

High Country News

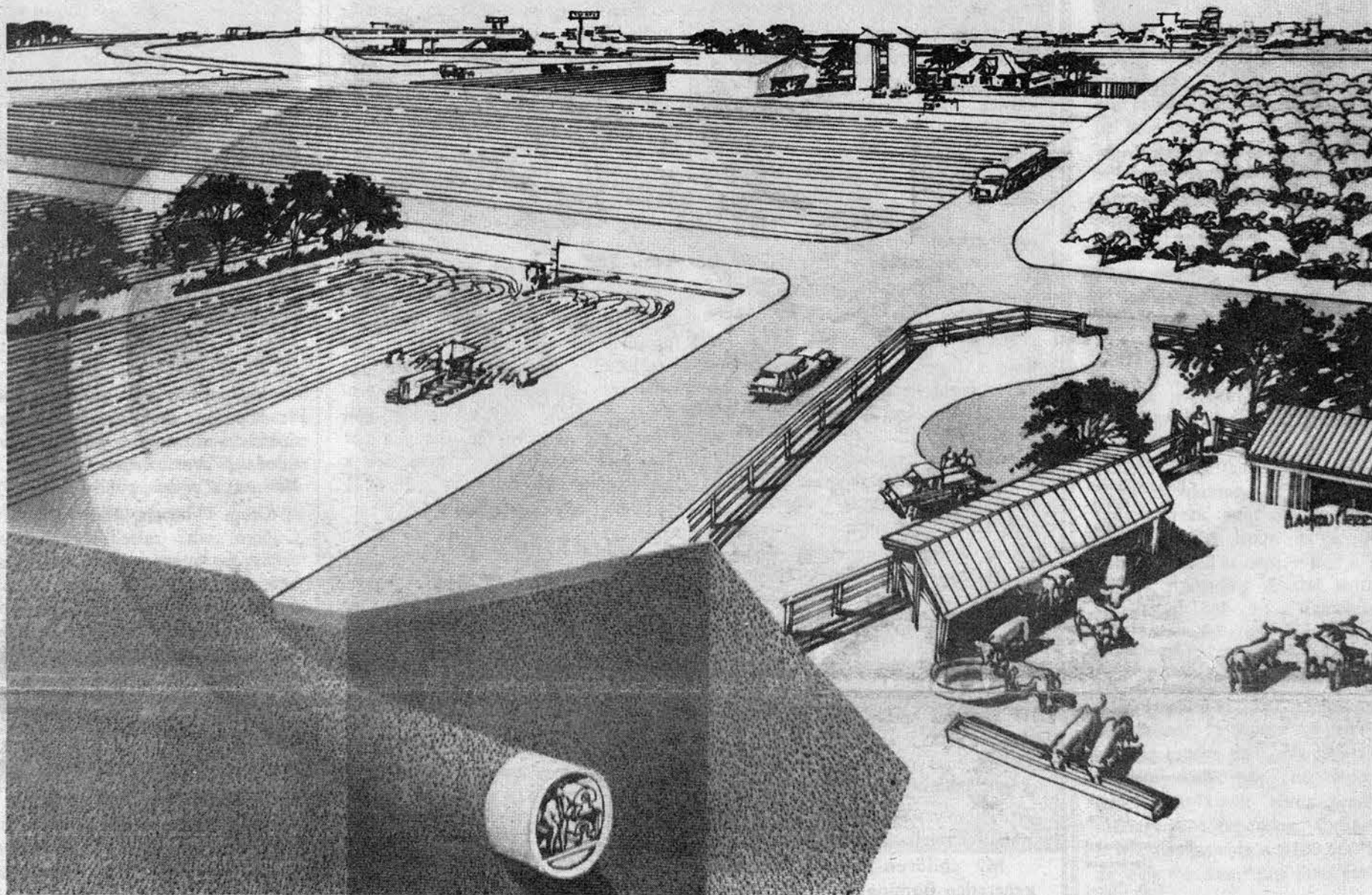
August 17, 1987

Vol. 19 No. 15

A Paper for People who Care about the West

One Dollar

California Collider Commission



Hoover Dam - 1990s version:

The Superconducting Collider

by Steve Hinchman
and Ed Marston

Over the next two years, the Rocky Mountain states will discover whether they can make the transition from dams to high-tech. The test case is the \$4.4 billion Superconducting Super Collider.

This next generation atom-smasher is described by the high energy physics community as the key to further inquiry into the basic nature of matter and the origin of the universe.

But to the Rocky Mountain West and to other states throughout the nation, it represents economic development of the most desirable kind. For the West, it could be the most

attractive project to come out of the federal government since the U.S. Bureau of Reclamation was created in the early 1900s.

As a result, eight mountain states and South Dakota have spent \$13 million to prepare applications for the competition. Those states are also prepared to pay even more in free land and other incentives should they get the project. Competitors include New Mexico, Arizona, Nevada, Utah, Idaho, Montana, Wyoming, Colorado and South Dakota.

The collider quest takes the West onto new ground. Traditional Western pork is based on natural resources -- dammed rivers, huge canals, logged federal trees. The collider is based on human resources. Once the \$4.4 billion has been spent on

concrete and steel, several thousand of the nation's scientific elite will take over. They are people accustomed to the culture and amenities of major universities and the communities, schools and museums that surround them. Such places abound in New England, the Midwest and California. They are rare in the mountain West.

However, the West has advantages settled areas may lack: open space, cheap land, oceans of surplus electric energy, a relatively clean environment, outdoor recreation and a strong drive to transform its economy.

The machine they are competing for is of a scale to match the West. Its race-track shape measures 28 miles

long by 17 miles wide, yielding a 53-mile circumference. It will be the largest scientific instrument ever built. Much of this massive microscope will be 35 or more feet underground, and will contain three collider rings in tunnels 10 feet in diameter.

The rings will be lined by 10,000 superconducting magnets that will propel the beams of particles in opposite directions at speeds just below that of light. The point of the machine is to create collisions between the oppositely moving, high-energy particles and then "view" those collisions by various instruments.

Overall, the collider -- which will be 20 times more powerful than its predecessor, the Tevatron in Illinois -- will stretch the

(Continued on page 8)

Dear friends,



High Country News

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Fewer typos

Readers never drop you a note saying, "I was impressed by the lack of typos in your most recent issue," or, "Congratulations on not mislabelling any photos in the last HCN." They do, however, let us know when we make mistakes, and those notices have fallen off sharply since Linda Bacigalupi came aboard last year as proofreader.

Linda is by training and experience a freelance expert in community development; she researched and wrote the report describing steps Dubois, Wyo., might take to create a more stable, prosperous future. In between assignments, she has been an excellent proofreader.

Now, however, she has decided to leave the Paonia-Hotchkiss area and move to Pueblo, Colo. We will miss her, and we will miss her ability to catch errors.

It is the nature of High Country News to go through people at a rapid rate. An every-other-week newspaper requires a lot of people for a few days a fortnight. During those few days, typesetters, graphics people, proofreaders, and a darkroom person crowd the office. Production over, the office drains down to the editorial crew and circulation manager C.B. Elliott. As a result, we have a minimum of full-time jobs in Paonia (three, at the moment). We depend on finding people with both the necessary skills and the ability to fit HCN's fortnightly routine into their lives.

Welcome

We have another bureau reporter to introduce, although Katharine Collins may be a familiar name to some readers. She has been HCN's micro-bureau chief in Wyoming for the past several months.

My children would be fifth generation Birmingham, Alabamians had I not left there at age 18, long before they were born. I graduated from Sweet Briar, a small liberal arts college in Virginia, and took advantage of its junior year in France program. A desire to see more of the world prompted me to join the Peace

Corps after graduation, and after two years in Ghana I worked for a consulting group in Washington, D.C., preparing background studies on American aid to higher-education institutions in Africa, and occasionally accompanying consulting teams as French-English interpreter and travel guide.

I married John D. Collins 18 years ago and thereby won a ticket back to Africa -- this time to the Republic of Niger. I swatted flies, rode horses, frequented markets in surrounding villages, and learned Hausa for a year while John did field research for his doctorate in political science. We then packed up our Land Rover and moved 200 miles south to Zaria, Nigeria, the first Americans to cross Nigeria's northern border after the Biafran war. We taught at a large university in Zaria for six years, produced two sons, and returned to the U.S. and culture shock.

We have made our home in Rock Springs for the last 10 years, where I have done solar and energy conservation consulting, chaired the Democratic Party, and developed two group homes for troubled youth. My freelance writing career is about a year old, launched during an internship at HCN last spring. I now write occasionally for the Casper Star-Tribune and have also edited a newsletter for the city of Rock Springs for the past year.

Visitors

Visitors to the HCN office slowed somewhat in the last two weeks. Walter and Ruth Garstka of Fort Collins, Colo., came by to say hello and talk water. Walter is a retired Bureau of Reclamation employee and an expert in hydrology. Now 81, and retired from the Bureau, he is busy

HOTLINE

Montana coal sales

Recent legislation aimed at reducing Montana's coal severance tax is triggering growth of the industry, a coal company reports. The state Legislature's effort to increase coal production by cutting the nation's biggest coal tax from 30 percent to 15 percent by 1991 is working, says

WESTERN ROUNDUP

The 'Points West' column strikes its flag

The nationally syndicated column "Points West" by Peter Wiley and Bob Gottlieb is now defunct. The column, begun in 1983, was alone in covering Western regional issues, including natural resources, rural economy and Indian politics. The reason for its demise, the writers say, is a profound lack of media interest in the West as a region.

Wiley's July 1 farewell to their editors said, "In the mass media, lines of communication run only one way, and that is East to West." He added over the phone that "most papers are preoccupied with local issues, or what is going on in Washington, D.C....they don't want to look beyond that." He also said that many Western papers "have yet to develop a modern sense of regional communality and interdependence."

The column often had a hard time getting published, in part due to

competition in the syndicate market, they said. It is common for many mainstream papers to publish the "cheap pontificators like Jack Anderson and George Will," said Wiley. Such syndicated editorials tend to cover only the "eastern centers of power" and cost the papers less to publish. "The papers wanted either more local or more national news. We argued that regional issues had implications for both," said Bob Gottlieb.

Long-time fan and occasional publisher of the column at Pacific News Service, Sandy Close, agreed that the market is glutted, saying most independent syndicators are doomed. "The odds against any syndicated effort are so enormous," she said. "The competition has grown by leaps and bounds. This is a task of Sisyphus proportions."

Trying to cover a lot of ground also had its problems for the pair.



Katharine Collins

writing papers and monitoring water development on the Front Range of Colorado. Among his works is a book titled, *Water Resources and the National Welfare*, published in 1978.

Other visitors were Dr. Theo Colborn, who raised sheep in this valley for many years and who is now with the Conservation Foundation in Washington, D.C., and Dewitt John and his wife Jane. Dewitt, a former aide to former Colorado Gov. Richard Lamm, is an economist with the National Governors Association, also in Washington, D.C.

--the staff

Paul Gatzmeier, vice president of Western Energy Co. With the new incentive for buying Montana coal, several utilities recently announced plans to buy enough coal to meet the state's production requirements for lowering the tax. Northern States Power, a Minnesota-based utility, will buy 7 million tons of coal from Western Energy Co., and Detroit Edison will buy 2 million tons from Spring Creek Co.

"There was some tension between California and non-California coverage," said Gottlieb. "California seems to exist as its own imperial entity. The California papers thought we spent too much time on the intermountain West and Southwest. But the whole point behind the column was to get them linked, especially on agriculture and water issues."

Wiley and Gottlieb have written extensively on Western issues, collaborating on two books, one on new cities in the West, called *Empires in the Sun*, and the other on Mormon history, called *America's Saints*.

Each writer is now free to spend time on his own book. Wiley will write about Perry's expedition to Japan; and Gottlieb is writing a book about water in California.

--Florence Williams

Tornado blows down 15,000 acres of trees

One of the nation's leading authorities on wind phenomena has concluded that the July 21 blowdown of 15,000 acres of trees in Wyoming's Teton Wilderness was due to a tornado 20 miles in diameter with top wind speeds of 150 to 175 miles an hour.

Dr. Theodore Fujita of the University of Chicago told the Forest Service that this would be the highest elevation at which a tornado has ever been recorded.

"It's very rare for a tornado to occur in places like this," said Mark Van Every, a spokesman for the Bridger-Teton National Forest who relayed Fujita's conclusion. "Normally, they just don't hold together at higher elevations." The area where the blowdown occurred is approximately at the 8,000 foot level.

Although Forest Service officials have not decided what, if anything, to do, some timber industry officials have expressed an interest in using the blowdown for political purposes.

Jerry Harmon, president of Resource Control International in Afton, and two officials of the Louisiana-Pacific Corporation, including Bob Baker, chief forester at L-P's Dubois mill, indicated to Forest Service officials they might use a video tape of the blowdown to fight new wilderness designations in Idaho and Montana.

"They asked about details of the Wilderness Act, but they already pretty much knew that it would take an act of Congress to declassify that area so the timber could be salvaged for commercial use," said Bridger-Teton spokesman Fred Kingwill. "That's one thing we know for sure. There will be no commercial timber activities in that area at all."

Kingwill continued, "They were very interested in the 30-minute video tape we shot. They made copies, and were looking at it as a chance to show the public what can happen when an area is given a wilderness designation."

"The point they seem to want to make is that natural phenomena like this can happen, but because they can't harvest in there, the timber is lost. To them, it seems like a waste, but nothing is ever wasted in nature."

Harmon could not be reached and Baker refused comment when asked if L-P planned to seek redesignation of the blowdown area in order to make possible some commercial salvage of the estimated 100 million board feet of timber laid flat by the freak storm.

Patty Howe, a Washington, D.C., aide to Rep. Dick Cheney, R-Wyo., said the congressman has no plans at this time to consider introduction of legislation to change the designation of the Teton Wilderness, temporarily or permanently.

Both Kingwill and Hank Phibbs, a founder of the Greater Yellowstone Coalition, said they don't believe any commercial salvage of the downed timber could or should be attempted, even though salvage would satisfy logging quotas on the forest for several years.

But the Forest Service is considering ways to reduce the possibility of both wildfire and bug infestation that will increase as the trees die and age and could present a threat to the surrounding forest area.

"First of all, the Wilderness Act

Bill Conrad



Part of the swath of downed trees near Jackson, Wyo.

very clearly prohibits any new roading, vehicles, chain saws and the rest of the equipment that would be needed for salvage," Kingwill said. "The key in the wilderness is the ability to achieve solitude, and the use of chain saws would really impact the solitude in a detrimental fashion."

"What we're facing is 15,000 acres on which the fuel loads are enormous. We dropped six smoke jumpers on the blowdown last week, and we've had trail crews in to clear or reroute the area, and they have all reported trees and branches stacked eight to 10 feet high in some places. The potential for fire is tremendous," Kingwill said.

Phibbs was adamant that the area should be left alone for nature to care for as it will. "In wilderness, we allow nature to run its course, and that includes decay of timber to restore the soil mantle," he said.

"The problem is that for years, we've had a policy of fire suppression, so we have a forest that is essentially all the same age. Now, when it burns, a lot of it will go. But that's what we have to expect. We're paying the bill for all those years when we put out little fires that would have helped produce a variety of species and ages."

Phibbs said he does not believe the Forest Service should attempt to

HOTLINE

Filling a (clean) vacuum

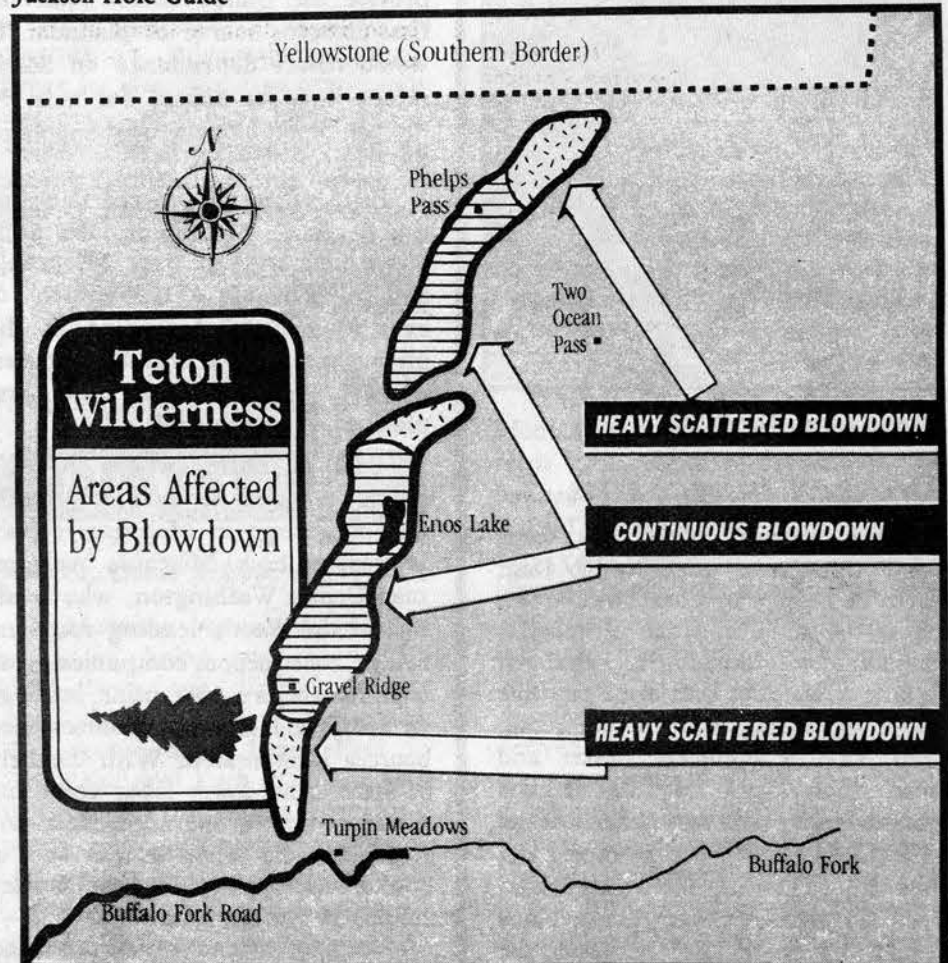
When the Phelps Dodge copper smelter closed last January, the southern Arizona town of Douglas expected to wither away with the last puffs of SO₂ smoke (HCN, 2/2/87). Employing 350 people and with a payroll of \$10 million, the 80-year-old smelter was considered the economic mainstay of the town. But now, seven months after the plant's closure, the town is booming. "It's really shocking," said one store owner. "Sales tax receipts are up 10 percent..." Contrary to what nearly everyone predicted, bank deposits increased, real estate values are up and retirement developers are buying up land in droves. New manufacturing industries are looking at the town because it is near the border, where labor is cheap, according to a local paper, the *Bisbee Daily Review*.



Will pay damages

Five months after what is believed to be the worst gasoline spill in Wyoming's history, the state and Conoco Corp. have reached agreement on damages. The spill into Bolton Creek west of Casper killed some 100,000 trout in a popular fishery valued at nearly half a million dollars. According to the settlement announced July 31, Conoco must give 90 acres to the state for public access to the North Platte River and pay the Wyoming Game and Fish Department \$132,520 to restock and rehabilitate 36 miles of river devastated by the spill. In addition, the company must pay the department \$50,000 to cover river study and management expenses. Conoco says it will also provide a \$100,000 fund to develop the riverfront land for public use.

Jackson Hole Guide

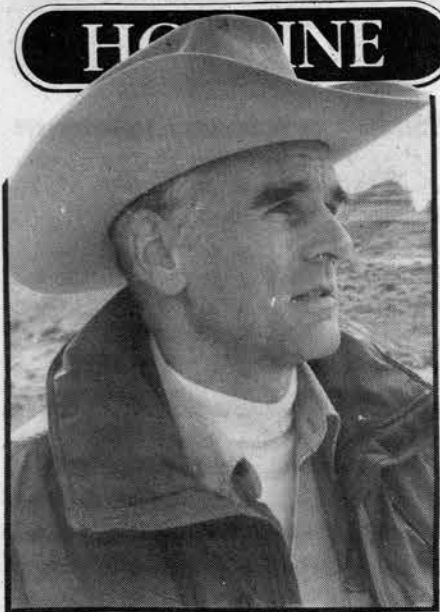


reduce the fire load in the blowdown area by small, prescribed burns.

"You couldn't light a fire up there now that you could control, and if you try to do it when the forest is wet, it won't burn at all," he said.

"I think lightning eventually will start a fire there, and it will be a big one."

--Jean Heller



Interior Secretary Donald Hodel

The far-out secretary

The Environmental Policy Institute in Washington, D.C., has called for the resignation of Donald Hodel, President Reagan's Secretary of the Interior. EPI President Michael Clark said, like Secretary James Watt before him, Hodel has instituted a national unrestrained program of energy exploitation, including a massive expansion of oil and gas drilling. Clark also said that Hodel's attempt to sabotage an international agreement to solve the world's ozone crisis, by promoting sunglasses, hats and skin lotion, went beyond the limits of common sense. "It is time for Hodel to step down and for the administration to name a new secretary who understands scientific thought and rational analysis about the importance of life on this planet," Clark said.



Navajo Dam burial pit

Drained burial sites

Rare Anasazi burial pits were found this June when Navajo Dam south of Durango, Colo., was drawn down for nine months of repairs. Bureau of Reclamation archaeologist Wayne Prokopetz said in 22 pits five intact skeletons were found along with pots, a complete basket and bone tools, all left by Indians hundreds of years ago. After tourists disturbed one of the sites during the July 4th weekend, the archaeologist said the agency knew the artifacts would have to be removed for reinterment by the Pueblo Council or for display and study in a museum or university. When the dam was built by the Bureau in the '60s, Prokopetz said, it was known that sites were being flooded. "That is always part of the tradeoff," he said.

Mining rears its head again in Montana

Despite grim times, it appears that reports of the death of Montana's hardrock mining industry have been greatly exaggerated.

After a dismal performance in the first half of the 1980s -- a period that saw the exodus of King Copper from Butte after 90 years -- mining is clawing its way back into Montana's economic picture.

When ARCO's Anaconda Minerals Company pulled up stakes in Butte in 1982, putting hundreds out of work the same time precious metal prices were slumping, few expected mining to come back. But with higher prices and new interest in precious metals and non-metallic mining products such as talc and vermiculite, the industry is rebounding from five of the slowest years since Montana became a state. Even copper is coming back.

New mines or reopened old mines are appearing in the state's southwestern corner. South of Boulder, a giant gold and silver operation run by a Canadian firm, Centennial Minerals, hopes to move 1,500 tons of ore each day with 340 employees.

North of Yellowstone Park, above the Paradise Valley, a gold mine operated by a partnership between Homestake Mining and the American Copper and Nickel Company will open next spring. Owners say it will process 750 tons of ore daily, employ 100 people and pump \$2 million annually into the local economy. In addition, ongoing operations such as the Golden Sunlight mine near Whitehall are steadily increasing production.

An intriguing development is found in the southcentral region, where a consortium is tapping a 28-mile-long vein of platinum and palladium. The Stillwater Mining Company -- formed by the Chevron Corp., Manville Corp. and Lac Minerals Ltd. of Canada -- hopes to provide the United States with its first domestic source of platinum. It would reduce dependence on South Africa, now the source for most of the non-Soviet bloc nations' supply of the strategic mineral.

From its location on the flanks of the Beartooth Mountains, the Stillwater mine employs over 200 people and will generate a 1987 payroll of over \$7 million. According to the mining company, it will have invested \$75 million before the first platinum is sold this fall.

Over in Butte, where ARCO's pullout signaled the end of Anaconda's long reign in Montana, copper is creeping back. Missoula businessman Dennis Washington, who heads one of the West's leading road and bridge construction companies, took over Anaconda's vast mine holdings in 1985, and created Montana Resources Incorporated. With the help of state loans, lower labor costs and a slimmed-down operation, Montana Resources did what ARCO said it couldn't do at Butte's vast Berkeley mining pit: turn a profit.

Company executives have told the state that their mine will make a \$1.4 million dollar profit this year. Although it is a far cry from the days of Anaconda, the new mine employs 300 people and generates a \$5.8 million annual payroll.

Mining of nonmetallic products is

also up. In fact, the Montana Bureau of Business and Economic Research reports non-metallic mining is growing faster than the precious metals industry. Existing talc and vermiculite producers, for example, have steadily increased production. New proposals, such as a vermiculite mine east of Hamilton that could employ 100, are on the drawing board.

The activity has pleased the Montana Mining Association. Executive Director Gary Langley said the renewed interest is the result of higher prices and "improved technology (that) has allowed development of lower grade ores."

When asked if environmental regulation has softened, Langley said the regulations are the same but "are being administered a little more consistently." He added that his industry has benefited from what he called the disappearance of "the recent hysteria surrounding mining."

To conservationists, long labeled hysterical by Montana miners, new mining activity is creating concern. Jim Jensen, director of the Montana Environmental Information Center, said it could harm the state's streams. Jensen said a new open pit gold mine near Lincoln that will be operated by Sunshine Mining Company is close to the Blackfoot River, a heavily-used recreational stream. The mine will use a cyanide heap-leaching process, which to many people concerned with water quality is a red flag (HCN, 4/13/87).

Jensen said that shouldn't be a problem if the cyanide, which breaks down rapidly, is applied responsibly. However, he is concerned about the trucking of cyanide to the site, saying he'd hate to see the results if "you turn one of those hoppers over in the Blackfoot."

Though still years from production, two large silver mine proposals in the Cabinet Mountains, near the Clark Fork River, are moving through the regulatory slipstream. ASARCO, which has plans to mine under the Cabinet Mountain Wilderness for silver, recently sent its plan of operation to the state for review. If approved, an environmental impact statement will be prepared for a mine and mill that will produce five million ounces of silver a year. ASARCO wants to process over 3.5 million tons of crude ore annually next to the wilderness, and dump annually 3.5 million tons of tailings one-fourth of a mile from the Clark Fork River.

Additionally, U.S. Borax, which has silver claims adjacent to ASARCO's, was given approval by the Forest Service to explore in the wilderness this year. That moves the company a step up in its development plans.

According to ASARCO, it plans to employ 355 people for 30 years at the mine. U.S. Borax plans a similar operation in the area, which is said to have the world's richest silver deposit.

The scale has local conservationists alarmed. Judy Hutchins, chairperson of the Clark Fork Coalition, said that although the proposals could mean the first large-scale mining operations underneath and adjacent to classified wilderness, national conservation groups are paying little attention.

It is not only the large operations that concern conservationists. Jim Jensen said a flurry of small mining operations may be creating environmental problems. State law exempts certain small miners from acquiring permits and from regular environmental review. As a result, Jensen said he is "scared to death about what's going on out there." He added, "The state simply doesn't have the manpower or, quite frankly, the interest to regulate."

Jensen said "the only information you can legally get from the state is the name of the company and what county it is located in. End of information."

Kit Walter, who heads the Montana Hardrock Mining Bureau, said the exemption guarantees confidentiality for operations under 10,000 tons of ore a year, or that disturb fewer than five acres. That makes it tough for the public to monitor small operators. However, he said the miners have to agree not to pollute streams and to close any adit openings. Walter said his agency tries to visit the operations. He estimated 1,400 miners qualify for the exemption.

At present, economic rather than environmental values appear to be in the saddle. According to the Montana Bureau of Economic Research, wages from metallic hardrock mining -- adjusted for inflation -- went from \$80 million in 1981 to \$31 million in 1985, with much of the drop due to the Anaconda closure. In 1986, mining wages rose to \$45 million: The bureau predicts it will climb to \$66 million by 1989. Employment has gone from 2,400 in 1981 to 1,200 in 1985, and back up to 1,500 now. Employment and wages in non-metallic mining have risen steadily in the same period.

It is unlikely that mining will ever regain the iron-fisted hold the copper barons had on Montana in its first 70 years. But for now, mining has both feet out of the grave.

--Bruce Farling

BARBED WIRE

What a barbaric nation. In the United States, they would have been given million-dollar bonuses and awards from the Atomic Industrial Forum for having prevented a much worse accident.

The three officials in charge of the USSR's Chernobyl plant have been sentenced to ten years at hard labor.

We didn't know there were poor people in this administration.

The new chairman of the Federal Reserve Board, Allan Greenspan, has a net worth of at least \$2.9 million, according to a financial newsletter.

Will jobs flow onto the Navajo Nation?

After years of guarding itself from corporate exploitation with a shield of regulations, the Navajo Tribe has decided it's time to woo businesses and industry.

To do so, the tribe has launched a classy publicity drive designed by its Washington, D.C., public relations firm. In its pitch the tribe promises unbeatable tax and regulatory incentives, access to its rich energy resources, a cooperative tribal government and willing Navajo workers who are hungry for jobs.

This push for economic development by the nation's largest Indian tribe is led by the Navajos' new tribal chairman, Peter MacDonald, who regained office for the fourth time last fall (HCN, 11/24/86).

MacDonald has made economic development his first priority. His purpose is to slash the tribe's 30-to-50 percent unemployment rate by creating 1,000 to 2,000 jobs a year.

To get things rolling, this July the tribe sponsored an economic summit in Tohatchi, N.M., which brought together some 40 state, federal and corporate leaders to analyze ways to make the Navajo Reservation more attractive to business.

Their principal recommendation was the need for the tribe to separate business development from, in the words of Arizona Sen. John McCain, "The vagaries of tribal politics."

Sen. Pete Domenici, R-N.M., who with MacDonald and Sen. Dennis DeConcini, D-Ariz., co-hosted the summit, spoke glowingly of the tribe's endeavor, calling the summit a "miracle."

But even he acknowledged the tribal tendency for good deals to go sour at an early stage.

"I've seen almost any private sector proposition made to the Navajo people end up in heated controversy or find itself wither and die on the vine because of lack of unity, direction and enthusiasm," Domenici said.

In fact, during the week of the summit, a Scottsdale, Ariz., developer served notice to the tribe that his company intended to sue for breach of a contract signed a year ago with the former chairman. Zah. Dave Sell, president of SEVA Development Corp., cited the MacDonald administration's decision to re-evaluate his contract for a \$30 million marina and resort project on Lake Powell. He said the recent decision to seek half the gross receipts rather than an agreed-to 20 percent sends a message to other businesses to watch out for the tribe.

"I think MacDonald has blown the opportunity of a lifetime here to help the Navajo people and get economic development," Sell said in an interview.

Another problem is bureaucracy. Over the years Navajo entrepreneurs have complained about the 47 steps of approval needed from both the tribe and Bureau of Indian Affairs to open the doors of even a small business. MacDonald said he would work to cut red tape.

Other tribal leaders have pointed out, however, that the red tape was added to protect the reservation from potentially damaging industries such as mining, and to ensure the continuation of grazing.

MacDonald has said that both the tribe's and the federal government's protective attitude have blocked the reservation from the dynamics of America's free enterprise system, thus contributing to the reservation's high unemployment and creating what's been called "brain drain" -- an exodus of young professionals off the reservation.

"Every year," MacDonald said at the summit meeting, "another 3,000 young Navajos face the cruel choice of staying at home with families and friends to face joblessness, or seeking work in an unfamiliar urban environment. The decision to get a good education and embark on a solid private sector career equates with the decision to leave home forever."

At the summit, Utah Gov. Norman Bangerter said business remains wary of the tribe because of its sovereign right to tax. To address this problem, the Navajo Tribal Council is expected to take up a recommendation this month offering credits on the tribe's 5 percent Business Activity Tax. New and existing businesses that hire new employees on the reservation might then pay no tax to the tribe.

Because tribal land is held in trust by the federal government and cannot be sold to either Navajos or non-Navajos, the council will also consider extending its business site leases from 25 years to 99 years, possibly transferring leasing authority to a new tribal business commission in the process.

Yet even today, if for any reason the tribe decides not to renew a lease, all improvements made, including a building if one is constructed, revert to the tribe when a business lease expires.

Federal leaders unanimously agreed to do what they could to help the tribe change direction. Hawaii Sen. Daniel K. Inouye, chairman of the Senate Select Committee on Indian Affairs, said he would continue working to create an Indian development bank, which is in a bill he introduced, and set up Indian "enterprise zones," a proposal first introduced three years ago by Sen. John McCain, R-Ariz.

For its part, the tribe needs to set aside some land for development, a move that may create opposition from grazing permit-holders who are reluctant to give up their land. To weave through these obstacles, MacDonald established CANDO, a Commission to Accelerate Navajo Development Opportunity.

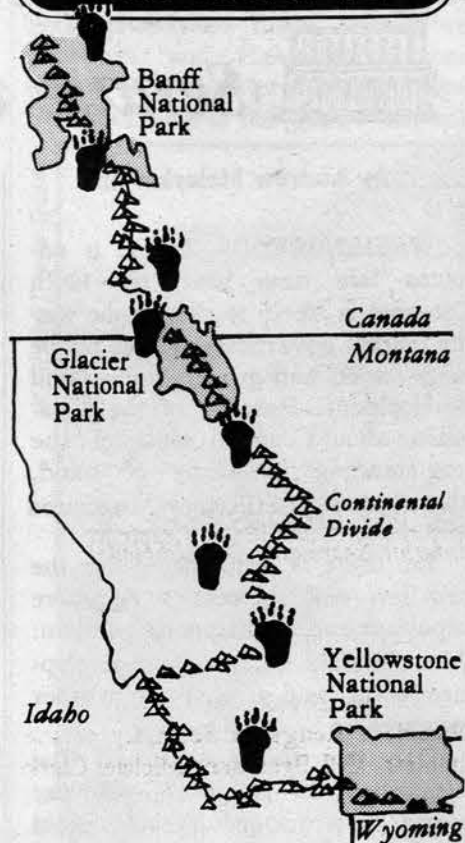
To avoid unnecessary delays when industry begins to knock on the tribe's door, the tribal council is expected to appropriate \$25 million to CANDO this session. With that, the tribe can show it is ready to construct an industrial site in exchange for the jobs it so desperately wants.

Since July 25, when the summit concluded, the tribe says about 15 business inquiries have come in.

--George Hardeen

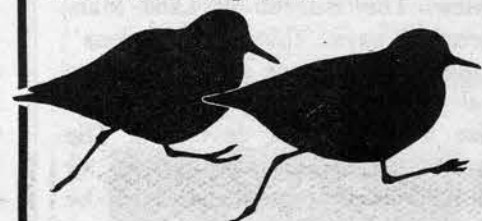
George Hardeen is a freelance writer in Tuba City, Arizona.

HOTLINE



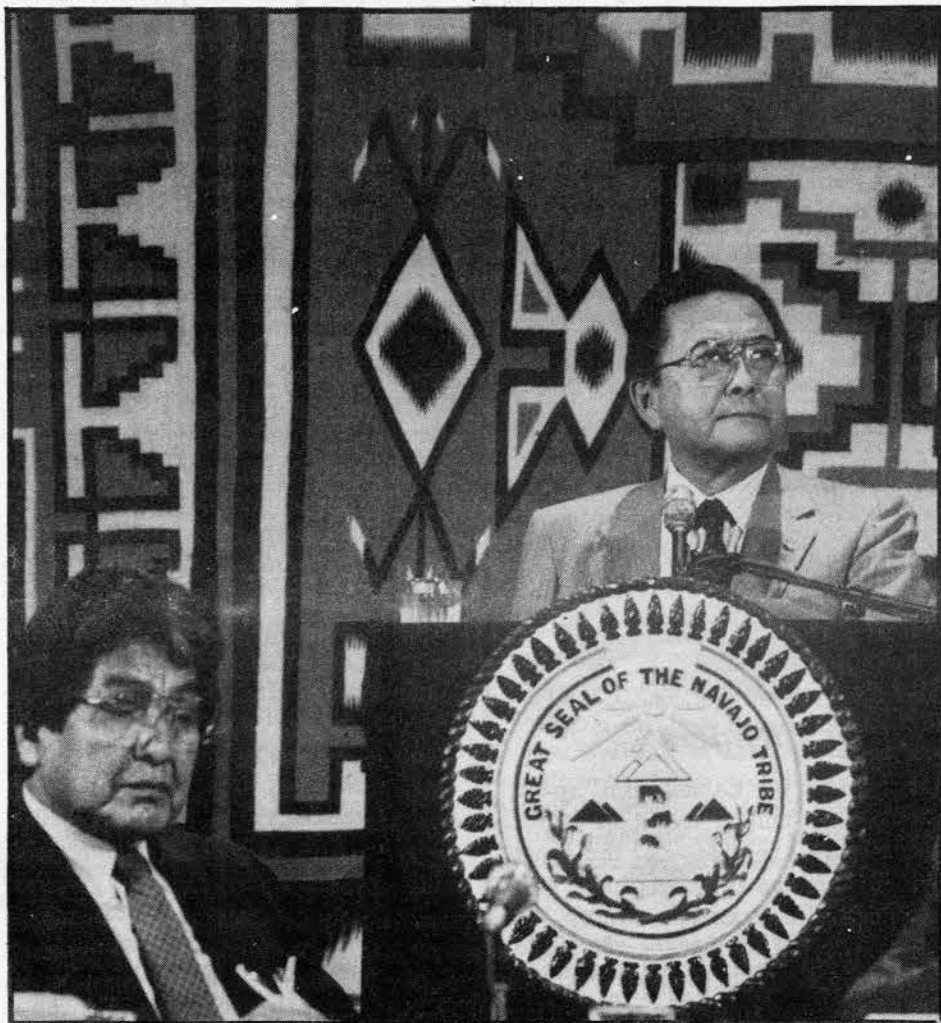
A 1,000-mile trail

Americans and Canadians are working together to establish a 1,000 mile corridor in the Rockies to attract international tourists. To be called the "Trail of the Great Bear" or "Kyi Yo Trail," the corridor would extend along the Continental Divide from Yellowstone National Park in Montana at the southern end, through Glacier and Waterton parks in the middle, to Banff National Park in Alberta. "It's a major wilderness area linked together with few interruptions," Alberta proponent Beth Russell told the *Missoulian*. It is also an area known for the presence of the grizzly bear, said Charles Jonkel, a University of Montana bear specialist and bear-trail supporter. The concept has been endorsed by agencies in both countries. In accords signed by Park Service Director William Penn Mott and his Canadian counterpart James D. Collison, both pledge to "work with interested parties to bring this route to reality, as a model of international cooperation in the areas of interpretation, resource management, tourism and economic development."



Birds bearing poison

Federal and state agencies in Montana will continue testing game birds this summer for traces of banned insecticides. Since 1981, the state Department of Fish, Wildlife and Parks has found dangerously high levels of the carcinogens endrin and heptachlor in popularly hunted birds and waterfowl. Also contaminating the wildlife are 18 other chlorinated hydrocarbon compounds derived from heptachlor. Used for wireworm and cutworm control on grain fields, the chemicals were not phased out in Montana until last May. Last summer, testing of bird tissue revealed heptachlor concentrations that were up to 15 times greater than the recommended levels. Agencies cooperating in the testing include the Montana departments of agriculture, health and environmental sciences, the Environmental Protection Agency and the U.S. Fish and Wildlife Service.



Sen. Daniel Inouye, D-Hawaii, addresses the Navajo summit

meeting; left is Navajo Tribal Chairman Peter MacDonald

HOTLINE

Quick, call Ripley

A Montana woman defeated a feeling of being over-the-hill by rolling down one. Celebrating her 32nd birthday, Debra McCormick roller skated down Logan Pass in Glacier National Park in an unlawful but exhilarating spin, reaching speeds of up to 22 mph and suffering a minor fall during a hairpin turn. Park officials say they may issue her a citation because federal regulations prohibit the use of skates, skateboards and similar modes of transportation on park highways. McCormick told the *Great Falls Tribune*, "I wanted to prove a point. I still like to think I'm young enough to do something."

6-High Country News -- August 17, 1987



CAPITOL HILL

Senate will put a bandaid on oil and gas leasing

by Andrew Melnykovich

WASHINGTON -- Before it adjourns late next year, the 100th Congress is likely to change the way the federal government leases public lands for oil and gas exploration and development. Passage of the legislation should solve some of the long-standing problems of fraud, abuse and inefficiency associated with the present leasing system.

But there is little chance that the new law will address a far more important and fundamental question: Where should oil and gas development occur, and at what cost to other resources?

Only one thing is certain. The legislation will do away with the present two-pronged leasing system in which areas with "known" oil and gas potential are sold by competitive bidding, with most of the rest sold by lottery. All of the leasing reform bills now before Congress would eliminate the lottery and require that leases first be offered through competitive bidding, thus allowing the market to set their initial value.

With big oil, the Reagan administration, and key members of the House and Senate backing the idea, a change in the way leases are sold appears inevitable. Equally inevitable is a pitched battle over whether the change in how leases are sold should be accompanied by a new way of determining whether they should be sold at all in some areas.

Conservationists argue that the present leasing system offers virtually no protection to other resources that could be damaged or destroyed by petroleum development. The Reagan administration and the petroleum companies, large and small, contend that the present system is working just fine.

Current practice treats the issuance of a lease as a paper transaction, with little environmental impact, and requiring only minimal review. The Bureau of Land Management says that "stipulations" written into a lease are adequate to deal with whatever problems might arise if a lease is developed. The impacts of exploratory drilling or full-field development should not be considered until those actions are proposed, the BLM argues.

In theory, the BLM's present system of stipulations attached to the leases should bar or restrict petroleum development in environmentally sensitive areas. In practice, the stipulations do nothing of the sort.

After issuing a lease with little review, the BLM's policy is to then treat a lease as a property right upon which the agency cannot infringe. Thus, the right to drill and develop a lease becomes inalienable, with adherence to lease stipulations dependent largely on the good intentions of the leaseholder.

Conservationists propose solving the problem by analyzing the potential impacts of full-blown petroleum development prior to deciding whether a lease should be issued. If the impacts are deemed unacceptable, the area would not be leased, thus settling the environmental questions at the outset. If a lease is issued, the holder would know that

there would be no challenge to development of any oil and gas resources that are found.

"Up-front" analysis would change the current tendency of leasing disputes to wind up in the federal courts, where they have produced a mish-mash of confusing and conflicting decision.

Both leasing reform bills before the House seek to settle the issue of where oil and gas development should occur by requiring more extensive environmental analysis before a lease can be issued. Rep. George Miller, D-Calif., wants all leasing decisions to be made within the context of comprehensive land-use plans prepared by both the BLM and the Forest Service. It sets strict deadlines for completing the plans and requires strict compliance with the plans.

A parallel measure proposed by Rep. Nick Joe Rahall, D-W. Va., is less stringent. It calls for strict compliance with land use plans only in controversial areas or those likely to yield oil and gas. Conservation groups are backing the stricter provisions in the Miller bill. Both Miller and Rahall want to give the Forest Service final say over leasing decisions in the national forests. Present practice requires only that the BLM "consult" with the Forest Service on leasing decisions.

While the House is moving toward a bill that would require some measure of "up-front" planning, it is doubtful that the Senate will agree to do more than simply change the way leases are sold. That was made clear last month, when the Senate Energy

and Natural Resources Committee met to draft its version of leasing reform legislation. On the table were separate bills backed by Democrats Dale Bumpers of Arkansas and John Melcher of Montana.

Bumpers has tried for years to do away with the lease lottery. Melcher, while also favoring an end to the lottery, has made it clear that he views lease sales and environmental protection as distinct issues that should not be legislatively linked. Melcher's view is shared by a number of powerful Republicans on the energy committee, notably Idaho's James McClure and Malcolm Wallop of Wyoming.

While he is generally sympathetic to conservationists, Bumpers is also a pragmatist. He realized long ago that getting rid of the lottery would be contingent on keeping the bill free of new environmental restrictions. And just in case anyone needed a reminder, Melcher told the committee that he would not brook any attempts to add new environmental restrictions to a leasing bill. This was a potent deterrent, given Melcher's propensity for talking monotonously and at length about matters which displease him.

Nevertheless, freshman Sen. Tim Wirth, D-Colo., pressed ahead with his plans to offer four relatively modest environmental provisions. The committee quickly put the newcomer in his place, agreeing to exactly half of one amendment. The message was unequivocal. The Senate committee considers lease acquisition and lease development to be unrelated issues.

With the House moving in precisely the opposite direction, the stage is being set for a confrontation in the conference committee that eventually will have to reconcile the House and Senate leasing reform measures.

Given the consensus that leasing procedures need to be changed and the enormous need to sell leases in a way that will increase federal revenues, the committee will be under pressure to produce a compromise bill. But the Senate is not likely to go along with the House on environmental issues. Thus, the only bill likely to emerge from the conference is one dealing solely with the mechanics of leasing. The issue of how to decide when and where to lease will be left for another time.

This calls to mind the image of an automobile mechanic who has been given the task of repairing an old, broken-down jalopy. The mechanic puts a new engine in the wreck, starts it and proclaims the vehicle roadworthy. He ignores the failing brakes, the balding tires and the missing steering wheel.

Congress is about to put a new engine in the oil and gas leasing system and send it on its way, still lacking control or sense of direction. The only protections will continue to be the legal roadblock and the fervent hope that nothing important gets in the way.

Andrew Melnykovich's monthly reports from Washington, D.C., will be paid for by the High Country News Research Fund.

LETTERS

SKIRTS ISSUE

Dear HCN,

Lou Chapman's article on Denver's air quality is interesting (HCN, 8/3/87), but there are other aspects to the story. As an example, Chapman mentions that the Denver Regional Council of Governments (DRCOG) is not formally involved in the air quality planning process. One reason for the creation of the Metropolitan Air Quality Council was the failure of DRCOG to be active and creative on air quality issues. DRCOG is also heavily biased toward road construction in its transportation planning and tends to give little emphasis to mass transit.

Despite accomplishments to date, one must also question the openness of air quality planners to new ideas. In early 1985, a group of activists from the local Sierra Club and Audubon Society drafted a list of some 14 proposals to help clean up Denver's air. These included closing drive-through facilities at local banks and fast food outlets on high pollution days; asking grocery stores not to redeem coupons on high pollution days, with double coupon sales on the next clean air day, and closing self-service gas stations.

A novel idea was to give city buses the same right-of-way afforded to school buses, which have the

ability to stop traffic. This would have allowed faster bus service and hopefully would have been a way to encourage greater use of buses. Unfortunately, all of the activists' ideas were more or less rejected by air quality planners as being "too radical."

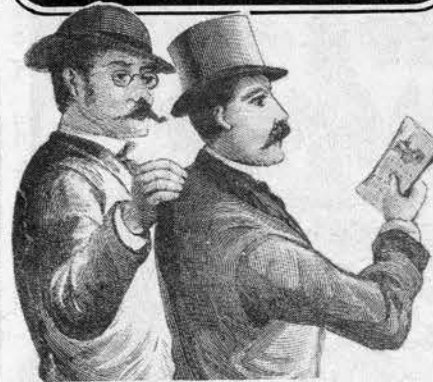
Chapman quotes a Health Dept. official that "...we have to cut down the number of miles driven in metro Denver." This is correct. But to date, no politician, planner or

business leader has had the courage to openly confront the general public on this issue.

Overuse and inefficient use of automobiles is the primary cause of Denver's air pollution problem. Until this issue is confronted, ideas like putting the state on Central Time must remain as problem avoidance and basically, cop-outs.

Steve Honowski
Denver, Colorado

HOTLINE



The big spenders

Lobbyists on Capitol Hill spent nearly \$60.9 million trying to influence Congress in 1986, and the most money spent by any one group was over the acid rain controversy. A group called Citizens for Sensible Control of Acid Rain dropped over \$3 million last year trying to encourage lawmakers to oppose strict emission controls on coal-fired boilers. Bank-

rolled largely by electric and coal companies, the group spent most of that on mass mailings, reports AP. The group spent nothing for the first three months of the year, but then quickly fired up its anti-regulation campaign in April when 160 House members co-sponsored an acid rain control bill. That bill died in committee months later. AP also says that total lobbying expenditures, which averaged almost \$114,000 spent for each congressional member, were up 25 percent over 1985 levels and 45 percent over 1984 levels. Currently there are over 8,000 registered lobbyists in Washington, D.C. Other high-spending groups included the National Committee to Preserve Social Security and Medicare, also at \$3 million, and Common Cause, a citizens' lobby that concentrates on campaign finance reform and political ethics, at \$2 million.

HOTLINE



Tom Baugh

Wolf recovery plan

After seven years of delay, the U.S. Fish and Wildlife Service agreed to a plan this August for restoring the endangered wolf to the Northern Rockies. Signed by Deputy Regional Director John Spinks, the plan establishes guidelines for wolf recovery in Glacier National Park, the greater Yellowstone area and in central Idaho around the Selway-Bitterroot Wilderness. Yellowstone is the only area of the three without any wolves at present. To reintroduce the species in Yellowstone, an area where ranchers continue to protest, the Park Service will have to initiate its own plan, Spinks said. Conservation groups are already

pressing the Park Service to conduct a full-fledged environmental impact statement to "elevate the issue to a level of discussion and technical debate in a structured process," said the Wolf Fund's Renee Askins of Moose, Wyo. The plan itself is "not binding or mandatory, just a general framework to get the wolf off the endangered species list," said Spinks.

Agency says no

Despite requests from four Wyoming sawmills, the Forest Service has refused to increase the amount of logging allowed in the Medicine Bow National Forest. Sawmill operators said not enough logging was permitted in the forest's management plan and demanded a 55 percent increase in the annual timber harvest to 51 million board feet a year. R.L. Hammer of Hammer Lumber and Timber, one of the mills that filed the appeal, told the *Casper Star-Tribune* that at least two of the major Medicine Bow mills would be forced to shut down unless the plan were amended. But Forest Service Chief Dale Robertson denied the appeal, saying the current management plan provides adequate timber supplies for the local industry. The sawmill companies are considering asking for a review of the appeal by the secretary of agriculture. They could also file suit in federal court to block the plan.

Recalled to life

The concept of re-reclamation usually comes from groups like Earth First!, which often fantasizes about huge cracks appearing in Glen

Canyon Dam. But on August 5, re-reclamation came from a very different quarter: Secretary of Interior Donald Hodel, whose domain includes the National Park Service and the U.S. Bureau of Reclamation. Hodel shocked everyone by suggesting that the famous Hetch Hetchy Valley in California's Yosemite National Park be recalled to life by draining the Hetch Hetchy Reservoir, which now fills it. The battle over Hetch Hetchy Reservoir was fought almost 75 years ago, with John Muir of the Sierra Club for preservation and Gifford Pinchot, founder of the Forest Service, for damming. The fight led to a parting of paths between Pinchot, who had tried to keep a foot in the camp of those who thought nature had inherent rights, and that era's environmentalists. The reservoir now provides drinking water to San Francisco and electricity to the Central Valley. Hodel's suggestion was greeted with anger by San Francisco Mayor Diane Feinstein ("I think this is the worst idea I have heard since the sale of weapons to Iran.") and was welcomed, but with a certain element of disbelief, by environmentalists.

Calls for high-fliers

Congress recently passed a bill to limit low-altitude flights over national parks. Co-sponsored by Sens. Tim Wirth, D-Colo., Ernest F. Hollings, D-S.C., Wendell H. Ford, D-Ky., John McCain, R-Ariz., and Stark N. Matsunaga, D-Hawaii, the bill would protect park visitors from noise pollution and ensure better safety for flight passengers. Prompting the legislation was a collision over Grand Canyon last summer that killed 25 people. "The solitude and beauty of our national parks is being severely impaired by the intrusive and dan-

gerous presence of low-flying aircraft," said Wirth. The bill (H.R. 921) establishes flight levels over Yosemite and Haleakala national parks, as well as prohibiting below-the-rim flights in the Grand Canyon.



Kent and Donna Danner

Inner gorge of Grand Canyon

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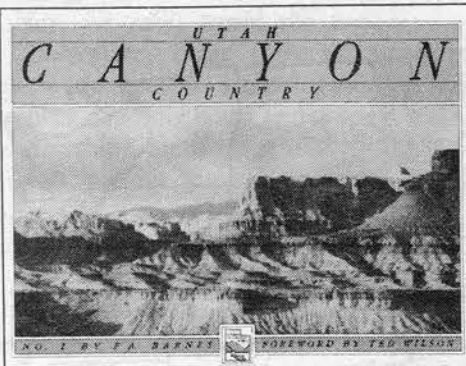
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Collider...

(Continued from page 1)

limits of technology in computers, sensing equipment, materials, magnets and the like. High-tech support industries are expected to settle near the collider to build and maintain its equipment. In addition, promoters say the collider could inspire the creation of new techniques that may become the seed for new industries.

As a result, those pursuing the machine say it could eventually be surrounded by industry it seeded or spun off. For example, Utah Lt. Gov. Val Oveson, told the *Denver Post*, "We can smell the Superconducting Super Collider, and we're hungry for it. It smells like greenbacks."

But spinoffs and satellite activities are speculative. What is certain is the machine itself. The collider's greenbacks will first come in a big burst -- \$4.4 billion for construction over six years, with a work force that could reach 5,000. The Department of Energy says the collider will then employ 3,000 permanent support and scientific staff with an annual budget of \$300 million.

For the state that eventually wins the project, tax revenues generated by the collider are estimated at over \$120 million during the six years of construction and then \$20 million annually.

In addition to the technological and economic spinoffs, the collider could have cultural and educational impacts. The collider campus will have the highest ratio of Ph.D.s in the nation, and the project could provide both the stimulus and money to upgrade the local education systems and encourage the arts.

States are also pleased by the apparent lack of environmental impacts. Although there is some debate, the DOE says it will produce only a limited amount of radioactive and hazardous wastes, which means it offers a transfusion of money without sacrificing rivers, forests or wildlife.

Its allure has caused a number of states with admittedly slim chances to bid for the project. But the DOE's stringent criteria may put most Western states at a distinct disadvantage.

Four states with impeccable qualifications, good resources and many years of work in their proposals are seen as top contenders. They are:

- Illinois, which wants to hook the new collider onto the Tevatron, and which has spent four years and \$4.5 million trying to land the project;

- California, with its high-powered university system, claims to a high quality of life,

and experience with the Stanford Linear Accelerator in Palo Alto;

- Colorado, a runner-up in the race for the Tevatron in the 1960s, is two years and \$1.5 million into this quest;

- Texas, which is also several years and several million dollars into the race.

Other serious contenders in the East are Florida, North Carolina, New York, Michigan and Ohio; and on the West Coast other contending states are Washington and Oregon.

In the West it is Idaho and New Mexico, both of which now host national laboratories, that are seen as strong contenders. Arizona, Nevada, Utah and South Dakota are in the middle, and running well behind are Montana and Wyoming, which entered the race late, only six months or so before a decision.

The DOE's stringent selection criteria will make the super collider race something of a steeplechase. Failure to overleap the obstacles should quickly weed out most contenders. The DOE will not do the weeding; that task has been assigned to the independent National Academies of Science and Engineering.

The DOE will examine proposals to see that they meet its initial qualifications: 16,000 acres of land with clear title that can be given to the DOE; no unacceptable environmental impacts; and a source of up to 250 megawatts of electric power and 2,200 gallons per minute of industrial water.

Qualifying proposals will then go to panels from the national academies. They will further narrow the field, to no more than 10, on the basis of stable geology; closeness to a support community with housing, schools, hospitals, jobs for families of collider employees, a major airport and cultural and recreation opportunities; absence of artificial or natural features such as noise or vibration that might disturb the project; and disposal

sites for fuel, low-level radioactive and hazardous waste, and sewage.

The DOE will then select a preferred site from the academies' short list by July 1988, conduct a final intensive site-review and confirm the decision by July 1989.

Most of the western states are confident about their scientific, technical and resource qualifications. But many worry that once the DOE has its short list, politics and money will take over. Strategically placed legislators, such as Speaker of the House Jim Wright, D-Texas, may be able to put pressure on the final site selection process. Staffers from Colorado's collider committee remember that Colorado made the semi-finals in the 1960s race for the Tevatron, but lost out to Illinois, possibly because Illinois Sen. Everett Dirksen, R, was then a power in the Senate.

None of the panel's scientists live in the mountain West, although several were born in the region, reports Larry Weist, of the *Deseret News*. Five of the panel members are from California; three are from Princeton University in New Jersey; two each are from New York, Florida, Massachusetts and the District of Columbia. The other four members are from Texas, Illinois, Delaware and Michigan.

To keep financial incentives out of the race, the Senate recently passed amendments to a DOE appropriations bill restricting the selection criteria. The amendment, written by New Mexico Sen. Pete Domenici, R, and co-sponsored by several other senators from the West, prohibits the DOE from considering direct financial aid or other incentives. Domenici says his action will keep wealthy states from attempting to "buy the project."

That means some incentives such as a Texas proposal to sell bonds to fund as much as half the construction costs are now outlawed. Instead, the DOE has asked states to put cost-sharing proposals into sealed envelopes

to be submitted with their site proposals. Only one of those envelopes will be opened, when the winning state is selected, says DOE spokesman Phil Krief.

Technically, there now appears to be no incentive for incentives. But Terry Morant, advisor to Gov. Thompson of Illinois, which has invested considerable sums in structural improvements to support facilities, says, "Whatever amendments are passed, the reality is there is no way to build a project of this magnitude without a major commitment from the local and state community."

The biggest obstacle for all the states in the collider chase may be convincing Congress to fund the project. While the atom smasher has momentum behind it from years of work by the DOE and the science community, as well as President Reagan's blessing, Congress has not yet authorized it.

The total project cost of \$4.4 billion is estimated in 1988 dollars. By the time it is finished in 1996, the DOE says the project will cost more than \$6 billion. From 1990 to 1996, the project would take \$600 million a year, yet even the DOE's relatively tiny request of \$10 million in the 1988 budget for preliminary construction was rejected by the House Budget Committee. The \$350 million the DOE will request in 1989 may be even harder to find.

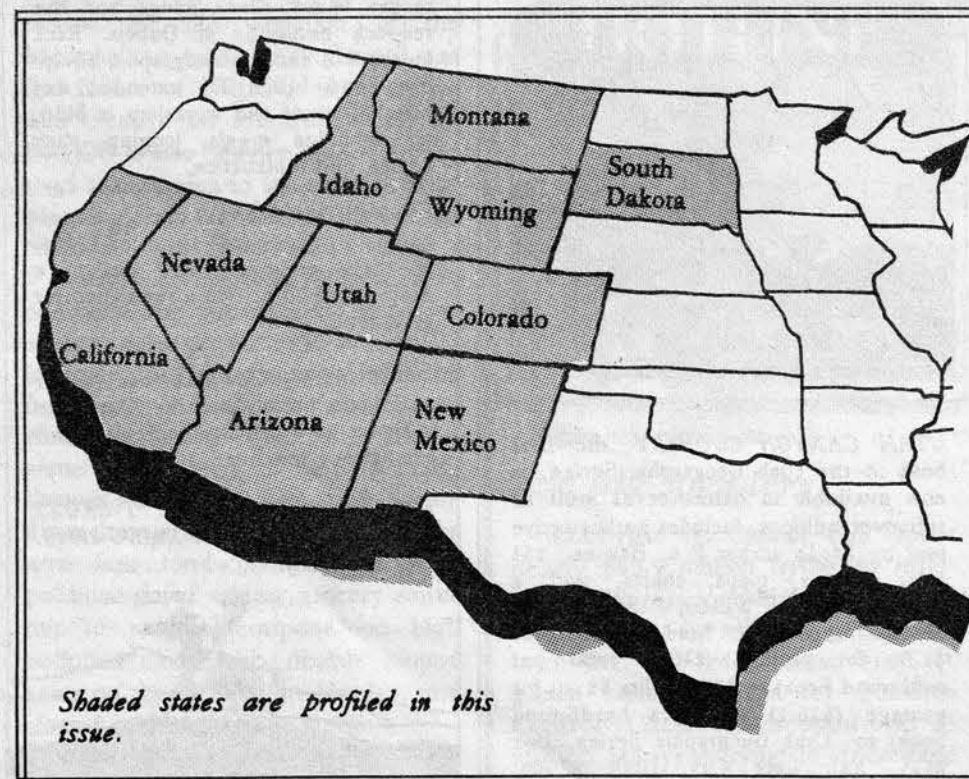
Nelson Midler, a staffer with the House Science and Technology Committee, says the hesitancy "reflects a desire on the House side, before we can proceed with construction, for a clearcut understanding of where the resources will come from."

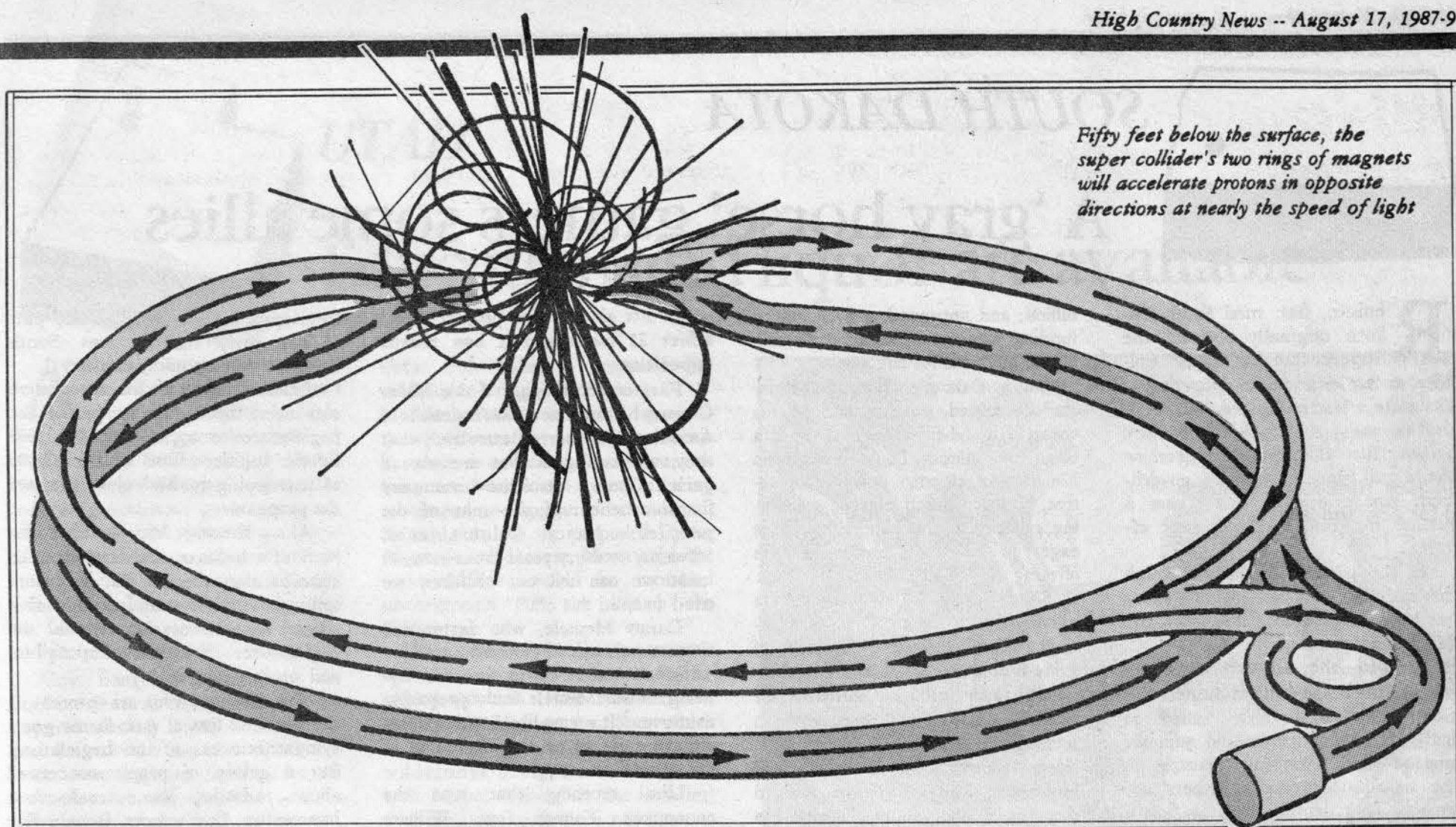
Technically, the money would come from the U.S. Treasury as authorized by Congress under budget category 250 for general science. Midler reports, however, that the House cut \$1.4 billion last year out of the administration's requests for that same category 250, which also includes the National Aeronautics and Space Administration. Midler says that without the collider next year's budget will be even tighter, and that there is resistance to funding the collider by stealing money from other major science projects.

Midler also says there is strong support within the House Science and Technology Committee, and in Congress generally, for the super collider. Much of that support may have to do with the fact that half the states in the nation are hoping to land the project. Only one will get it.

□

This report was paid for by the High Country News Research Fund.





A Nobel laureate says the collider is 'irrelevant'

The Western states in hot pursuit of the Superconducting Super Collider probably would not care if the machine were designed to bang cattle, rather than protons, together. But to the nation's physicists and the general public, its function is all important.

To unite scientists and the public behind the collider, there must be sizzle as well as steak to the machine's mission. The "sizzle" lies in the characterization of the collider by its leading proponent as a "time machine" -- one capable of ranging backward 15 billion years to the first moments of the universe.

At that time, theory holds, all matter was jammed into a tiny space. Today's unfolding, expanding universe is the product of the enormous recoil that resulted from those first few nanoseconds of highly compressed matter.

Leon Lederman, the high energy physicist who directs the Fermilab at Batavia, Ill., and who describes the collider as a time machine, says it may re-create those first few moments of the universe's existence. By accelerating protons to extremely high energies, and then having them clash together, physicists may re-create events that took place 15 billion years ago. The clouds that now obscure the universe's birth will be ripped away; new fundamental particles will be found; the world will become an orderly, understood place.

That's the sizzle.

The steak consists of the need for the "Free World" to maintain its scientific supremacy and to find technological spinoffs. The supremacy, collider proponents say, is threatened by the Soviet Union, which is now building the most powerful accelerator in the world.

But the main piece of steak is spinoff: advances in computers, medical devices, superconducting magnets and other areas of high tech flowing out of the collider.

The physics community is a tight one. As a matter of professional courtesy, physicists don't rain on

colleagues' research proposals, especially when a proposal has received the imprimatur of the scientific establishment.

Among the very few who have here broken this rule is Philip W. Anderson, a first-rank theoretician who has worked in elementary particle physics, cosmology and now solid state physics. Most of his career was spent in industry, at Bell Labs, but he is now Joseph Henry Professor of Physics at Princeton University. He is also a holder of physics' most prestigious award: the Nobel Prize.

This spring, Anderson told a congressional committee that those researchers who would use the collider were in a scientific backwater: "Their fundamental physics has become so 'fundamental' as to be almost totally irrelevant, even to the rest of science."

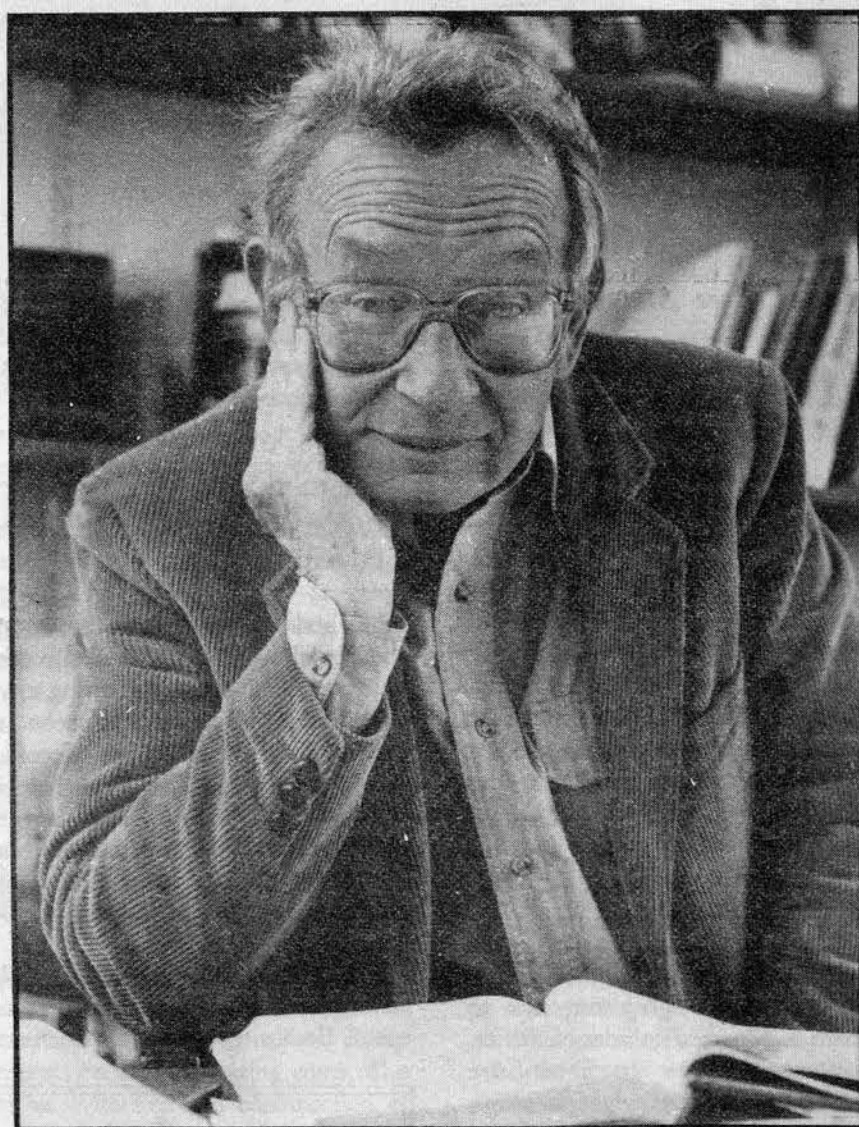
Leaning on his experience at Bell Labs, which was at the center of the advances in solid state electronics, he labelled promises of technological spinoff a fantasy. "The golden eggs are very seldom produced by the golden goose."

Nor, he said, would the collider be innovative. Large projects must stay with proven technology. The "spinoff of really novel technology is the last thing the manager of a large, difficult project like the SSC really wants, if he wants to hold his budget."

But, Anderson continued, the collider would almost certainly accomplish one thing: It would further hurt small-scale, fundamental research in solid state physics by sopping up available funds, and thereby continue an existing trend.

"I note that once again this year small independent fundamental research in physics and materials science is to be cut back by the National Science Foundation, and more money yet again funneled into large facilities and into so-called 'centers'."

Anderson also told the congress-



Philip Anderson, Princeton physics professor

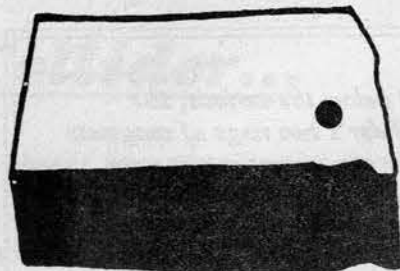
men where innovation comes from. Advances in physics, he said, are unpredictable; the best hope is to let many small projects bloom. "Unfortunately, it is not the large, expensive programs that produce really new things."

He illustrated his contention with the recently discovered phenomenon of high-temperature superconductivity. The discoveries were made in small labs in France, Switzerland, Germany, Japan and China. U.S. physicists have now jumped into the race to understand the phenomenon that underlies the high-temperature superconductors, and to adapt them to the everyday world. But, he said,

the foreign lead in this area "has to do with poor funding of small science here."

In his concluding words, Anderson spoke to the spirit in which the collider was being promoted: "It disturbs me to see accelerator physics seen as a nationalistic, competitive race; science is too serious a matter for that. And if the lack of the right accelerator here at exactly the right time is really going to kill high energy physics, I must say it is better off dead, if only for the crippling lack of imagination that it reveals."

--Ed Marston



SOUTH DAKOTA

A 'gray horse' gathers some allies

Remote, flat, rural South Dakota originally pursued the Superconducting Super Collider as an exercise in cooperation. The state's leaders agreed that South Dakota was the darkest of dark horses. But they said the exercise would pull together industry, government and education, and create a climate for future development efforts.

In the process of going through this exercise, however, South Dakota has become convinced it can win the \$4.4 billion prize.

A measure of its seriousness was the special session of the Legislature Gov. George Mickelson called in mid-July. This first special summer session since 1944 (temperatures in the un-airconditioned chambers approached 90 degrees) put the finishing touches on South Dakota's proposal by unanimously approving Mickelson's three-part program.

The legislation gave the state the power to condemn private land for the collider; approved \$63.4 million in incentives plus cost-cutting measures that, proponents said, could reduce the collider's cost by \$1

billion; and approved a \$7.7 million funding measure, including \$6 million to buy land for the site.

South Dakota's advantages include flat land, construction by the cheap cut-and-fill method, and a clean environment. In addition, Basin Electric, an electric power cooperative, built too much electric generating capacity in the late 1970s. It is eager to sell that power and is offering the collider cheap electricity.

South Dakota's disadvantages are remoteness, a lack of physics research facilities and a lack of cultural and educational facilities. To fill the gaps, it has enlisted four nearby states that are uninterested in seeking the collider for themselves: North Dakota, Iowa, Nebraska and Minnesota. The four have pledged their help, and South Dakota has said it will share, as best it can, the contracts and other benefits that flow from the collider.

South Dakota has shown impressive unity: a unanimous legislature, the five-state bloc, and public-private cooperation. But farmers at the preferred site -- 16,000 acres in Miner, Hanson and Sanborn counties

-- are not aboard. The project would affect 25 farms and it has roused opposition.

Farmer Bob Calmus of the Miner County Concerned Farmers told Associated Press, "Basically, what they are saying is that we should pack and move out of the community for the benefit of the rest of the people." Nancy Calmus said, "Twenty or thirty years from now, at least we can tell our children we tried to head this off."

Danny Mentele, who farms 480 acres southwest of Howard, said the collider would "wipe out everything." But Mentele isn't preparing to move. "It seems like South Dakota always ends up on the short end of the stick."

Until recently, that was the consensus. Former Gov. William Janklow refused to chase the machine. Newly elected Gov. Mickelson also held aloof. But a grass-roots effort begun by Larry Dobson, a weekly newspaper editor in the small town of Java, became irresistible. He hustled state and business leaders for months, and then with others formed the Super Collider

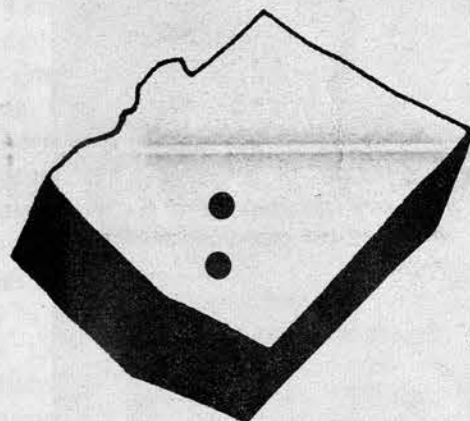
Development Association. A key part of his early coalition was South Dakota's electric utility industry.

Earlier this year, the association convinced the regular session of the Legislature to appropriate \$900,000 for the collider effort, with \$190,000 of that going to Bechtel to prepare the proposal.

Along the way, Mickelson became more of a believer, and now sees the state as a gray horse. But he is not spilling over with confidence. At this special summer session, he told the Legislature, "It is not impossible, and we can succeed."

The farmers who are protesting the possible loss of their farms got a sympathetic ear at the Legislature. But a group of people concerned about radiation waste made less impression. One witness, Donald Pay of Pierre, a member of a group concerned about radiation, told the legislators that the collider would produce 8,000 cubic feet of radioactive waste a year.

--Ed Marston, Peter Carrels



ARIZONA

The self-proclaimed 'hot prospect'

Arizona is one of the few states seeking regional cooperation in the contest for the Superconducting Super Collider. State project coordinator Ian Macpherson says Arizona wants the collider. But if Arizona doesn't get it, "We would be delighted if Colorado gets it instead of Illinois or South Carolina. We want this thing in the West."

Macpherson has been part of a quiet, informal effort by the West's universities and governments to establish a Western collider coalition. The group wants to send the Department of Energy a message that the West is a progressive, far-seeing part of the nation.

Originally the coalition included about 14 Western states. The hope was to agree on a generic statement to be included in each proposal, offering West-wide incentives to bring the \$4.4 billion project to the region.

However, as the proposal deadline approaches, Macpherson says states are becoming secretive about their ideas and incentives. The feeling now is such a coalition will not come together unless a Western state makes the Department of Energy's list of final contenders.

Macpherson says Arizona will be on that list because it is at the center of the West's growth and vitality. The state has two sites in its proposal, one near Phoenix and the

other near Tucson. Macpherson says the Phoenix site has the advantage of being near the fastest growing city in the nation, while the Tucson site would allow coordination of collider research with the Kitt Peak National Observatory. Arizona also has two major universities, Arizona State and University of Arizona, which have strong high-energy physics departments.

But, Macpherson continues, Arizona's strength is in construction costs. Both sites permit the cheaper

cut-and-fill, rather than tunnelling, approach to building the collider ring, and year-round sunny weather will speed construction and save money. Macpherson also says that present construction projects -- including the Central Arizona water diversion and a new freeway system with extensive tunneling in Phoenix -- mean a trained labor force is standing by, ready for action.

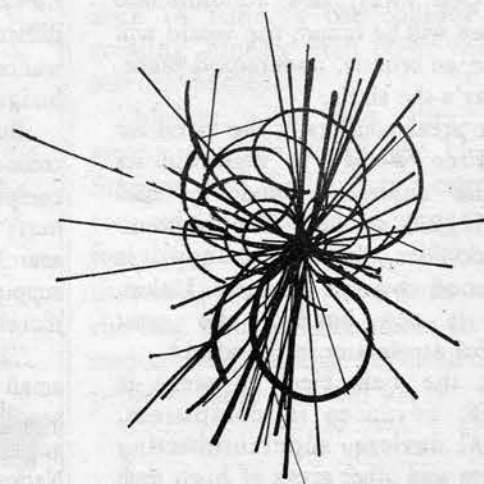
The state's one perceived drawback -- oppressive summer heat -- is a myth, he says. According to

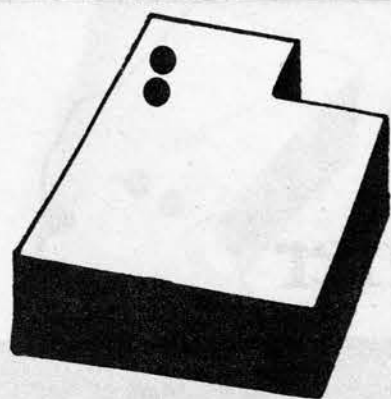
Macpherson, if heat were a problem Arizona wouldn't be growing at its rapid rate. "That's what air conditioners are for, and you don't have to shovel sunshine out of the way to get to work in the morning."

The Arizona Legislature appropriated \$1.5 million for the state's site proposal, which took over two years to prepare. Another \$1 million came from cities, counties and the private sector.

--Steve Hinchman

*Whatever happens,
'We want this thing
in the West.'*





UTAH

Education and liquor are available

Although many observers of the collider competition don't rank Utah's chances as high, Gov. Norm Bangerter's staff is confident. In fact, some of Utah's leaders were dismayed when the federal government gave states an additional month to submit applications. Thanks to what one official called a "fantastically coordinated" effort, Utah was ready on time, and the month's delay could give lagging competitors a chance to catch up.

Gov. Bangerter talks about the Beehive State as tailor-made for the Superconducting Super Collider. He and his advisors say the Great Salt Lake Desert's geology is ideal for the atom-smasher and that the area is close to Salt Lake City, an airport, national parks and ski areas. They also point out that Utah has surplus transportation, housing, electricity and even water.

Project supporters add that benefits would flow both ways. Besides skilled jobs and the project's prestige, the state's universities would benefit from the expansion of high-energy physics programs. Eugene Loh, director of physics at the University of Utah, says, "It's like putting water in the desert: It will make everything around it grow, and it will be a cultural and scientific renaissance."

Not everyone in Utah has come aboard. Critics say although the state's two proposed sites may be easy to acquire because they are managed by the Bureau of Land Management, each poses significant problems. One area is three miles from an Air Force bomb-testing site; the other, running through the Cedar Mountains just southwest of the

Great Salt Lake, is proposed for wilderness designation.

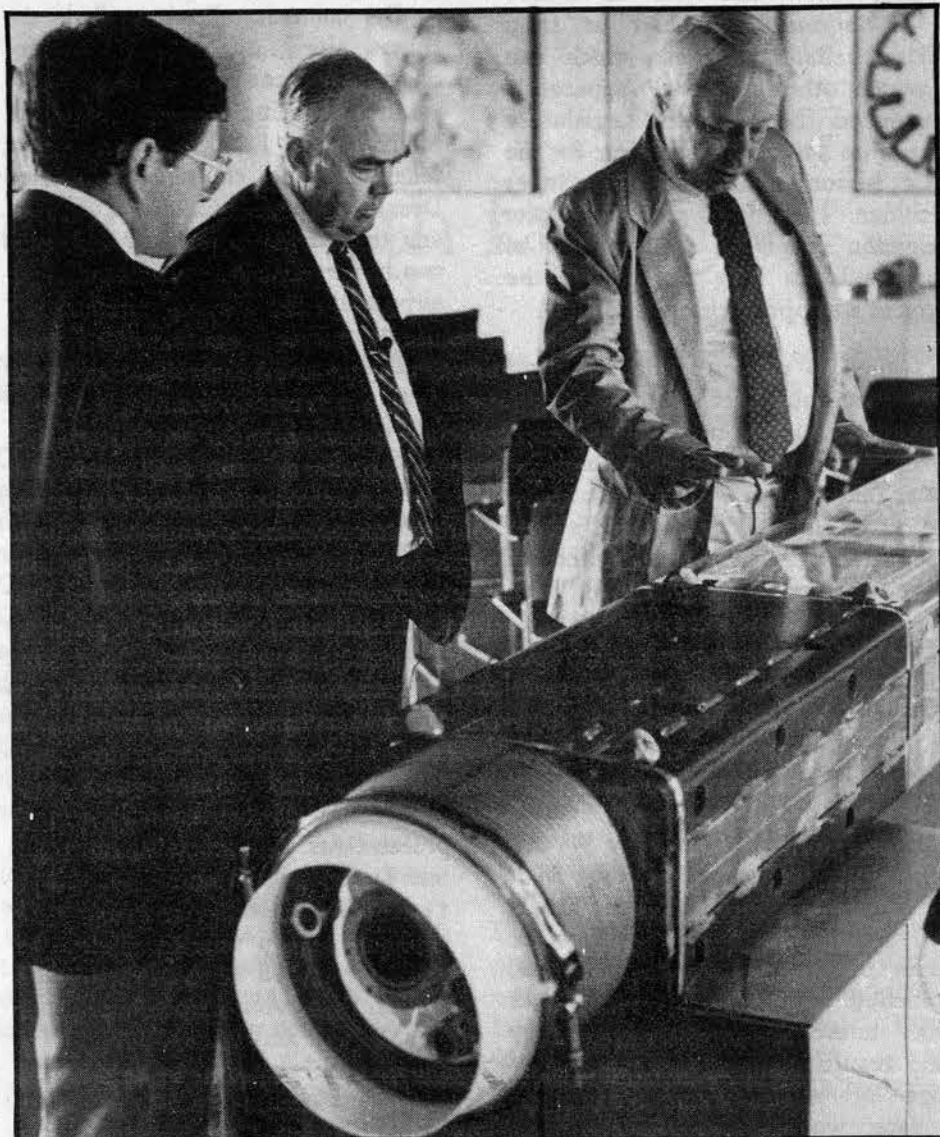
Randy Moon, science advisor to the governor, says these problems are easy to overcome. The vibrations from the bombs are currently being monitored and appear to be minimal, he said. As for the proposed Cedar Mountain wilderness, Moon said the super collider would be tunneled underground and not disturb the surface.

The environmental community is split, with no group so far voicing an official position. Mike Medberry of the Utah Wilderness Coalition, which is working for Cedar Mountain's wilderness designation, disagrees with Moon. "Even if (the collider) goes underground, there will have to be air intake tunnels and roads into the place," he said. "I can't imagine us accepting it." Medberry charges that Utah is wasting time and public money to pursue a "far-fetched possibility."

George Nickas of the Utah Wilderness Association disagrees. He says the collider could be great for the state. Nickas, who has sat in on collider committee meetings, also says the state is being straightforward about possible environmental impacts.

The collider stands for "the types of jobs we ought to be pursuing," he said. "It's good for the economy."

Nickas points out that the biggest handicap Utah faces in landing the project is the low priority it places on education. Utah ranks 50th in per capita spending for education. Randy Moon responds by pointing out that Utah has the greatest percentage of high school graduates in the nation, and even though the state spends

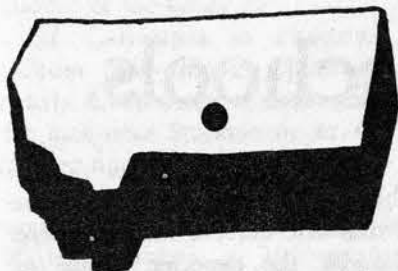


Utah Gov. Norm Bangerter, center, at Fermilab in Illinois, examining a model of the superconducting magnet.

model of the superconducting magnet.

Barber said Utah's image as a remote hinterland is also unfair and inaccurate. "We have a lot of big corporations here. We welcome non-Mormons with open arms. And you can get a drink here."

--Florence Williams



MONTANA

Chasing after environmentalist support

Backers of the Superconducting Super Collider in Montana thought they saw a chance to do some coalition building in July. So the leaders of the Billings Chamber of Commerce met with the Northern Plains Resource Council.

Executive Director Theresa Erickson recalls, "Jim Scott, chairman of the chamber in Billings, told us that the SSC would bring in new members for our group." Scott assumed the scientists and support staff would be attracted to the agricultural-environmental group. Erickson said the idea struck Northern Plains staffers as funny.

"They have no idea whatever where our members come from. Montana is one of the last places where people still earn their living totally in agriculture, and agriculture is where many of our members come from."

If anything, she says, the collider could be a threat to the way of life supported by Northern Plains. As of

now, however, the group hasn't taken a stand on the collider. "We don't see it as an issue" because Montana's chances are so slim. "But if it looked like it could get real, then there would be opposition."

Montana entered the collider race long after the leading states had gone to work. The Legislature allocated \$300,000 to the effort this winter, and private business kicked in another \$100,000.

It has not been so smooth since then. In March, Montana Rep. Pat Williams mocked the Department of Energy's selection process, the bidding war, and the "elitist, non-elected scientists" whom he said will certainly choose a site near a major international airport and a city with opera, ballet and symphony orchestras.

However, those backing the project say the state's quick action and natural advantages allowed it to catch up to the pack. Theresa Cohea, who co-chairs Montana's nine-person

collider taskforce, says the site 15 miles northwest of Billings in Comanche Basin will allow cheap construction and operating costs. She cites as evidence the construction of the four Colstrip power plants, a \$1 billion project. It came in ahead of schedule and below cost, proving that Montana is a cheap, efficient place to build a massive project.

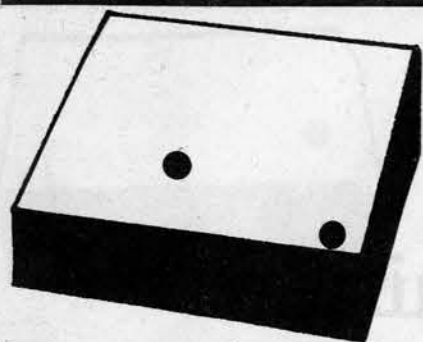
Co-chair of the state's collider task force is Paul Schmechel, head of Montana Power Co. Utility executives are active in the collider chase in several Western states -- including South Dakota and Colorado. Utilities are often involved in economic development. But in this case, the collider's need for about 200 megawatts -- a large part of the output of a coal-fired power plant -- is an added draw. The West, including Montana, is awash in surplus electricity, and offers of cheap rates to the collider are part of the package of incentives most Western states will offer.

Even with cheap power Montana is a long longshot. George Ochenski of the Montana Environmental Information Center says of the effort: "We thought it was a waste of money. The horses are around the last bend and Montana has finally put its saddle on its horses."

But Cohea says that whether Montana wins or loses, the race will have been worth it. She says the effort has led to cooperation between the public and private sectors and to written material describing Montana and its strengths. The same information and approach will be used to compete for SemaTech Consortium's 700-worker semiconductor plant and U.S. West's research facility. She says, "This may be how businesses decide on moves in the future. The experience with the collider will help us."

--Ed Marston

12-High Country News -- August 17, 1987



WYOMING

Its act is definitely not together

A plea from Gov. Mike Sullivan that "the fear of failure should not deter us from taking reasonable risks which can produce other benefits" apparently convinced the Wyoming Legislature to put up \$400,000 to compete for the \$4.4 billion Superconducting Super Collider. But squabbling over site selection since the appropriation of the funds in May has eroded the project's support within the state.

Noted Wyoming geologist David Love, the subject of a recent book by John McPhee, expressed dismay when Sullivan announced in early June that the state would back a site at Burns, near Cheyenne in southeastern Wyoming. Love, a member of the governor-appointed task force to study proposed collider sites, had joined forces in February with a southwest Wyoming group favoring a chunk of the Red Desert (HCN, 6/8/87) as a site for the project.

The Red Desert's lack of earthquake faults, they said, gave Wyoming a distinct competitive edge over sites in other states. Also, the area's soft soil and rocks would allow the super collider's 53-mile tunnel to be trenched from ground level, rather than tunneled through rock. They said resulting construction cost savings of several hundred million dollars would offset the state's disadvantages: isolation and a long

distance from urban and university facilities.

By contrast, Love called the Burns site "an obviously foredoomed copy-cat proposal."

In announcing the Burns decision, Sullivan said 1,200 to 1,300 active federal mining claims in the Red Desert would slow land acquisition and that the Burns site is less than two hours from a major international airport in Denver and close to four major universities.

But Love said the federal government would favor Colorado's similar site at Fort Morgan, 75 miles away. Wyoming would be handicapped, Love said, by having only two months to work on its Burns site application, while Colorado has been preparing data for two years. The Burns site, he noted, has the further disadvantage of twice crossing under Interstate-80 and the main Union Pacific tracks, whose heavy trains generate serious vibrations up to 7.5 miles away.

Criticism of the site selection process was particularly harsh. The task force members had earlier voted 11-6 in favor of the Red Desert site, but the group's chairman, Bill Tucker, reversed that position. Tucker and a Laramie-based consulting firm, Banner and Associates, hired to prepare the state's collider application, decided on the Burns site. Saying "time was of the essence," Tucker took the recommendation

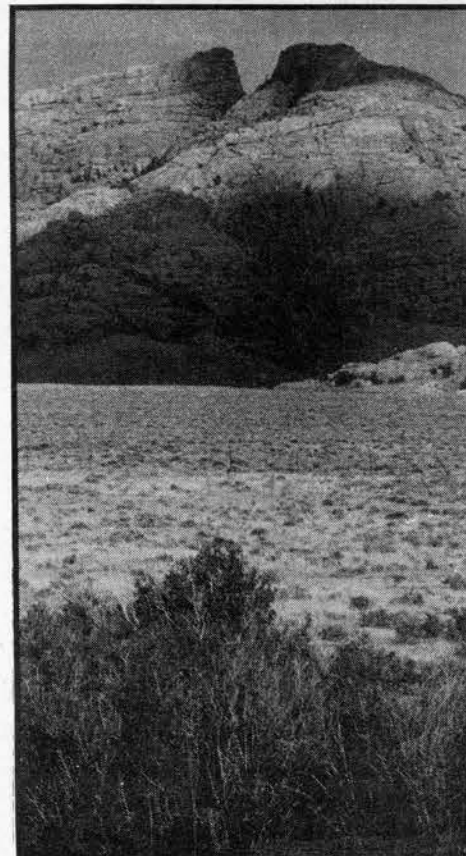
straight to the governor without consulting the task force.

"Why were we wasting our time, talent and energy if it wasn't to make a judgment?" Love wondered. "The task force members included the president of a college, a geology department chairman, a state geologist, an expert in tunneling and more," Love said.

State Rep. Dick Honaker said he felt "deceived by the selection process." The Sweetwater County Democrat said he had been confident in casting his vote for the appropriation that the task force would make the site selection, in a "steady, responsible, multi-disciplinary course."

He also said he was angry that a "sweetheart deal was being cut for the benefit of Banner and Associates." He was referring to the fact that a well-known consulting firm, Bechtel International, had offered to complete the application at cost in hopes they would later be hired if the Wyoming site were chosen. The Legislature would never have appropriated the money, Honaker said, for Tucker and the consulting firm to do with as they pleased.

Backers of Wyoming's effort still say the state has a great deal to offer. They cite a low crime rate, favorable utility rates, top outdoor recreational opportunities and excellent primary and secondary schools as strengths to offset the lack of

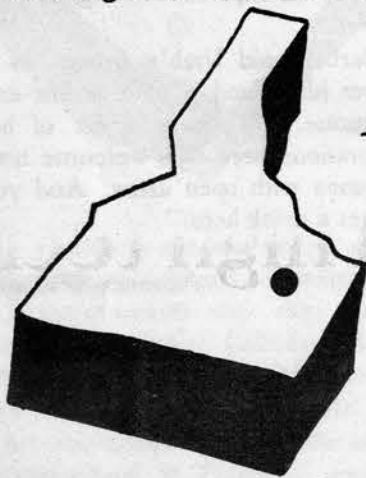


Red Desert

cultural resources, research libraries and high energy physics expertise at Wyoming's lone four-year university.

However, the prevailing mood among the project's backers and detractors is that bickering over site selection has hurt Wyoming's already slim chances for the collider.

--Katharine Collins



IDAHO

State has good terrain, poor schools

Idaho business leaders and politicians recognized early that they could get a big bang out of the Superconducting Super Collider.

Idaho started its efforts to attract the collider in 1985, when then-Gov. John Evans appointed a task force of industry and education leaders to raise funds and study Idaho's chances of attracting the project.

The task force hopes to attract the atom smasher to the Idaho National Engineering Laboratory, an 890-square-mile Department of Energy reservation. The Idaho lab, which employs more than 10,000 people, has already been studied as a possible site for a new nuclear reactor, and much of the geologic, socio-economic and environmental studies needed for the state's collider bid have already been completed. Last month, the DOE gave the state final authority to locate the collider on the reservation should Idaho be selected.

Rick Tremblay, Idaho Department of Commerce collider project coordinator, says the DOE site proposal

"fits Idaho hand-in-glove. 'I don't think any state can come close to Idaho when it comes to cost and schedule'"

Gov. Cecil Andrus likes to say that choosing Idaho could save \$500 million during construction and \$500 million during the first 10 years of operation. "In other states, Idaho is viewed as the most formidable competitor for the site," points out George Wilson, a computer consultant from Colorado who has worked with several states on the collider.

"The availability of public land, its favorable terrain, the cost saving of cut-and-fill there as opposed to tunneling, and the existing infrastructure at the Idaho Labs contribute to make Idaho the number one site based on fact alone," Wilson adds.

But Idaho has not spent as much money as other states. All money for promotion until this year was private. The Legislature approved \$400,000 for preparation of the state's bid. Another \$200,000 is expected from private sources. The Sterns-Rogers division of United Engineers and

Contractors, a Denver-based company, has been hired to write the state's proposal with the understanding it will manage the project if Idaho is chosen.

The biggest drawback Idaho faces is its weak university system and, specifically, its lack of a high-energy physics program. Its public education system, one of the most poorly funded nationally, also has been recognized as a liability. Andrus made the need to increase education funding to attract the collider a cornerstone of his budget this year. The Legislature agreed and approved a 12 percent hike in education funding at all levels.

But even with its weak education system, state coordinator Tremblay hopes other intermountain and northwestern states will join Idaho's bid if it makes the short list. "This will be the biggest project since Hoover Dam," says Tremblay. "There's enough business to go around."

Idaho's bid enjoys the support of the Northern Rockies chapter of the Sierra Club. Ralph Maughan, former chapter chairman, says Idaho's econ-

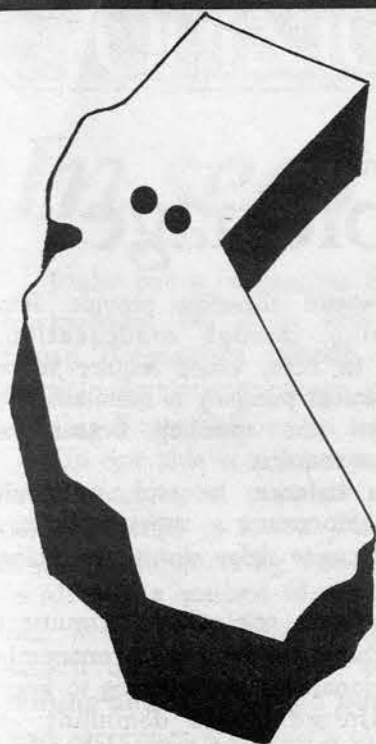
omy has declined so much in recent years that the current infrastructure can handle the expected influx of new people from the huge project. "It looks like the kind of project that would provide a lot of high paying jobs without disrupting the environment," he says.

Not everyone in the state is pleased by the thought of more workers at the Idaho lab. Allen Getty, a Challis businessman and miner, warns that more people working at national labs mean greater pressure on recreational facilities in the state's backcountry.

Getty, who opposes any new designations of wilderness, warns that new residents won't share the views of long-time Idahoans on land-management issues. He notes that most of eastern Idaho's conservation leaders work at the Idaho labs.

"I have no argument with the desert project," says Getty. "The problem we have here is that ... all they want to do is lock up wilderness."

--Rocky Barker



CALIFORNIA

The collider collides with farming

California should be a prime contender for the Superconducting Super Collider. It has first rate universities, a good share of the nation's physicists, a famous lifestyle and many cultural centers.

In also has leaders intent on snaring the machine. The state allocated \$2.5 million in tax money to the pursuit, and the Legislature is debating whether to issue one-half billion dollars in bonds to buy land and offer incentives to the Department of Energy.

But according to Jim Hope of the American Farmland Trust office in San Francisco, it is also the only state with substantial opposition to the collider. The opponents are farmers whose livelihoods and communities would be affected if either of the two California sites were chosen.

California has many non-agricultural areas that could accommodate a collider, but they are not close to the San Francisco area and its universities, airports and culture.

Both sites are in one of the world's best agricultural areas -- the Central Valley. One of the opponents, farmer John Eilers, told the *Christian Science Monitor*, "The SSC will bring in a lot of development, and it will drive a spike right into the middle of the valley."

If California is chosen, the collider will require purchase of nearly 8,000 acres of land, either at the site near Stockton or at the site farther north near Davis.

Opinions differ on how much land would be taken out of agriculture. William Baker, a University of California vice president who is on the California Collider Commission, says the farmers "exaggerate the amount of land involved." Although the state will need title to, or easements for, 16,000 acres, he says most of the land will still be farmable.

But opponent Alberta Lewallen, a Linden area rancher, says many crops in her area near Stockton are irrigated with pumped groundwater. The pumping, she says, causes subsidence, and the collider will need stable ground. That, she predicts, will halt the groundwater pumping and put agriculture out of business. Others say the collider ring will cut through their farms and ranches, drastically raising the cost of farming the remaining land.

Mrs. Lewallen says her area is not home to large corporate farms producing cotton and other subsidized crops. Instead, she says, the land is used to produce champagne grapes, nuts, fruit and asparagus

and to support dairy herds. Ironically, farmers in the two areas would probably be better organized and have more political clout if they were producing subsidized crops.

About 45,000 acres of California farm land have been lost each year to development since 1977, according to the American Farmland Trust. So even an 8,000-acre hit wouldn't be enormous. But because of the opposing farmers -- backed, surprisingly, by the conservative Farm Bureau chapters in their counties -- the collider issues could capture the public's attention.

If it does, it will happen in part because California's Collider Commission chose to ignore agriculture. Farmers are not represented on the commission, and none of its many studies examined the impact on farming. The fact that the com-

mission appeared to write off farming angered many farmers.

But even if the California Collider Commission had been more astute politically, there might have been a clash. The governor, its two senators, the California Chamber of Commerce, and the University of California, Stanford and CalTech want the collider because of the development it could seed. The collider itself may be compatible with Central Valley agriculture; intense development around the collider would not be.

Mrs. Lewallen says, "They want to create a Silicon Valley. We want to keep our agricultural community." A lengthy article in the June 20, 1987, issue of *California Farmer* described the fight as "a clash of cultures of the highest order."

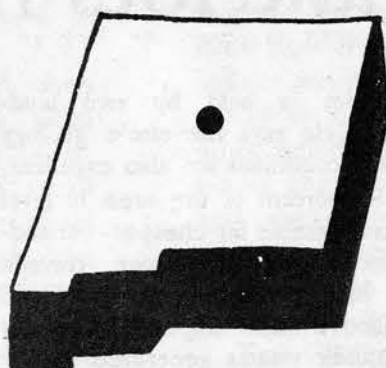
Perhaps because of the specter of another Silicon Valley, even farmers

not in the path of the collider are aroused. They have circulated petitions, demonstrated in front of the California Legislature ("No super collider on super soil"), and vowed to use the courts to fight the taking of their land.

However spirited, it is unlikely they can convince California to abandon the collider chase. But they may have already won the war. Collider promoters elsewhere say California is now out of the running. The Department of Energy, they say, is not interested in a state where farmers are threatening to chain themselves to their land.

Meanwhile, rhetoric is high. Eilers, who heads a Stockton area group, talks of "avaricious drool over the super collider," "mindless boosterism" and "the 'ugly' that infects today's society."

--Ed Marston



NEW MEXICO

Enchanted with high tech

New Mexico has an advantage over most other Western states in the competition for the Superconducting Super Collider: Its climate and high quality of life are backed by a high-tech environment.

New Mexico wants to add the \$4.4 billion collider to its "Rio Grande Research Corridor." The corridor runs the length of the state along the Rio Grande River and includes Los Alamos National Laboratory near Santa Fe and Sandia National Labs in Albuquerque. The corridor also contains the University of New Mexico, New Mexico State and New Mexico Tech, plus many new supporting industries.

Laurence Lattman, chair of the state's collider committee and president of New Mexico Tech, says what makes the corridor concept a reality is the high-speed fiber optics link among institutions. The state's proposed site for the super collider, in the Estancia basin 40 miles east of Albuquerque, would be a major part of the research corridor, says Lattman.

State leaders add that their collider proposal is just part of a larger effort toward economic diversification. Russell Autrey, special

assistant to Gov. Garrey Carruthers, says the state is also chasing the \$50 million U.S. West telecommunication research and development center and its 1,500 jobs. New Mexico is also one of six semi-finalists seeking to land a new micro-chip manufacturing plant to be built by SemaTech Consortium, which could provide 800 to 900 new jobs. The governor's plan is to expand New Mexico's economy beyond its historic reliance on the now-fading extractive industries, Autrey says.

Carruthers is supported by the state Legislature. In a special session in mid-July, it set aside \$11 million to buy 16,000 acres of Estancia basin land from approximately 400 private owners.

In the same session, the Legislature passed a joint resolution pledging more money for the state's schools and universities if New Mexico gets the project. Autrey says that even if the state doesn't get the collider, the need for better educational resources has been made plain, and the commitment will be honored.

Lattman thinks New Mexico's chances of winning the project are good. The state has spent \$650,000 investigating its site proposal, and

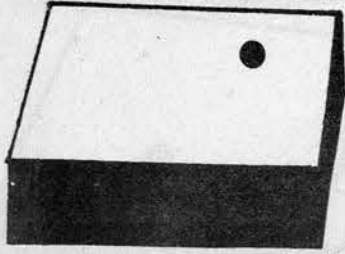
Lattman reports the Estancia basin below the Sandia Mountains is a "superb site both geologically and geotechnically." He also cites the closeness of Albuquerque, with its airport, the city of Santa Fe and Interstate 40, which satisfy the Department of Energy's requirements for community support, culture and transport. In the three neighboring mountain ranges there are several national forests, Banderlier National Monument and many ski resorts.

Lattman also says he has uncovered some surprising facts that belie a sleepy stereotype of the "Land of Enchantment." He says New Mexico has more scientists per capita than any other state, including more than 3,700 physicists, and the state's three universities all have large physics departments.

No groups oppose New Mexico's application.

--Steve Hinchman

● Dots indicate potential collider sites



COLORADO

The genteel art of collider espionage

If Col. Oliver North has time on his hands, he may want to hook up with one of the states pursuing the Superconducting Super Collider. All the states, to one degree or another, spy on each other in hopes of gaining some advantage.

Sherry Patten, a public information person for Colorado, says her state employs the Washington, D.C., law firm of Webster and Sheffield. "They're very good at gathering information. They're not a lobbying firm. The Department of Energy frowns on that. They just gather information."

One source of information is meetings the collider-states hold in Washington each week. Their purpose is to cooperate in keeping the collider on track with Congress and the administration, but Patten says, "There are always slips of the tongue."

In addition, she says, there are people who are sympathetic to Colorado living in other states, so a staff member with the SSC project office calls around regularly to see what is happening elsewhere. Physicists are also excellent sources of information. "They don't understand the espionage aspects of the competition, and exchange information freely."

Each state, of course, does its best to keep its application secret. In Colorado, consultants are asked to sign agreements pledging them to keep secret what they know of the Colorado project.

At present, the states are maneuvering to shift their financial incentives, which can no longer be part of the formal application, to "enhancements," which are still permitted. The problem for the individual states is to determine where an enhancement -- such as a new high energy physics group at a university -- edges over into an incentive. If Colorado learns how other states are handling their "enhancements," it would help Colorado design its package.

Other states may have more to learn from Colorado than vice versa. Thanks to former Gov. Richard Lamm and cabinet member Morgan Smith, the state began its collider pursuit in 1983. The University of Colorado, prodded by its high energy physicists and private industry, put up about \$200,000 in 1984 to start site research. Then, between April 1984 and December 1986, a consortium of state and local governments, the university and business raised \$525,000, much of it for site research, but including sociological, legal and environmental work, according to Colleen Murphy of the state's super collider project.

The chosen site is south of Fort Morgan and Brush, and will go through Adams, Morgan and Washington counties. Although on the plains, it is relatively close to Boulder-Denver and their airport and universities. The land is owned privately, and Murphy said land acquisition is expected to be routine.

Patten said the Colorado effort traces back to the state's attempt to snare the Fermilab in the 1960s. "We had the best proposal, but not the political clout. We learned from

the Fermilab that we had to have political clout."

Colorado's congressional delegation today is relatively junior, but Patten said, "We believe Colorado will be on the short list." At that point, she said, the state may get support from around the West. "But a formal coalition won't appear until the short list is issued."

Unlike most Western universities, the University of Colorado at Boulder is relatively strong in high energy physics. Prof. Uriel Nauenberg, who is on CU's faculty, is also chairman of the science advisory committee to the collider project. He argues that the collider will be good for the West and for the physical sciences.

For the West, Nauenberg said, the collider is an attempt to get away from heavy dependence on agriculture and other land-based activities, and to shift to a more industrial-technical base. The competition for

the collider he said, will improve education on all levels.

He said the collider would also benefit science generally. According to Nauenberg, machines such as the collider depend on advances in solid state physics. The Department of Energy, he said, is aware of that mutual dependence. As a result, the DOE has said that unless the National Science Foundation budget doubles, providing additional support for other areas of science, the DOE will not back the collider.

Nauenberg discounted arguments that the new high temperature superconductors could lead to a cheaper collider. The higher-field magnets made possible by the new materials, he said, would require stronger, more expensive materials to prevent them from being torn apart. Higher-temperature superconductors, he said, would mean the walls of the ring would be warmer,

and would therefore provide less pumping through condensation. That, in turn, would require more mechanical pumping to maintain the vacuum the speeding beams of protons require.

On balance, he said, to await high-temperature superconductors would cause delay without reducing costs.

He also rejected the argument that there was something unseemly or nationalistic in attempting to keep the United States dominant in science. During the 1920s and 1930s, he said, scientists from the United States went to Germany to work, because that nation was doing the best work. "Bright people will always migrate." Such migration weakens a nation, he argued, and can have dire consequences.

--Ed Marston



NEVADA

Space and lots more space

Nevada has invested 2½ years and \$750,000 in its proposal to the Department of Energy for the Superconducting Super Collider. The state's commission, on economic development has been charged with writing the collider proposal, and out of 17 possible sites it has selected a desert valley in Humboldt County, 50 miles south of Oregon in the northwest corner of the state.

Project coordinator George Ormiston says the ease of acquiring title to land for the collider is Nevada's principal advantage. Of the needed 16,000 acres, 84 percent is public land controlled by the Bureau of Land Management, and the

remainder is held by two landowners. He says the site's geology and soil conditions are also excellent, and 80 percent of the area is level ground suitable for cheaper cut-and-fill construction techniques. Nevada also has existing hazardous and radioactive waste disposal sites that can handle wastes generated by the collider.

Another advantage is that the state already has a good working relationship with the DOE, which employs nearly 8,000 workers at its Nevada Test Site near Las Vegas. A major drawback is the scarce population and community resources at the proposed site, Ormiston concedes. Reno, pop. 250,000, in the middle of

the West's famous basin and range country, is the only large city nearby, and it is almost a three-hour drive from the site. Nevada has proposed to build a support community near the site.

The state's educational institutions are adequate, says Ormiston, but not as good as California's. But because California is close, Nevada's proposal leans heavily on the expertise of California schools. Ormiston also points out that because Nevada's site is better geologically and only 70 miles from California, it might have made sense for California to coordinate its proposal with Nevada.

--Steve Hinchman

Collider to produce more than knowledge

In their excitement over the super collider, many states may be overlooking its radioactive and hazardous wastes, says a Texas official.

The Department of Energy has always characterized the collider's wastes as of minimal concern because amounts are small and only slightly toxic, says Rick Jacobi, manager of the Texas Low Level Radioactive Waste Disposal Authority. "When we contacted the DOE and tried to get information about the wastes they were very tight-lipped," he says.

So the public agency conducted its own investigation, sending a specialist to the Fermilab Tevatron

in Illinois. Extrapolating from the Tevatron and other colliders around the world, the Texans estimated that the super collider would produce an average of 30,000 cubic feet of low-level radioactive waste per year. That is comparable to the annual volume of low-level wastes produced by a nuclear power plant, says Jacobi.

Jacobi then gave that figure to the press and asked other states and the DOE what their estimates were. The DOE responded with an estimate of 8,000 cubic feet per year. Jacobi says that is the same figure as the Tevatron, which shipped 8,000 cubic feet of low-level waste in 1986.

He does not think that is an

honest estimate. The super collider will be 20 times larger than the Tevatron, he points out, and what Fermilab shipped in 1986 is less than the total wastes it produced that year. It is also less than shipments of earlier years, which have reached as high as 20,000 cubic feet.

Other estimates have been added to the controversy. A high guess of 65,000 cubic feet came from the Midwest Low-Level Radioactive Waste Compact.

Jacobi says that based on the new data he received, he still assumes his agency's 30,000 cubic

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OPINION

In search of a few (long) levers

Idaho has a reputation as the backest of backwoods. Yet it is only there that we found Westerners talking about the giant particle accelerator known as the Superconducting Super Collider on a policy level.

On one side is a perceptive businessman and miner who opposes siting the \$4.4 billion facility in Idaho. He says the Idaho National Engineering Laboratory, or INEL, is already a hot-bed of rural environmentalism and predicts that if the collider were added to the INEL, its staff will oppose mining and logging, and push for wilderness and recreation on Idaho's public lands.

On the other side is a chapter of the Sierra Club in rural Idaho. The group supports putting the collider in Idaho because it will create jobs and use up idle housing. Like the miner, they may also recognize that, in lightly populated Idaho, a large group of professionals could influence the management of Idaho's public land.

The Idaho Sierra Club chapter and the South Dakota Resources Coalition are the only environmental groups we found with an interest in the collider. We are also yet to find any environmentalists interested in high-temperature superconductors -- a technical development that could have an even larger effect on the West.

Environmental groups, of course, are underfunded and undermanned, even as they are called on to combat immediate threats to the environment launched by wealthy, powerful sectors of society. It is not surprising that they ignore a particle accelerator, or possible advances in superconductivity, in favor of stopping a road or protecting an old-growth forest.

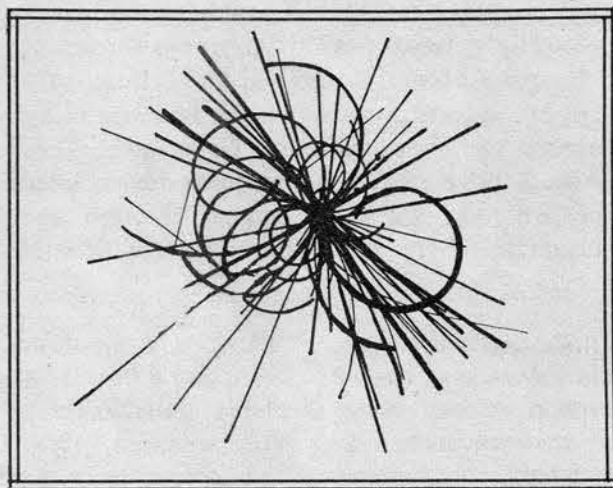
But if there were ever a time when environmentalists should pull back from details and look at strategy, this is it. Precisely because the movement is small and weak, it must allocate a portion of its resources and thought to large trends and events. Those who are weak must use levers rather than hammers.

It is clear, almost 20 years after the first Earth Day, that the only question about environmentalism is how long until we lose everything we care about. The wilderness strategy has been successful. But despite heroic efforts and some wonderful victories, the regulate-litigate approach to air, water and land use has failed. We have burned up thousands of volunteers and professionals while accomplishing little but delay.

Three white knights

Most of the victories of the past five years -- wilderness aside -- have been won by impersonal forces. It is the natural resource bust, energy conservation and a strapped federal government that have stopped powerplants, oil wells and pipelines, coal and molybdenum mines, dams and logging.

The effects of these three white knights should have given environmentalism breathing room. Instead, we have remained in the trenches, fighting for square inches while the opposition surveys square miles. The 1980s have yet to teach environmentalism the power of economic change and technical development. If that lesson had been learned, any number of groups would be crawling all over the collider, while others would be haunting the other end of the science spectrum: the small labs working on high temperature superconductors.



The collider is conventional pork with conventional environmental impacts. It will use large amounts of water, it will consume the output of a medium-sized power plant, it will create a construction boom, and it will generate some hazardous waste.

On the other side, as some in Idaho realize, if placed in the West away from crowded, polluted Denver and Salt Lake City, it could influence public land management. But the potential impact of the collider goes beyond a few thousand technical people pushing for trails and wilderness. The collider is of interest even if Congress drops the project or places it in New York. The West's chase of the project is both an indicator of change and an instrument of that change.

An extractive society

The rural West today is still an extractive society. Its schools, county commissions, state legislatures and business communities believe wealth comes out of the ground as ore or as logs skidded off the forests. Any other wealth is a mirage to them. That is why a chamber of commerce, town council and county commission in a rural area will support a Forest Service timber cut that will destroy their retirement and recreation economy for the next 80 years.

Environmentalists, therefore, should consider whether the Western states' great interest in the collider is a sign of helpful social and cultural change -- change that must occur before the region can shift its economic allegiance. Environmentalists should also consider seizing on the West's desire for the collider and its ilk to support changes that will also be good for the region's physical health.

The West's pursuit of the collider is already forcing some states to see themselves differently. In Utah, for example, leaders pooh-pooh the state's ban on alcohol so as to assure scientists that they will not be moving to a backwater. More significantly, the competition for a modern facility may force Utah to confront its number 50 rank in per capita spending on education. Professionals will usually not subject their children to the education provided by most of the rural West's high schools.

The collider competition also makes Utah vulnerable on the issue of southern Utah preservation. Like most Western states, Utah cites its undeveloped land as a strength. A letter from the Utah wilderness groups to all high energy physicists citing Utah's hostility to environmental protection, its push to pave the Burr Trail, its delegation's unrelenting opposition to wilderness, and its tiny share of designated wilderness would attract more attention in

Utah's power circles than any amount of tree spiking. The same holds to a lesser extent in Idaho and Montana, which are this year deciding the fate of their roadless lands.

Competition for a collider or for U.S. West's \$500 million research facility, then, is a process that will force examination of traditional ways of life and politics in states seeking to modernize their economies. The traditional ways are based on extraction, and its often accompanying destruction of land and fouling of air.

When those forces for change surface, as they have with the collider, environmentalists should be involved. They should debate the collider, hold meetings and decide whether it should be flatly opposed, as a conventional pork barrel threat to air and water, or encouraged because of the kind of people it could place in a rural area. The collider is a tool to be used toward the environmental movement's major purpose: the protection and enhancement of wild places and wild things.

The collider is especially interesting because it has surfaced at the same time as high temperature superconductors. For decades, the frictionless transmission of electric energy known as superconductivity was confined to temperatures near absolute zero, achievable only at great expense. (The Superconducting Super Collider's magnets will use conventional, low-temperature superconductors because money doesn't count in that project.) If the new breed of high-temperature superconductors can be used to economically transmit electric energy, and if superconductors can be built into the magnets and windings of powerplant generators at one end, and refrigerator motors at the other, the effect on the West will be profound.

Several of the West's extractive industries will suffer heavy blows. The high voltage powerlines that crisscross the West will be replaced by buried ceramic tubes. The existing powerlines will then be mined for their copper, leaving raw copper in the ground as ore. The Colstrip, Craig, Laramie River Station and other powerplants will shrink, as massive generators are replaced by smaller, more efficient superconducting models. The same will happen at Glen Canyon, at Hoover and at other dams in the West.

The luxury of desperation

As a result of superconducting materials, the energy losses suffered in electric transmission will vanish even as power plants become more efficient users of fuel. It is possible that the electric energy industry will become 30 percent more efficient -- one out of three coal mines and power plants may not be needed -- even as superconducting motors shrivel the demand for electricity.

This sounds, of course, like the hype that surrounded electric autos, solar-generated electricity, fusion electricity and other visions that never came into focus. But it also sounds like the hype around solid state electronics in the 1950s. Today, that hype has been exceeded by the reality wrought first by the transistor and then by integrated circuits. Environmentalists in the West have the luxury of desperation, and an investment

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Opinion...

(Continued from page 15)

of time and attention in high-temperature superconductors seems not just sensible, but exciting.

In many ways, electric energy today is like the old vacuum tube technology. It is brute force. Fires burn, steam expands and massive rotors spin so that electrons can be shoved past madly vibrating copper atoms. Today's electric generation and transmission are like a bunch of drunks rushing across a

dance floor crowded with another bunch of drunks. A considerable amount of heat, noise and waste is generated in the process of achieving something useful.

By comparison, superconductivity, like solid state electronics, is a quantum mechanical phenomenon, such as that which governs the ceaseless, frictionless motion of electrons around nuclei. The electrons in a superconducting transmission line stretching across the West would all be in step. They would move so as to avoid collisions. Instead of heated, wasteful lunges through the material, there would be a stately flow of

electrons, mediated by an equally stately dance by the atomic lattice.

What a delicious irony it would be if the disciplined, lossless, beautiful dance that makes up superconductivity were to sweep away the tangled mess of powerlines, powerplants, open pit copper and coal mines and boomtown sprawl that now disfigures the Western landscape. Surely, the possible development and bringing to market of high-temperature superconductivity should not be left to the electric utility industry.

--Ed Marston

Collider waste...

(Continued from page 14)

waste, for although it compares to a nuclear power plant in volume, collider waste is less toxic and has a shorter half-life, which means it decays faster.

Jacobi says the issue is that once again the nation is planning to build a major facility without first considering how to dispose of its harmful wastes. "It's something people need to know and need to be prepared to deal with."

Radioactivity is produced in proton colliders when particle beams

wander from their path or when equipment malfunctions and causes experiments to abort. The speeding particles smash into equipment or break up in mid-air, bombarding surrounding materials with neutrons. Continual bombardments, as in the core of a nuclear power plant, activate previously non-radioactive materials.

Probably the most serious result is the activation of hazardous chemicals, creating what Jacobi calls "double trouble." One example is the lead-acid lights that are used inside collider tunnels and cooling waters.

When they are bombarded, highly toxic and difficult-to-dispose-of radioactive leads and salts (sodium 22) are produced, says Jacobi. Other radioactive toxins produced in colliders are cobalt 60 and tritium.

The DOE estimates the collider will produce about 10,000 gallons of hazardous waste per year. Again, Jacobi says that is a small amount, comparable to the production of a major university or hospital. But some of that will become radioactive, he adds.

Donald Pay of South Dakota's Technical Information Project is worried that groundwater surrounding the collider tunnels may also be activated. He questions whose re-

sponsibility it will be to dispose of the wastes -- DOE or the host state.

The DOE has its own radioactive waste disposal facilities, but none are capable of handling mixed hazardous and radioactive wastes. Jacobi says that since DOE waste facilities are now coming under the scrutiny of the Nuclear Regulatory Commission and the Environmental Protection Agency, its sites may be gradually closed down. If so, that will leave state-operated waste sites as the only available alternative. Jacobi says the DOE admitted to him that one selection criteria for siting the collider will be the proximity to working disposal sites.

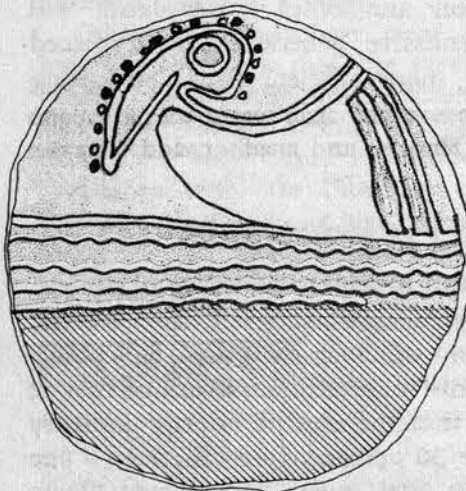
--Steve Hinchman

BULLETIN BOARD

THE BEDROCK STATE

Utah could be called the Bedrock State, according to William Lee Stokes, in his *Geology of Utah*. Few other states can claim the range of readily visible geological time, he says, from ancient Precambrian, over two billion years old, to the present sand dunes sweeping across the desert. Focusing more on scenery than mineralogy, Stokes has written a comprehensive, chronological account of the Utah landscape. A college professor, Stokes designed the book as a course text, but its thorough explanations, maps and diagrams make it suitable for all levels of interest and expertise. All photos are black and white except the cover by Rod Miller.

Utah Museum of Natural History, President Circle, University of Utah, Salt Lake City, UT 84112. Paper: \$12.280 pages. Maps, diagrams, photographs and glossary.



RESTORING THE EARTH

The first national gathering to examine the redesign of urban areas and restoring the earth's natural resources will be held Jan. 13-16 at the University of California, Berkeley. The conference will bring together specialists in natural resource management and teachers, union leaders, public health workers and environmental activists to discuss restoring coastal ecosystems, rivers, forests and urban centers in workshops, panels, plenary sessions, films and exhibits. Organizers include The Tides Foundation and the College of Natural Resources of the university. Contact Restoring the Earth Conference, 1713 C Martin Luther King Jr. Way, Berkeley, CA 94709 (415/843-2645).

ASSESSING ACID RAIN

A federal inter-agency task force on acid rain recently released its 1985 113-page report to the president and Congress on the National Acid Precipitation Program. Congress began the program in 1980 to study causes, effects and management of acid deposition. A task force composed of 12 federal entities including the Environmental Protection Agency and four national laboratories oversees the program and is required to report annually. Before 1984, the program focused on planning and developing testing methods. The 1985 report includes initial results of testing and experimentation conducted under the program's new standardized guidelines for data collection and interpretation, making comparisons between the U.S., Canada and Europe possible. The program's budget for 1985 was \$64.9 million. For information contact Charles Herrick at NAPAP, 722 Jackson Place NW, Washington, D.C. 20503 (202/395-5771).

FOR THE GRIZZLY BEAR

The grizzly bear should benefit from the signing of an agreement between the Interagency Grizzly Bear Committee and the National Fish and Wildlife Foundation. The agreement allows the foundation to receive grants, gifts and donations specifically designated for grizzly bear recovery projects under the direction of the committee. In 1984, Congress established the foundation as a non-profit organization to encourage and administer donations for the benefit of wildlife. Donations may be sent to the National Fish and Wildlife Foundation, Grizzly Bear Fund, Room 2626, 18th and C St., Washington, D.C. 20240. In 1983, the interagency committee was created to coordinate grizzly recovery efforts. It publishes a newsletter, *Grizzly Talks*, which explains its activities for the year. For more information write IGBC, 324 25th St., Ogden, UT 84401.

FLYING HIGH

The world's top pilots will gather in Telluride, Colo., Sept. 14-20 for the 14th annual hang gliding festival. Pilots from all over the world will perform aerobatic maneuvers in the resort town's box canyon while a free ground-school will be offered to interested novices. For more information, contact Hugh Sawyer, director of the festival, at Telluride Air Force, P.O. Box 456, Telluride, CO 81435 (303/728-4772).



ENRAPTURED

Birds of prey enthusiasts can attend a Western Raptor Management Symposium and Workshop Oct. 26-28 in Boise, Idaho. Coordinated by the National Wildlife Federation and the Idaho chapter of the Wildlife Society, the symposium features sessions on bird identification, habitat and the status of Western raptors. The focus of the gathering, however, is on the recovery of species and examination of land use activities that affect populations. Contact the National Wildlife Federation, 1412 Sixteenth St., NW, Washington, D.C. 20036 (703/790-4264).

YELLOWSTONE'S LAKES

Among the most special attractions of Yellowstone National Park are its many lakes, says Steve Pierce in his new backcountry guide, *The Lakes of Yellowstone*. The book is designed for off-the-beaten-path hikers, fishermen and explorers, and is the first devoted solely to Yellowstone's lakes, some of which are unnamed. There are directions to over 80 lakes -- some accessible only by backpacking -- as well as topographic maps, photographs and information on fish, water quality and lake depths.

The Mountaineers, 306 Second Ave. W., Seattle, WA 98119 (206/285-2665). Paperback: \$9.95. 200 pages.

SUN CHILD CAMP

The Blackfeet Indian Reservation in Montana has announced the opening of Sun Child Re-Creation Camp near the eastern boundary of Glacier National Park. Visitors to the camp can stay in tipis, explore historical Indian sites, and experience life as it might have been when Indians dominated the plains. Seminars and workshops on Indian life will be available, tents and backpackers are welcome. Contact Sun Child Re-Creation Camp, General Delivery, Babb, MT 59411 (406/732-4466).

CLARK FORK COALITION MEETING

The Clark Fork Coalition is sponsoring a public meeting in Missoula, Mont., Aug. 19 on the effects of the proposed Rock Creek mine on the Clark Fork River and Cabinet Mountains Wilderness. The underground mine would develop an ore zone 12,000 feet long and 6,000 feet wide, and create 100 million tons of silver and copper tailings. Issues include surface and groundwater quality, workers' health and safety, social and economic impacts and the effects on wildlife and wilderness. For more information contact the Clark Fork Coalition, P.O. Box 7593, Missoula, MT 59807 (406/542-0539).

AUTUMN EYE

Now in its tenth year, the Autumn Eye Photography Workshop/Seminar in Telluride, Colo., offers two fall sessions taught by award-winning professionals. Held during Sept. 17-30 and 24-27, the weekends include mountain trips, overnight film processing and personal critiques sponsored by Western Photo Workshops. Call the Telluride Chamber Resort Association, P.O. Box 633, Telluride, CO 81435 (303/728-3041).

DUSTY DRAMA

AERO, the Alternative Energy Resources Organization, is producing a one-act play for Montana farming communities called "Planting in the Dust." The 30-minute play about the cumulative effects of soil erosion by Nancy Paddock features a farm wife reflecting on three generations of family farming. The production is part of AERO's Montana Stewardship Options Program, which is aimed at raising the level of discussion about land ethics and preserving soil and water resources. The play was made possible by a grant from the American Lutheran Church. For more information about bringing the play to your community, contact Al Kurki, AERO, 44 N. Last Chance Gulch, Helena, MT 59601 (406/443-7272).

