings into question the wisdom of using water from the small San Juan River for energy development, but virtually prohibits any effective reclamation of land which has been strip-mined. "It takes so long for even the sparsest vegetation to grow in that climate, things would never be the same there after mining," she said.

Residents of the towns nearest the proposed San Juan coal fields are apparently not worried about the possibility that their neighborhood may be sacrificed, environmentally, in order to provide the nation with more coal. The nearest settlements to the proposed development area, the towns of Bloomfield and Aztec, New Mexico, have praised the federal government for opening up the possibility of a new source of jobs in the economically depressed region.

The BLM estimates that as many as 1,600 permanent jobs might be provided by energy development in the area. At a luncheon sponsored by PNM



A 1970 National Science Foundation study said the San Juan Basin might be an appropriate "sacrifice area" to furnish large amounts of coal quickly.

for 150 civic leaders from Bloomfield, Aztec and Farmington in the spring of 1982, Jerry Geist, president of the utility, told the local residents that construction of the proposed generating station could employ as many as 1,800 workers with an annual payroll of \$45 million. Construction is slated to take 10 years, and the completed plant could employ 900 workers with an annual payroll of \$18 million.

People living at the actual proposed site of development have spoken at BLM hearings against the mining proposals, however. Approximately 150 families of traditional Navajos live in the area and would be displaced by the development. BLM documents describe the Indians as "unauthorized inhabitants" of federal lands.

All of the basin has been claimed by the Navajo tribe on the basis of 19th century treaties as part of a case still in court, which also claims most of several surrounding counties. The tribe was considering choosing 35,000 acres of basin land as part of their allocation designated by the Navajo-Hopi resettlement act passed recently by Congress to ease tensions between the two neighboring tribes. In order to facilitate completion of the proposed land exchange with the PNM, the BLM secured an informal agreement with the Navajos

that they would not claim the land where the generating station is proposed to be located.

In order to secure the agreement more formally, however, Secretary of the Interior James Watt officially withdrew the land proposed for trade from eligibility for Navajo claim. The tribe promptly challenged Watt's action in court and ultimately tied the land up until the case is resolved.

Although the expressed purpose of the resettlement act is to provide land where displaced Indians could continue their traditional lifestyles, some speculation has been voiced concerning designs the Navajo tribe may have on the mineral resources in the San Juan, particularly since the tribe has begun planning a coal railway to run adjacent to the basin. The Navajo railway, which would run just west of the coal fields, would apparently be in competition with an already-approved line to be constructed by the Santa Fe Railway Company.

Mineral deposits are mined on the existing Navajo reservation, which borders on the San Juan Basin. Also, the largest generating station presently near the area, the Four Corners Power Plant, is on reservation property and is generally regarded as the largest source of air pollution in that part of the country. The

plant is exempt from clean air standards because it was built before the standards were enacted. There is some doubt, however, whether the federal government could enforce pollution standards on a new generating facility if one were built on an Indian reservation.

BLM officials concede that little immediate need exists for either the coal or the electricity that could be produced in the San Juan, but counter that development of the area is a prudent "hedge" against future energy shortages. "If there is a need (for the energy), we'll be ready," said Lee Larson of the BLM's Farmington offices.

The agency also contends that by requiring mining companies to hire archeologists and paleontologists to conduct inventories of mine sites before mining begins, potentially valuable research sites can be protected. Their argument is that, although many sites will be destroyed, the most important of them can be spared at least until satisfactory study has been completed.

Draft environmental impact statements for all the proposed energy developments and the possible wilderness areas, issued in November, 1982, indicated that scientific, mining and wilderness preservation efforts could all be compatible in the area.

The public remains unconvinced, however, if responses to the various proposals fielded during a series of recent hearings in New Mexico, are any indication.

"The vast majority of the people who spoke at the hearings were flatly against any development," according to John Gumert, chief of the BLM's Public Affairs Division in Santa Fe.

Due to the overwhelming public concern, New Mexico's new governor, Toney Anaya (D), requested that the federal agency extend the period during which the public may respond to the draft environmental impact statements. Originally scheduled to end in February, the forum will remain open until April, and more hearings are being scheduled by the agency.

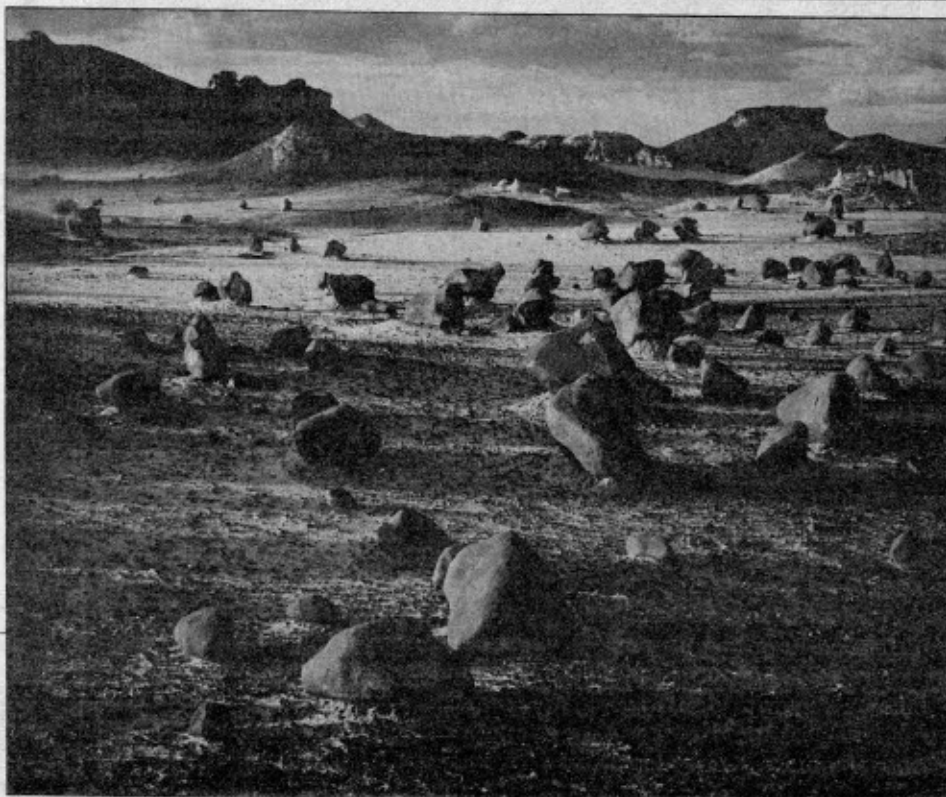
Secretary Watt also was witness to the amount of public concern that revolves around the San Juan Basin. In late December, Watt issued a directive which declared a large number of wilderness study areas around the country unsuitable for a variety of reasons (HCN, 1/21/83). Among those areas was the Bisti Badlands WSA. Two days after the action was published in the Federal Register, enough complaints had been voiced to the BLM, Congress and the Department of the Interior that Watt made a "special exception" and replaced the Bisti Badlands on the official list of WSAs.

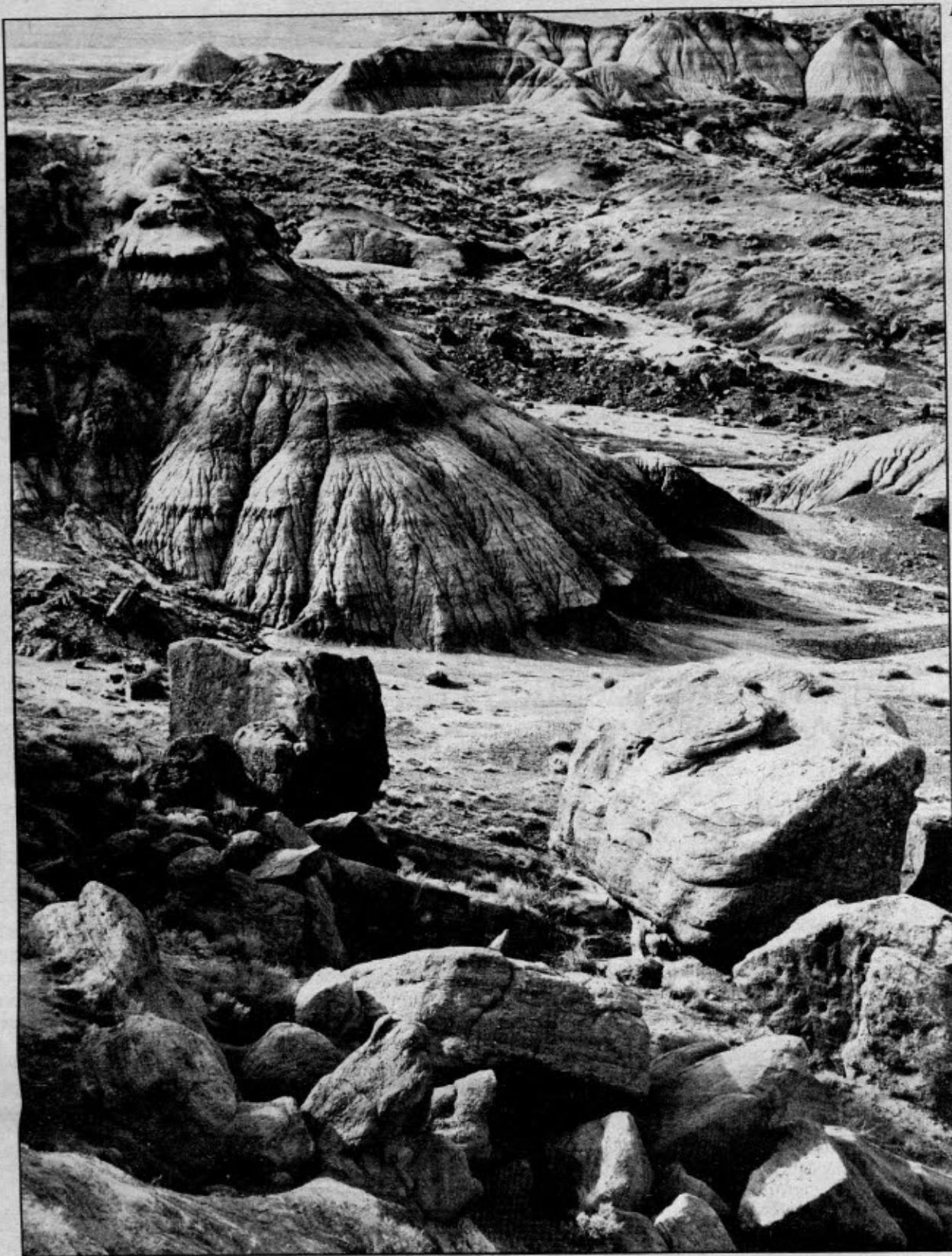
Although previous deadlines for final decisions on the fate of the San Juan Basin were erased when the 60-day extension of public comment was approved, Gumert said, the BLM does not expect to be long delayed.

"We expect to be selling leases in 1983," he said.

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Bryan Welch is a correspondent for *The Taos News* in Taos, New Mexico. This article was paid for by the HCN Research Fund.





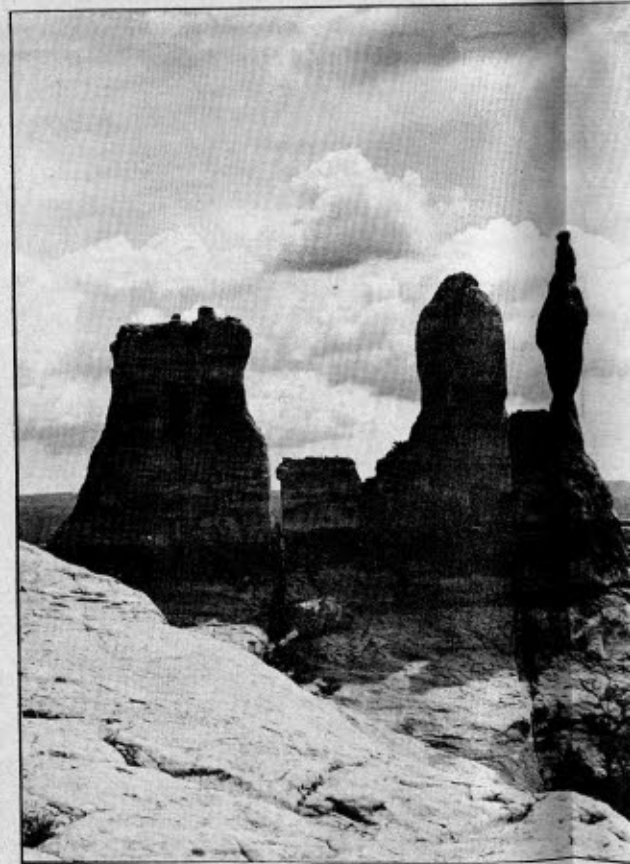
Blue Mesa, Petrified Forest National Park, Arizona

SOUTH

Old Concho, Arizona

"I'm a nature photographer, but I try to appeal to a broad audience. I don't want to be so obscure that any person can't understand what's going on in my pictures."

Dale Schicketanz currently teaches photography in Arizona. He received a masters degree in photography from Fresno in 1973.



Photographs by



Whitewater Canyon, Glenwood, New Mexico

Arizona

Mt. Baldy Wilderness, Arizona

THWEST

Old Concho, Arizona



pher, but I try to appeal
on't want to be so
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ently teaches photography at Northland Pioneer College in Showlow,
masters degree in photography from California State University in

Schicketanz recently had a show of his photography touring the Rocky Mountain galleries. Called "Personal Impressions," the show appeared at Sheridan College in Sheridan, Wyoming, the University of Wyoming's Gallery 234, Casper, Wyoming's Nicolaysen Art Gallery, Montana State University in Bozeman, and at galleries in Lakewood, Colorado and Amarillo, Texas.

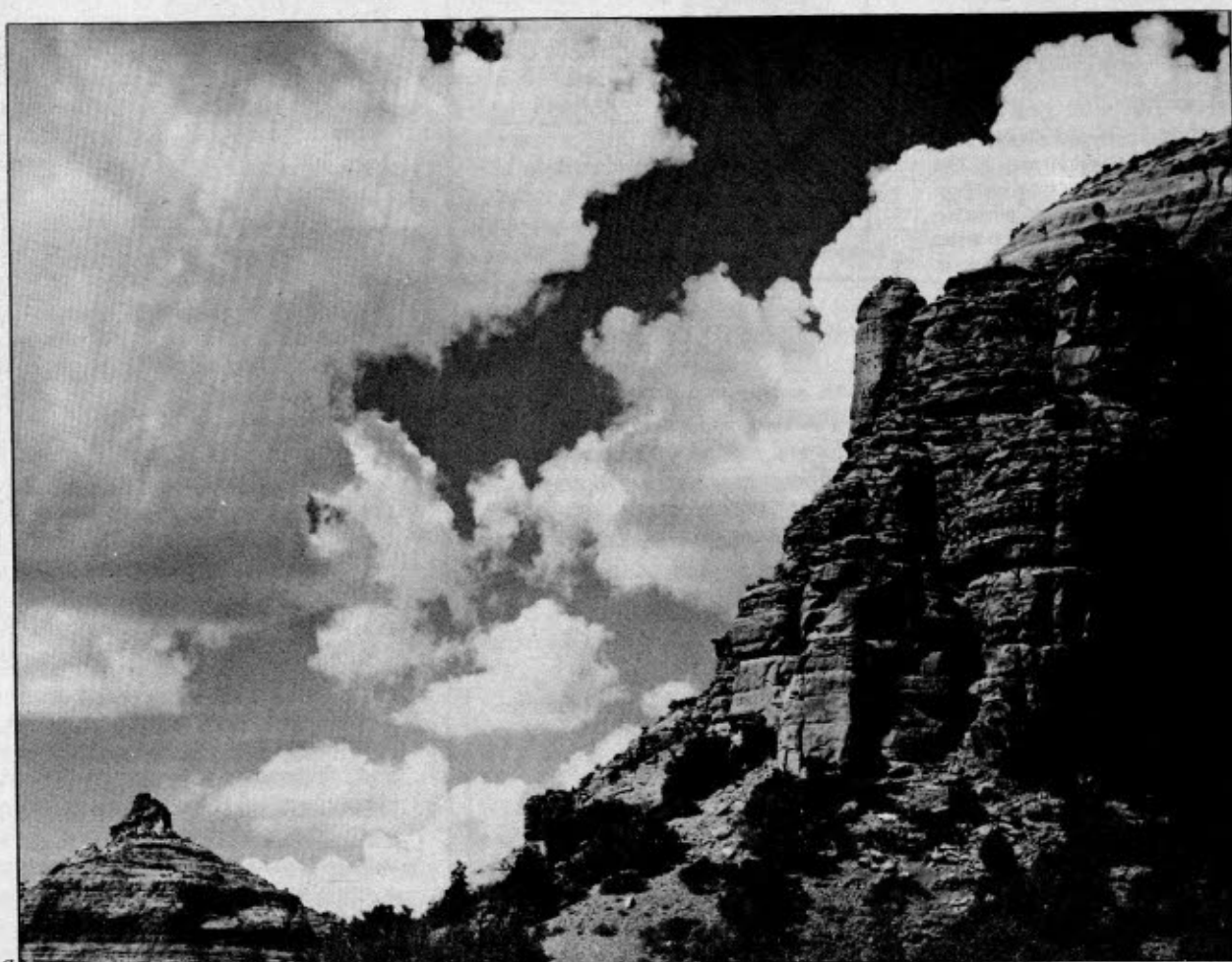
Schicketanz currently lives in Showlow.



Near El Moro, New Mexico



Dale Schicketanz



Schnebly Hills, Sedona, Arizona

Choosing a geologically stable nuclear waste site is "like choosing between two apples that could make you sick," said Bob Neill, director of New Mexico's Environmental Evaluation Group. "The best you can do is check them both out and hope you've made the right choice."

WIPP...

(continued from page 1)

The next stage of the battle over WIPP in Washington came in February, 1980, when Carter sent Congress a special message establishing the nation's first comprehensive program to manage radioactive wastes. Acting upon the recommendations of 14 government agencies, Carter decided that all repositories for permanent high-level waste disposal should be licensed by the NRC and should include both defense and commercial waste.

He also decided that WIPP should be postponed until DOE expanded its geological investigation program to include a broader selection of sites and repository designs. Congress, in turn, refused to honor the president's wishes and continued to fund WIPP as an unlicensed defense waste project.

In 1955, the Atomic Energy Commission, the NRC's bureaucratic predecessor, asked the National Academy of Sciences to examine the problem of radioactive waste disposal. An Academy committee concluded that "the most

promising method of disposal of high-level waste at the present time seems to be in salt deposits." The salt medium was recommended for high-level waste because of its thermal and physical characteristics and because the existence of salt beds for millions of years indicated an absence of circulating groundwater which could present contamination problems.

Apart from the apparent geological characteristics of the Los Medanos site — salt beds and other potentially acceptable host media for high-level waste exist in other states — there were political reasons for choosing southeastern New Mexico for WIPP. Considerable public controversy has surrounded the location of the nation's first permanent waste disposal facility. A number of communities around the country have already expressed opposition to having such a facility nearby no matter what precautions are taken.

In the business community of Carlsbad, however, federal officials found a willing recipient for the project. State legislators from that area, Los Alamos and the uranium-rich western regions of the state have applied pressure in Santa Fe and in Washington, D.C., to make sure that WIPP proceeds on schedule. They view the project as a means of creating needed jobs and attracting related nuclear industries to their communities.

In January, 1981, DOE officially announced its decision to proceed with phased construction of permanent surface and underground waste facilities at the Los Medanos site, even though it had not reached a "consultation and cooperation" agreement acceptable to New Mexico. That decision prompted then-Attorney General (and now U.S. senator) Jeff Bingaman (D) to file a lawsuit on New Mexico's behalf against the federal government three months later. The state's complaint alleged federal violations of fundamental state's rights. Among other concerns, the suit questioned the legality of DOE's decision to construct the repository in light of unresolved evidence about the geologic integrity of the WIPP site.

Within hours of the filing of New Mexico's lawsuit, a Justice Department lawyer was on the phone asking Bingaman if a settlement could be reached. While negotiations continued, the state pressed its case and requested a federal court hearing to determine if the WIPP project should be halted by a preliminary injunction.

The settlement negotiations reached fruition on July 1, 1981, when the state and federal government reached an agreement on the handling of the project. The agreement included: a "consultation and cooperation agreement"; a number of environmental and geologic reporting requirements; and DOE's "good faith" efforts to resolve issues like funding for road upgrading, emergency preparedness and the clarification of state liability in the event of a WIPP-related accident.

This court-approved stipulated agree-

ment resulted in at least one surprising geological discovery at the WIPP site, and a DOE decision to reorient the location of the proposed underground storage area.

In November, 1981, DOE contractors were deepening a bore hole to the north of the proposed facility as required by the post-settlement negotiations when they encountered a substantial flow of highly pressurized underground salt water — a brine reservoir. That discovery came as a surprise for two reasons. DOE officials had stated earlier that there was little likelihood that flowing brine existed in that area. Moreover, the reservoir was discovered within 600 feet of the northernmost edge of the proposed waste storage area. Although the DOE subsequently announced that the brine posed no threat to the WIPP facility, it agreed in November, 1982, to reorient to a more southerly location where seismic measurements indicate less probability of encountering similar underground disturbances in the salt beds.

On December 27, 1982, New Mexico and DOE reached a second agreement that clarified understandings reached in the earlier one. This agreement included a DOE legal opinion clarifying some issues about state liability in a WIPP-related accident. However, some of those issues must also still be addressed by Congress. The agreement also included: procedures for DOE to follow to get congressional funding for state handling of off-site impacts; DOE continued funding of environmental and health-related studies; and some state approval over highway routes for waste shipments.

New Mexico's negotiator Joe Canepa said that latest agreement represents a substantial milestone in the state's efforts to play a meaningful role in the ongoing WIPP project. "Over the past few years, people on both sides have become aware that WIPP involves not only geological questions, but also substantial impacts which spill over into many areas of state government," said Canepa. "In dealing with these issues, we're involved in more of a treaty than a lawsuit."

On the other hand, Canepa recognized the impact of the state's lawsuit and the importance of its successful fight to keep the subsequent DOE commitments in the form of court-approved agreements. "We believe the federal government's compliance with these agreements will be more forthcoming since they will remain under the continuing jurisdiction of the court and subject to its contempt authority," he said.

Sen. Bingaman likewise believes that New Mexico has benefitted from its lawsuit. "The distribution of powers between the states and the federal government will always be a matter of some tension," he said. "But I believe the state must always retain the basic right to protect the public health and safety of its citizens — a standard I believe we achieved with New Mexico's WIPP agreements."

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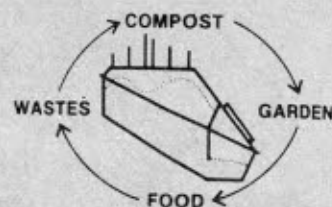
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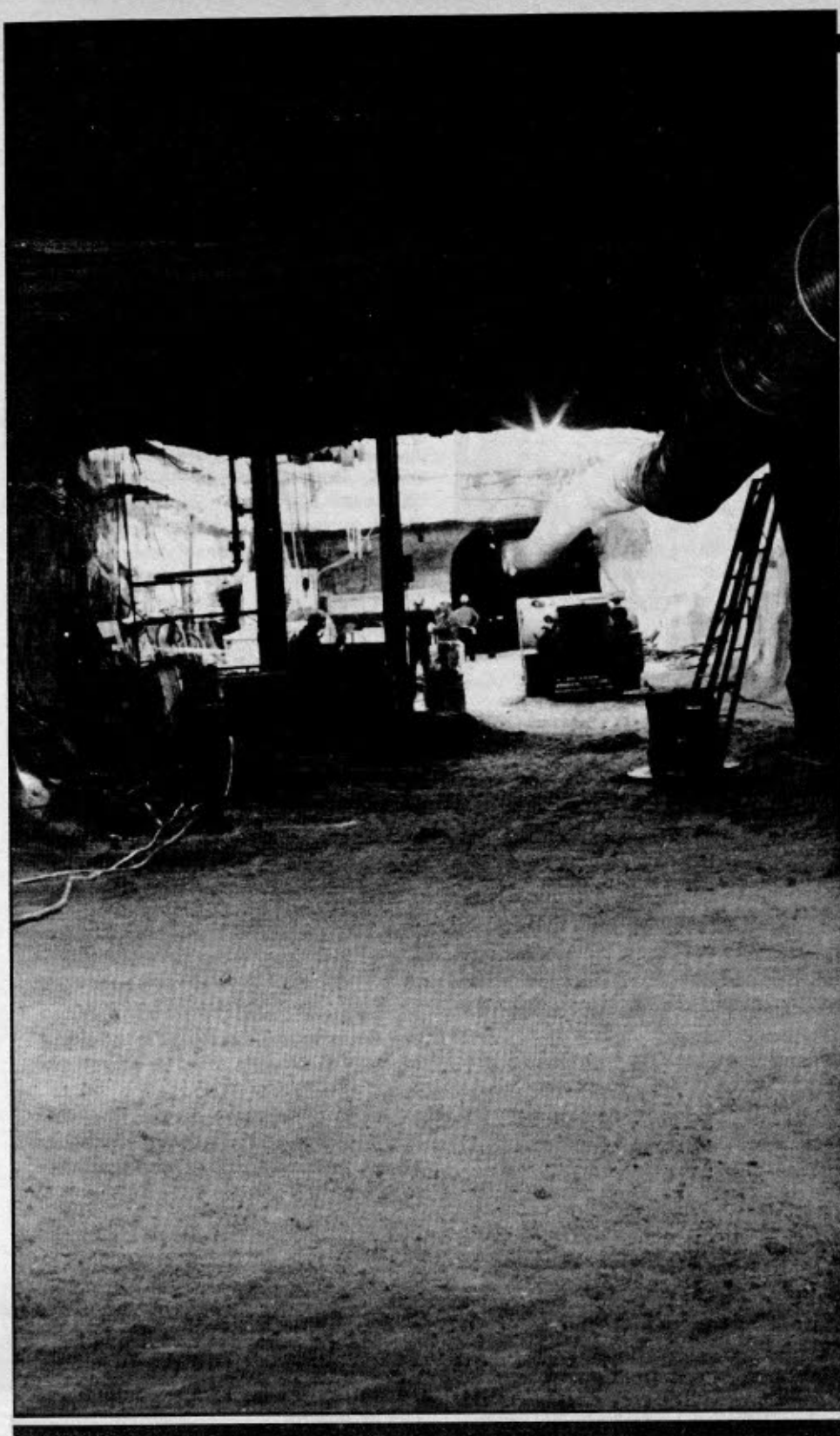
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According to DOE's WIPP Project Manager Joe McGough, the government's latest schedule calls for a decision on whether or not to begin "full construction" on WIPP around July, 1983. To date, two shafts have been sunk at the site and McGough estimated that the first 8-by-25-foot tunnel will be completed next month.

Assuming no new problems are encountered, DOE plans to bring the first shipments of transuranic waste to WIPP from Idaho in mid-1988 and five years later will decide whether to keep that waste there permanently. Since DOE is still waiting for its Savannah River, South Carolina, plant to complete a facility that can solidify liquid high-level defense wastes into an acceptable form for storage experiments, McGough anticipates no receipt of that material at WIPP before 1989.

DOE's current schedule means that the principal WIPP issues which New Mexico and the nation can expect over the next several years will likely arise in one of two areas. First, is WIPP being planned in a technically sound and rational manner which will result in the best protection of public health, safety and environmental values? And, is the Congressionally authorized project cost-effective?

The difficulty in answering the first question arises because no one has discovered an accurate method of predicting what will happen to millions of curies of transuranic waste stored underground over the thousands of years it will take for them to decay to "safe" levels. Indeed, controversy among scientists continues about the level of radioactivity that can be considered safe.

With respect to the choice of the present site for the burial of the transuranic waste bound for WIPP, DOE's ana-

lyses are mere exercises in geological predictability. "It's like choosing between two apples which could make you sick," said Bob Neill, director of the state's Environmental Evaluation Group. "The best you can do is check them both out and hope you've made the right choice."

Most state officials agree that the transportation of high-level defense waste to and from WIPP will present the greatest risks. While federal officials promise strict controls, the unpredictable human factor makes state reliance on those assurances a game of chance as well. Yet, no matter how many thousands of pages of environmental documentation are generated about WIPP, no one can guarantee that it will never pose a threat to the public or the environment.

An equally intriguing question is whether the authorized WIPP project will be cost-effective. The answer is closely tied to two issues of major concern to New Mexico officials — the government's decision to prohibit NRC licensing review of WIPP and its commitment to restrict the permanent WIPP mission to transuranic defense wastes.

Apart from the potash, oil and gas resources that will be lost, the cost of WIPP to the federal taxpayer is enormous and continues to escalate each year. In 1980, DOE expected the project to cost \$292 million to build and \$24 million per year to operate in 1979 dollars. In June, 1981, McGough testified that DOE's earlier estimates had nearly doubled, bringing total project costs to approximately \$4 billion. DOE's two prime contractors, Westinghouse and Bechtel, were each paid more than \$1 million per month for WIPP-related services at one stage and were receiving approximately \$600,000 per month at that time.

More recently, McGough stated that a

new DOE "cost reduction program" will reduce estimated total project costs to about \$2.1 billion. "We're one of the few DOE projects ahead of schedule and under projected costs," he said.

Is WIPP worth the money? Some critics, including the NRC, said no, citing DOE's own figures. The NRC staff expressed its doubts about the utility of an unlicensed WIPP "from a technical development standpoint" in its comments on the project in 1979. Using DOE's projected capital costs for WIPP at that time, the NRC estimated operating expenses would be around \$1 million per kilogram of transuranic waste disposed. The commission staff noted that DOE's own analyses indicated no urgent need to remove the transuranic waste located at INEL and that the radiological risks of transporting that waste to WIPP were about the same as leaving it there.

The economic wisdom of WIPP may have become even more questionable after a recent change in the federal government's definition of transuranic wastes requiring special disposal techniques. According to testimony by Neill in November, 1982, that change would allow DOE to dispose of about 40 percent of the Idaho wastes intended for shipment to WIPP by shallow land burial at a cost of less than 10 percent of estimated WIPP disposal costs.

If that's the case, will the federal government stick to the currently authorized WIPP mission or will it eventually try to expand the project to include radioactive wastes generated by the commercial nuclear industry? Skeptics fear WIPP is just the camel's nose under the tent. New Mexico has already seen federal officials renege on other WIPP promises.

State officials here have learned that political clout often speaks louder than federal commitments where nuclear waste disposal is involved. When asked in 1981 why the Idaho wastes were WIPP's primary target, McGough testified that "it could be because one of the Atomic Energy Commissioners...made a

commitment to the governor of Idaho to get the waste out of Idaho." The promise was made, in fact, in 1971 by then AEC Commissioner Glenn Seaborg to former Sen. Frank Church (D-Idaho).

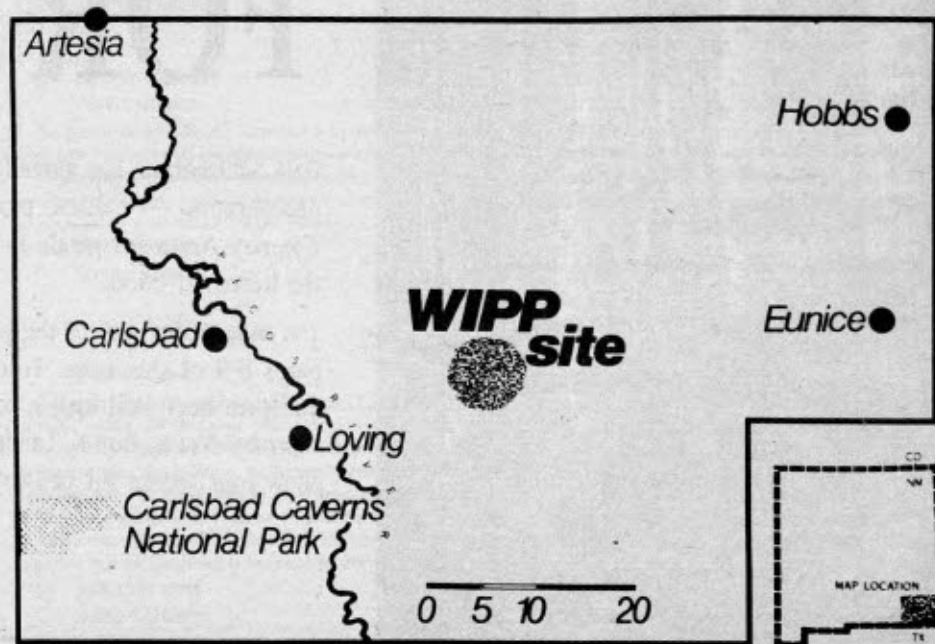
New Mexico officials have good reason to be concerned about a decision to expand the WIPP mission at some future date. "Substantially changing the scope of the WIPP mission would require state officials to completely rethink and perhaps renegotiate the issues raised in the state's lawsuit," noted New Mexico's negotiator Joe Canepa.

Although WIPP, as currently authorized by Congress, remains a narrowly defined defense waste project, its fate will undoubtedly be linked with another far-reaching nuclear dilemma which many observers consider to be much more urgent during the next two decades — finding a safe method for permanently disposing of the high-level waste and spent fuel generated by the commercial nuclear power industry. The industry may have to shut down some existing reactors before the end of the century if some solution to its waste problem is not found and it has let Congress know that it expects the government to assume that burden.

In December, Congress took a giant step toward attempting to solve the commercial waste problem when it passed the first National Nuclear Waste Policy Act — legislation which gives states the power to veto their selection as a repository site unless overturned by both houses of Congress (HCN, 1/21/83). The WIPP story to date, therefore, may be only an early chapter in the much longer book on radioactive waste that will be written.

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Bruce Throne is a former New Mexico assistant attorney general and a writer in Santa Fe. This article was paid for by the HCN Research Fund.



Finding fault with Glen Canyon Dam

Story and photo by George Hardeen

Like siblings bickering over who owns the family dog, the Bureau of Reclamation and the National Park Service have long disagreed when it comes to the Colorado River in Arizona as it runs through the Grand Canyon.

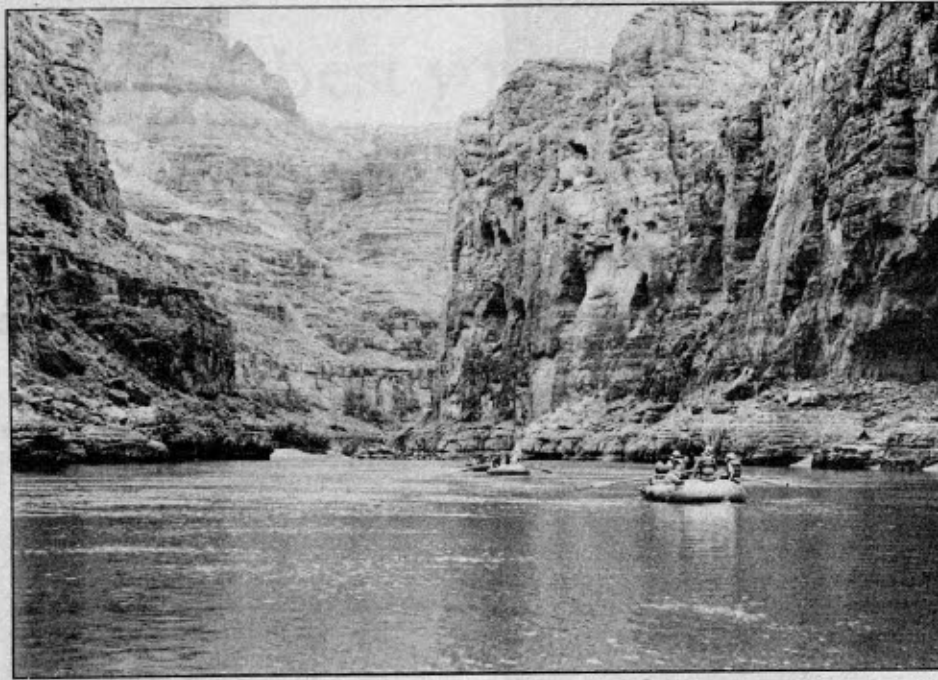
Eighteen months ago the BuRec's "peaking power" proposal for Glen Canyon Dam — which would have increased electrical power from the dam and provided wider river flow fluctuations — was shouted down by commercial river guides. They claimed that dramatically increased river fluctuations would ruin their businesses. Lost in the tumult was the Park Service's concern for the river environment.

Grand Canyon National Park Superintendent Dick Marks presented BuRec with a list of more than 70 environmental impacts which the operation of the dam has on the river system. Marks' list has since been culled into a half dozen salient items dealing with the rate of sediment loss, the dam's influence on riparian vegetation and its effects on fish and wildlife.

And in the next few months, the two Interior Department agencies will finally cooperate on research examining Glen Canyon Dam's impacts. The Park Service will complete the research while BuRec foots the bill.

But for years, many of the dam's influences on the aquatic and riparian environments have been known. When the waters of slowly-rising Lake Powell first ran through the penstocks of Glen Canyon Dam in 1963, the river turned from red to green, warm to cold. The eight native species of fish, adapted to the vagaries of the wild Colorado after a millennium, became either extinct in the system or retreated to canyon side-streams to survive. Today, 19 new species find the river's clean and near-constant 45 degree Fahrenheit temperature ideal.

Significant changes occurred on shore as well. The rugged mesquite tree, for instance, begins to be seen 44 miles downstream from the dam. But stuck high up on the rocky relief, these canyon natives are showing clear signs of senescence. Their lower parts are brown and appear to be dying, probably from lack of water. Their seeds cannot now be scarified and germinated for new starts, and reproduction has declined. The selective adaptation that kept the mesquite safe from the Color-



Like hosing down a driveway, the Colorado River's daily rising and falling is causing a gradual erosion of Grand Canyon beaches.

do's yearly flood, while near enough to get a drink, now seems to be killing it through dehydration.

Other impacts occur on the river's beaches themselves. Like hosing down a driveway, the river's daily rise and fall from the production of power on demand is allegedly causing a gradual erosion of Grand Canyon beaches.

The Park Service has no dispute with making electricity, said Marks. "But before you go too far, we would suggest that you look at the environmental impacts of that operation, not only as it is in a proposed uprating mode, but as it is operating today. With the fluctuations that are now occurring out of that dam daily, it is having, we think, a negative impact on that environment."

"What we're saying," said Tom Gamble, BuRec operations manager at Glen Canyon, "is nobody really knows exactly what the forces acting on the sand on

the beaches (are) right now. It's pretty clear that it's more complex than just rising and falling river flows. If that were all there was to it, there are a lot of beaches that would have been gone already."

Presently the Park Service has erosion data for only one beach site — Granite Park at mile 209. In eight years, the beaches at this popular river stop have receded about five feet, according to Steven Carothers, curator of biology at the Museum of Northern Arizona and the Park Service's consultant on the Colorado.

Carothers said Granite Park is eroding slowly, an imperceptible half-a-foot per year. "But by and large the beaches are degrading," he said. "(They're) not in imminent danger unless the Glen Canyon Dam operation is somehow radically changed."

Today the Park Service finds itself in a paradox because of the dam. Prior to its construction nearly 20 years ago, the Colorado's yearly flood, averaging 86,000 cubic feet per second, would scour its shoreline clean. With the river controlled, never to flood again, vegetation that could not get a foothold now flourishes.

"The fact of the matter is," Carothers said, "tamarisk is the dominant one. Tamarisk is an exotic. You have a national park pristine environment, hey, you don't mess with tamarisk. You get it out. You poison it, you go with mechanical control, you dig it out, you burn it, you do anything you can to get rid of tamarisk."

One would be left with the impression that Carothers would like to see the end of this Mediterranean immigrant along the great river. Ordinarily he might. But, like most ecologists, he is a habitat man. There is now 50 times the amount of wildlife making a living along much of the river's 280-mile vegetation zone.

"By happenstance those tamarisk forests are now supporting a myriad complement of native wildlife species," he said. "It's crazy. The Park Service doesn't know how to handle this because we've got to get rid of tamarisk. They have a habitat that's been created where previously there was none. It is occupied primarily by exotic species. The exotic plant species have created homes for Grand Canyon National Park critters that were previously limited by lack of habitat."

Current Park Service policy in the Grand Canyon is to restore altered ecosystems to their natural state. But to do so along the banks of the Colorado would destroy what Carothers and others feel is the greatest environmental benefit of the dam.

"The park can't go to the bureau and say 'Give us back our aquatic system.' That's impossible," he said. "What they're trying to do now is ask the bureau to regulate their water releases so that the ecological and recreational features that the Park Service likes about the new system are maintained."

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George Hardeen is a reporter for the Navajo-Hopi Observer in Arizona. This article was paid for by the HCN Research Fund.



FOR SALE

Dale Schicketanz has agreed to donate a handful of his photographs — matted, mounted and signed — to *High Country News* for resale to our readers as a benefit for the Research Fund.

You may order any of the photographs displayed on pages 8-9 of this issue. To order your print, complete the form here and mail it to Schicketanz Prints, *High Country News*, Box K, Lander, Wyoming 82520. Please allow four weeks for delivery.

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BULLETIN BOARD

SOIL CONSERVATION PAPERS

Poster papers are being solicited for the 38th annual meeting of the Soil Conservation Society of America, July 31 - August 3 in Hartford, Conn. Theme of the meeting is "Resource Information for Conservation Decisions." SCS is seeking papers that address one or more of the following issues: information requirements for conservation decisions, resource data acquisition, information extraction and the communication of resource information. Those interested should send a 200-word abstract of their poster paper to SCS by April 1. For further information contact Dr. Marion F. Baumgardner, Annual Meeting Program Committee, SCSA, 7515 N.E. Ankeny Road, Ankeny, Iowa 50021.

MINING SHORT COURSES

The Colo. School of Mines is offering the following short courses: "Exploration Risk and Lease Bidding Management" Feb. 8-10, "Basic Principles of Gas Chromatography," Feb. 28-March 2 and "Ore Microscopy" March 28-April 1. Information about these and other upcoming courses is available from the CSM Office of Special Projects and Continuing Education, Golden, Colo. 84001, (303) 273-3321.

MISSOULA BENEFIT

Northern Plains Resource Council's ninth annual Missoula benefit will be held Feb. 25 at 6 p.m. at the National Guard Armory in Missoula, Mont. As usual, there will be an all-you-can-eat spaghetti dinner and an auction with the internationally renowned Harry Fritz. Good music, cheap beer and lots of fun. Montana's largest party. Cost is \$6 in advance, \$7 at the door. For further information contact Russ Brown, (406) 248-1154.

COAL ACT GUIDE

Coal Transportation and Deregulation, a new book analyzing the impact of the 1980 Staggers Rail Act on the coal rail industry is now available for \$90 a copy from the Energy Bureau, 1331 H St., N.W., Suite 110 LL, Washington, D.C. 20005.

NATIONAL ENERGY PLAN HEARINGS

The U.S. Department of Energy will hold public hearings around the country during the week of Feb. 28-March 4 to obtain public comment on the fourth National Energy Policy Plan (NEPP-IV). A DOE staff working paper has been prepared to provide background for the hearings and to stimulate public discussion. Copies of the working paper are available free from the DOE, Office of Public Affairs, Forrestal Bldg., Rm. 1E-206, 1000 Independence Ave., S.W., Washington, D.C. 20585, phone: (202) 252-5575. The hearing in this region will be March 4, at 9 a.m. at The Regency (Palladium Rm.), 3900 Elati, Valley Highway at 38th Ave., Exit 213 on I-25, Denver, Colo., 80216. Contact: Robt. M. Zeeck, WAPA, Golden, Colo., phone: (303) 231-1554.

SOLAR POND LETTERS

The first issue of *International Solar Pond Letters*, a publication focusing on activities in salt-gradient solar ponds and related technologies, is now available. The publication provides a summary of news of worldwide solar pond developments. Libraries and qualified individuals working in the field are invited to request a sample issue. Contact Albert Henderson, American Solar Energy Society, Publications Office, 110 W. 34th St., N.Y. 10001, or telephone (212) 736-8727.

RULES FOR RECREATIONISTS

The Bureau of Land Management hopes to make its rules for recreationists consistent with other federal land managing agencies, and is inviting public comment on a new set of proposed rules which appeared in the *Federal Register* on Dec. 23, 1982. Comments may be sent to Director, BLM, 1800 C St., N.W., Washington, D.C. 20240, or telephone (202) 343-5717.

ENERGY EXPOSITIONS

Energy Expo, an energy conservation show featuring a wide range of exhibits, seminars and speakers designed to appeal to a cross-section of energy-concerned citizens, will be held in Oklahoma City, Okla. Feb. 11-13 and Kansas City, Mo. March 4-6. For additional information contact Energy Expositions, 204 W. Linwood, Kansas City, Mo. 64111, or telephone (816) 561-1069.

FOSSIL RIDGE INPUT

Interested persons have until Feb. 19 to submit written comments or other materials to be included in the draft environmental impact statement on the Fossil Ridge Wilderness Study Area in Colorado. The Area is under consideration to be included in the national wilderness preservation system. Comments should be addressed to Nils A. Arneson, Acting Forest Supervisor, U.S. Forest Service, 2250 Hwy. 50, Delta, Colo. 81416, telephone (303) 874-7691.

COMMENTS FOR BUREC

The U.S. Bureau of Reclamation is seeking public comment on proposed procedures for public participation in water service and repayment contract negotiations conducted by the BuRec. The proposed procedures were published in the Jan. 20, 1983, *Federal Register* and reinforce the use of local publicity resources to inform the public about proposed irrigation, water service, and repayment contract actions. Comments will be received for a 30-day period following the publication date and should be sent to Comm. Robert N. Broadbent, Attention: Code 440, BuRec, Interior Dept., 18th and C Streets, N.W., Washington D.C. 20240.

BLM COAL LEASING

The Socorro (NM) District office of the Bureau of Land Management has announced its intentions to amend a multiple land-use plan to consider leasing federal land for coal development in 1986. The area under consideration covers 986 thousand acres of public land and over 2 million acres of federal subsurface mineral estates in the San Augustine Resource Area in Catron, Cibola, Socorro, and Valencia Counties. The BLM is seeking public comment on the lands to be included in or left undisturbed in the area in order to define more concise boundaries for potential coal development and to assist in resolving resource conflicts. For more information contact Glen Sekavec, Team Leader, BLM, P.O. Box 1219, Socorro, N.M. 87801, (505) 835-0412.

PICEANCE BASIN EIS

The final environmental impact statement examining the potential effects of leasing up to two new oil shale tracts in the Piceance Basin of northwest Colo. is now available from the Bureau of Land Management. The decision to lease one, two or no new oil shale leases in the area will be made by the Secretary of Interior some time in April. Copies of the EIS can be obtained from the BLM, White River Resource Area Office, P.O. Box 928, Meeker, Colo. 81641.

BLM OFFERS SUMMER JOBS

Applications for seasonal and summer clerical positions with the Bureau of Land Management in Wyoming will be taken until March 31, 1983. Positions will be located in BLM offices throughout Wyo. and will last from three to six months. Applicants can obtain application forms from any federal Job Information Center or any federal agency personnel office. A brochure describing such employment can be obtained from BLM offices or by writing to BLM, 2515 Warren Ave., Cheyenne 82001; or by calling (307) 772-2368.

POWER TO THE PEOPLE

The People's Power Guide, a manual for consumer activists working on electric power issues including rate structures and ratemaking, conservation and resource development, technical cost of service analysis and the rights of consumers to participate in utility policy making, is available from POWER, 419 Security Bldg., Olympia, Wa. 98501; telephone (206) 943-6530.

NM SOLAR STANDARDS

Beginning Jan. 1, 1983, manufactured solar collectors and solar collector kits used in active solar systems in New Mexico must be certified by the state Energy and Minerals Dept. to be eligible for state solar tax credits. For a fact sheet describing the new standards contact the N.M. Energy & Minerals Dept., 525 Camino de los Marquez, Santa Fe, N.M. 87501; telephone (505) 827-3326; or call the state toll-free energy hotline 1-800-432-6782.

CAPITOL REEF EIS

Copies of the Capitol Reef National Park final environmental impact statement outlining the general management plan and statement of findings is now available from Park Superintendent Derek O. Hamby, Capitol Reef National Park, Torrey, Ut. 84775, telephone (801) 425-3871.

MINE TALK RESOURCE LIST

Mine Talk, a quarterly newsmagazine published by Southwest Research and Information Center, is beginning a resource list for information and communication about mining development in the United States, Canada, Australia and Europe, and its impacts on the local communities, their environment and their health. The magazine is seeking additional contacts for its list and is also interested in information about the dates and places of upcoming conferences, workshops or public meetings. Send materials to *Mine Talk*, P.O. Box 4524, Albuquerque, N.M. 87106, or call (505) 262-1862.



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STATE OF WYOMING PUBLIC NOTICE

PURPOSE OF PUBLIC NOTICE

THE PURPOSE OF THIS PUBLIC NOTICE IS TO STATE THE STATE OF WYOMING'S INTENTION TO ISSUE WASTEWATER DISCHARGE PERMITS UNDER THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972 (FWPCA), P.L. 92-500 AND THE WYOMING ENVIRONMENTAL QUALITY ACT (35-11-101 et. seq., WYOMING STATUTES 1957, CUMULATIVE SUPPLEMENT 1973).

IT IS THE STATE OF WYOMING'S INTENTION TO ISSUE WASTEWATER DISCHARGE PERMITS TO (3) INDUSTRIAL FACILITIES, (1) COMMERCIAL FACILITY, AND (1) OIL TREATER FACILITY, TO MODIFY (1) INDUSTRIAL PERMIT, AND (1) MUNICIPAL PERMIT, AND TO RENEW (6) INDUSTRIAL PERMITS, (1) COMMERCIAL PERMIT, AND (1) MUNICIPAL PERMIT.

APPLICANT INFORMATION

(1) APPLICANT NAME:	Amoco Production Company
MAILING ADDRESS:	P.O. Box 569 Powell, WY 82435
FACILITY LOCATION:	Fourbear Battery 1 - Boiler System, SE1/4, Section 20, T48N, R103W, Park County
PERMIT NUMBER:	Wy-0031798
FACILITY LOCATION:	Fourbear Pipeline Station, NE1/4, Section 20, T48N, R103W, Park County
PERMIT NUMBER:	Wy-0031801

Amoco Production Company operates two batteries in the Fourbear Field in Park County which will begin discharging boiler blowdown water. Boilers that utilize fresh water in the production process need to dump the water after blowdown during routine maintenance. No produced water will be discharged at either facility, however produced water effluent limitations are appropriate due to the type of facility involved. Groundwater will also be discharged from the Fourbear Pipeline Station Pit. Discharge is to the Greybull River (Class II).

The discharge must meet Wyoming's Produced Water Criteria effective immediately. Chapter VII of the Wyoming Water Quality Rules and Regulations infers that as long as the Produced Water Criteria is met, the water is suitable for beneficial use. There is no evidence to indicate that limitations more stringent than the Produced Water Criteria are needed to meet Wyoming's Water Quality Standards. The Department will continue to evaluate the discharge and, if necessary, will modify the permit if evidence indicates that more stringent limitations are needed.

Semi-annual self-monitoring is required for all parameters with the exception of oil and grease, which must be monitored quarterly. The proposed expiration date for the permit is December 31, 1986.

(2) APPLICANT NAME:	The Platte Development Company
MAILING ADDRESS:	P.O. Box 2293 Casper, WY 82602
FACILITY LOCATION:	Natrona County
PERMIT NUMBER:	Wy-0031810

The Henrie Gravel Pit, which is operated by the Platte Development Company, is located on the eastern edge of Natrona County. Groundwater which enters the pit is pumped to the North Platte River (Class II water).

The proposed permit requires compliance with effluent limitations which have been judged by the state of represent "best available treatment technology." Periodic monitoring of effluent quality and quantity is required on a regular basis with reporting of results quarterly. The permit is scheduled to expire February 29, 1988.

(3) APPLICANT NAME:	Mr. Roger Prenzlow
MAILING ADDRESS:	Vista Verde Acres Mobile Home Park 1337 West Vine Drive Fort Collins, CO 80521
FACILITY LOCATION:	Albany County
PERMIT NUMBER:	Wy-0031780

The Vista Verde Acres Mobile Home Park is a planned development of 117 spaces to be located southeast of the City of Laramie, Wyoming. Wastewater treatment will be provided by an aerated lagoon system with discharge to Laramie Spring Creek (Class III Water) via an unnamed drainage.

The proposed permit requires immediate compliance with effluent limitations based upon National Secondary Treatment Standards and Wyoming's Instream Water Quality Standards. Periodic self-monitoring of effluent quality and quantity is required with reporting of results quarterly. The proposed permit is scheduled to expire February 29, 1988.

(4) APPLICANT NAME:	H.P.C., Inc.
MAILING ADDRESS:	P.O. Box 2080 Gillette, WY 82716
FACILITY LOCATION:	W.D. Federal #1, NE1/4, NE1/4, Section 4, T45N, R70W, Campbell County, Wyoming
PERMIT NUMBER:	Wy-0031771

Facility is a typical oil treater located in Campbell County, Wyoming. The produced water is separated from the petroleum product through the use of heater treaters and skim ponds. The discharge is to South Fork Coal Creek (Class IV) via an unnamed drainage.

The discharge must meet Wyoming's Produced Water Criteria effective immediately. Chapter VII of the Wyoming Water Quality Rules and Regulations infers that as long as the Produced Water Criteria is met, the water is suitable for beneficial use. There is no evidence to indicate that limitations more stringent than the Produced Water Criteria are needed to meet Wyoming's Water Quality Standards. The Department will continue to evaluate the discharge and, if necessary, will modify the permit if evidence indicates that more stringent limitations are needed.

Semi-annual self-monitoring is required for all parameters with the exception of oil and grease, which must be monitored quarterly. The proposed expiration date for the permit is December 31, 1984.

(5) APPLICANT NAME:	Nalco Chemical Company
MAILING ADDRESS:	180 East Yellowstone Evanston, WY 82636

(continued on page 14)

14-High Country News — Feb. 4, 1983

OPINION

A PIUS alternative
to faith in nukes

by S. David Freeman

As the last "militant neutral" on the subject of nuclear power, and as a managing director of the nuclear industry's

GUEST EDITORIAL

best customer — the Tennessee Valley Authority — I want to tell the industry's advocates that their basic argument these days is wrong.

Both the industry and its critics agree that the nuclear option is in serious trouble. Where the industry goes awry is in the cause of its demise. What's killing it is not the Nuclear Regulatory Commission or the media or Ralph Nader or Jane Fonda. It is their product itself. The nuclear industry is stonewalling the hard evidence that they need to change the design of their reactors.

The litany of nuclear reactor cancellations throughout the United States is a long one. Between October 1980 and June 1982, plans for 21 were abandoned — more than one a month. When I joined the TVA in 1977, 14 large ones were under construction, the nation's most ambitious nuclear power program. Over the past four years, we completed two reactors, but halted work on eight others because the cost of making them safe was simply going to be too much.

The nuclear industry will lose credibility altogether if it persists in trying to blame its problems on an emotional public and a regulatory process overreacting to ill-founded fears.

It's time to confess that we went too far too fast in deploying large-scale designs of a reactor type we knew too little about. Right now, we are in the midst of a de facto moratorium on new reactor orders induced by energy conservation, a stagnant economy and the skyrocketing and unpredictable cost of nuclear power.

This period should not be used simply to apply more Band-Aids to existing designs that seem incapable of meet-

ing safety concerns at a price electric customers are willing to pay.

The last three nuclear units TVA halted were going to produce electricity estimated to cost about 13 cents per kilowatt-hour, more than triple our present average cost of about 4 cents per kilowatt-hour. Furthermore, the number of changes required appears open-ended, since many safety issues are still unresolved. Indeed, in a sense TVA has not really "completed" any of its nuclear plants. At our Browns Ferry nuclear plant in northern Alabama, which has been commercial for years, we still have more than 600 people at work making backfitting changes.

In short, the cost of a new nuclear plant isn't just high, it's unpredictable. No sane capitalist is going to build something for which he can't derive a cost/benefit ratio because the cost is unknowable. That's why the nuclear industry is in the doldrums.

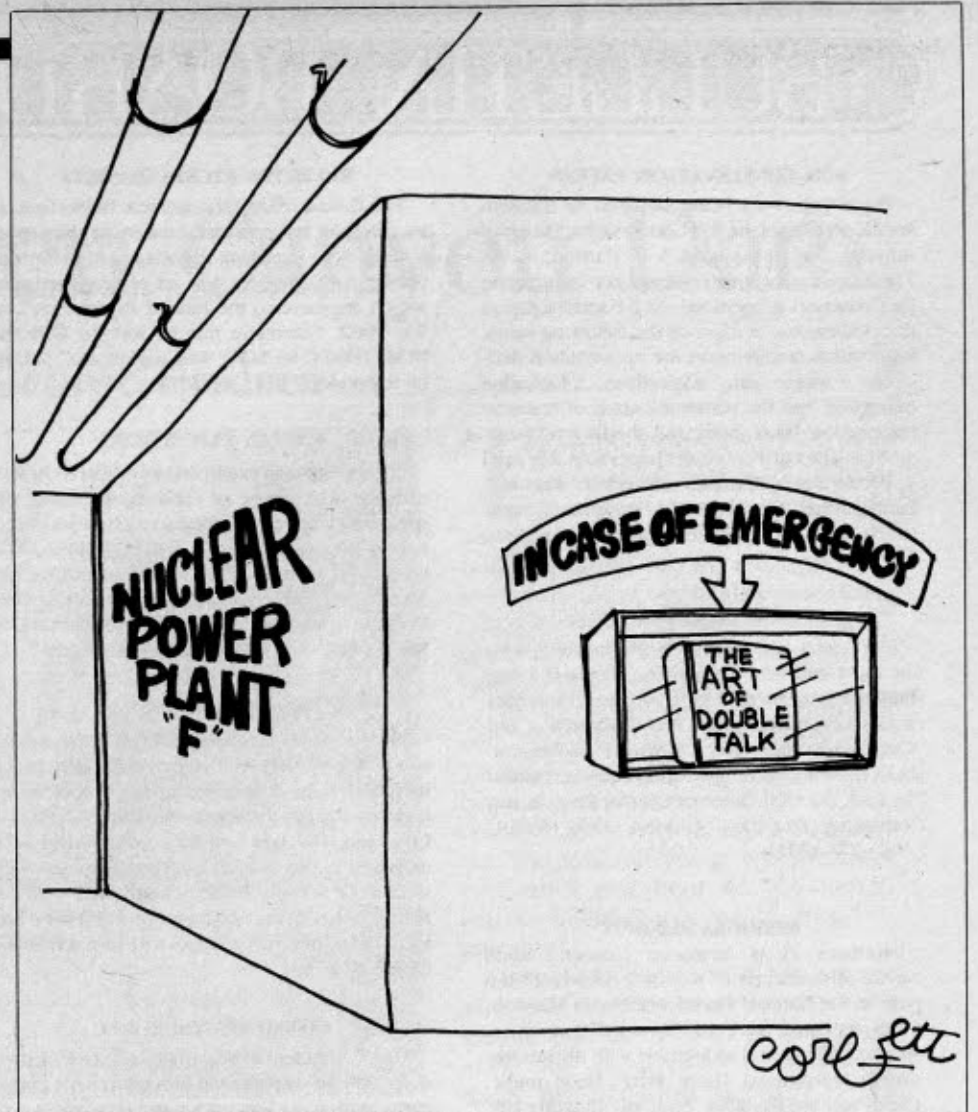
Therefore, what we should be doing is fundamentally re-examining the nuclear option. The central question is: Is there an inherently better technical option than the apparently "unforgiving" reactor design we have today? I believe the answer may very well be yes.

A lot of people, of course, would say why bother? Conservation can substitute for nuclear power and solar power can be expanded in the future.

We at the TVA are second to none in our commitment to conservation and alternative energy sources.

But despite — or maybe because of — our extensive experience with these technologies, I am convinced that they are not the whole answer to our energy problems.

For the next few decades, I don't see any realistic way that less nuclear power will mean anything other than more oil and coal. And the marginal dangers of more nuclear plants of a safer design seem less of a threat than the added risk and economic ruin from greater reliance on imported oil, not to mention the problems of acid rain and the global threat of carbon monoxide build-



up in the atmosphere associated with coal.

So let's acknowledge a few things about our present reactor designs and move on.

No matter how much we rebuild or retrofit these light-water reactors, the Three Mile Island accident has revealed that the then-existing nuclear technology was capable of self-destructing. The problems that NRC regulations are attempting to correct were real. The doubling and tripling of construction lead times only reflect the chaotic state of nuclear plant design as the industry scrambles to retrofit safeguards that experience has shown to be necessary.

An improved standardized version of these current light-water reactors would still be overly dependent on the skill of operators. The exposed piping would still be subject to leaks and, consequently, to loss-of-coolant accidents.

While risks to the public can be and are being reduced as a result of all these retrofits and design changes, we cannot be sure that accidents wouldn't result in a melt-down and a destructive release of radioactivity.

Of course, the reactor itself could be crippled, causing the kind of disaster that has, in fact, already cost more than \$1 billion in immobilized equipment and necessary cleanup. Obviously, that kind of risk is just unacceptably high —

not only for the public, but for the utilities and the financial institutions that provide the capital to build the things.

A recent Swedish modification of the basic light-water reactor design addresses this problem in an imaginative way. The Swedes, paying homage to the American penchant for acronyms, call the concept PIUS (Process Inherent Ultimate Safety). This design puts all the major components, along with the piping that connects them, inside a single, large, prestressed concrete vessel. The long-term cooling for the nuclear fuel is provided in a fashion that is not dependent on switches and pumps. Instead, the cooling comes from natural circulation of a large pool of water contained inside the concrete vessel itself.

The "passive" approach eliminates the need for conventional electrical and mechanical "active" safety systems and the reliance on operators to prevent an accident. It can provide cooling for about one week without external emergency cooling systems, without the use of electricity, and without operator action.

Based on its design concept, the plant should be able to tolerate operator error and multiple failures of almost all the active systems. The American experts who have examined this concept can find no basis for challenging

(continued from page 13)

FACILITY LOCATION:

Evansville, Natrona County, Wyoming

PERMIT NUMBER:

Wy-0028622

The Nako Chemical Company operates a blending and storage facility for chemicals and other materials used in the oil drilling and oil production industry.

The plant will have three wastewater streams. One will consist of floor, plant, vessel and loading area wash water, in addition to a waste line from the plant's laboratory. This stream will be contaminated and will be treated in a clarification and oil removal tank prior to discharge to a lined evaporation pond. Periodically, water from the evaporation pond will be sprayed over the pond to enhance evaporation or will be sprayed on the plant's grassed areas. The second waste stream consists of sanitary waste and boiler blowdown water which will be discharged to the Town of Evansville's sewage collection system. The final waste stream consists of non-contact cooling water and natural runoff from the tank farm. This water should be relatively uncontaminated and will be discharged to the ditch along the Burlington Northern Railroad right-of-way. This water could eventually reach the North Platte River (Class II Stream), and it is this discharge point which is addressed in the proposed permit.

Modification is at the permittee's request and reflects a change in the sampling frequency from "When Discharging" to quarterly. The proposed permit for this facility contains effluent limitations which reflect the State of Wyoming's judgment of best available treatment from this type of industry. Monitoring of effluent quality and quantity is required whenever a discharge occurs and reporting of results is required quarterly. The permit is scheduled to expire on February 29, 1988.

(6) APPLICANT NAME:

Town of Hudson - Wastewater

MAILING ADDRESS:

P.O. Box 56
Hudson, WY 82512

FACILITY LOCATION:

Fremont County

PERMIT NUMBER:

Wy-0020664

The wastewater treatment facilities serving the Town of Hudson consist of a single cell aerated lagoon which discharges directly to the Popo Agie River (Class II Water). The existing permit for this facility was written under the assumption that the discharge flowed via an unnamed drainage before entering the River. However, recent investigations by personnel of this Department found this assumption to be erroneous necessitating a modification of permit conditions for the parameters total residual chlorine and fecal coliform bacteria.

Due to the high dilution factor in the receiving stream it is not necessary to set limitations on ammonia to insure compliance with in-stream ammonia limitations. Also at this time it appears that violation of Wyoming's in-stream standards for dissolved oxygen will not occur provided National Secondary Treatment Standards are achieved. However, this position will continue to be evaluated (and the permit modified if necessary) as more information becomes available.

The permit limitations for the parameters fecal coliform, total residual chlorine and ammonia are based upon the following:

1. Projected design discharge volume — .075 MGD.
2. Q7-10 of Popo Agie River (Est.) — 20.0 MGD (May - September).
3. In-stream Water Quality Standards for fecal coliform — 1,000/100 mls (May - September only).
4. In-stream Water Quality Standards total residual chlorine — .002 mg/l.

The proposed limitations on fecal coliform bacteria are actually more stringent than necessary to meet in-stream standards, however, they are limitations which are technologically easy to achieve.

Self-monitoring requirements in the proposed permit require the monitoring of all limited parameters on a routine basis with reporting of results quarterly. The proposed permit is scheduled to expire on the February 29, 1988.

The Town of Hudson has been exempted from meeting the deadline for compliance with National Secondary Treatment Standards due to the unavailability of Federal construction grant funds. In addition, the town has requested and received less stringent effluent limitations for the parameter total suspended solids as authorized by federal regulations for stabilization pond systems with a design flow of less than 2.0 MGD.

(7) APPLICANT NAME:

Kerr McGee Nuclear Corporation

MAILING ADDRESS:

P.O. Box 1120
Glenrock, WY 82637

FACILITY LOCATION:

Section 34 Mine, Converse County, Wyoming

PERMIT NUMBER:

Wy-0024970

FACILITY LOCATION:

Section 28-33 Mine, Converse County, Wyoming

PERMIT NUMBER:

Wy-0026212

FACILITY LOCATION:

Section 3 Mine, Converse County, Wyoming

PERMIT NUMBER:

Wy-0026221

FACILITY LOCATION:

"A" Mine, Converse County, Wyoming

PERMIT NUMBER:

Wy-0027740

The Kerr-McGee Nuclear Corporation is the owner and operator of five uranium mines in Converse County. Four of the NPDES permits are up for renewal.

The Section 34 Mine and "A" Mine are underground mines. Groundwater encountered while mining will be pumped to the surface and treated with barium chloride for radium removal. After treatment the water will be routed to settling ponds which will discharge to Sage Creek (Class IV) at the Section 34 Mine and Potts Draw (Class IV) at the "A" Mine via unnamed drainages.

The Section 28-33 Mine and Section 3 Mine are open pit mines north/northwest of Douglas, Wyoming. Groundwater encountered will be treated in the same manner as at the Section 34 Mine and "A" Mine. Water from the Section 28-33 mine will discharge to Duck Creek (Class IV) via an unnamed drainage. There are four discharge points at the Section 3 Mine; two to the Dry Fork of the Cheyenne River (Class IV) and two to Brush Creek (Class IV) via unnamed drainages.

The proposed permits require compliance with effluent limitations which have been determined by the State of Wyoming to represent "best available treatment." However, the permit also contains a "re-opener clause" which requires the permit to be modified should more stringent limitations be developed at the Federal level.

Runoff from disturbed areas will be controlled by sedimentation control structures which are designed to completely contain the runoff resulting from a ten year - 24 hr. precipitation event.

Periodic self monitoring of effluent quality and quantity is required with reporting of results quarterly. The permit is scheduled to expire March 31, 1988.

(8) APPLICANT NAME:

Silver King Mines, Inc.

MAILING ADDRESS:

P.O. Box 560
Casper, WY 82602

FACILITY LOCATION:

Box Creek Mining Operations, Converse County

the designers' claim that it is incapable of having a melt-down.

Another alternate reactor concept is called the High Temperature Gas-cooled Reactor (HTGR). It also holds promise of greater safety and efficiency. It is far less likely to melt down because it has far greater ability to withstand and hold heat. This is made possible by the use of helium as the coolant. Unlike water, helium is already a gas. Therefore, it cannot turn into explosive steam.

This reactor is also aided by the use of graphite in the manufacturing of the reactor itself. Graphite has excellent characteristics for withstanding high heat, even if an accident were to cause the heat to head way above normal.

Helium also has fewer impurities than water, which means it doesn't corrode the pipes. And it has a lower tendency to become radioactive. As a result, an HTGR would have lower in-plant radiation levels, making maintenance easier, less hazardous and less expensive.

Finally, this reactor design uses uranium more efficiently than our present reactors do, and it could be designed to use thorium, a very abundant fuel.

The problem with HTGRs is that 10 years ago, when everybody thought light-water reactors would be commercially successful, HTGR development was halted. The Ft. St. Vrain plant in Colorado is the only operating, high-temperature, gas-cooled reactor in the country. Granted, like all other pioneering efforts, it encountered problems.

But the biggest problem is that while a number of improved designs exist on paper, there is no program, either from the federal government or from industry, for research, development and a demonstration plant that could determine the real worth of this approach.

The issue is whether we need a much

better nuclear product or whether the current designs are adequate.

Is the problem with nuclear power a hysterical public and a weak-kneed Nuclear Regulatory Commission? Or is the problem that we should be looking for alternatives to the very product itself?

My own opinion is that the fears of the public — now that we have seen a nuclear reactor self-destruct — are very real. They are not going to go away. We have a stalemate. The industry is trying in vain to prove that the fears of the public are unfounded. As we say in east Tennessee, "That dog won't hunt."

We ought to realize that with nuclear power, we are still experimenting. We are still developing a very complex technology. We stopped the research and development effort much too soon.

But we can't allow ourselves to be locked into the errors of the past. The nuclear critics — who say that no nuclear plants can work — and vested business interests — who refuse to consider changing a fundamentally flawed product — may both be wrong. Obviously, we should not and cannot let either of them totally control our future nuclear policy for us.

Therefore, the nuclear option must not be allowed to die. If the administration is indeed as pro-nuclear as it claims to be, it must make the necessary investments in exploring different systems and new technical advances.

And if the nuclear industry does not support such an effort, then it — and not the nuclear critics — must bear the ultimate responsibility for the death of nuclear power.

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S. David Freeman is the managing director of the Tennessee Valley Authority.

Why is this woman smiling?



Director Jill Bamburg is not one of the more light-hearted souls in the office. In fact, we figure she spends roughly 95 percent of her time worrying. Mostly about money.

So when she came into the office smiling this week, we knew we had a winner. Small donations and a grant from the Maki Foundation boosted the Research Fund total to \$24,590.50. Still a few bucks shy of our \$25,000 goal, but close enough for newspaper work, as they say.

Thanks to the success of the Research Fund drive, Jill now knows that she'll be able to cover freelance payments to writers, photographers and artists; story-related travel for staff; and the ever-exorbitant office phone bill.

What's she planning to do now that all those Research Fund thank-you notes are finished? Worry about making the rest of the budget, of course.

Many thanks to all of you for your generous support of the Research Fund. And special thanks this issue to:

Allen E. Anderson
Montrose, CO
Phillip Brady
Florissant, CO
Jackie Diedrich
Estacada, OR
Chris Garlasco
Denver, CO
Jim and Eleanor Gebres
Denver, CO
Tom Gorman
Syracuse, NY
Vincent P. Gutschick
Los Alamos, NM

Mari L. Hoffman
Yakima, WA
Richard L. Kroger
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William McCandless
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Cambria, CA
Stephen Trimble
Flagstaff, AZ
Pete Wyman
Spokane, WA
Charlie Zwisher
Mankato, MN

LETTERS

WILD FICTION

Dear HCN,

I really enjoyed your issue on the Rockies (HCN, 12/24/82). All the articles fit together beautifully. However Peter Wild's notions of what really living in the Southwest is all about... well, they're as relevant as blackjack tables to a saguaro.

Why is the aridity better experienced by life on the range than by paying the water bills to keep a lawn and swimming pool? Because one is more environ-

mentally sound and less artificial than the other? Look out over the Great Basin, the Mojave, the North Kaibab Plateau, and no doubt many parts of Arizona and New Mexico, over the unbroken sagebrush and cholla cactus stands. It all was grassland, meadows, before the cattle came, and the sheep.

Reality seems to have been mistaken for wishful historical propriety. The ideal of self sufficiency in a landscape was never realized in the Southwest, and probably will never be, because of the desert. I guess there is one fiction that never took hold out here.

Jacqueline Wolff
Hollywood, California

What? The Research Fund drive is over already? Why, I haven't sent in my contribution yet.

If that's your reaction to this ad, don't despair. We'll still take your money — and we'll still put it to good use.

Name _____

Address _____

City, State, Zip _____

Enclosed is my tax-deductible contribution of:

☐ \$15 ☐ \$25 ☐ \$50 ☐ \$100 ☐ \$1,000 ☐ Other \$ _____

☐ We plan to list the names (no amounts) of Research Fund contributors on these pages. Please check here if you *do not* want your gift acknowledged in this manner.

PERMIT NUMBER: Wy-0022098
FACILITY LOCATION: South Morton Mining Operations, Converse County
PERMIT NUMBER: Wy-0024562

Silver King Mines, Inc. is the owner and operator of three major uranium mining operations in Converse County. The NPDES permits are being renewed for two of the operations.

The Box Creek Mining operation is an open pit mine. Water which enters the mine pit will be treated with barium chloride, followed by settling ponds, with final discharges to the North Fork of Box Creek (Class IV) via an unnamed drainage.

The South Morton Mining operation consists of numerous open pits. Pit water will be routed to one or more of six locations for barium chloride treatment and settling ponds before discharge to the South Fork of Box Creek via various unnamed drainages. The following discharges are also authorized at the South Morton operation: the overflow from a domestic water tank, the outfall from a fuel tank catch basin, the outfall from a shop water catch basin and the overflow from a fresh water holding pond. These also discharge to the South Fork of Box Creek via unnamed drainages.

The proposed permits require compliance with effluent limitations which have been determined by the State of Wyoming to represent "best available treatment." However, the permit also contains a "re-opener clause" which requires the permit to be modified should more stringent limitations be developed at the Federal level.

Runoff from disturbed areas will be controlled by sedimentation control structures which are designed to completely contain the runoff resulting from a ten year - 24 hour precipitation event.

Periodic self monitoring of effluent quality and quantity is required with reporting of results quarterly. The permit is scheduled to expire on March 31, 1988.

(9) APPLICANT NAME: Mr. James L. Martin
MAILING ADDRESS: Clearview Acres
P.O. Box 1540
Rock Springs, WY 82901
Sweetwater County
FACILITY LOCATION: Clearview Acres
PERMIT NUMBER: Wy-0024406

Clearview Acres is an existing residential subdivision located north of Rock Springs, Wyoming. Wastewater treatment is provided by aerated lagoon system which discharges to Bitter Creek (Class IV Water) via an unnamed drainage.

Mr. Martin is currently under order from the Department to connect to the City of Rock Springs Sewage Collection System no later than July 1, 1983, therefore, the proposed permit expires July 1, 1983. Interim effluent limitations are based on National Secondary Treatment Standards and Wyoming's In-Stream Water Quality Standards.

Monitoring of effluent quality and quantity is required on a regular basis with reporting of results quarterly.

(10) APPLICANT NAME: Town of Frannie - Wastewater
MAILING ADDRESS: P.O. Box 72
Frannie, WY 82423
FACILITY LOCATION: Big Horn County
PERMIT NUMBER: Wy-0020052

Wastewater treatment for the Town of Frannie is provided by a single cell non-aerated lagoon which would discharge to Sage Creek (Class II Water). The discharge permit for the town was allowed to expire in 1980 because the town removed the outlet pipe from what was then a non-discharging lagoon. However, in recent months the level of the lagoon has begun to rise and the town wishes to add a discharge pipe in case a release of water from the lagoon becomes necessary.

The proposed permit requires the existing facilities to be operated at maximum capability and efficiency until such time as the town receives a federal grant offer to upgrade the facilities. Upon receipt of a federal grant the effluent quality must meet limitations based on National Secondary Treatment Standards and Wyoming's In-Stream Water Quality Standards.

Due to the high dilution factor in the receiving stream it is not necessary to set limitations on ammonia to insure compliance with in-stream ammonia limitations. Also at this time it appears that violation of Wyoming's in-stream standards for dissolved oxygen will not occur provided National Secondary Treatment Standards are achieved. However, this position will continue to be evaluated (and the permit modified if necessary) as more information becomes available.

The permit limitations for the parameters fecal coliform, total residual chlorine and ammonia are based upon the following:

1. Projected design discharge volume — .025 MGD (Est.)
2. Q7-10 of Sage Creek — 5 MGD (Est.)
3. In-stream Water Quality Standards for fecal coliform — 1,000/100 mls.
4. In-stream Water Quality Standards total residual chlorine — .002 mg/l.

The proposed limitations on fecal coliform bacteria are actually more stringent than necessary to meet in-stream standards, however, they are limitations which are technologically easy to achieve.

Self-monitoring requirements in the proposed permit require the monitoring of all limited parameters on a routine basis with reporting of results quarterly. The proposed permit is scheduled to expire on the February 29, 1988.

The Town of Frannie has been exempted from meeting the deadline for compliance with National Secondary Treatment Standards due to the unavailability of Federal construction grant funds. In addition, the town has requested and received less stringent effluent limitations for the parameter total suspended solids as authorized by federal regulations for stabilization pond systems with a design flow of less than 2.0 MGD. STATE/EPA TENTATIVE DETERMINATIONS

Tentative determinations have been made by the State of Wyoming in cooperation with the EPA staff relative to effluent limitations and conditions to be imposed on the permits. These limitations and conditions will assure that State water quality standards and applicable provisions of the FWPCA will be protected.

PUBLIC COMMENTS

Public comments are invited any time prior to March 8, 1983. Comments may be directed to the Wyoming Department of Environmental Quality, Water Quality Division, Permits Section, 1111 East Lincolnway, Cheyenne, Wyoming 82002, or the U.S. Environmental Protection Agency, Region VIII, Enforcement Division, Permits Administration and Compliance Branch, 1860 Lincoln Street, Denver, Colorado 80295. All comments received prior to March 8, 1983 will be considered in the formulation of final determinations to be imposed on the permits.

ADDITIONAL INFORMATION

Additional information may be obtained upon request by calling the State of Wyoming, (307) 777-7781, or EPA, (303) 327-3874, or by writing to the aforementioned addresses.

The complete applications, draft permits and related documents are available for review and reproduction at the aforementioned addresses.

Public Notice No. Wy-83-002

Central Arizona Project

They built it up with silver and gold

by Paul Talbot
with Dan Whipple

In Lake Havasu City, Arizona, the Colorado River flows under London Bridge, which, as any child knows, once fell down. A little south of the famous structure is the beginning of the Central Arizona Project, a project designed to bring 1.2 million acre-feet of municipal water to the cities of Phoenix and Tucson.

Once, when London Bridge fell down, they built it up with "silver and gold," according to the nursery rhyme. London Bridge and the Central Arizona Project have that much, at least, in common.

CAP is essentially a vast canal that will deliver water from the Colorado to the consumer cities. The route covers about 300 miles. First the Havasu electric power pumping plant will lift the water 800 feet over the Buckskin Mountains, then there will be a gradual climb of 1,200 feet into Tucson. Five pumping stations will assist the water's journey.

Estimated at \$832 million in 1971, the project was rebudgeted by the Bureau of Reclamation to a total price of \$3.4 billion in October, 1982. The canal and pumping station core of the project will cost \$2.6 billion. The remainder will go for flood control projects north of Phoenix and for a proposed extension of the canal to the Papago Indian Reservation west of Tucson.

In 1978, the chairman of the economics department of the University of Montana wrote a report highly critical of CAP. In the study, which focused on economic issues, Thomas Power projected the ultimate price tag at \$5.4 billion, with a return of less than 35 cents for every dollar invested.

CAP was first proposed in the 1930s as another way of making the desert bloom. Arizona Gov. Bruce Babbitt (D) recently told delegates at the National Association of Water Companies annual convention last year in Phoenix that, "American psychology thought of water as a free product, an endless stream."

Much of the time since the original proposal has been spent feuding with neighboring states over the water. In the 1950s, there was an innovative campaign to motivate political support for Arizona's claims. The state was receiving its first rush of immigrants and all the newcomers were urged to write friends back home. Those friends, in turn, were told to prod their elected representatives into supporting the CAP legislation sponsored by the late Sen. Carl Hayden (R-Ariz.). In California, the newcomers were urged to do the same thing in reverse — urging a "no" vote.

In September, 1968, President Lyndon Johnson signed the act authorizing the Central Arizona Project. Hayden got to keep the ceremonial pen.

Costs have been going up ever since. Recent years have called into question the availability of water from Colorado and the willingness of Washington to continue to foot the bill.

Continuing a trend begun in the Carter administration, President Ronald Reagan has proposed that states pay more and the federal government less for water projects. In a June memo to

Reagan, Interior Secretary James Watt proposed that water users pay 35 percent of the expenses of irrigation and flood control projects. In most cases, water users have repaid water projects on the basis of their ability to pay and have paid only for actual construction costs, not interest expenses.

Watt's formula is still under consideration — comments on it will be accepted until March 25, 1983 — but Arizona must come up with some money immediately to prevent construction delays. The 1983 fiscal year funding from Congress is \$161 million. According to Larry Lisner, a planner with Arizona's Department of Water Resources, "At this year's level of funding, it will take forever to complete the project."

Whatever is done by the state and the federal government, dramatic cost increases to users appear inevitable. According to the Central Arizona Water Conservation District, the state agency that negotiates with Washington on CAP, Arizona farmers receiving water from the project will have to make a 20 percent down payment on the construction cost of the delivery system linking the main canal with their fields. This totals about \$250 million.

CAP will have 75 towns, cities and water companies as customers. Agricultural customers will pay between \$50 and \$100 per acre-foot. This fall, the going rate for water — primarily from the state's dwindling groundwater supply — has been \$25 to \$30 per acre-foot.

A second concern for CAP is whether the expensive water system will have any water in it. The Colorado River has not reached Mexico's Gulf of California for 20 years, thanks to the demands on the river. As the next area in line, Arizona has cast a wary eye upstream.

The amount of water Arizona can divert is based on a formula worked out

among the basin states in the Colorado River Compact of the 1920s. The agreement provides Arizona with 2.8 million acre-feet a year, when that water is available. In times of drought, CAP will be the first to be cut.

And, with the typical use-it-or-lose-it philosophy of the upper basin states, there is considerable potential that CAP will not have all the water it is planning on. Colorado's Wayne Aspinall, retired chairman of the House Interior Committee and a master at bringing water to his state, said, "If we have a need for the water and if we can store it, we'll do it. If that means cutting Arizona back, we'll cut back, because we're entitled to that water."

Of the 2.8 million acre-feet Arizona gets under the compact, 1.2 million is scheduled for CAP. Some experts estimate that as little as one-third that amount could be available in dry years. However, as former Rep. John Rhodes (R-Ariz.), a strong supporter of the project, said, "If you waited until you would be absolutely certain of water supply, no matter what, you would never build any structures."

However, the effect of CAP has not been entirely negative. As a *quid pro quo* for continued funding of the project, the Carter administration required that the state pass some groundwater conservation legislation. Arizona uses about 170 percent of the groundwater recharge available to it each year. This has produced, on one end of the spectrum, golf courses, artificial lakes and cotton fields and, on the other, a crack inside the city limits of Phoenix that is 400 feet long and up to 15 feet wide.

Ninety percent of Arizona's groundwater goes to agriculture. Arizona's 1980 Groundwater Management Act for the first time imposed stringent water conservation requirements on the agricultural community in an effort to wean it from groundwater use. Gov.

Babbitt called the law "easily the most advanced water management law in America."

The law established three active management areas in the state, charged with monitoring withdrawals of groundwater by mining, agricultural, municipal and industrial users. It required that all wells be registered and, for new developments, that any planned wells show at least a 100-year supply of water.

A second benefit from CAP resulted from a difference in water consumption between Arizona's two chief cities — Tucson and Phoenix. Tucson has long had a water conservation program, with per capita use at about 140 gallons per day. Phoenix, with no conservation program in effect, used between 220 and 800 gallons per person per day. In 1982, under the groundwater management pressure, Phoenix introduced water conservation; by September, it had reduced water use by 14 percent over the previous year.

In addition, one victory for conservationists was the halting of construction of Orme Dam, which would have flooded a large portion of the Fort McDowell Indian Reservation, home of the Mojave, Apache and Tavaipa Indians. Alternatives to the dam are still being studied.

There is about \$2 billion worth of work yet to be done on CAP — depending upon whose estimates are used. As current House Interior Committee Chairman Morris Udall (D-Ariz.) told *Sierra*, the magazine of the Sierra Club, "It would have been much wiser, from a resources-planning standpoint, to build 10 cities like Yuma along the river instead of evaporating all that water in a 300- to 400-mile canal all the way to Tucson and Phoenix. But we've passed the point of no return on that."

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Paul Talbot is a Phoenix-based freelance writer and news director for KZZY radio. This article was paid for by the HCN Research Fund.



Bureau of Reclamation