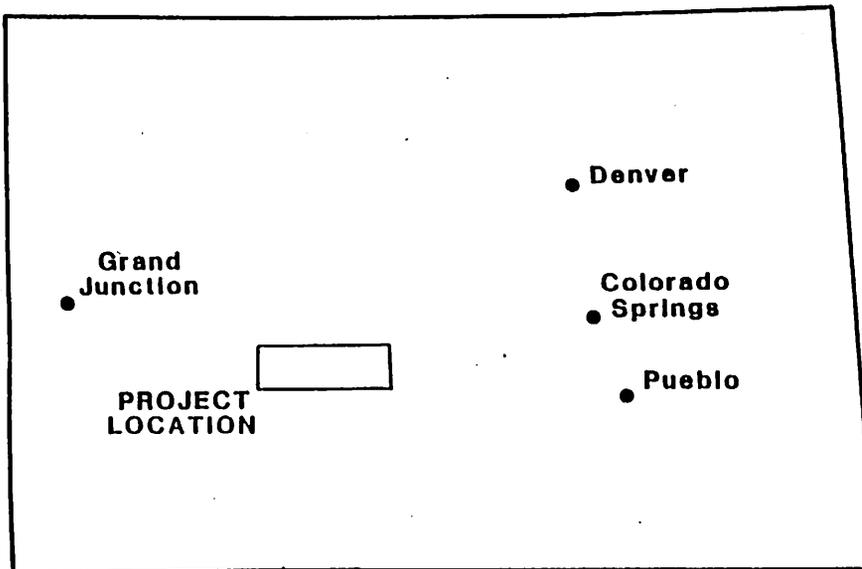
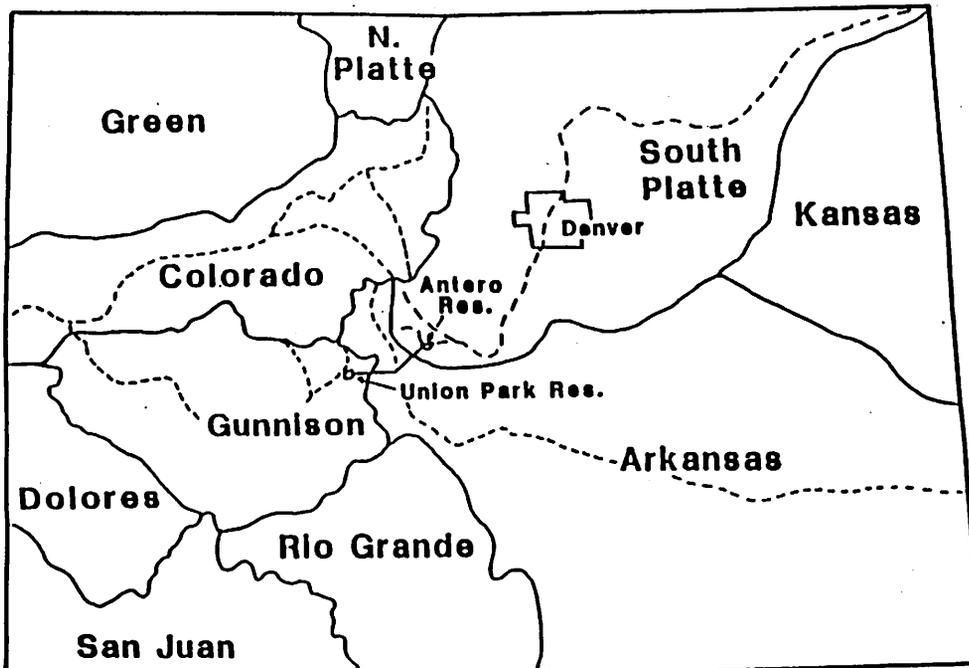


**COLORADO**



**Arapahoe County Proposed  
Union Park Water Supply Project**

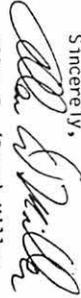


**Arapahoe County Proposed  
Union Park Water Supply Project**

As head of Water For Metro Denver one would think your prime interest would be the development of the best water supply alternatives for the people. However, you seem more concerned about our possible reward for a fresh concept, than having an honest evaluation of legitimate alternatives. If Union Park is fairly compared with the other alternatives, neither of us should fear the consequences. To do otherwise would be a complete distortion of the EIS concept, and our motives become suspect.

We surely respect the wisdom of Colorado's senior water community members. However, we also believe this great state has room for some new thinking in the water resource arena. Suggest we encourage fair comparisons of our competing ideas with good spirit, more light, and less emotion. Colorado's people will be the ultimate winner.

Sincerely,



Allen D. (Dave) Miller  
President

ADM/bm

cc: Governor Romer, Legislators, and others

Colorado Springs

CITY  
REGION  
STATE

NEWS

FRIDAY, JULY 17, 1987

GAZETTE TELEGRAPH

## Deal to sell water angers Summit County officials

Associated Press

SILVERTHORNE — Summit County officials and a Sierra Club representative have lambasted the Colorado River Water Conservation District for giving water to Denver and ending up with "30 pieces of silver in their pockets."

A recent out-of-court settlement with the Denver Water Board, which will allow Denver to divert more Western Slope water that will provide for compensation for it, came under fire at a river district board meeting in Silverthorne.

The settlement has been controversial since it was reached last December.

Dillon Mayor Flo Raitano said the river

district's failure to get feedback from local governments first was "inexcusable," and the settlement could damage summer recreation and the county economy by ruining the Blue River.

She said the Green Mountain Pumpback would load Dillon Reservoir with phosphorus and "totally eradicate the summer economy."

Dillon derives much of its summer revenue from people who use the reservoir for sailing, fishing and picnicking.

"If it's a green slime pond, that won't happen. It's nice you're going to get all this money to put into the kitty, but at whose expense?" she asked the board.

Bill Needham, Grand County's member on the river board, said the district plans to use much of the proceeds from the proposed Rock Creek reservoir to help solve problems in Fraser River Valley, the area to be affected. He said the river district probably could pledge some money to offset effects on Summit County as well.

Silverthorne Mayor Jack Archibald said he is concerned that diverting more water above Dillon Dam could lessen water flows in the Blue River below the dam. He also said the pumpback running through the center of Silverthorne will create aesthetic problems.

Two Forks and other planned diversions from Upper Colorado tributaries should soon become a major institutional problem between Metro Denver, CRWCD, and local Upper Colorado governments.

SEM

NECO will soon send the Corps DATA showing how Union Park's high quality water can help dilute heavy metals and phosphates in PLATTE & Blue River waters.

NATURAL ENERGY RESOURCES COMPANY

July 2, 1987

Mr. Robert L. Tonsing  
Water For Metro Denver  
1360 Clarkson Street, Suite 300  
Denver, CO. 80210

Subject: Two Forks Alternatives

Dear Mr. Tonsing:

Your letter of June 29, 1987 may have a point. It probably would have been more accurate to say in our June 24, 1987 letter to Governor Romer that Two Forks is the "most expensive and environmentally damaging" instead of "largest and most controversial" water project in Colorado's history.

Unfortunately, you, the Denver Water Department, and many other proponents of Two Forks refuse to address the basic issues repeatedly raised in our numerous letters. i.e.

1. The Upper Gunnison water source was not considered in the Draft EIS as a reasonable alternative for Metro Denver as required by the National Environmental Protection Act (NEPA).
2. Thornton's concept to recycle agricultural water, and Aurora's and Colorado Springs' ongoing purchases of ditch water are viable alternatives that have also been ignored in the Draft EIS.
3. Two Forks and its expansion projects will further seriously deplete the same Upper Colorado River tributaries that have already been hard hit by transmountain diversions. Denver continues to degrade its nearest mountain "playgrounds" on both slopes.
4. Detailed engineering analysis shows water releases during drought periods from Union Park Reservoir in the Upper Gunnison would be substantially more cost effective for Denver and less damaging to Colorado's environment than Two Forks.
5. Confirmation of Union Park's superior cost, yield, and environmental data in the EIS could quickly create a popular and institutional consensus facilitating construction earlier than Two Forks.
6. Water diversion from the virgin Upper Gunnison would help correct a gross environmental imbalance in the use of Colorado's natural water resources. Colorado's four largest river ecosystems can be enhanced during droughts with a major reservoir on the Continental Divide.

Each one of these fundamental points represents a potential fatal legal flaw in the entire Metro Denver EIS effort, unless addressed and corrected in a Supplemental Draft for public review as required by NEPA. (Our engineers will be in Omaha July 16, 1987 to assist in the Corps of Engineers' evaluation of Union Park)

P.O. Box 567 - Palmer Lake, Colorado 80133 - (303) 481-2003

Known viable alternatives are not adequately considered in a Supplemental Metro Denver's future water supply will undoubtedly continue to be a of widespread controversy, legal battles, and delay. On the other hand, ops can provide a great service to Colorado and Denver by fairly ing all reasonable alternatives. If this is done, the various interest an then rally with confidence around the optimum solution(s) available. he best water sources and structural systems are clearly identified, onial matters such as permitting, water rights, exchange agreements, ig, etc. will quickly fall into place.

Sincerely,

Allen D. (Dave) Miller  
President

governor Romer, Denver Water Department, Metro Water Providers, EPA, & hers.

1. BOR Study Excerpts
2. Central Colorado Project Study

Note:  
In a NECO meeting  
with the Corps in  
Omaha July 6, 1987,  
Col. West advised he  
will make a "Supplemental  
Draft" decision by  
the end of July.  
ADM

NATURAL ENERGY RESOURCES COMPANY

July 15, 1987

Colonel Steven G. West  
Planning Division  
Omaha District, Corps of Engineers  
Omaha, Nebraska 68102-4978

Subject: Metro Denver Water Supply From The Gunnison Basin

Dear Colonel West:

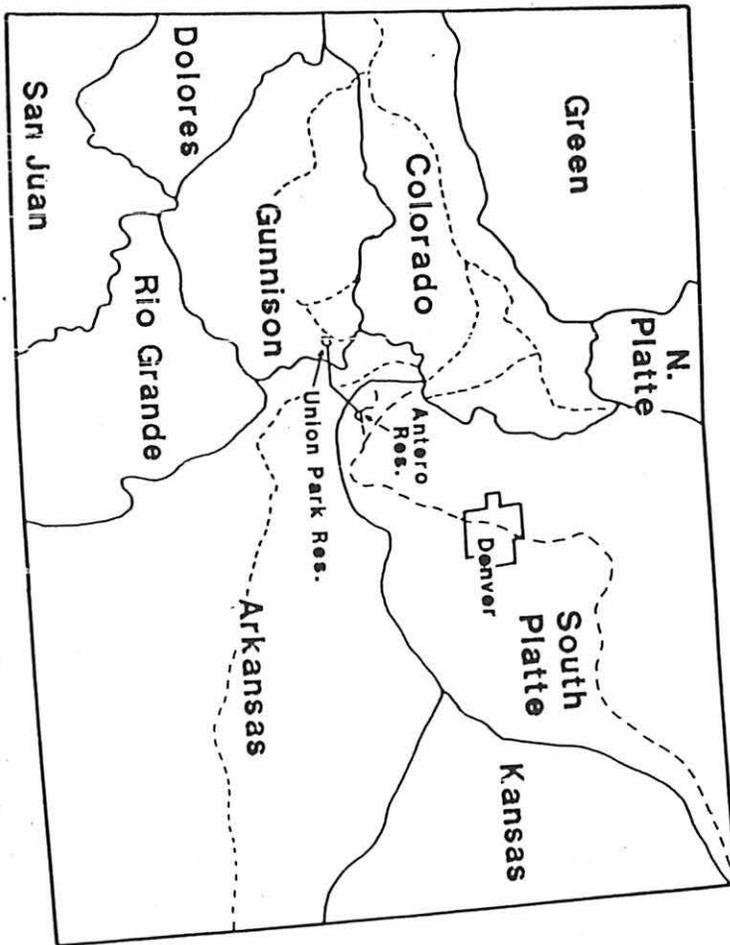
Attached for your consideration are excerpts from various Bureau of Reclamation studies conducted from the 1930's to 1950's that demonstrate the long range transmountain water supply potential of the Gunnison Basin for the East Slope. These studies are well known to the Colorado water community as the Gunnison Arkansas Project (GUNARK), and they envision as much as 650,000 acre feet of transmountain water per year from the Gunnison.

Also attached is a well known 1972 Central Colorado Water Conservancy District study of the Central Colorado Project that shows the potential for diverting up to 600,000 acre feet from the Gunnison to the South Platte River and Metro Denver. Although these GUNARK and Central Colorado studies were premature of need, they clearly demonstrate the Gunnison Basin has long been considered a viable water source for the East Slope growth.

In addition, Natural Energy's (NECO) Union Park Water Supply Project and Aurora's Collegiate Range Project have been publicly known since late 1985 and mid 1986 respectively. Both of these ongoing alternative projects plan to divert surplus Gunnison water to Metro Denver at an economic and environmental cost of safe yield that is considerably less than for the proposed Two Forks Project. You already have Aurora's description of Collegiate Range, which could be constructed before the Two Forks 1995 completion date. A description of Union Park was initially sent to your office April 22, 1986. You have also had our engineering company's detailed Union Park Reconnaissance Evaluation Study since October 1986. We have since updated this study for your EIS evaluation to show the substantial economic and environmental advantages of the site-specific Union Park alternative over the proposed Two Forks Project. Two Forks further depletes the same Upper Colorado River tributaries that are already being seriously dewatered by Metro Denver. Union Park could also be in use before 1995.

Since the Upper Gunnison Basin has always been a viable water source for Metro Denver, and since this supply was not considered in the EIS as a reasonable alternative as required by the National Environmental Protection Act, NECO again urgently recommends a Supplemental Draft EIS. As a minimum, this Supplemental Draft should directly compare the economic and environmental factors associated with Two Forks, Union Park, Collegiate Range, Thornton's Recycling Project, and recent conversions of agricultural water. This evaluation should also address the critical need for a balanced use of Colorado's natural water resources, instead of an unnecessary dewatering of one basin.

P.O. Box 567 - Palmer Lake, Colorado 80133 - (303) 481-2003



# THE DENVER POST

A Times Mirror  
Newspaper

Richard T. Schlosberg III, *Publisher*

David Hall, *Editor*

Anthony H. Campbell, *Managing Editor*

Chuck Green, *Editorial Page Editor*

Sue F. Smith, *Associate Editor*

William H. Hornby, *Senior Editor*

## Drying up the Upper Colorado

**M**ETROPOLITAN Denver already has taken 24 percent of the total historic water flow from Colorado's Blue, Fraser and Williams Fork rivers, and the controversial Two Forks project is destined to take another 17 percent. Homestake II's impact on the Eagle River and the planned future expansions of both projects will only worsen a very serious environmental problem for these Upper Colorado River tributaries.

Ironically, because of Denver Water Department and Metro Water Providers policies, the Denver area continues to seriously degrade its best recreational river environments on both slopes. There are already nine water-diversion tunnels from the Upper Colorado River Basin to the East Slope.

Meanwhile, the neighboring Upper Gunnison Basin is just as accessible and even wetter. But this basin remains untouched by any transmountain diversions. A recent detailed study by a major engineering company confirms old Bureau of Reclamation studies that a large Upper Gunnison reservoir is a more cost-effective, environmentally sound water source for the Eastern Slope and Denver. The Corps of Engineers agrees that one acre-foot of dry-year supply from Gunnison can increase the safe yield of Denver's existing reservoirs by two acre-feet.

Yet, this obvious source was completely ignored in the five-year Metro Denver Water Supply Draft EIS study that recently identified Two Forks and the same Upper Colorado tributaries as the best water alternative for Denver area growth.

This gross imbalance in the strategic use of our state's critical water resources would never happen in any other Western state. Colorado is, unfortunately, the only Western state without written policy guidelines for water development. Instead, our executive, legislative and judicial branches struggle with the 100-year-old prior appropriation doctrine as our only policy guideline. No wonder 70 percent of the nation's water attorneys practice in Colorado.

by ALLEN D.  
MILLER

Our people are the ultimate losers, with high-cost water systems and a climate where myopic water departments can exploit the state's water policy vacuum — regardless of environmental impact. The water attorneys naturally resist any change to Colorado's ancient water doctrine.

Two Forks is the largest and most controversial water project ever proposed for Colorado. The state's Water and Power Authority, Water Conservation Board and Department of Natural Resources are all charged with managing our water resources. Curiously, none of these state agencies has evaluated or even commented on the overall impact of Two Forks on the state's water resources environment. In spite of the obvious shortcomings of Two Forks, no one in state government seems willing to challenge the 20-year dream of the Denver Water Department.

In view of this critical situation and the imminent decisions on Two Forks, Homestake II, Rock Creek, Straight Creek and other Upper Colorado diversions, I suggest adoption of an emergency state water policy and legislation that prohibits any further dewatering of the Upper Colorado River headwaters.

This emergency action should remain in effect until other water sources, including the Upper Gunnison, are thoroughly evaluated within the context of an overall state water resource policy. If emergency steps are not taken now, the state's water die will soon be cast for the next 50 years.

Allen D. Miller is president of Natural Energy Resource Campaign in Palmer Lake

100 4-89  
JUDY CLARK  
519 E. GEORGIA  
GUNNISON CO. 81230

25¢

# The Gunnison Country Times

Gunnison, Colorado • 108th Year • No. 18 • May 4, 1988

## Gunnison eyes trans-mountain diversion

By K.T. LUND  
Times Staff Writer

Arapahoe County officials came to Gunnison County Tuesday to talk about the feasibility of constructing a hydroelectric dam at Union Park.

Arapahoe County and the cities of Gunnison and Parker obtained a preliminary permit from the Federal Energy Regulatory Commission (FERC) in November for a three-year study of a dam at Union Park. The three entities received the permit for the study instead of NECO and are negotiating with

NECO for its studies of the project. "Our first step is to take a closer look at the project," Attorney Karl Kumli told the Gunnison County commissioners at lunch.

"Every six months we have to tell FERC what were up to," Kumli added and told county officials that he would like to know their concerns about a hydroelectric dam at Union Park.

Commissioner David Leinsdorf replied, "It's premature for the county to say anything about its concerns because we don't know anything about the project."

Kumli and Engineer Bill Mitzelfeld said

that they had no idea yet if the Union Park project that Arapahoe County and the cities of Gunnison and Parker envision will be as big as Blue Mesa as NECO had proposed.

They did say that they did envision both a hydroelectric well a trans-mountain diversion project. Arapahoe County would like to have a joint review process of the project with the Forest Service, the Division of Wildlife and Gunnison County.

Mitzelfeld said Arapahoe County is inventorying the impacts that a dam at Union Park would have on wildlife, recreation, water quality as well as the socio-economic impacts that would occur.

Kumli said that whether the proposed Two Forks Reservoir receives approval or not, the Union Park proposal could still be built.

After the three entities study the Union Park project, they can apply for a license to

construct the dam. According to the time schedule, the entities would ask FERC for a license in 1990 and might receive it by 1991. Construction would begin in 1993.

Union Park lies southwest of Taylor Reservoir and is a summer grazing area for Gunnison area ranchers as well as a recreation area for fishermen, backpackers and hikers.

## Top student combines



## TRUSTEES

David B. Watt  
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Alan D. Hegeman  
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Trustee:  
Klaus Wisser  
Commonwealth Edison Co.  
Chicago

Trustee:  
Susan Allen  
Director  
RMBL, Crested Butte

Trustee:  
Marilyn Shaw  
Development Officer  
San Francisco

31 March 1987

Mr. Allen D. Miller, President  
Natural Energy Resources Co.  
P.O. Box 607  
Palmer Lake, CO 80133

Dear Mr. Miller:

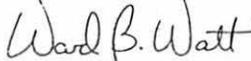
We would like to express our surprise at reading in the Crested Butte Chronicle and Pilot (27 February 1987) of a proposal by the Natural Energy Resources Company (NECO) that involves the possible future construction of a dam with reservoir at the juncture of the East River and Copper Creek. This is, of course, the private property of the Rocky Mountain Biological Laboratory, and you can imagine our dismay at learning in the newspaper of a plan to flood our field station.

RMBL is celebrating 60 years of excellence as a research and teaching institution, and its world-wide reputation is well-founded. We believe that our field studies, some based on decades of data collection, comprise a unique and invaluable resource, not just for Gunnison County but nationally and internationally. In addition to the inestimable value of our research and education programs, we have a positive economic impact in Crested Butte and Gunnison County as a whole. A recent study we completed for the Boettcher Foundation of Denver, which is generous enough to provide financial support for RMBL, indicated that a conservative estimate of the Lab's annual economic contribution within the county is \$784,140.

Mr. Allen D. Miller  
31 March 1987  
Page 2

We'd like to believe that in the future we would have the opportunity to discuss any such plans for our property and our future with you before hearing of them in the newspaper. Please believe that we are interested in hearing your proposals and having an opportunity to respond, and don't hesitate to contact either or both of us.

Sincerely,



Dr. Ward B. Watt  
President, RMBL  
Dept. of Biological Sciences  
Stanford University  
Stanford, CA 94305



Ms. Susan Allen  
Director, RMBL  
P.O. Box 519  
Crested Butte, CO 81224

WBW/SA/mb1

cc: Gunnison County Commissioners  
Upper Gunnison Water Conservancy District  
Aurora Collegiate Range Project Manager  
U.S. Army Corps of Engineers

NECO

copy in RMBL  
ex file

Gunnison County Times February 25, 1987 p 1 and 6

# Union Park Reservoir 'viable'

Rocky Point Reservoir, a 4,000-acre-foot ring dam above Taylor Reservoir. This pump back dam would generate and store power without losing water, pumping water back and forth between Taylor and Rocky Point reservoirs.

Miller explained NECO would fill Union Park Reservoir from excess spring run off water. NECO could then add water to both east and west slope streams in dry years, and store it in wet years.

Union Park Reservoir would meet Colorado water demands while causing "minimal environmental impact," Miller said.

He noted Two Forks environmental mitigation costs range between \$30 million and \$100 million because Two Forks will have a "major environmental impact." He added the Collegiate Range project with its Pieplant Reservoir, near Taylor Reservoir, and its second reservoir near Almont would have moderate environmental impact.

But Fish Biologist Rick Sherman with the Division of

Wildlife disagreed that Union Park Reservoir will have a minor environmental impact.

Sherman contended both Union Park and Rocky Point reservoirs will have a major impact not only on the fisheries in the Taylor River and Reservoir but also on the elk and Big Horn sheep herds in both the Union Park and Rocky Point areas.

Miller replied that the overall environmental effect is "minimal in relation to other alternatives" like Two Forks.

"There are plusses in taking water out of the streams when they're too full and putting it back when they're too empty,"

Turn to pg. 3

## NECO praises city

Natural Energy Resources Company (NECO) President Dave Miller praised the City of Gunnison Friday for having the foresight to make sure city residents will buy power and water at half the price others will have to pay.

In its \$1,000 contract with NECO, the city has ensured city residents will have a better deal than other future water and power NECO users, Miller said.

But that contract becomes effective only if NECO builds its 900,000 square-foot reservoir at Union Park for water and its 4,000-5,000 square-foot pump back reservoir at Rocky Point, above Taylor Reservoir, for power.

Miller added that Parker, Colorado, has also signed a similar contract with NECO.

In response to a question, Miller said Gunnison understood Union Park Reservoir's function as a trans-mountain diversion

Turn to pg. 6

## Union Park

This from pg. 1

he said. Plusses include keeping Colorado water in the state and flood control.

He added, "NECO is very sensitive to the environmental aspects of the whole thing."

Miller admitted that Aurora and NECO are seeking the same water for their projects and both have filed in Water Court on that water. Meanwhile public and private entities both in and out of the Gunnison Valley have filed in opposition to both projects.

NECO has written a letter to the Army Corps of Engineers, the Metropolitan Water Providers and the Denver Water

Board asking them to postpone hearings on Two Forks because all the viable alternatives have yet to be considered. NECO claims Union Park Reservoir is such an alternative.

NECO also claims it can have both Rocky Point and Union Park Reservoirs on line by 1995. Aurora officials Tom Griswold and Roger Foster dispute this: Both said again Friday at the NECO presentation that 2005 is the soonest either Aurora's or NECO's projects could realistically come on line.

Gunnison County Commissioner David Leinsdorf concluded at the end of the meeting, "Gunnison County takes the position that both NECO and Aurora require

permits from the county, and we will push for a full-blown Joint Review Process for either or both projects."

Both NECO and Aurora have publicly agreed with those requirements.

Planning Commission Acting Chairman Dick Wingerson noted, Gunnison County "has a big bucket on the Continental Divide that has to be valuable and that lots of folks are looking for piece of the action.

"That's an issue that has to be settled, and it looks like it will be settled in Water Court."

Wingerson concluded after Miller's presentation, "All this is very interesting, but as yet we don't have a proposal."

Canon City police officers, 7:30 that evening. After their deputies and Correction Facility arrest, the Pendergrasses were officers with the aid of a training returned to Gunnison County, dog captured the pair at about the site of the alleged crime.

## NECO

This from p. 1

project when it signed the contract.

City council member Bill Nesbitt said after the meeting that the contract makes no mention of trans-water diversion and that Gunnison still has the right to oppose such a project.

Council member Dee Blacklock explained Monday that the city signed the

contract primarily to have storage for its water rather than reduced power and water fee rates.

"The city has the right to protest any NECO water rights that interfere with our," she added. "The contract allows us the right to file in opposition and we have done so in Water Court to protect our rights."

The city is also one of 42 protesters to the Aurora water filings in water court.

## In Memoriam



# water district takes a step into the arena

## Gunnison water district enters "big league" in water battle

by Laura Anderson  
 "The Gunnison basin is on the cutting edge of what's happening with Colorado water," Dick Bratton said in an interview Monday. Bratton, vice-president of the Colorado Water Resources and Power Development Authority and attorney for the Upper Gunnison River Water Conservancy District, stated that in 1986 the water district filed for the same water rights that Aurora and NECO are competing for.

The Gunnison water district asserts that they have a senior claim to this water based on a 1975 contract between the water district, the Uncompahgre Valley Water Users, the Bureau of Reclamation and various other governmental boards.

some of the Taylor River water rights, prices could range between \$1500 and \$4000 per acre foot if sold in perpetuity, or \$100 to \$200 per acre foot each year if sold annually. When you get into hundreds of thousands of acre feet of water, this translates to immense amounts of money that would flow into Gunnison County. Clearly, this economic boost is extremely uncertain at this point and, in any case, would not happen for many years. "We're talking big dollars," Bratton said. "We're in the big league."

The contract gives the Gunnison water district the right to store water for the Uncompahgre Valley users in Blue Mesa and to control water releases from the Taylor River which would be preempted if Aurora or NECO obtained the rights they are asking for.

Bratton has asked both NECO and Aurora to consider postponing litigation and negotiation in Water Court on the disputed rights until the Upper Gunnison River Water Resource Study is complete. This is a \$555,000 study of the Upper Gunnison and Uncompahgre River watersheds, which will begin in March and is expected to take approximately two years to complete.

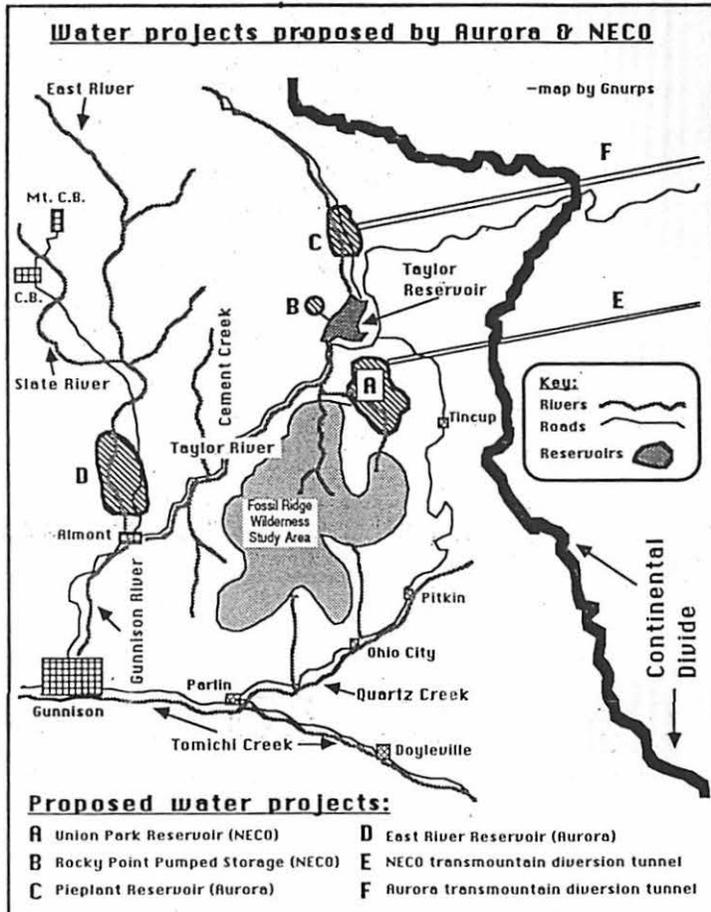
The Gunnison water district has been using this contract as a basis for storing and regulating the water for the past 12 years as well as using it to increase fisheries and irrigation, and to control flooding.

The Upper Gunnison River Water Conservancy District has also filed for the second filling of the Taylor Reservoir, meaning that if there is enough water to fill the Taylor Reservoir more than once in a year, they would have the rights for all 106,000 acre feet of that water. No one else has filed for the second filling.

In the study, the bulk of which is being funded by the Colorado River Water Conservation District, an independent engineering firm will collect data, describe water supply systems and recreational facilities, assess basin hydrology and evaluate recreational, environmental and economic opportunities based on the existing water supply. Bratton believes that the examination of the effects of transmountain diversion might be the subject of a second, future study.

Bratton said that litigation between the three competitors could take as long as 10 to 15 years. If Gunnison receives the water rights it could place the county in a very powerful position and potentially bring huge economic gain to the area. Bratton estimated that if the water district received and then sold

Both Aurora and NECO representatives seemed hesitant about asking the Water Court to put off decisions because of the study.



# Water rights battle intensifies as Gunnison

## Another suitor surfaces with water diversion plans

continued from page one

Quartz Creek. He said that the water could be taken during the heavy runoff, piped to the Union Park basin via tunnel, and put back into the rivers when they were low. Although Miller showed a map of where the diversion would begin in the East River, he was not sure of its location. However, he believed it might be at the confluence of Copper Creek and the East River, outside the town of Gothic. A small reservoir would also be built there. The construction of this tunnel would be at least 25 years away. Another expansion idea would pump water from Blue Mesa Reservoir to Union Park from which it could be conducted to the Front Range.

**Aurora, Gunnison Water District, Two Forks also fighting for water**

At this point, whether or not the Union Park project will ever be built is still questionable. NECO is competing with the City of Aurora for the same water in the Taylor River drainage. As

part of their Collegiate Peaks project, Aurora wants to build the Pieplant Reservoir for transmountain diversion and also the East River Reservoir north of Almont to replenish users' water that the transmountain diversion would deplete.

In addition, the Upper Gunnison Water Conservation District has filed for some of those same rights based on a 1975 contract. Who actually ends up with the water rights will be decided in Water Court, either by litigation or by negotiation between the interested parties.

The Two Forks Reservoir proposal, on the Eastern Slope, complicates the matter further. Two Forks would be a reservoir the size of the Union Park project built in the foothills of the Front Range outside Denver on the South Platte River through cooperation between Denver, Aurora, and many of the smaller East Slope suburbs. Water from the Upper Colorado drainage would be diverted through the Roberts Tunnel to be stored in the

reservoir until the cities needed it. If Two Forks is built, NECO would probably abandon its Union Park Reservoir proposal since stockholders believe that there would not be buyers for its water. Aurora has indicated that it feels differently and would continue with the Collegiate Peaks project even if Two Forks is approved.

NECO recently wrote a letter asking Denver to delay the public hearings on the Metropolitan Denver Water Supply Draft Environmental Impact Statement, a massive compilation which has

Planning Commission that NECO already has the water rights for the proposed \$100 million Rocky Point Reservoir, which he believes would be "the most efficient power location in the country", and will file a final application for this project in September, 1987. Rocky Point Reservoir, at 11,658 feet elevation would be a 4000-5000 acre foot body of water above Taylor Reservoir with a small ring dam, used to generate 1000 megawatts of peaking power which would be marketed in Colorado as well as states south and west of us.

In the proposal, water from

Colorado grabbed all the industry and now they're complaining because they have pollution. Why not send the industry here where there is water?"

Tom Henry, the District Wildlife Manager for the Department of Wildlife questioned Miller's terming the environmental impacts of NECO's plan "minor."

"I do see major problems," Henry said. He brought up the elk migration routes which cross Union Park as well as the calving and fawning that take place there and pointed out that there are elk and bighorn sheep herds "right in the middle" of the proposed Rocky Point Reservoir site.

"It looks like Taylor Reservoir is sitting there like a toilet," Rick Sherman, wildlife biologist, said, referring to the draining and filling of the Taylor Reservoir for the projects. "You're talking about an important resource of Gunnison County," he said. "As a fisheries biologist I don't see you maintaining enough water to keep a major fishery going."

Dick Bratton, attorney for the Upper Gunnison River Water Conservancy District raised a number of concerns. He questioned the ease of transporting power out of Taylor Park, whether a market exists for this power, and stated that the amount of water available in the Upper Gunnison basin is "debatable." Bratton also took issue with NECO's desire to take Gunnison County water without having to pay for it. "There's very tough competition going on," Bratton said after the meeting. "They (NECO) are making it sound simple but it's very complex."

*"East Colorado grabbed all the industry and now they're complaining because they have pollution. Why not send the industry here where there is water?" —Purvis Vickers*

recently been released. NECO does not look at every alternative, favoring Two Forks while ignoring the potential of the Union Park Reservoir. Many objections to Two Forks have been raised including its impact on endangered species and the bighorn sheep, deer and elk habitat, as well as the fact that it would dam up one of Colorado's eight gold medal fisheries. The environmental impacts of Two Forks may cost the users more than \$100,000,000 to mitigate. NECO believes that the Union Park Reservoir would be a much more cost-effective alternative.

the Taylor Reservoir would be pumped up 2100 feet into the Rocky Point Reservoir during periods of low demand through a 17 and a half foot tunnel and released through reversible pump generation during high demand times. NECO obtained these water rights for nonconsumptive use in 1982 and began drilling the site for testing purposes last summer. Whether or not the Union Park Reservoir becomes a reality, NECO hopes to build the Rocky Point plant and could have it on line as early as 1995.

**Residents raise concerns**

"How will this (Union Park and Rocky Point) benefit the people in Gunnison County?" Water Board member Purvis Vickers asked. "Ea-tern

**Rocky Point Reservoir**

Miller also told the

*Church Directory*

**Oh Be Joyful Baptist Chapel**  
Crested Butte School • 507 Maroon • 349-6237  
Every Sunday: 9am Bible Study  
10am Worship Service

**Queen of all Saints Catholic**  
4th & Sopris • 641-0808  
7:30am Sunday; 4pm Thursday  
Confession before Sunday Mass

**Union Congregational**  
4th & Maroon • 349-6405  
9am Sunday Worship



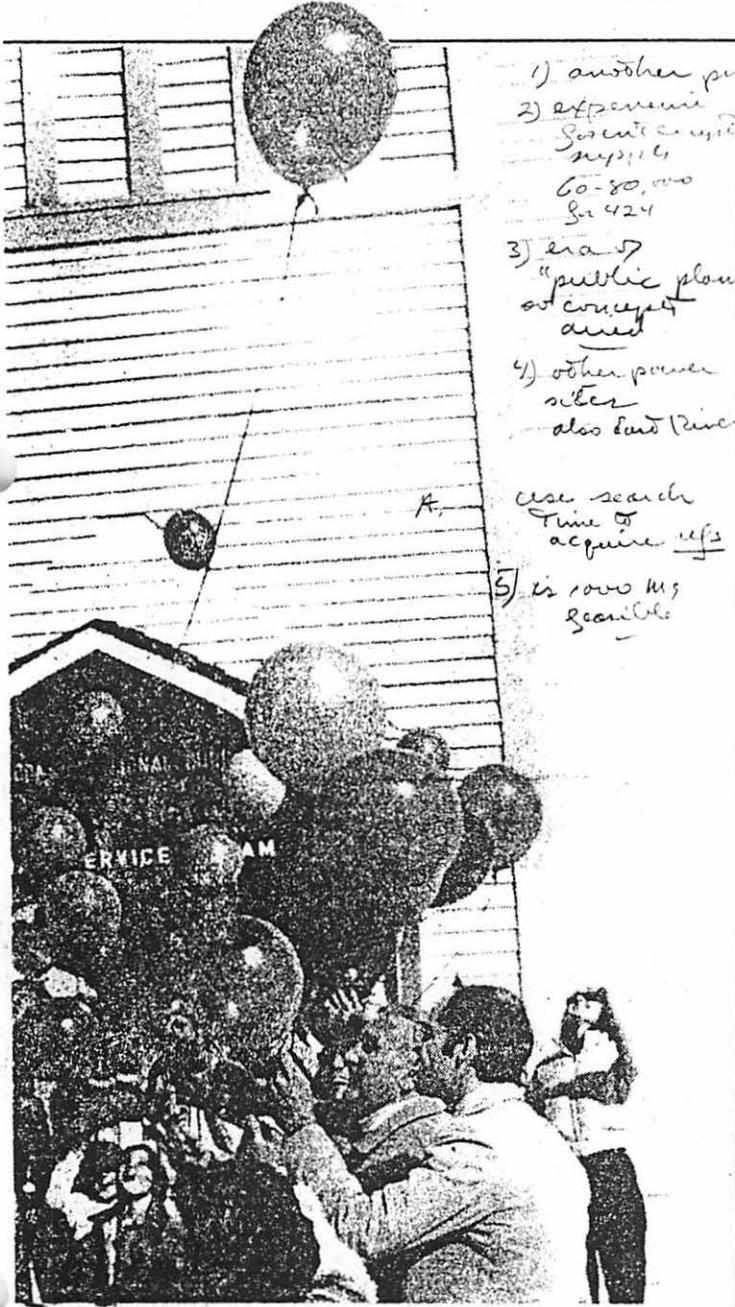
# CRONICLE & PILOT

February 27, 1987

25 cents

OF CRESTED BUTTE AND MT. CRESTED BUTTE, COLORADO

VOL. 26 NO. 11



nal Church release helium-filled balloons on Sunday during brunch. The congregation plans to start construction on an this spring.  
—photo by Mark Reaman

- 1) another p...
- 2) expense  
60-80,000  
\$424
- 3) era  
"public planning"  
so concept  
and
- 4) other power  
sites  
also land
- 5) is 1000 mg  
search

\$424 million project

## 3rd water suitor wants to divert Gunnison's water to Eastern Slope

by Laura Anderson

If the Natural Energy Resources Company (NECO) wins its battle for Gunnison County water rights, it plans to build a reservoir almost the size of Blue Mesa in Union Park to divert water to Denver and satisfy growing water demands on the Front Range. Dave Miller, company president, outlined NECO's plan at Friday's Gunnison County Planning Commission meeting.

NECO's proposed Union Park Reservoir would hold as much as 900,000 acre feet of water, twice as much as Denver's total current storage capacity. Depending on whose figures are used regarding the minimum stream flow requirements for the Taylor River, a yearly average of 60,000 to 80,000 acre feet of water would be pumped from the Taylor Reservoir, up 800 feet into Union Park, located at a 10,052 foot elevation. Miller called the environmental impact of the proposed

reservoir, "minimal."

Miller explained that the water would only be taken from the Taylor Reservoir when a surplus existed. During very dry years no water would be available while during wet years 140,000 acre feet might be a reasonable expectation. The water would be stored in the Union Park Reservoir until Denver needed it. Then it would be piped through a 42 mile conduit under the Continental Divide into Cottonwood Creek which would flow into the Arkansas River and end up in Denver's Antero Reservoir. The cost of the plan would be \$424 million, making it one of the largest construction projects in the country.

### Gothic might be site of water tunnel to Union Park

If the Union Park Reservoir is built, NECO eventually may want to expand its operation by appropriating water from the East River and

continued on page twelve

### championships begin March 2

Only five students presently enrolled  
**Future of Crested Butte's 7th, 8th grades to be discussed Friday**

## UNION PARK WATER SUPPLY PROJECT SYSTEM COMPARISON

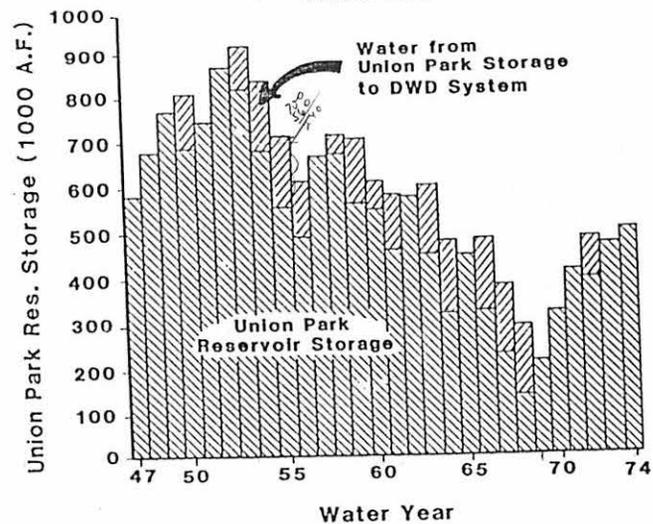
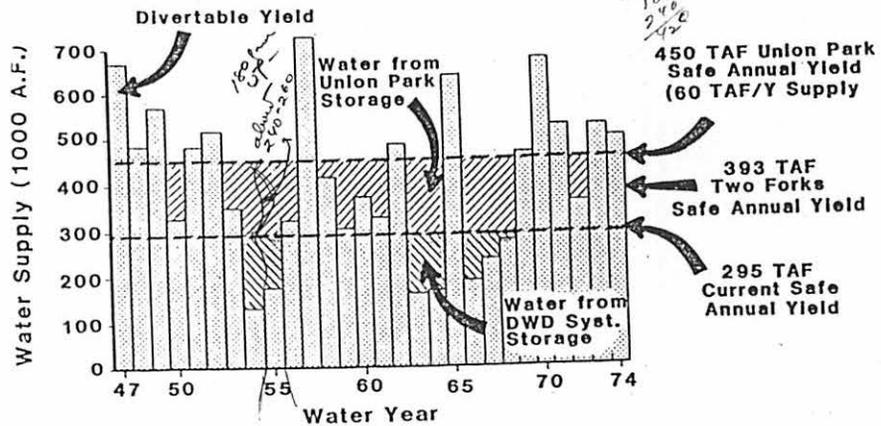
	<u>UNION PARK</u>	<u>TWO FORKS</u>	<u>COLLEGIATE RANGE</u>
Capital Cost	\$424M	\$400-500M	\$343M
Safe Annual Yield-Initial	155,000 AF	98,000 AF	53,000 AF
Capital Cost per Acre Foot	\$2700	\$4000-5000	\$6500
Annualized Cost per Acre Foot	\$230	\$340-425	\$550
Future Expansion	150,000 AF	260,000 AF	30,000 AF
Expansion Annualized Cost per Acre Foot	\$400-500	\$500-800	\$500-600
Users	Front Range West Slope	Denver Area	Denver
Environmental Impact	Minimal	Major	Moderate
Recreation	Positive	Negative	Negative

# Union Park Water Supply Project

## Denver Water Department

### Divertable Yields & Safe Annual Yields

60,000 AF



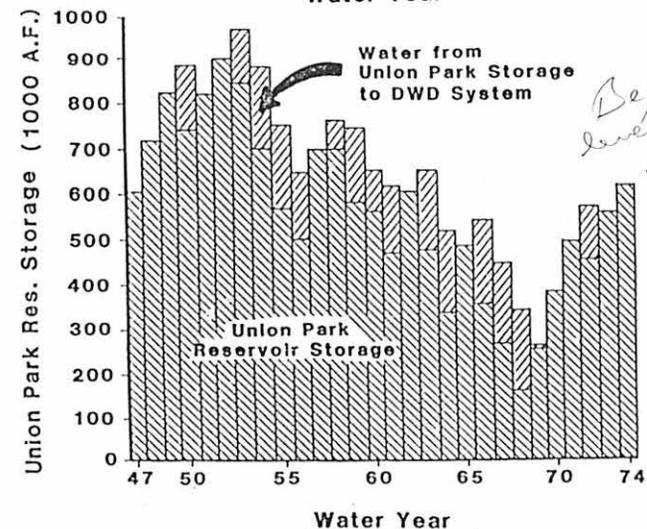
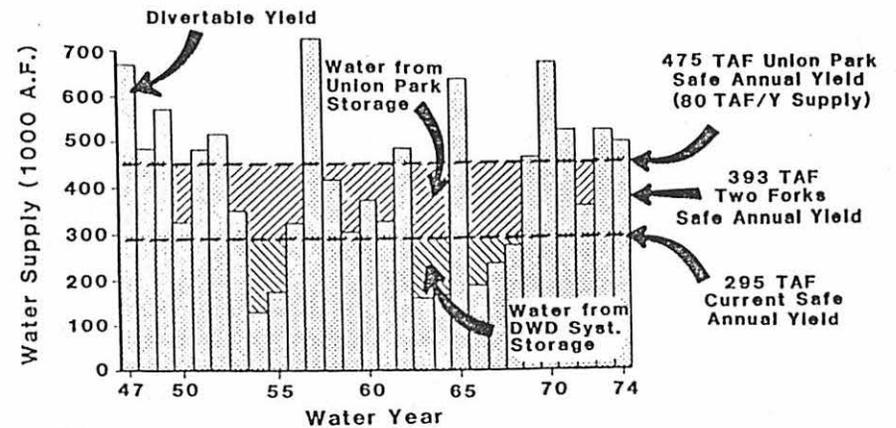
Atch.2

# Union Park Water Supply Project

## Denver Water Department

### Divertable Yields & Safe Annual Yields

80,000 AF



Atch.3

SUMMARY OF RESEARCH REGARDING GUNNISON-ARKANSAS PROJECT  
March 21, 1986  
Bureau of Reclamation, Grand Junction, CO

The Gunnison-Arkansas Project appears to be grounded in Bureau projects and studies of the late 1930's and the 1940's according to the Bureau's own history of past investigations. WPA funding in 1935 marked the beginning of the study of water supply in Colorado, and out of this "some areas and projects, including the Gunnison-Arkansas Project, warranted further investigation... Investigations on the Western Slope were started about 1936... In June 1940, a comprehensive reconnaissance survey was started to determine the possibilities for optimum Gunnison-Arkansas Project development. Surveys were begun in the Gunnison Basin in the fall of 1943 to obtain preliminary data on existing water use and control facilities, reservoir and dam sites, hydroelectric power sites, and potential trans-mountain diversion sites." The chronology associated with this project indicates a long-standing interest on the part of the Bureau of Reclamation.

For organizational purposes, the data examined may be considered in four sections:

1. Interim Report, Gunnison-Arkansas Project, Colorado. 13 volumes; June 1948: Project Planning Report No. 7-8a.49-0. U.S. Dept. of the Interior, Bureau of Reclamation. See the attachment, "List of Supporting Appendix Reports," for an index of volumes contained in this edition of data regarding the project.

Contained in this report are two plans:

A. a minimum plan called "Initial Development";

B. an expanded plan called "Maximum Gravity Diversion."

The content of the report is heavily weighted on the "Initial Development" phase which concerns the Roaring Fork River Basin and specifically the Fryingpan River diversion to the Arkansas River. The Gunnison River Basin figures in the Maximum Gravity Diversion phase of the project.

2. Interim Report, Gunnison-Arkansas Project, Colorado. 16 volumes; September 1949: Project Planning Report No. 7-8a.49-1. U.S. Dept. of the Interior, Bureau of Reclamation. Please see the attachment, "List of Supporting Appendix Reports," for an index of volumes contained in this other edition. This series of volumes along with a supplement entitled Initial Development Gunnison-Arkansas Project, Special Report, were presented to the Governor of Colorado who forwarded the project to the Colorado Water Conservation Board.

Atch. 1

page 2

The bulk of the report is still strongly weighted to phase 1 of the project except for Appendix Q- Alternative Plans which focuses on the Maximum Gravity Diversion phase and even embellishes on that.

3. Report of the Policy and Review Committee (of the Colorado Water Conservation Board.) June 15, 1950. This volume discusses the commentary of this body on the "Interim Report on the first stage of the proposed Gunnison-Arkansas Project." The committee concludes that a smaller project than the "Initial Phase" would not be "justifiable". It submits "Operating Principles for the Fryingpan-Arkansas Project". Note that even the name of the project is becoming ambiguous. It is suggested by some that the project be renamed "Fryingpan-Arkansas Project" to be more descriptive of its scope. This "... shall not be implied as an abandonment of their expressed intention to obtain approval of a project from the Gunnison River, nor shall approval of this provision by Western Colorado representatives be construed as any consent on their part to the authorization of a project for the exportation of water from the Gunnison River to Eastern Colorado."

4. Peripheral Data. These are assorted volumes filed with the Interim Report, Gunnison-Arkansas Project, and related to it. They are listed chronologically.  
Montrose Power Investigations/Colorado. Gunnison River Dam Preliminary Estimate. September 25, 1939.  
Gunnison-Arkansas Project - Colorado. Almont Dam. Very Preliminary Design and Estimate. January 3, 1946.  
U.S. Dept. of the Interior, Bureau of Reclamation. White-water Unit-Colorado. Information Required for Preparation of Preliminary Designs (sic) and Estimates for Bridgeport Dam and Kannah Creek Dikes. Grand Junction, CO. Nov. 1, 1948. Includes photos, maps, topo, tables, charts, etc.  
United States Dept. of the Interior/Bureau of Reclamation, Upper Colorado River. "Report on Search for Potential Reservoir Sites in the Roaring Fork Basin above the Aspen Reservoir Site." August 31, 1949.  
Official Comments and Recommendations of the State of Colorado on the Initial Development, Gunnison-Arkansas Project Roaring Fork Diversion, Colorado. Aug. 7, 1951.

designed to extract water from rivers during flood times and then augment river flows on both slopes during critical dry periods when river ecosystems are endangered. We believe further study will show the dramatic economic and environmental/socioeconomic advantages of Union Park will be even greater than indicated on this chart.

5. Future Expansion Attachment 4 also shows the weighted average cost of the various expansion potentials of the three alternatives. Although the capital costs are comparable, we believe the environmental and socioeconomic costs of DWB's various expansion systems identified in the Draft EIS will render them unacceptable when they are fully understood by the people of Colorado. After Two Forks, all of DWB's future expansion plans require additional water from the Upper Colorado Basin. These rivers have already been hard hit by transmountain diversions, and it is also the fastest growing and most affluent region on the West Slope. This area needs its remaining water for projected future urban growth as well as for aesthetic and environmental reasons. Even though DWB may have controlling water rights in this important area, future political pressure will probably render these rights useless for Metro Denver growth.

In contrast, the Upper Gunnison/Uncompahgre Valley area is sparsely populated, remote from Front Range population pressure, and has never been tapped for transmountain diversion. Because of the economic trends in agriculture, the actual requirement for water is decreasing in this extensive farming and ranching area. As a result, more water is being lost by Colorado to the down river states. In the long term, it appears water owners in the Gunnison Basin will be looking for ways to realize a higher use and return for some of their water that is surplus to agriculture needs.

Rocky Point Pumped Storage Project Our January 14, 1987 Special Water Report to the people of Colorado also outlines the future benefits Colorado will realize from NECO's Rocky Point Pumped Storage Project. This project will initially supply 1,000 megawatts of clean peaking power for Southwestern states. If this large power operation were owned by a Colorado or Metro Denver Water and Power Authority, the expected profit from power exportation to other states could pay for much of the cost of Union Park.

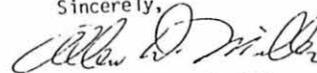
Summary In summary, Union Park is economically and environmentally superior to the alternatives currently considered in the Draft EIS. It is also substantially more in harmony with the long term trends and interests of both slopes and the people of Colorado. In addition, most of the cost of Union Park could be covered by out of state power sales from Rocky Point if both projects are controlled under a single authority.

In view of the rationale contained in this letter, NECO respectfully request the Draft EIS review process be modified to accommodate a fair comparison of the Union Park alternative. We will continue to offer our assistance to analyze the hydrology, which could be confirmed in less than 60 days. Although more time would be required to confirm the detailed geologic, engineering, environmental and socioeconomic estimates, we believe a concentrated review of existing data could be completed in 60 days to give reasonable estimates and confidence in the Union Park alternative.

The short term decision between Union Park and Two Forks is extremely important to the long term development of Colorado water for the next 50 years. If Two Forks is constructed, the large sunk cost will tend to force further water development and diversions from the Upper Colorado River area. If Union Park prevails, the Upper Gunnison will receive its fair share of the state's future water conservation projects.

We are hopeful of a favorable response to this letter, as we believe strongly in a spirit of cooperation to achieve the most cost effective water systems for the people of Colorado. If in a few days an indication of cooperation is not apparent, we will unfortunately be forced to seek whatever remedies are available to insure compliance with the intent of federal legislation.

Sincerely,



Allen D. (Dave) Miller  
President

ADM/bm

4 Attachments





Interest of each of the parties hereto, whether by merger, reorganization, sale, assignment or otherwise.

25. Seller has contemporaneously entered into a substantially similar Agreement with Parker Water and Sanitation District ("Parker"). The high cost of water to Parker in that agreement reflects and includes the capital cost of delivering Parker's water to Antero Reservoir. However, in times of shortage Parker and Gunnison shall have equal priorities for the available water in each category up to the amount to which each is entitled.

26. This Agreement constitutes the entire agreement between the Seller and the Purchaser, and upon execution hereof, any provisions of any agreement which have not been expressly incorporated herein shall be deemed null and void and of no effect. No oral agreement may modify this Agreement. All modifications or amendments shall be in writing signed by both the Seller and the Purchaser.

Signed and executed the day and year first above written.

ATTEST:  
Marianne L. Hicks  
City Clerk

CITY OF GUNNISON  
By Bob Decker  
Bob Decker, Mayor

ATTEST:  
By Phyllis Beumer  
Secretary

NATURAL ENERGY RESOURCES COMPANY  
By Allen D. Miller  
Allen D. Miller, President

STATE OF COLORADO )  
                                  ) SS.  
COUNTY OF GUNNISON

The foregoing instrument was acknowledged before me this 14th day of December, 1989, by Bob Decker as Mayor of the City of Gunnison, a municipal corporation.

My commission expires: 12/15/89

Dorothy B. Kestner  
Notary Public  
516 A 7th St.  
Gunnison CO 81230

STATE OF COLORADO )  
                                  ) SS.  
COUNTY OF EL PASO DOUGLAS

The foregoing instrument was acknowledged before me this 10th day of December, 1989, by Allen D. Miller as President of Natural Energy Resources Company, a Colorado Corporation.

My commission expires: \_\_\_\_\_

John L. Carter  
Notary Public  
1549 Woodrow Dr  
Mon, Co 80132

optioned, and progress and status of construction of the project.

18. Time is of the essence hereof. If any payment due hereunder is not paid, honored or tendered when due, or if any other obligation hereunder is not performed as herein provided, then the non-defaulting party may (1) elect to treat this agreement as terminated, in which case all payments and things of value received hereunder shall be returned to the non-defaulting party and it may recover such damages as may be proper, or (2) elect to treat this Agreement as being in full force and effect and the non-defaulting party shall have the right to an action for specific performance or damages, or both.

19. Each party represents that the persons executing this Agreement on its behalf have been regularly authorized to do so by that entity's governing Board or Council, as the case may be.

20. NECO holds harmless and shall indemnify Purchaser from any liability, attorney fees, cost or expense arising from injury to persons or property in the construction or operation of the project. NECO shall conform to all applicable construction and safety regulations, and shall maintain in force liability insurance or bonding suitable, appropriate and customary for the size, scope and status of the Project, including sufficient insurance to obtain the maximum benefit from CRS 37-87-104 or successor statutes. None of the deeds, instruments or documents contemplated or provided herein are intended to transfer to the Purchaser such a degree of control over the physical structures or project facilities as to make Purchaser or its agents "owners"

In the sense of CRS 37-87-104.5 and successor or similar statutes or cases.

21. Any notices which are required, desirable or related to this Agreement shall be provided in writing to the parties at the address recited above, or at such changed address as to which the parties may notify each other from time to time. Notice to NECO may also be provided in writing to its registered agent. Any notice given by first class mail shall be deemed effective three days after mailing; notices by methods which provide written evidence of delivery such as certified mail with return receipt or personal service shall be deemed effective upon actual delivery.

22. NECO agrees that any arrangements involving transfer to another entity of any of NECO's rights, title or interest in or needed to carry through the Application or Project will be subject to this Agreement and that NECO will obtain a binding agreement from the transferees under which the transferees will be legally bound by the undertakings and agreements of NECO hereunder.

23. NECO agrees that any sale, assignment or transfer in whole or in part of any of its interest in the Application or Project shall be subject to prior written approval by Purchaser, which shall not be unreasonably withheld provided the transferee has the technical and financial capability to pursue the Project.

24. All of the benefits and obligations of this agreement shall accrue to and be binding upon the assigns or successors in

obligations other than regular payments of Purchaser's share of operating and maintenance charges.

10. The purchase prices do not include regular operation and maintenance expenses. Any operation and maintenance expenses must be reasonably related to project facilities necessary to deliver water to each Purchaser, and shall be allocated among the users of such facilities according to their use. Such expenses may include replacement costs of limited life-time items which are associated with the operation of the project facilities used by Purchaser, such as moving parts and bearings of pumps, generators, valves and the like, but not to include reconstruction of the dam or the conveyance facilities, and not to include duplication of costs which have been charged under other accounts, nor to include retirement of debt.

11. Title shall be merchantable in Seller as of closing. If title to any water, water right or storage space is not merchantable, then at the option of the Purchaser this contract shall be considered void and of no effect, or Purchaser may proceed under paragraph 10.

12. This contract shall be filed with the Water court as an appendix or exhibit to the Application, and the contractual rights of Purchaser hereunder are agreed to be a vested interest in all of the benefits of the Application and the Application shall so provide. Nevertheless, NECO shall save Purchaser harmless from all costs, liabilities and burdens of pursuing the Application and related litigation to completion, completing the

project and meeting NECO's other obligations hereunder, which NECO agrees to undertake and carry out promptly, diligently and in good faith.

13. It is agreed that, because the present water statutes do not provide for an entry of appearance at the inception of a water case, Gunnison may file a Statement of Opposition to the Application, not for the purpose of hostility to the Application or the Project but for the purpose of being a party to such proceedings in order to be able to protect Gunnison's water rights.

14. This Agreement imposes on Purchaser no obligation to assist NECO in litigation, administrative proceedings, project financing, or otherwise than as specifically provided herein. Purchaser is not a co-applicant in the Application.

15. A counterpart of this Agreement may be recorded by any party hereto. This Agreement may be executed with one or more counterpart signature pages.

16. Seller shall not encumber or suffer a lien to remain recorded upon any of the rights to receive water, water, water storage space or electric power as to which Purchaser has any interest hereunder or which Purchaser has the right to acquire by exercise of an option hereunder. Any security interest given by Seller to finance the project, or otherwise, shall be subordinate and junior to the rights of Purchaser under this contract.

17. Seller shall regularly keep Purchaser informed of its corporate status, encumbrances upon the Project, other parties to whom water or storage space is sold, contracted or

6. NECO grants to Gunnison in consideration of the various benefits derived from this agreement by NECO, which is acknowledged to be full and satisfactory consideration, the right to purchase as much electricity, in the City's sole determination, as the City's utility system can use within the city limits, in perpetuity, at a cost of one-half of the lowest capacity price charged by any of Gunnison's other suppliers at the time, including purchases that Gunnison makes from the federal government. Gunnison shall at its sole option furnish or pay for at NECO's cost the energy necessary to pump the water into the upper reservoir from which its said power will be generated. Gunnison's power shall be metered and delivered at the low voltage side of the NECO substation, and it shall be the responsibility of Gunnison to arrange necessary wheeling contracts or alternate delivery methods. The right to purchase power under this paragraph is agreed to be effective and to vest immediately upon execution hereof; it is not an option even though it is recognized by the parties that such power cannot as a practical matter be purchased by Gunnison until a future date upon completion of the first stage of the hydroelectric works of the Project and expiration, termination, or renegotiation of the City's presently existing power purchase obligations.

7. All obligations of Purchaser except the earnest money payment hereunder are contingent upon the entry of a final decree pursuant to the Application, after conclusion of appeals in that or related litigation, establishing that the water rights

of the Project are senior to those sought by the City of Aurora in said Case 86CW37 in the District Court for Water Division No. 4, and are also senior to any other water storage right of over 200 acre feet for which application was filed in said Court in calendar year 1986, or which relates back to calendar year 1986 under C.R.S. 37-92-306.1 or otherwise.

8. All obligations of Purchaser hereunder are also contingent upon defeat or subordination by NECO of a sufficient quantity of conditional water rights to establish that the rights to water of Purchaser under paragraphs 1 and 2 hereof are within the safe yield of the Project. However, NECO shall not attempt to defeat or subordinate 17,000 AF of the water storage rights decreed to the City of Gunnison in Case 81CW307 at such reservoir sites decreed in that case which Gunnison shall select.

9. Closing of purchases hereunder shall occur at the municipal offices of the Purchaser within a year after the occurrence of the condition described in paragraph 1, or within a year after the exercise of options described in other paragraphs, as the case may be, or at such earlier date as Purchaser may request. At closing, upon payment or tender as above provided and compliance with the other terms and provisions hereof, Seller shall execute a good and sufficient warranty deed or other and equivalent evidence of ownership to Purchaser, conveying the perpetual right to receive water, or the water storage space, as the case may be, free and clear of all liens, encumbrances, or

water are essential to avoid possible dismissal of the Application under Colorado case law;

NOW, THEREFORE, Seller and Purchaser, in consideration of ONE THOUSAND DOLLARS (\$1,000.00) in hand paid by Purchaser to Seller, and the additional consideration and the mutual obligations recited herein, AGREE AS FOLLOWS:

1. Purchaser agrees to buy from Seller, and Seller agrees to sell to Purchaser the right to receive, in perpetuity, 1,000 acre feet of water per year of the safe yield of the Project, for a total one time purchase price to Gunnison of TWO HUNDRED THOUSAND DOLLARS (\$200,000), payable as follows: \$1,000 hereby receipted for, and the balance due in cash or certified funds upon completion of the Project to such a state of construction that it has the legal and physical capability to actually deliver such amount of water to said purchaser. This commitment to purchase shall expire 21 years from date hereof if not previously closed pursuant to paragraph 9.

2. Seller grants to Purchaser the option to purchase the right to receive in perpetuity up to an additional 2,000 acre feet per year of the safe yield of the Project for a total one time purchase price of THREE HUNDRED DOLLARS (\$300) per acre foot. Such option shall be exercised by written notice delivered to Seller no later than twenty-one (21) years from the date hereof or within six months after completion of the Project to such a state of construction that it has the legal and physical

capability to actually deliver such amount of water to Purchaser, whichever occurs sooner.

3. Seller grants to Purchaser the option to purchase up to 12,000 acre feet of reservoir storage space in the Project, beyond the space to which it is entitled by virtue of purchases of water under Paragraphs 1 and 2, at a one time purchase price of FIFTY DOLLARS (\$50.00) per acre foot of space, for storage of such water as Purchaser may wish to store therein, including by way of example and not by way of limitation carry-over of safe yield water or the conditional water storage rights decreed in Case 81CW307 in said Court. Such option shall be exercised by written notice delivered to Seller no later than twenty-one (21) years from the date hereof.

4. Seller grants to Purchaser the right to expeditiously participate in any expansions of the Project beyond the water rights applied for in the Application attached hereto, on an equal basis with the most favored other participants, for up to five per cent (5%) of the additional water rights, storage space and other facilities of such expansions. These rights of participation are agreed to be effective and to vest immediately upon execution hereof; they are not options.

5. Any water purchased hereunder by Gunnison, or water owned by Gunnison which is stored in the project reservoir, shall be delivered upon request to the Taylor River system at the outlet works of the project.

AGREEMENT

This Agreement, entered into this 14th day of January , 1987, by and between Natural Energy Resources Company, a Colorado corporation, with place of business at 3855 Highway 105 West, Palmer Lake, Colorado 80133 (hereinafter referred to as "NECO" or as "Seller"), and the City of Gunnison, a Colorado municipal corporation, P. O. Box 239, Gunnison, Colorado 81230, (referred to hereinafter as "Gunnison" or as "Purchaser"), WITNESSETH THAT:

A. Whereas, NECO represents that it has full, merchantable and unencumbered title to a conditional decree for water rights issued June 14, 1984, by the District Court for Water Division No. 4, State of Colorado, in Case 82CW340, to store water from the Taylor River, Lottis Creek and Willow Creek for hydroelectric purposes in a reservoir, the south abutment of which is located at a point which bears South 15° 20' 19" West 22,332.95 feet from the NW Corner of Section 21, Township 14 South, Range 82 West of the 6th P.M. in Gunnison County, Colorado; and

B. Whereas, NECO intends to file during calendar year 1986 in the office of the Clerk of the said District Court for Water Division No. 4, an application for water storage rights for municipal and transmountain purposes at substantially the same location, in the form attached hereto as Exhibit A (hereinafter referred to as "the Application" or "the Project"); and

C. Whereas, NECO represents that its agents or employees have engaged in open and notorious activities in support of the

project referred to in the foregoing paragraph B, sufficient to establish an appropriation date earlier than and a priority senior to the application filed by the City of Aurora in Case 86CW37 in said Court; and

D. Whereas, Gunnison requires a supply of municipal water in the form of stored water or water storage rights to supplement its existing water supply, and also requires a supply of hydroelectric power to supplement the electrical power presently purchased by its municipally owned electric utility; and

E. Whereas, NECO has tendered to Purchaser a certain report by Ebasco Services, Incorporated, entitled "Union Park Water Supply Project Reconnaissance Evaluation Study" dated October, 1986, which predicts a safe yield (safe yield means the average amount of consumptive use water which the project would yield over an extended period of time from the water rights referred to at paragraph B) for NECO's water rights referred to in foregoing paragraph B of about 60,000 acre feet per year, and contemplates a reservoir with capacity of at least 600,000 acre feet, together with a pipeline or conduit to Antero Reservoir on the South Platte River, with other facilities and capabilities all described in said report, upon the correctness and accuracy of which Purchaser is relying; and

F. Whereas, NECO has at present no other contracts with municipal or quasi-municipal end users of its water, and such contracts committing such purchasers to purchase some Project

# NATURAL ENERGY RESOURCES COMPANY

January 14, 1987

## SPECIAL WATER REPORT

To: The People of Colorado

Subject: Union Park Water Supply Project vs. Two Forks

Purpose: The purpose of this report is to provide the people of Colorado a clear understanding of Union Park Water Supply Project as compared to the proposed Two Forks Reservoir alternative.

Problem: Although the Union Park Water Supply Project is substantially superior to the Two Forks alternative, certain elements in the Colorado water community and media are trying to ignore and/or suppress the Union Park story until it is too late to stop Two Forks. The ultimate decision between the two concepts will have major economic and environmental impact, because the choice will set the "blueprint" for Colorado water development for the next 50 years. Hence the need and importance of this report.

Background for Two Forks: For decades the Denver Water Department has recognized the Two Forks site as a good reservoir location. The geology for a dam is excellent, and the 1.1 million acre feet capacity is indeed impressive. The primary purpose of Two Forks is to catch the unpredictable flood waters for later municipal use throughout the Denver metro area. There is no doubt additional water is required for the projected growth. Hydrologists have estimated Two Forks will increase the "safe annual yield" of Denver's existing reservoir system by about 32 percent. This is significant, but the economic and environmental costs are very high for the expected benefit. Any future increase in yield from Two Forks is also limited and very expensive, because water supplies from both sides of the divide west of Denver have already been severely hit by population demands of the metro area. In addition to these economic and supply concerns, Two Forks would have serious environmental impacts. A national record \$36 million has already been spent on the Environmental Impact Study (EIS), and the cost to mitigate the environmental damage to endangered species and some of the nation's best river fishing is growing by the day. Two Forks would provide more flat water recreation near Denver, but the steep canyon walls and extreme fluctuation in water levels will make marina and other recreation support activities very difficult and expensive. In short, it is highly questionable whether the high cost and environmental impact of Two Forks is worth the limited benefit -- especially if there is a better alternative.

Background for Union Park: The water conservation and power potential of Union Park was first envisioned when the Natural Energy Resources Company (NECO) was formed in 1982 by several retired Bureau of Reclamation engineers and some water attorneys. Union Park is a very large, high altitude, natural reservoir site located in a remote area just west of the Continental Divide south of the

existing Taylor Park Reservoir in the Upper Gunnison area. Union Park has an excellent dam site, and the dam cost for a 900,000 acre foot reservoir is relatively low compared to Two Forks. NECO is a private development company with the objective of providing large scale water and power systems that will benefit all of Colorado. We have a contract with three very large international engineering firms who are investing their own development funds to insure the eventual construction of the projects. Since 1982, NECO has been evaluating its water and power potential with initial emphasis in the more profitable hydroelectric area. We are now well along with the 1,000 megawatt, \$500 million Rocky Point Pumped Storage Project which will start construction in 1990. This highly efficient underground power operation will provide low cost peaking power for Colorado and other western states when it is completed in 1994. Rocky Point, with its future expansion, will also help Colorado's clean air policy by deferring construction of more coal fired plants in the West.

In late 1985, NECO initiated public deliberations with the Colorado Water Resources and Power Development Authority (CWRPDA) to jointly develop NECO's water and power potential. Although CWRPDA was specifically chartered by the state in 1981 to develop major water and power projects for Colorado, their Board decided in an April 17, 1986 meeting to fund a two year Upper Gunnison Basin Study in lieu of active participation in the Union Park and Rocky Point projects. Since then NECO and its three major engineering firms have continued their detailed studies. With the publication of Ebasco Services' October 1986 Union Park Water Supply Study, we are now in a position to offer our water and power projects to the people of Colorado.

Bureau of Reclamation: The Bureau of Reclamation has historically planned, funded, and constructed most of the major water conservation and hydroelectric projects in the country. The Bureau's approach was to consider the water and power needs and capabilities of a large geographic area. However, in recent years federal participation has been very limited, and the development burden is now on the individual states, cities, and utilities. Some of the major western states have done a reasonable job of accepting the broad planning function. Unfortunately, in Colorado there has been little central planning, direction, or coordination among the major providers of water and power. Each city and utility does its own planning, and water and power needs in the state are handled by many separate organizations. With regard to the various water systems, the ownership of water rights is usually the primary driving force that dictates the systems that are ultimately built. Water rights are usually claimed or purchased in secret without much initial thought to alternatives or the overall economic and environmental impact. When the resulting systems are made public, it is very difficult to objectively evaluate how they impact the overall public interest. It is even harder for organizations to change direction, even when better systems become obvious. As a result, Colorado has more water attorneys and engineers per capita than any other state, and our economic progress is being burdened by fragmentation, confusion, and chaos, in the critical water industry. Two Forks is a good example of this inefficient process.

NECO's Approach: In contrast to the Two Forks example, NECO has taken a state wide view of power and water needs, coupled with the natural assets of our area -- similar to the historical approach used by the Bureau of Reclamation. Our engineers knew from previous Bureau experience the Upper Gunnison was one of the wettest areas of the state, with considerable surplus water in wet years

Annual cost, including pumping cost is \$55.6 million per year. An additional \$13 million per year will be incurred in owning and operating costs.

9. Benefits include water supply, power generation, flow regulation, flood control fishery and recreational benefits. The monetary benefits have been assumed to come from the supply of water for municipal use to Colorado front range entities and from the sale of power for peaking use from the pumped storage operation. Using a water value of \$5,000 per acre-foot of annual yield, based upon the lowest capital cost of an alternate supply, the benefits from water supply, long-term storage, and power generation produce total fixed revenues of \$63 million per year. Owning and operating costs of \$13 million per year, which escalate with time, are assumed paid by the water user. Increasing the water value to \$7,500 per acre-foot of annual yield increases fixed revenues to \$84 million.

10. The comparison of costs and revenues indicates that the project is economically and financially feasible with the basic value of water used herein, with a surplus of revenues over costs of \$7 million per year. Increasing the basic water value to \$7,500 per acre-foot of annual yield increases the surplus to \$29 million per year. All figures are in 1986 values.

11. Alternate and expansion arrangements examined include raising Taylor Park Dam instead of constructing Union Park Dam and pumping water from Almont or Blue Mesa Reservoirs. The Taylor Park enlargement is essentially equal in cost with a number of advantages and disadvantages as compared to Union Park. Further study is warranted. Later stage pumping from Blue Mesa to Union Park could increase the water supply to the East Slope by up to an estimated additional 150,000 acre-feet per year for approximately \$5,600 per acre-foot annual yield. A later stage of development could include this pumping plus raising Union Park Dam to increase storage volume for dry year supply for Colorado and downstream users in the Colorado River Basin.

12. The Union Park Water Storage Project compares favorably with the City of Aurora's proposed Collegiate Range Project. Considering the major benefits and using the costs figures published by Aurora, the basic water cost per acre-foot of annual yield for Union Park and Collegiate Range are \$4,200 and \$6,500, respectively. Additionally, the Union Park Project is more flexible in its operation, is not dependent on additional East Slope storage, has significant expansion capability and may have less environmental and political impact because of its remote, off-river location.

### Logo Contest Winner

Ms. Caludia Thomas of Gunnison has won a \$100 cash prize for her entry in the logo contest sponsored by Gunnison Council for the Arts. The Council sought a design which was representative of both visual and performing arts and feels Ms. Thomas's design best fits its myriad of activities. The winner is an art graduate of WSC, married and the mother of two children.

### Legal Notice

PLEASE TAKE NOTICE, that the City of Gunnison Planning and Zoning Commission has completed a Draft Revised City of Gunnison Master Plan. A PUBLIC HEARING will be held at the hour of 7:30 p.m. on the 10th day of December, 1986 in the City Council Chambers, Gunnison Municipal Building, 201 West Virginia Avenue, Gunnison Colorado to receive written and oral testimony and comment on the Proposed 1986 City of Gunnison Master Plan.

Free copies of the Proposed Plan are available to the Public in the Planning Office located in the Municipal Building. Written comments should be addressed to the City Planning and Zoning Commission, 201 W. Virginia, Box 239, Gunnison, Colorado 81230 by December 12, 1986.

For additional information please call the City Planning Office at 641-2447.

Published in the Community Herald issues of Nov. 12, 1986, Nov. 19, 1986, Nov. 26, 1986, Dec. 3, 1986, Dec. 10, 1986.

12:00	12:30
Action	
Load Racing	SpoCtr.
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ouble With Women"	
ie: "A Star Is Born"	
Week	
was Conference	
Living Dead"	
Fields"	
iding In The Dark"	
eo Disc Jockey	
x Shoe	Feminist
o For Your Dreams	
Prince And Showgirl"	
	The Movie's
Royal Mounted"	
ediatrics	Medicine
	Child's Food

12:00	12:30
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y	
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	Headroom
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Alfred Hitchcock Hour	
Movie: "Warlock Moon"	
Mountain	Videocount.
Roman Holiday"	

12:00	12:30
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	"Kang Fu"

### Union Park continued

effect upon the USBR's operation of the Aspinall Unit's reservoirs and power plants and 3) the Union Park Reservoir with a total volume of 600,000 acre-feet could store water from wet periods and carry it over for delivery in dry periods, providing "peaking" water to firm up the supply of other water supply projects without additional storage. The average yield could be 60,000 acre-feet per year. This type of operation can replace a comparable water storage volume in a Front Range location. The storage would also help to stabilize flows on both slopes and improve the efficiency of existing reservoirs in the Platte and Arkansas drainages.

4. The geologic conditions are generally favorable for the construction of the project. The region is one of relatively low seismic activity. Foundation strength and shoreline stability are considered to be of a nature that special considerations and cost will not be required. The fractured nature of the rock at the dam site will require extensive grouting to create the desired impermeability of the foundations and abutments. Reservoir water tightness needs to be investigated. Tunneling conditions should be reasonably good in what is expected to be good rock, and materials for a rockfill or roller-compacted concrete (RCC) dam are available in adequate quantities. Impermeable material for the dam core may be in short supply within a reasonable distance so that an asphalt or concrete face may be required for a rock-fill dam.

5. The project layout consists of rock-fill or RCC dam on Lottis Creek with crest at elevation 9989 feet, about 370 feet above stream level, impounding a total of 600,000 acre-feet, an 11 foot diameter tunnel connecting the Union Park Reservoir to Taylor Park Reservoir, an underground 60 MW pumping plant with reversible units which can be used for pumped storage operation, a spillway, an outlet works to Lottis Creek and an intake/outlet at both Taylor Park and Union Park Reservoirs. For supply to the Denver metropolitan area, the tunnel/pipeline conduit to Antero Reservoir on the South Platte River will be about 42 miles long. Colorado Springs and El Paso County could also be supplied by a pipeline from the South Platte River or by an alternate route which would include a 25 mile conduit to the Arkansas River and a 45 mile pipeline from Pueblo Reservoir. The 10,000 foot altitude of Union Park Reservoir facilitates a simple gravity flow system to the South Platte or Arkansas River as well as reducing evaporation losses and providing high quality water.

6. The major direct environmental impacts from project development will be from reservoir inundation. This will result in the elimination and loss of use of wetlands, meadow and grazing land in Union Park, the loss of a potential elk calving area and interference with a big game migration corridor leading from the Taylor River. Minor direct impacts will be from the daily and annual fluctuations in water level and inundated shoreline of Union Park and Taylor Park Reservoirs. These minor impacts will be to fish species that spawn in shallow water and to shoreline aesthetics; there may be associated turbidity and suspended sediment impacts as well. Indirect impacts will be from increased human activity in the area and the resulting infringement on wildlife use zones. Fisheries, recreation and regional economic activity will be improved in the Gunnison, South Platte and/or Arkansas River basins.

7. The construction schedule anticipates the start of construction in June 1990, with completion of construction by the fall of 1994. Water storage would begin early in 1994 with completion of the pumping unit and conveyance. The level of the reservoir should be high enough by mid-1995 to allow pumped storage operation and diversion to begin.

8. The estimated cost for the project, based upon the arrangement described and including engineering, contingencies, land cost, owner's cost and environmental miti-

SATURDAY	
	7:00
20 (1)	Tales
21	College Footb
22	Facts
23	"Proud Rebel"
24	Woods/Works
25 (1)	Lucy
26 (1)	Movie: "The Ins
27 (1)	Golden Girls /
28	Journalists' Fou
29	"The Goonies"
30	"A Chorus Line"
31	Ozzie
32	Movie: "Whose
33	Video Disc Joc
34	Movie
35	Airwolf
36	Movie: "Michi
37	Movie: "Roser
38	Tommy Hunter
39	Regis Philbin's
40	College Footb

SUNDAY	
	7:00
21 (1)	Mass
22	SpeedWeek
23	Jimmy Spring
24	Kenneth Cop
25	
26	R. Scheller
27 (1)	Oral Roberts
28	Belle
29 (1)	Jerry Falwe
30 (1)	Viewer Call
31	Movie: "The
32	"Born Free"
33	Donald
34	Movie Cost
35	Video Disc
36	Movie
37	Night Flight
38	Oral Robert
39	Mass
40	Sportsman
41	Investment
42	Jerry Cost

SUNDAY	
	1:00
21 (1)	Movie Car
22	Auto Racin
23	Broncos
24	Movie Cost
25	Wash. Wee
26	NFL Footbu
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28	Movie
29 (1)	NFL Footb
30	Hearings Co
31	Movie: "Tra
32	Movie: "Th
33	Factory
34	Movie: "Kik
35	Video Disc
36	Rath Cost
37	Wrestling
38	Movie: "T
39	Movie: "D
40	American
41	Surgery



## Union Park Water Study Project Results

*Editor's note: As reported in previous editions of The Community Herald, the Natural Energy Resources Company (NECO) commissioned a study on its proposed Union Park Water Supply Project. The study was conducted by Ebasco Services Incorporated, one of the top ten worldwide engineering firms.*

*Following is a report of the "Conclusion and Summary" of the Ebasco study. Because of space limitations, The Community Herald is not in a position to give a more detailed analysis of the report.*

**Conclusion**

This study shows that the Union Park Water Supply Project can regulate stream flows to allow beneficial uses within Colorado of water now flowing out of the state in excess of required amounts. In addition to recreational, fishery and flood control benefits for West Slope areas, the project can provide a dependable, high volume, water supply for the major population areas of Colorado without depending on additional water storage on the East Slope. The capital cost for an initial average supply of 60,000 acre-feet per year compares favorably with the other water supply projects currently being considered. In addition, Union Park has a future expansion capability of perhaps 150,000 acre-feet per year from Blue Mesa Reservoir with an incremental per acre foot cost that is in the same range as the initial development. Control and management of river flows on both slopes would improve year to year fishing and recreation while reducing flood damage. The environmental loss of a remote high altitude meadow is also offset somewhat by the addition of a large reservoir for recreation, and the environmental advantages of maintaining good river flows even in dry years.

**Summary**

The following points summarize in more detail the results of the study presented herein:

1. The amount of water which is physically available from the Taylor River at the Taylor Park Dam and Lottis and South Lottis Creeks averages 162,000 acre-feet

per year based on Taylor River records since 1939 and estimates for Lottis and South Lottis Creeks. The high flow into Taylor Park Reservoir has been nearly 245,000 acre-feet in 1957. The excess of evaporation from Union Park Reservoir over plant evapotranspiration from the inundated area is estimated to be 3,000 acre-feet per year.

2. An estimated average of 60,000 acre-feet per year can be collected for storage and later diversion of release while meeting minimum stream flows and most senior water rights. The major water rights of others which affect storage in Union Park Reservoir for later release or transmountain diversion are the stipulated instream flows totalling 87,000 acre-feet per year from Taylor Park Reservoir and 5,000 acre-feet from Union Park Reservoir to supplement South Lottis Creek's natural flows, the rights associated with filling the United States Bureau of Reclamation's (USBR's) Aspinall Unit Reservoirs and the generation of power at those power plants and the water rights of the Uncompahgre Valley Water Users Association supported by USBR's Taylor Park Reservoir. Since there are river management benefits associated with Union Park, it has been assumed that an agreement can be arranged with the USBR and the UVWUA to use the available water cooperatively to supply all needs. The City of Aurora has applied for a water right to divert the same water; transfer of this right to Union Park and cooperative development is a possibility. The water right currently held by NECO for Union Park Reservoir is for filling the reservoir to a capacity of 325,000 acre-feet and operating as a pumped storage project. In order to serve as a water supply project, rights for refilling and diversion will have to be obtained.

3. Operation studies have been demonstrated, based on historical stream flows, that 1) Union Park storage can occur in the context of the USBR-UVWUA exchange agreement without interfering with UVWUA's entitled water diversions, 2) The Union Park diversions would have a small

*Continued on Page 8*



Charles "Butch" Appel and Michael Herschede had marched more than 2000 miles on behalf of prisoners of war remaining in Vietnam. Local VFW members housed them for the night

problem cause that a crime has been committed, according to the local county court office.

If the judge believes there is enough evidence, he will bind the case over for trial. If not, the judge will dismiss the case,

the informed source concluded.

"This is all we were asking," a lady said in the audience.

"That Bruning be treated decently and fairly. This is reasonable, sensitive, and sane!"

## Wilson Recount Requested

The campaign committee of John Wilson, local rancher seeking the seat of State Senator from the 5th District, has written a letter to the Colorado Secretary of State requesting a recount, according to Kathy Rais, Wilson's campaign manager.

"It was just too close not to have a recount," Rais explained. "Unofficial figures show that 30,801 voted.

"John Wilson received 15,314 of the votes, and Pastore 15,488," she continued.

"When the second place candidate is within one percent of the first place finisher, a recount is automatic," the campaign manager explained. "One percent of Pastore's vote is 155 difference. Johnny Wilson finished with a 174 difference, so the recount is not automatic.

Official figures are not available from the Secretary of State for 20 days, during which time the official records are gathered together by the county clerks, according to Rais. For this reason, the Secretary of State has also not declared winners yet, she noted.

### The System

"We have requested it-the campaign committee has requested the recount," recalled Rais.

"My understanding of the process, at this time, is that the clerks count the votes over again, in the presence of the voting board members, one Democrat, one Republican. That is something we will be finding more about," she stated.

The unofficial results show that Wilson carried Gunnison, Delta, Hinsdale, Chaffee and Rio Grande Counties, while Pastore carried Alamosa, Costilla, Conejos, Saguache and Mineral Counties. Some of the counties do not have automated voting equipment, and the human factor may possibly introduce the possibility for increased error, according to the campaign manager.

"John Wilson ran a strong race," she said in summary. "Win, lose or draw, we're all proud of him!"

*Reasonable, Sensible, and Sane:*

## Democracy at Work

The arraignment of James Allen Bruning attracted a crowd of over eighty interested spectators to the Gunnison County Court Room last Thursday. Bruning had been arrested October 28 and charged with two counts of first degree sexual assault, one count of second degree burglary, and one count of second degree kidnapping.

The arrest of Bruning, a respected, well-known member of the Gunnison community, and the manner in which charges were filed, had triggered wide spread criticism of the police and judicial administration connected with the case, as evidenced by letters to the editor, and comments made by concerned citizens on the street.

Care was taken by County Court Judge A.B. Gerry Reese to inform the crowd,

before whom he was being judged, that Bruning had been advised of his rights within the legal deadline.

After the posting of a \$50,000 property bond, supplied by three of his friends, Bruning was released from jail late Thursday afternoon. On hearing the announcement that bond had been met and that Bruning's release was evident, a wave of applause rippled through the crowd as they sprung up with relief.

### Preliminary Hearing

Bruning's preliminary hearing has been set for December 11, 1986, at 1:30 pm at the Gunnison County Court House.

At the hearing, the District Attorney's office must present evidence to show

MEMORANDUM

Natural Energy Resources Company  
Rocky Point Pumped Storage Project  
Union Park Hydroelectric Project

3

B&V Project 11263  
B&V File 15.0800  
November 1, 1985

Proposal #1

The premise of this proposal would be for the CWRPDA to use the Union Park project as an investment. This would allow a portion of the principal amount of 30 million to be used. The terms of the investment (15% interest was mentioned) would be extremely favorable to CWRPDA. This investment would be repaid (principal and interest) at the time permanent construction financing was obtained.

The collateral for this investment would be the Water Rights and the license itself. The licensing effort would have to be expanded to include Union Park. Thereby, affecting the costs currently projected by NECO.

To further the acceptance of this option, limited approval of project development could be given to CWRPDA to insure development in public interest.

Under this scenario NECO would retain all equity in the project and all accrued potential profit.

Proposal #2

The premise of the second proposal would be a joint venture between NECO and CWRPDA. Funding for the studies and investigations necessary for licensing would be by CWRPDA. Funding for the NECO operation would be by others. (Presumably Swiss Banks.) The ownership (equity) of the project would then be negotiated to some percentage presumably on the order of

60% NECO  
40% CWRPDA

The terms of the agreement with the Swiss Bank would have to be accepted by CWRPDA.

Upon receipt of the License, Power Purchase Agreements would be completed and the plan for permanent construction financing could be implemented. This could be bonding, as previously discussed, or presumably the project equity could be defined to a point that permanent investors would be available.

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page 3

MEMORANDUM

Natural Energy Resources Company  
Rocky Point Pumped Storage Project  
Union Park Hydroelectric Project

4

B&V Project 11263  
B&V File 15.0800  
November 1, 1985

Proposal #3

The premise of this proposal would be that Project Development and Control would be assumed by CWRPDA. This would require a total or partial "buyout" of NECO. This negotiation would have many possibilities, the most obvious being:

1. Establishing a value of NECO's equity plus a reasonable return on investment. Encumbrances, such as the B&V deferred fees, would be calculated in. Under this plan NECO would no longer be involved in the project.
2. Negotiate a value of NECO's equity that would retain some residual profit incentives to the stockholders. Under this plan NECO would relinquish control of the project but would receive some future potential profits in return for a reduced equity.

In either scenario, B&V's position would have to be clearly defined.

If CWRPDA has bonding capability they could essentially own the project and subcontract the operations to a utility.

In my opinion this option could have legal entanglements since some "designated" money from CWRPDA would go to investors profit.

NECO is going to assume the responsibility to prepare the proposals. I agreed to assist them in any way they may choose.

ta

cc: W. E. Thompson  
D. F. Guyot  
T. W. Haag  
D. R. Froehlich

Appendix B  
page 4

## MEMORANDUM

Natural Energy Resources Company  
Rocky Point Pumped Storage Project  
Union Park Hydroelectric Project

B&V Project 11263  
B&V File 15.0800  
November 1, 1985

To: P. J. Adam

From: J. R. Stack :/jrs

A meeting was held on October 30, 1985 with Jim Phillips in reference to participation in the Union Park Project by Colorado Water Resource and Power Development Authority (CWRPDA).

Attending: Jim Phillips - CWRPDA  
Ab Watts - NECO  
Ron Thomas - NECO  
Dave Miller - Major NECO stockholder  
John Stack - Black & Veatch  
Bill Thompson - Black & Veatch

Mr. Phillips showed familiarity with the project and expressed his general approval of the conceptual plan. He stated this project has reached a stage of development beyond what CWRPDA is accustomed to. He stated that Colorado Springs is interested in the project but cannot participate at this time. As a board member of CWRPDA he favors their involvement and will support the project.

Significant information obtained at this meeting:

- o CWRPDA was originally funded with 30 million dollars principal. Through investments this figure grew to 42 million at one time. Various projects have been funded and he was not sure of the balance. The original 30 million dollars is not available for funding projects, only its interest. However, he did not indicate that up to five million dollars funding would be a problem.
- o There is pending legislation in Colorado that would establish three or more water storage projects in Colorado. Specifically this legislation would aim at capturing water that would otherwise be lost to the state ("New Water"). There is an organization of 40 or so of the most prominent Colorado citizens that are involved in sponsoring this effort. This organization is known as the "Colorado Alliance." Specifically they plan on developing 250,000 AF storage on the west slope with 50,000 AF to be diverted to the east slope. These legislative efforts will be financed through a sales (?) tax. Union Park seems to fit perfectly.

Appendix B  
page 1

## MEMORANDUM

Natural Energy Resources Company 2  
Rocky Point Pumped Storage Project  
Union Park Hydroelectric Project

B&V Project 11263  
B&V File 15.0800  
November 1, 1985

o Mr. Phillips stated:

- Importance of an environmentally acceptable transmission plan. (A copy of the WAPA Study was handed to him by NECO.)
- Power purchase agreements are important. Probably cannot be negotiated now, but, the License Approval (3 years) would probably fit about right. (He seemed to believe that state support of the project at this time is probably required.)
- There will probably be one major power project and several water projects sponsored by CWRPDA.

o The predominant question at this time is how NECO and CWRPDA can combine efforts to further the development of Union Park.

o To this end, it was agreed that NECO should present two or more proposals of how this could be accomplished. Various scenarios of how this could be accomplished is included at the end of this memorandum.

o There is a Board meeting on December 6, 1985 and NECO is going to try for at least 30 minutes on the agenda. (CWRPDA)

o Mr. Phillips questioned the staying power (permanence) of the CWRPDA.

o Mr. Phillips also questions the ability of CWRPDA to assume major equity position in the project. This seemed to conflict with a previous statement by Mr. Uli Kappus to Bill Thompson. The ability of the CWRPDA to bond projects is not clear, however, the program outlined previously as the "Colorado Alliance" will unquestionably have tax free bonding capability due to the underwriting by tax.

The following comments are my own thoughts. Since the feasibility of Union Park was difficult to ascertain due to the question on price of water, it seems to me that the "Colorado Alliance" could be a big factor in Union Park feasibility. Since NECO has only a "Water Right" for storage and the Colorado Alliance will have a consumptive water right for the "New Water," a price for municipal and industrial water will be established rather than the rather low agricultural water value we were trying to deal with. This seems to lead to a project structure that could be financed with the power phase (Rocky Point) underwritten by the power sales agreements and the water phase (Union Park) underwritten by the Colorado Alliance. This of course is speculation on my part, however, if CWRPDA has tax free bonding capability it could be a structure the project could be based on.

Lastly, the board presentation must be done in a professional manner. It was agreed that quality writing and editing will be required for the submittal of the proposals. I volunteered to assist in slides, etc. I suggested this strategy be reviewed with you.

Appendix B  
page 2

Union Park as a cash generator to construct recreation reservoirs for the West Slope. Dick indicated that 50,000 acre feet would be consistent with the Alliance's objective, and a politically acceptable amount for export from the Upper Gunnison. Although the Authority declined NECO's proposal, it did initiate the Phase I Upper Gunnison Water Study to evaluate alternative water and power export projects to generate cash for enhancing the Upper Gunnison's water based economy. Phase I was conducted at the request of the Upper Gunnison River Water Conservancy District, the Uncompahgre Valley Water Users Association, and the Colorado River Water Conservancy District. Unfortunately, most of the study's funds were politically wasted on trying to justify a Gunnison controlled diversion direct from the existing Taylor Park Reservoir. It was only after the Alliance's actions, Bratton's encouragement, and the Gunnison District's initiation of Phase I that NECO decided the time was right to apply in water court for Union Park's diversion rights.

In late 1986 the City of Gunnison council members voted to purchase some Union Park water rights, storage, and power from NECO. This purchase had a total 1986 value of approximately \$50 million, and the cost to the city was only \$2,000 down and \$198,000 upon construction. In 1988 NECO sold Union Park and its contract with the city to Arapahoe County for \$2.2 million. This was an extraordinary coup for the city. Unfortunately, in early 1990 a new City Council caved in to disruptive political tactics from POWER and Representative Scott McGinnis. Arapahoe County has not released the city from its contract obligations.

If POWER wants to hang someone for Union Park, it should look to the players involved in these historical facts. It should also blame geography for making the Upper Gunnison the wettest, untapped water area in Colorado.

POWER's uncompromising stance "not one drop over the hill" is a far cry from inter region cooperation based on reasoned analysis of Colorado's water supply and demand situation. Instead of inflammatory slogans and unfair attacks on the loyalty and professional integrity of public officials and advisors, POWER should try to specifically refute Union Park's extraordinary technical claims that the project will enhance the Gunnison's environment, and water based economy. In the meantime, Gunnison's elected officials should have the courage to resist unreasonable political tactics from a few uninformed activists.

Dave Miller (NECO)  
Palmer Lake, Colorado  
(719)481-2003

POWER  
7/30

July 30, 1990

Note chronology  
re NECO/Union  
& CWR PDM

SHE IS ALL WET

The front page of the July 25th Gunnison Country Times reported that cooperation between regions is the key to Colorado's water future. This theme was expressed by most speakers at the 15th annual Colorado Water Workshop. However, on page 2 the ghost writer for POWER's weekly Taylor Talks column continues to attack past and present City of Gunnison officials for cooperating with the Union Park Water Conservation Project. Union Park's large, high altitude storage concept is specifically designed to share a small percent of the Gunnison's surplus flood waters with dryer populated areas, while providing needed drought protection for the Gunnison's water based economy.

POWER's founder may be well meaning, but her uncompromising slogans and tactics are misleading the public, intimidating local political leaders, and damaging professional careers. The democratic process would be better served if POWER's leadership would stop questioning the loyalty of anyone who is not bound to the selfish slogan of "not one drop over the hill". Instead, POWER's leaders should consider some of the historical and technical perspectives of those who have more water management experience.

For example, during the 1950's the Bureau of Reclamation conducted detailed studies that identified up to 450,000 acre feet of surplus Gunnison flood waters that could be diverted out of basin without impacting senior Gunnison water rights. In 1974 a study by Morcan Engineering, Inc. of Delta recommended that the City of Gunnison construct a water storage capability. Water Resource Consultants, Inc. of Denver and Coe, Van Loo, & Jashke Engineering, Inc. of Gunnison conducted a similar study in 1981, and as a result, the city now has reservoir decrees on the Taylor and East Rivers, as well as Antelope Creek.

In 1982 the founders of Natural Energy Resources Company (NECO), decided to defer the transmountain phase of its Union Park Project until the demand and politics were clearer. The climate improved somewhat in 1984 when prominent West and East Slope leaders formed the Colorado Alliance to cooperate on water storage projects to save the state's Colorado River compact entitlements before these waters were permanently forfeited to California and Arizona. A special state water development sales tax was being proposed, and the Alliance's initial goal was to construct a 250,000 acre feet reservoir on the West Slope that could be used for recreation, and diversion of 50,000 acre feet to the East Slope.

In late 1985 the Gunnison's representative on the Colorado Water and Power Authority (Dick Bratton) encouraged NECO to sell its Union Park Project to the Authority. The intent was to use

March 30, 1990

existing Taylor Park Reservoir in the Upper Gunnison area. Union Park has an excellent dam site, and the dam cost for a 900,000 acre foot reservoir is relatively low compared to Two Forks. NECO is a private development company with the objective of providing large scale water and power systems that will benefit all of Colorado. We have a contract with three very large international engineering firms who are investing their own development funds to insure the eventual construction of the projects. Since 1982, NECO has been evaluating its water and power potential with initial emphasis in the more profitable hydroelectric area. We are now well along with the 1,000 megawatt, \$500 million Rocky Point Pumped Storage Project which will start construction in 1990. This highly efficient underground power operation will provide low cost peaking power for Colorado and other western states when it is completed in 1994. Rocky Point, with its future expansion, will also help Colorado's clean air policy by deferring construction of more coal fired plants in the West.

In late 1985, NECO initiated public deliberations with the Colorado Water Resources and Power Development Authority (CWRPDA) to jointly develop NECO's water and power potential. Although CWRPDA was specifically chartered by the state in 1981 to develop major water and power projects for Colorado, their Board decided in an April 17, 1986 meeting to fund a two year Upper Gunnison Basin Study in lieu of active participation in the Union Park and Rocky Point projects. Since then NECO and its three major engineering firms have continued their detailed studies. With the publication of Ebasco Services' October 1986 Union Park Water Supply Study, we are now in a position to offer our water and power projects to the people of Colorado.

Bureau of Reclamation: The Bureau of Reclamation has historically planned, funded, and constructed most of the major water conservation and hydroelectric projects in the country. The Bureau's approach was to consider the water and power needs and capabilities of a large geographic area. However, in recent years federal participation has been very limited, and the development burden is now on the individual states, cities, and utilities. Some of the major western states have done a reasonable job of accepting the broad planning function. Unfortunately, in Colorado there has been little central planning, direction, or coordination among the major providers of water and power. Each city and utility does its own planning, and water and power needs in the state are handled by many separate organizations. With regard to the various water systems, the ownership of water rights is usually the primary driving force that dictates the systems that are ultimately built. Water rights are usually claimed or purchased in secret without much initial thought to alternatives or the overall economic and environmental impact. When the resulting systems are made public, it is very difficult to objectively evaluate how they impact the overall public interest. It is even harder for organizations to change direction, even when better systems become obvious. As a result, Colorado has more water attorneys and engineers per capita than any other state, and our economic progress is being burdened by fragmentation, confusion, and chaos, in the critical water industry. Two Forks is a good example of this inefficient process.

NECO's Approach: In contrast to the Two Forks example, NECO has taken a state wide view of power and water needs, coupled with the natural assets of our area -- similar to the historical approach used by the Bureau of Reclamation. Our engineers knew from previous Bureau experience the Upper Gunnison was one of the wettest areas of the state, with considerable surplus water in wet years

LETTER TO THE EDITOR  
Gunnison Country Times  
and other Colorado media

The Upper Gunnison River Water Conservancy District has not always "been against transmountain diversion", as reported in the Gunnison Times, March 28th issue.

In late 1985 and early 86, our company met several times with the River District's attorney to discuss the sale of Union Park's storage rights to either the District or the Colorado Water Resources and Power Development Authority. Both of these public agencies were represented by the same attorney, and both entities were considering the export of about 50,000 acre feet from Union Park to fund construction of West Slope recreation reservoirs.

Instead of acquiring Union Park, the River District and Authority decided to initiate an Upper Gunnison Water Study to primarily investigate diversion alternatives for revenue. The Uncompaghre Valley Water Users and the Colorado River Water Conservancy District joined as study co-sponsors with the Gunnison District. All of these sponsors were hoping the study would show that a diversion from Taylor Park Reservoir would be superior to Arapahoe County's Union Park Project and Aurora's Collegiate Range proposal.

After considerable delay, the Colorado Water Authority recently released its Final Study Report, in spite of numerous technical objections from outside contributing engineers. These engineers were aware that local and state funds were largely wasted, because the study was politically manipulated to be misleading, non-conclusive, and requiring further study. The protesting engineers also knew that Union Park would be the clear environmental and economic choice if the analysis were factual instead of political. It is unconscionable that the public's greater good is taking a back seat to a tainted power struggle over who controls the Gunnison's surplus waters. The pending federal/state Phase II Gunnison Water Study will soon correct the obvious bias of the Authority's first study.

The City of Gunnison's late 1986 decision to participate in Union Park was based on the studied advice of staff and counsel, who have served the city well for many years. It is a shame the city lost the services of principled experts because of recent unbridled political pressure from a few uninformed activists. It will be an even greater tragedy for Gunnison citizens if the city drops its Union Park option, worth at least \$50 million in future water, storage, and power values.

When Upper Gunnison citizens fully understand the facts, they will welcome Union Park as Colorado's first diversion project that has major environmental and economic benefits for the basin of origin.

Dave Miller, President  
Natural Energy Resources Co., (719)481-2003

# NATURAL ENERGY RESOURCES COMPANY

January 14, 1987

## SPECIAL WATER REPORT

To: The People of Colorado

Subject: Union Park Water Supply Project vs. Two Forks

Purpose: The purpose of this report is to provide the people of Colorado a clear understanding of Union Park Water Supply Project as compared to the proposed Two Forks Reservoir alternative.

Problem: Although the Union Park Water Supply Project is substantially superior to the Two Forks alternative, certain elements in the Colorado water community and media are trying to ignore and/or suppress the Union Park story until it is too late to stop Two Forks. The ultimate decision between the two concepts will have major economic and environmental impact, because the choice will set the "blueprint" for Colorado water development for the next 50 years. Hence the need and importance of this report.

Background for Two Forks: For decades the Denver Water Department has recognized the Two Forks site as a good reservoir location. The geology for a dam is excellent, and the 1.1 million acre feet capacity is indeed impressive. The primary purpose of Two Forks is to catch the unpredictable flood waters for later municipal use throughout the Denver metro area. There is no doubt additional water is required for the projected growth. Hydrologists have estimated Two Forks will increase the "safe annual yield" of Denver's existing reservoir system by about 32 percent. This is significant, but the economic and environmental costs are very high for the expected benefit. Any future increase in yield from Two Forks is also limited and very expensive, because water supplies from both sides of the divide west of Denver have already been severely hit by population demands of the metro area. In addition to these economic and supply concerns, Two Forks would have serious environmental impacts. A national record \$36 million has already been spent on the Environmental Impact Study (EIS), and the cost to mitigate the environmental damage to endangered species and some of the nation's best river fishing is growing by the day. Two Forks would provide more flat water recreation near Denver, but the steep canyon walls and extreme fluctuation in water levels will make marina and other recreation support activities very difficult and expensive. In short, it is highly questionable whether the high cost and environmental impact of Two Forks is worth the limited benefit -- especially if there is a better alternative.

Background for Union Park: The water conservation and power potential of Union Park was first envisioned when the Natural Energy Resources Company (NECO) was formed in 1982 by several retired Bureau of Reclamation engineers and some water attorneys. Union Park is a very large, high altitude, natural reservoir site located in a remote area just west of the Continental Divide south of the

MOTION CARRIED

Mr. Sharp requested that the wording of the letter be done by motion.

MOTION

THAT THE BOARD APPROVE THE LETTER AS CIRCULATED WITH THE DELETION OF THE FIRST SENTENCE OF THE THIRD PARAGRAPH.

Motion: L. Richard Bratton  
Second: John Porter

DISCUSSION

After considerable discussion the motion was withdrawn by Mr. Bratton with approval by Mr. Porter.

The letter will be sent to NECO with the changes as agreed to by the Board.

PARKER PROJECT

Mr. Skip Kerr, Project Manager, introduced Mr. Frank Jaeger and Dr. John Halepaska who made the presentation to the Board on the Parker Project. (Printed material on the Parker Project on file in the Authority office.) Numerous questions were asked by the Board following the presentation.

Mr. Sharp expressed concerns that a policy should be developed with regard to the financial commitment on a study of this size. Mr. Kappus responded that the staff will develop some policy criteria. He further stated that it has been the Board's position to ask a prospective sponsor what moneys they are willing to put up for the study. Parker has indicated they would be willing to put up \$10,000. Mr. Kappus concluded by saying that as far as asking for specific numbers from a policy perspective, that has not been done. Mr. Sharp suggested that the Board defer acting on the application until the Board decides if they want to proceed on a negotiated basis per project or set other policy guidelines at this level.

After additional discussion concerning cash flow and future projects the following motion was presented to the board for approval

MOTION

THAT THE BOARD APPROVE THE PARKER PROPOSAL ACCORDING TO THE SCHEDULE AS PRESENTED IMPLIED WITHIN THAT SOME PARTICIPATION BY THE SPONSOR BE NEGOTIATED AS A PART OF THE CONTRACT.

Motion: W. D. Farr  
Second: L. Richard Bratton

MOTION

THAT THE PRECEDING MOTION BE TABLED UNTIL THE BOARD ADOPTS A WRITTEN POLICY REGARDING FINANCIAL PARTICIPATION IN FEASIBILITY STUDIES THAT ARE AT THE PARKER PROJECT LEVEL.

Motion: Thomas R. Sharp

MOTION DIED FOR LACK OF A SECOND

CALL FOR THE QUESTION

MOTION CARRIED

PERSONNEL MATTERS

Chairman Williams presented Resolution No. 86-7 employing Uli Kappus as Executive Director of the Authority.

MOTION

THAT THE BOARD APPROVE THE ADOPTION OF RESOLUTION NO. 86-7 "TO AUTHORIZE THE EMPLOYMENT OF AN EXECUTIVE DIRECTOR".

Motion: L. Richard Bratton  
Second: Charlie Jordan

MOTION CARRIED

Chairman Williams then asked for a motion to cancel the previous contract with U. Kappus, Inc.

MOTION

TO AUTHORIZE THE ISSUANCE OF A MEMORANDUM LETTER CANCELLING THE PRIOR CONTRACT AND THAT THE CHAIRMAN BE AUTHORIZED TO SIGN THE LETTER ON BEHALF OF THE AUTHORITY.

Motion: Carl Trick  
Second: Charlie Jordan

MOTION CARRIED

FUTURE MEETINGS

The next meeting of the Authority will be on June 5 & 6, 1986 in Denver.

ADJOURNMENT

The meeting was adjourned at 11:30 a.m.

Respectfully submitted,

  
John Porter, Secretary



After the discussion, Mr. Law stated that the Staff recommends that the Board proceed with the study, waive the public hearing and authorize the staff to proceed with contract negotiations with the co-applicants as well as the engineer for a study of the two stated sites at a cost of up to \$30,000 with two Phases; Phase I would be a preliminary analysis of both sites with a decision to proceed with Phase II on a specific site.

MOTION

THAT BOARD HEREBY AUTHORIZES THE STAFF TO PROCEED WITH THE PAGOSA SPRINGS STUDY BY WAIVING THE PUBLIC HEARING AND PROCEEDING DIRECTLY TO CONTRACT NEGOTIATIONS WITH THE CO-APPLICANTS AND THE ENGINEER FOR A STUDY OF THE TWO PROPOSED SITES TO BE ACCOMPLISHED IN PHASE I WITH A DECISION TO PROCEED WITH A SPECIFIC SITE IN PHASE II AT A COST NOT TO EXCEED \$30,000 WITH THE CO-APPLICANTS PAYING \$15,000 AND REPAYMENT WILL ALSO BE MADE FOR THE TURKEY CREEK STUDY.

Motion: Thomas R. Sharp  
Second: L. Richard Bratton

MOTION CARRIED

GUNNISON BASIN STUDY

Chairman Williams introduced Eric Kuhn of the Colorado River Conservation District who made the presentation to the Board. Mr. Don Clay, Bureau of Reclamation and Mr. Jim Hokit, Uncompahgre Valley Water Users also assisted in the presentation. (Printed material used in presentation on file in the Authority Office.) The estimated cost of the study is \$400,000 to \$500,000. The three objectives of the study are:

1. Examine potential water resource development projects in the Gunnison and Uncompahgre River basins with particular attention to identifying present and future demands including out of basin diversions.
2. Determine cost, yield, and technical feasibility of both structural and non-structural alternatives available for development.
3. Develop a plan to finance water development alternatives.

The Bureau of Reclamation can financially participate in the study through the state assistance program which does not involve going through the federal budgeting process.

During the discussion period that followed Chairman Williams asked Mr. Kuhn if the District would be willing to help fund the study. Mr. Kuhn responded that the District has already put money into the proposed study and has budgeted additional funds. Financial participation by the other applicants has not been clearly defined at this point.

CONSENSUS

STAFF WILL TENTATIVELY PLAN A VIDEO PRESENTATION AND A PUBLIC HEARING FOR THE AFTERNOON OF THE LAST DAY OF THE WESTERN STATE COLLEGE WATER SYMPOSIUM. A TOUR TO THE HEADWATERS BY BUS WILL BE SCHEDULED DURING THE RECREATIONAL ACTIVITIES OF THE SYMPOSIUM.

CASH FLOW MEMO

Chairman Williams requested that the staff prepare additional information on cash flow projections taking into consideration the commitment of the \$30 million and the proposed studies. Mr. Kappus reported that a cash flow report will be prepared on a monthly basis for the Board's review.

GUNNISON BASIN STUDY

Mr. Dave Miller of NECO stated that his organization would be willing to assist on the Gunnison Study where needed and that he supports the study.

UNION PARK PROJECT

Chairman Williams reopened the discussion on the Union Park Project by asking the Staff if Bond Counsel had endorsed the project. The answer was no in that the Bond Counsel stated that the first charge of the Authority is to develop water; the second is hydropower.

During the discussion that followed Mr. Bratton presented a motion to the Board. Chairman Williams declared the motion out of order because a motion was already on the table from the previous day.

The motion from the previous day was brought to the table for consideration.

MOTION RESTATED

THAT THE AUTHORITY ADVISE NECO OF THE COMMITTEE'S DECISION TO DEFER THE AUTHORITY'S PARTICIPATION OR COMMITMENT TO THE UNION PARK PROJECT AT THIS TIME AND THAT A LETTER BE SENT TO NECO ADVISING NECO OF THE AUTHORITY'S DECISION AND THANKING THEM FOR THEIR PARTICIPATION.

official's liability insurance coverage for 1986/87. Only one company responded to the request for coverage. Mr. Law reported that the Authority can purchase \$1 million of coverage for one year with a premium of \$14,566.20 or \$500,000 with a premium of \$10,803.00. Tail coverage can also be purchased at a cost of \$1,500 for a one year extension, \$2,500 for a two year, and \$3,000 for a three year extension. John Carlson, Legal Counsel, recommended that the Authority purchase the three year tail coverage at a cost of \$3,000. After discussion the following motion was presented for adoption.

MOTION

THAT THE AUTHORITY PURCHASE PUBLIC OFFICIAL'S LIABILITY INSURANCE COVERAGE FOR \$500,000 WITH A PREMIUM OF \$10,803 AND THAT A THREE YEAR TAIL COVERAGE BE PURCHASED WITH A PREMIUM OF \$3,000.

Motion: W.D. Farr  
Second: Carl Trick

MOTION CARRIED

UNION PARK PROJECT

Uli Kappus, Executive Director, reported that a meeting was held on March 21, 1986 at the Authority office with the Union Park Committee and representatives of the Union Park Project. He then expressed his appreciation to those involved in the Union Park Project for their presentation and interest.

RECOMMENDATION

Mr. Kappus then reported that it was the Committee's recommendation that the Authority decline to participate in the Union Park Project at this point.

MOTION

THAT THE AUTHORITY ADVISE NECO OF THE COMMITTEE'S DECISION TO DEFER THE AUTHORITY'S PARTICIPATION OR COMMITMENT TO THE UNION PARK PROJECT AT THIS TIME AND THAT A LETTER BE SENT TO NECO ADVISING THEM OF THE AUTHORITY'S DECISION AND THANKING NECO FOR THEIR PARTICIPATION.

Motion: Thomas R. Sharp  
Second: Carl Trick

Prior to the vote on the motion Mr. Dave Miller of NECO commented on the proposed motion and the status of the project.

Mr. Bratton requested that the Board defer voting on the motion until after the Gunnison presentation on April 18.

MOTION

THAT THE UNION PARK PROJECT MOTION BE TABLED UNTIL AFTER THE GUNNISON PROJECT PRESENTATION ON FRIDAY, APRIL 18.

Motion: L. Richard Bratton  
Second: Bill Kopfman

MOTION CARRIED

Yes 5 No 2 (Trick & Sharp)

TREASURER'S REPORT

L. Richard Bratton, Treasurer, presented the financial statements for January, February and March, 1986. He also presented the Budget Reconciliation for the Operating Fund as of March 31, 1986.

MOTION

THAT THE FINANCIAL STATEMENTS FOR JANUARY, FEBRUARY AND MARCH, 1986 BE APPROVED AS PRESENTED.

Motion: John Porter  
Second: Carl Trick

MOTION CARRIED

CACHE LA POUDE PROJECT

Tyler Martineau, Project Manager, reported that the study to date has been reasonably well accepted by all participants. The study is 65% complete and 65% of the funds have been expended to date. (Copy of Status Report on file in Authority office.)

Considerable discussion was held concerning inclusion of the South Platte Study into the Cache La Poudre Study. No action was taken.

CLEAR CREEK STUDY

Tyler Martineau, Project Manager, stated that all the letters of agreement have been received and accepted. The contract has been executed and the staff is currently proceeding with selection of a consultant for Phase I of the Project. A letter requesting Statements of Qualifications will be sent out next week to consulting firms.

DURANGO WEST PROJECT

Dan Law, Associate Director, introduced Sam Coxson who presented the Durango West Project

COLORADO WATER RESOURCES  
and  
POWER DEVELOPMENT AUTHORITY  
MINUTES  
April 17 & 18, 1986

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CALL TO ORDER

The meeting was called to order at 1:30 p.m. in the Mt. Lincoln Room at the Stapleton Plaza Hotel, Denver, Colorado by Chairman Anthony W. Williams.

ROLL CALL

The following members were present:

<u>L. Richard Bratton</u>	John Porter
W. D. Farr	Thomas R. Sharp
Charlie Jordan	Carl Trick
Bill V. Kopfman	Anthony W. Williams

Absent: James D. Phillips

APPROVAL OF MINUTES  
MOTION

THAT THE MINUTES OF THE FEBRUARY 6 & 7, 1986 AND THE MARCH 7, 1986 MEETINGS BE APPROVED AS PRESENTED.

Motion: Charlie Jordan  
Second: John Porter

MOTION CARRIED

EXECUTIVE DIRECTOR'S  
REPORT

Uli Kappus, Executive Director, reported on the following items:

1. Western Area Power Administration
2. Federal Tax Law Revisions
3. Deficit Management Memo
4. CWCBC Meeting
5. Platte River Water User's Meeting
6. Meeting with Governor Lamm
7. Metropolitan Water Provider's Meeting
8. SSC Project
9. ERDA Meeting
10. Cache La Poudre Wild and Scenic Bill
11. Snow Monitoring Stations (Some additional printed information was distributed to the Board members on this item.)

DISCUSSION OF INSURANCE  
ISSUES

Dan Law, Associate Director, presented a letter from Frank Cotten of Cotten Jones Watson which gave additional information on the public

COLORADO WATER RESOURCES AND POWER DEVELOPMENT AUTHORITY

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MOTION

ON THE BASIS OF THIS WORDING "STUDY FOR STEP 2 NOT TO EXCEED THE REMAINING BUDGET OF \$305,900 AND THE ACCUMULATED TOTAL COST OF THE STUDY NOT TO EXCEED THE CONTRACT AMOUNT OF \$785,900." THE AUTHORITY PAY NO ADDITIONAL COMPENSATION.

Motion: Carl Trick  
Second: Thomas R. Sharp

MOTION CARRIED

NEW BUSINESS  
ANNUAL REPORT

Chairman Williams stated that he had reviewed the Annual Report and had made some revisions.

MOTION

THAT THE AUTHORITY ADOPT RESOLUTION 86-3 "TO ADOPT AN ANNUAL REPORT FOR FISCAL YEAR 1985 AND AUTHORIZE ITS TRANSMITTAL TO APPROPRIATE ENTITIES" WITH THE UNDERSTANDING THAT NONSUBSTANTIVE CHANGES MAY BE MADE.

Motion: L. Richard Bratton  
Second: Thomas R. Sharp

MOTION CARRIED

GUNNISON BASIN  
APPLICATION

Mr. Dan Law, Associate Director, reported that an application has been received from the Upper Gunnison River WCD for a Water Resources Management and Development Investigation. He stated that after review of the application the staff requested additional information and when that is received the application and information will be transmitted to the Board. A presentation will be made by the sponsors at the April meeting.

*Verification  
3/10/86  
D.L.*

TOWN OF PARKER  
APPLICATION

Mr. Dan Law, Associate Director, presented the application from the Town of Parker for an investigation of a new dam and reservoir on Cherry Creek above the Cherry Creek Dam which would serve the Parker Water and Sanitation District and perhaps adjacent areas. A presentation by the sponsor will be made at the April meeting.

TOWN OF PAGOSA SPRINGS  
APPLICATION

Mr. Dan Law, Associate Director, reported that he had received an application from the Town of Pagosa Springs and co-sponsors on March 6. Mr. Law stated that he has not had an opportunity to review the application to see if it is complete. He commented that he would be mailing the application and accompanying information to

COLORADO WATER RESOURCES AND POWER DEVELOPMENT AUTHORITY

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the Board within the next 7 to 10 days. A presentation by the sponsor will be made at the April meeting.

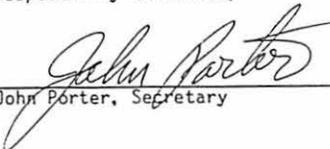
FUTURE MEETINGS

The next meeting of the Authority will be on April 4, 1986. Chairman Williams stated that he wished to discuss the matter of the Authority's activity vs the CWCB's activity. He will send a summary of what he wishes to discuss prior to the next meeting. At the suggestion of Mr. Sharp and after some discussion it was determined that the Board would meet on April 5 for a work session.

ADJOURNMENT

The meeting was adjourned at 5:00 p.m.

Respectfully submitted,

  
John Porter, Secretary

7. Meeting with Bechtel, Public Service of Colorado and other entities re: pumped storage.
8. Meeting with Governor Lamm
9. CWC Meeting

DISCUSSION OF INSURANCE ISSUES

Mary Hammond, Legal Counsel, introduced Stacey Beakes of Cravens Dargen who made a presentation to the Board on the insurance issues and the status of the insurance industry. At the conclusion of his presentation numerous questions were asked concerning liability insurance and claims made policies.

SAN LUIS CONSULTANT CONTRACT

Discussion then moved to the San Luis Contract and the status of the insurance issue. Mary Hammond made a presentation to the Board as to what the problems are and what is being done to resolve them.

Mr. Andy Andrews of WRC Engineering requested the opportunity to provide input from the consultant's point of view as part of the discussion of insurance issues.

MOTION

THAT A POLICY BE SET WITH RESPECT TO CONTRACTS FOR STUDIES THAT GENERAL LIABILITY COVERAGE BE NOT LESS THAN \$1 MILLION OWED FOR PERSONAL INJURY AND FOR PROPERTY DAMAGE AND BODILY INJURY COMBINED UNLESS FOR GOOD CAUSE SHOWN ON A SPECIFIC CONTRACT A DIFFERENT LIMIT IS PROVIDED FOR.

Motion: Thomas R. Sharp

MOTION DIED FOR LACK OF A SECOND

MOTION

REVIEW EACH CONTRACT AS TO THE ENGINEERING LIABILITIES AND THEN SET PROPERTY DAMAGE AND BODILY INJURY AND THE PROFESSIONAL LIABILITY.

Motion: James D. Phillips  
Second: John Porter

After some discussion it was determined that the motion should be tabled at this time and considered under the Agenda Item "San Luis Basin Confined Aquifer Study".

STATE WATER RESOURCES PLANNING NEEDS

Mr. Kappus, Executive Director, presented the February 26 draft to the Board and requested approval for distribution to the CWCB. After some discussion the Board directed Mr. Kappus to distribute the memo with the changes as noted.

UNION PARK PROJECT

Mr. Kappus, Executive Director, reported that he has had a series of meetings with the sponsors as well as the engineers and Mr. Marlin of Mudge Rose during the last month. Mr. Kappus stated that Mr. Marlin is preparing draft of a potential arrangement that might work for the Authority as well as Union Park and it should be delivered in the next week. Other meetings have been held with various entities that might have an interest in the project and this includes Public Service of Colorado, Bechtel, Parsons, and Western Area Power Administration. Mr. Kappus reported that there would be a definitive memo available for discussion at the April Board meeting.

Chairman Williams appointed the following Board members to serve on the Union Park Committee for the purpose of reviewing the Union Park Report prior to the April meeting

<u>L. Richard Bratton</u>	Carl Trick
<u>Thomas R. Sharp</u>	James D. Phillips

The Committee will meet on March 20 at 1:30 p.m. in the Authority office.

Mr. Dave Miller, NECO, presented some comments to the Board on the Union Park Project.

CACHE LA POUDE PROJECT

Mr. Tyler Martineau, Project Manager, presented a report to the Board on the Cache la Poudre Project. (Copy of report on file in Authority office.) Mr. Martineau reported that the majority of the effort has been expended on the analysis of regional water supply and water demand. He stated that one of the results that has emerged is that the overall utilization of water in the basin is high in that there is not a lot of water leaving the basin that is unused. Of the 550,000 af flowing out of the basin approximately 400,000 af is being consumed for municipal industrial and agricultural purposes. There is about 40,000 af originating high in the basin that could be stored high in the basin and then distributed for agricultural purposes. Mr.

see p. 9

COLORADO WATER RESOURCES  
and  
POWER DEVELOPMENT AUTHORITY  
MINUTES  
March 7, 1986

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CALL TO ORDER

The meeting was called to order at 9:00 a.m. in the Mount Yale Room at the Stapleton Plaza Hotel, Denver, Colorado by Chairman Anthony W. Williams.

ROLL CALL

The following members were present:

L. Richard Bratton  
W. D. Farr  
Charlie Jordan  
James D. Phillips

John Porter  
Thomas R. Sharp  
Carl Trick  
Anthony W. Williams

Absent: Bill V. Kopfman

TREASURER'S REPORT

L. Richard Bratton, Treasurer, introduced Mark Iwan of Arthur Andersen & Company who presented the 1985 Audit to the Board for approval. He then reviewed the report for the Board and answered questions.

MOTION

THE BOARD ACCEPTS THE 1985 AUDIT OF THE COLORADO WATER RESOURCES AND POWER DEVELOPMENT AUTHORITY BY ARTHUR ANDERSEN AND COMPANY AS PRESENTED.

Motion: L. Richard Bratton  
Second: James D. Phillips

MOTION CARRIED

Mr. Bratton then presented the Budget Reconciliation as of December 31, 1985 to the Board for review. No action required.

EXECUTIVE DIRECTOR  
REPORT

Mr. Kappus, Executive Director, reported on the following items:

1. Correspondence received re: HB 1088
2. Transcript of Senate Confirmation Hearings
3. Discussions with Colorado River WCD concerning Authority participation in financing several water development projects.
4. Great Western Reservoir Expansion
5. Super Conductor/Super Collider Activity
6. Meeting with Bill Leonard, Parsons Engr.

✓  
TO ASK THE STAFF TO PROCEED DILIGENTLY TO FORMULATE A METHOD BY WHICH THE AUTHORITY COULD WORK WITH NECO IN MOVING THE PROJECT FORWARD. TO NEGOTIATE WITH NECO AS TO WHAT THE AUTHORITY'S POSITION WOULD BE FROM THE OUTSET UNTIL THE AUTHORITY WAS FINISHED WITH THE PROJECT AND TO DEVELOP A REPORT ON THE BUSINESS OPPORTUNITY OR THE RETURN THE AUTHORITY MIGHT BE ABLE TO EXPECT FROM PARTICIPATING AND THAT A METHOD BE FORMULATED MOVING INTO THIS PROJECT THAT COMPLIES WITH THE AUTHORITY'S STATUTE.

MOTION CARRIED

Yes - seven No - one (Thomas R. Sharp)

Chairman Williams announced that he would appoint a committee to work with the staff on Union Park Project.

SOUTH PLATTE STUDY

Mr. Kappus reported that a number of meetings have taken place with the project sponsors in order to comply with the next step in the application evaluation in terms of the identification of bondable structural measures and what financing relationships might be there. A number of concepts were discussed and the project sponsors are currently studying them and it is anticipated that a report will be made at the March meeting.

Mr. Kappus continued by stating that time had been spent on responding to Mr. Sharp's suggestion concerning the initiation of an analysis of the South Platte Basin water demands as a separate module on the front end of the South Platte Study. It is a good idea to get a handle, right up front, in terms of what in fact is the future water demand and also some indication of what is the ability to pay. Mr. Kappus then referred to his memo of January 28.

MOTION

TO AUTHORIZE THE EXECUTIVE DIRECTOR TO PROCEED TO NEGOTIATE SUCH A STUDY CONTRACT FOR THE PURPOSES OUTLINED IN THE JANUARY 28, 1986 LETTER. (COPY OF LETTER ATTACHED TO AND THEREFORE BECOMES A PART OF THE ORIGINAL MINUTES.)

Motion: Thomas R. Sharp  
Second: W.D. Farr

MOTION CARRIED

OTHER BUSINESS

Mr. Sharp stated that on small site specific application if perhaps there isn't some duplication with the CWCB and perhaps the reason these applications are coming to the Authority is because the Authority offers 100% financing. Maybe this should be reexamined in conjunction with the CWCB and perhaps these applications should be redirected to the CWCB and maybe there should be some arrangement that we would be standing by to provide some subsidy for studies. There should be some middle ground because there is no distinction between Durango West applying to the CWCB and the Authority.

INVESTMENT BANKER REPORT

Jim Ziglar, Paine Webber, spoke to where tax exempt financing stands in Congress. He reported that the tax bill passed out of the House in December and was sent to the Senate. The bill has redefined the entire tax exempt market. It has categorized bonds into two different types: 1. Essential functional bonds - financing for schools, roads, courthouses, etc. and 2. Non-essential bonds - industrial development bonds, airports, water, hydro-electric, etc. Mr. Ziglar discussed the two types of bonds at great length and then answered questions from the Board.

At the conclusion of discussion it was determined that letters would be sent to the members of the Congressional delegation informing them of the direct adverse effect the change in legislation will have on the Authority.

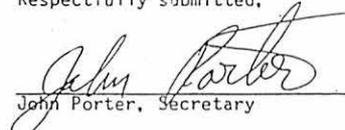
FUTURE MEETINGS

The next meeting of the Authority will be on March 7, 1986.

ADJOURNMENT

The meeting was adjourned at 12:00.

Respectfully submitted,

  
John Porter, Secretary

MOTION

TO MODIFY THE PRIOR ACTION BY THE AUTHORITY IN RESOLUTION NO. 85-20 SO THAT THE PURCHASE OF THE GRAPHICS EMULATION SOFTWARE CAN BE COMPLETED FROM A VENDOR OTHER THAN SUTRON AT AN AMOUNT NOT TO EXCEED \$4800.00.

Motion: L. Richard Bratton  
Second: James D. Phillips

MOTION CARRIED

CLEAR CREEK PROJECT

*CWRPD? (staff)*  
Tyler Martineau, Project Manager, reported that all of the letters of agreement except for one have been received by the Authority. That letter was received on February 5 but it contained a paragraph that our Legal Counsel deems unacceptable. It is hoped that the issue will be resolved by the March meeting.

UNION PARK PROJECT

*(CWRPD?)*  
Uli Kappus, Executive Director, reported on the status of the Union Park Project. He stated that over the last month there have been a number of meetings with NECO and their engineers to discuss the relative merits of the Union Park water and power project. Mr. Kappus referred to his memo to the Board of January 16. He then briefly discussed the following points:

1. NECO needs additional capital to develop the licensing step of the project.
2. The opportunity exists for the Authority to develop an equity position in a major project.
3. The project could potentially develop water as well as a stream of revenues that could support the Authority's activities in furthering water developmental work in the State of Colorado.
4. NECO has a preliminary permit but needs to get into the field this spring to start their drilling program and they need a commitment of funds in order to maintain their schedule.
5. NECO has looked at the marketability of the project and it appears that a market niche may be coming up in the mid 1990's.
6. NECO needs about \$3 million from the Authority of a total \$7.1 million estimated investment in the licensing phase over the next five years.

Mr. Kappus concluded his comments by saying that the staff is looking for authorization from the

Board to initiate negotiations and also to address several key issues relative to what form of contract can be executed with NECO and how that might be structured.

Mr. Kappus then introduced Mr. Dave Miller, President of NECO. Mr. Miller addressed the Board on the merits of the project and the funding needs.

The floor was then opened for discussion on the project and the legal aspects concerning a joint venture.

MOTION

THAT THE BOARD INSTRUCTS THE STAFF TO COMMENCE NEGOTIATIONS THAT WOULD CONSIDER THE LEGAL, BUSINESS, AND ANY OTHER ASPECTS THAT ARE APPROPRIATE IN PURSUING THIS PROJECT AND THAT WOULD BE IN THE BEST INTEREST OF THE AUTHORITY.

Motion: L. Richard Bratton  
Second: Carl Trick

DISCUSSION

Mr. Sharp stated that he would vote against the motion because he is troubled by the level of commitment that the Authority is pursuing. He further stated that he views this as a speculative venture with good upside for a potential stream of revenue and some downside in that the commitment is not there and the scenario for the mid 1990's does not pan out or if other projects elsewhere get underway and preempt the salability of this power. He concluded by saying that the Authority may be competing with itself as it promotes studies on the drainages such as the St. Vrain and the Cache la Poudre where the purpose is to look for combined projects in which hydro-power will aid in the financiability of a project. "For those reasons," Mr. Sharp stated, "I am going to vote no."

During the additional discussion that followed Chairman Williams stated that he would like to know where the revenue stream is going to come from and how much it might be. He asked the staff if they had studied the Black and Veatch Study with respect to market prediction to the point that the staff is willing to endorse it or does the staff have any reservations? Mr. Kappus replied that when you go ten years on a projection given all the economic uncertainty that we are facing then what was done is reasonably good.



COLORADO WATER RESOURCES  
and  
POWER DEVELOPMENT AUTHORITY  
MINUTES  
February 6 & 7, 1986

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CALL TO ORDER

The meeting was called to order at 1:30 p.m. in the Queen City South Room at the Clarion Hotel, Denver, Colorado by Chairman Anthony W. Williams.

ROLL CALL

The following members were present:

<u>L. Richard Bratton</u>	John Porter
W. D. Farr	Thomas R. Sharp
Charlie Jordan	Carl Trick
James D. Phillips	<u>Anthony W. Williams</u>

Absent: Bill V. Kopfman

APPROVAL OF MINUTES  
MOTION

THAT THE MINUTES OF THE DECEMBER 6, 1985  
AUTHORITY MEETING BE APPROVED AS PRESENTED.

Motion: James D. Phillips  
Second: L. Richard Bratton

MOTION CARRIED

REPORT OF COLORADO  
WATER CONSERVATION  
BOARD

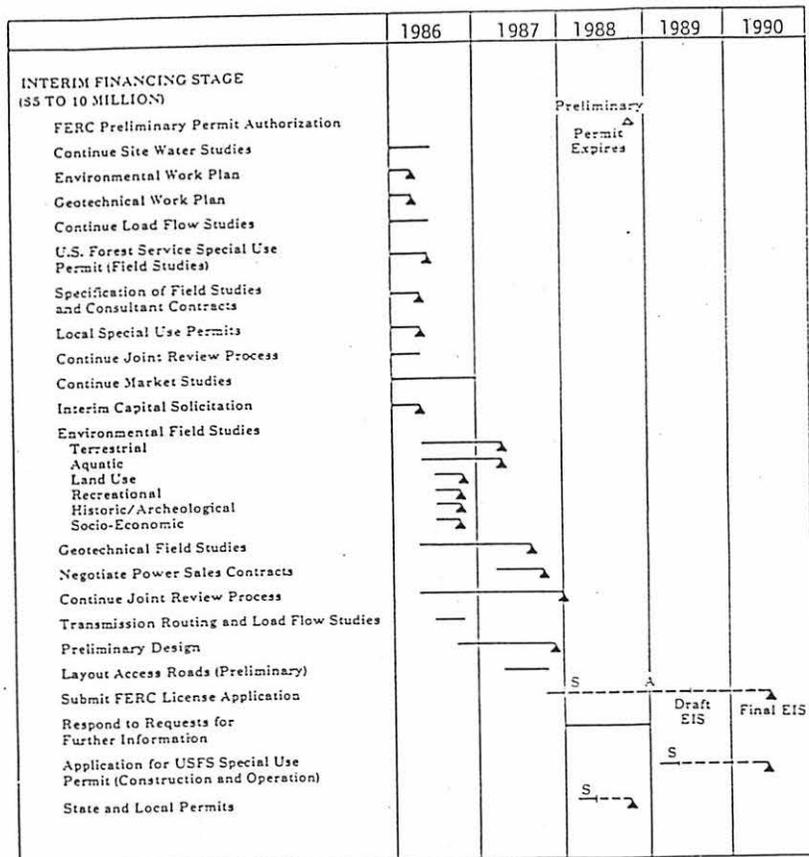
J. William McDonald, Director, reported on the following items:

1. Colorado River Floodway Protection Act
2. Small Reclamation Projects Act
3. Federal Budget Bill
4. Changes in the Tax Law
5. Sierra Club vs Block
6. Arkansas River Litigation
7. Colorado River Review
8. Endangered Fish Species
9. Animas La Plata Project
10. CWCB Board Activities

TREASURER'S REPORT

L. Richard Bratton, Treasurer, presented the financial statements as of October 31, 1985, November 30, 1985 and December 31, 1985 to the Board.

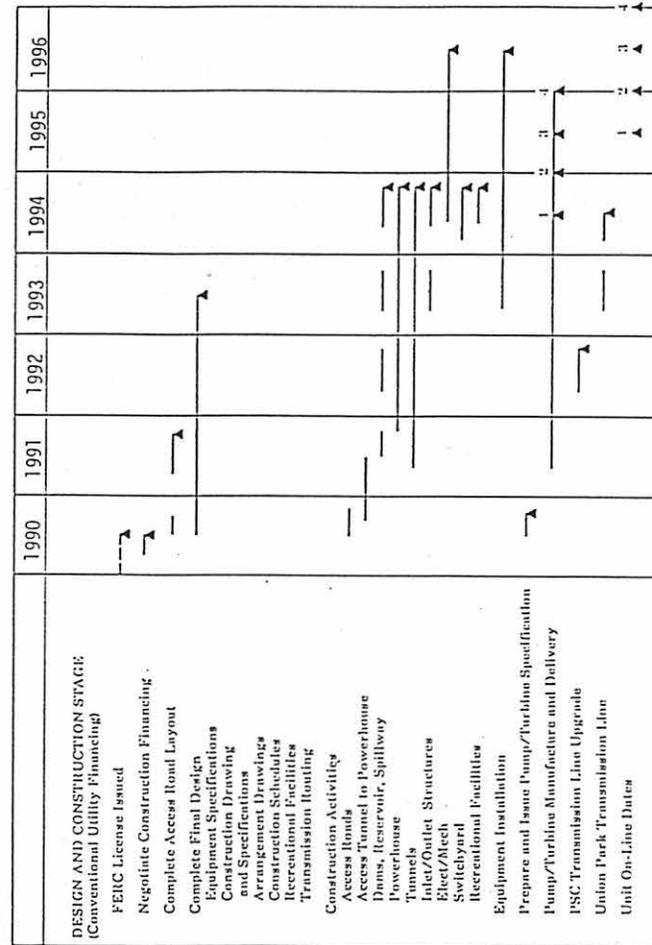
THAT THE FINANCIAL STATEMENTS AS OF OCTOBER 31,  
NOVEMBER 30 AND DECEMBER 31, 1985 BE APPROVED AS  
PRESENTED.



▲ Indicates Completion Date  
 S Indicates Submittal Date  
 Dotted Lines Indicate Agency Processing

PROJECT IMPLEMENTATION PLAN  
 INTERIM FINANCING STAGE

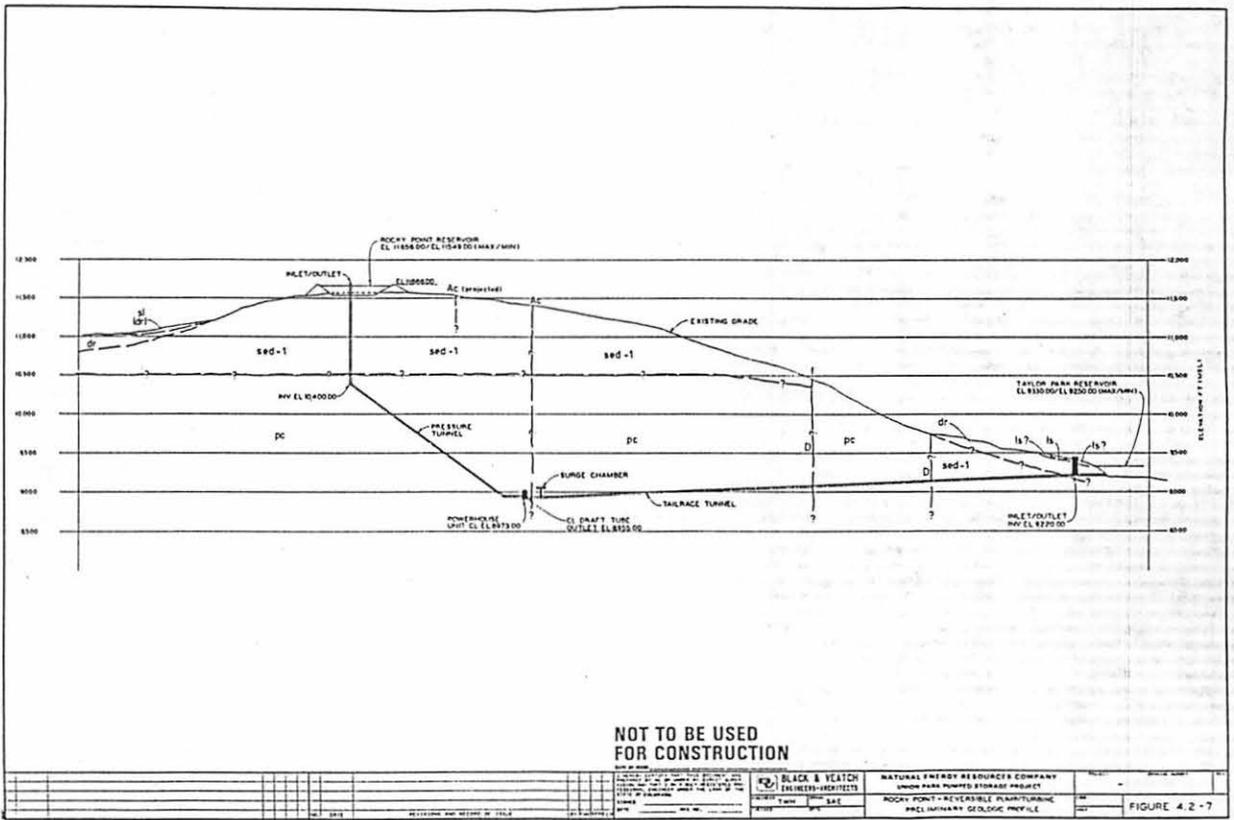
Figure 4



▲ Indicates Completion Date  
 S Indicates Submittal Date  
 Dotted Lines Indicate Agency Processing

PROJECT IMPLEMENTATION PLAN  
 DESIGN AND CONSTRUCTION STAGE

Figure 5



NECO 031585

4-32

Figure 2

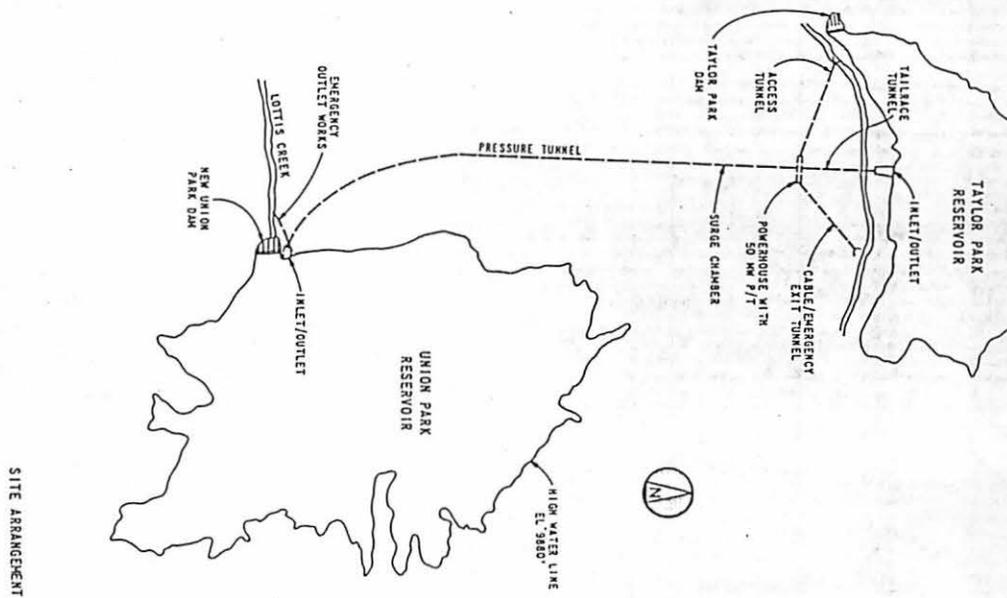


Figure 3

- ✓ ○ The Authority acquires a majority interest in the project, the FERC license, and the needed water rights and other assets. We provide our expertise to keep the project viable. However, our present thinking is that management services will constitute the majority of the Authority's investment.
- We initiate discussions with other equipment suppliers to see what type of resources they might be willing to commit up front to the project.
- We initiate discussions with key utilities to see if they would be willing to participate in the project.
- An acceptable agreement can be structured with Ebasco to provide services and cash to the licensing and subsequent efforts. Preliminary discussions indicate a \$1.0 million investment. Also Ebasco will resolve the outstanding issues with Black & Veatch.
- An agreement can be structured with Harrison-Western to provide services and cash to the licensing and subsequent efforts. Preliminary discussions indicate that a \$1.0 million investment is possible.
- An acceptable agreement can be structured with the Swiss Handelsbank to provide \$1.5 million.
- A transfer of the FERC preliminary permit to the Authority and an extension in the term of the permit which is required due to time delays in completing the financing package.
- The bottom line is that the project will become dormant if the Authority does not become involved.

The advantages to the Authority of such an agreement will be the opportunity to manage a controlling interest in a possibly viable large scale water and hydropower development project. In return for contributing its name and a limited investment to the project the Authority will obtain access to a good pumped storage site with a modest investment.

UK/m  
 Encl.:

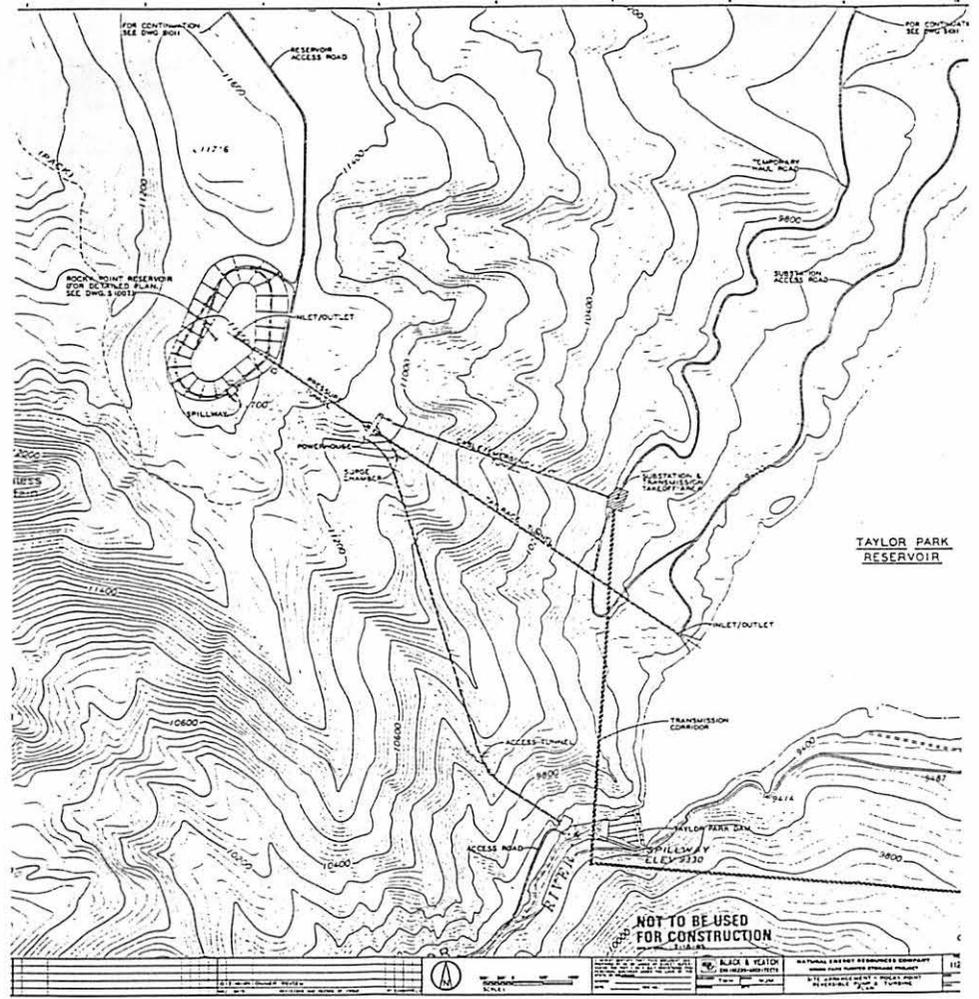


Figure 1

No fatal environmental constraints to the Project were identified during Black & Veatch's study. The Colorado Division of Wildlife has expressed concern about the effect of Rocky Point Reservoir on Bighorn Sheep in the area. A major new transmission corridor would be developed to link the project site with existing transmission lines in the upper Arkansas Valley. This does not appear to present major environmental problems.

The project schedule for the Project is attached as Figures 4 and 5. Figure 4 portrays the interim financing period which includes FERC licensing and preliminary design. This is the period of time for which NECO is currently seeking funds. Figure 5 includes the design and construction phase which will be implemented when permanent financing is obtained for the project. This schedule is based upon the schedule originally developed by Black & Veatch for the Project Feasibility Study, but with the dates extended one year to allow for delays which occurred in 1985.

The staff's analyses indicates that the project is probably a viable long-term investment. By long-term it appears that utility interest in the Project is about five years away. With this lag in the utilities willingness to put money into the Project development and with the participants inability to raise the required capital to keep the Project moving ahead, the present economic value of the Project is small. However, given the interest several entities have expressed in providing funding if the Authority agrees to participate as the lead, it provides an opportunity to the Authority to obtain a potentially controlling interest in the Project with a nominal investment.

It appears prudent for the Authority to spread its interest into those projects that have a reasonable chance of being developed. Based on the data in-hand, the Project is one of these candidates.

The present investors in the Project may be able to recoup their investment in the future, once we have a license in hand. This assumes that the Project or its output can be sold to utilities. Also, the Authority could sell all or part of its interest in the Project at that time. The sale of water developed by the project would require a separate negotiation.

The Authority would face a number of downside risks in pursuing the Rocky Point component of the Project. The project faces many risks which could affect the technical or financial feasibility at any stage during the project development:

1. A market for the power may not exist at the time when commitments for the purchase of the power output must be finalized.
2. The utilities may be unwilling to cooperate with the project sponsors.

3. Another project may be conceived which is less costly or whose sponsors are more successful in contracting for the sale of their power. This would greatly reduce the attractiveness of Rocky Point.
4. Any association with NECO has risk associated with it given NECO's present financial status, lack of reputation, and limited experience. The Authority could face difficulties by entering in an agreement with a private entity. Such an agreement could raise serious liability questions that would have to be addressed.
5. The contractual relationship between the Swiss, Harrison-Western, Ebasco, NECO, and the Authority will be very complex. The effort required to pursue and maintain these agreements will be considerable.
6. Although the Project appears financially feasible at this time it is possible that the sale of water and electrical capacity while breaking even would not produce significant surplus revenues to yield a large return to the investor. In this case the Project would be able to pay off the cost of construction but would contribute nothing to furthering the Authority's primary mission of water development. In a worst case scenario the Project might not generate enough revenue to pay off its own costs. This could occur if large cost overruns are encountered during construction and initial operation, as occurred recently with the 1200-MW Helms Project in California.
7. At present there are a number of public and private entities planning and evaluating pumped storage facilities in Colorado. Included among others are the Authority projects: Dolores, St. Vrain, and Cache la Poudre projects. If all the proposed projects were built the capacity would far exceed any foreseeable demand, unless a system for transferring large amounts of power in and out of the region was developed. Therefore, if the Authority enters into an agreement with a private company in the development of the Project it will necessarily join in a competitive race with others to obtain commitments for the sale of its peaking power. This activity of the Authority may be viewed with alarm by other public entities who wish to develop pumped storage projects.

#### Recommendations

Based on our analysis of the available data the staff recommends that the Authority initiate preliminary negotiations with the project owners to manage the licensing and subsequent activities. These negotiations will be predicated on the following:

PUMPED STORAGE COST COMPARISONS

<u>Projects</u>	<u>Union Park (Rocky Point+Union Park Res.)</u>	<u>Azure</u>	<u>Dolores</u>
Status	Pre-feasibility completed	FERC License Application filed, Project deferred	Pre-feasibility completed, Project deferred
Location	Gunnison, CO Taylor River	Kremmling, CO Colorado River	Dove Creek, CO Dolores River
Plant Capacity (MW)	1,000 and 50	800	500
Head (ft.)	2,350 and 550	1,300	870
Est. construction cost including engineering & contingencies (Jan. 1985 \$)	695,600,000 <sup>(1)</sup>	616,000,000	377,700,000
Est. construction cost per installed kW incl. eng. and contingencies (\$/kW)	663 <sup>(1)</sup> 548 <sup>(2)</sup>	770	755
Transmission costs included (Yes/No)	Yes	Yes	Yes
Firm water yield (af/yr) included in costs shown above	Approx. 50,000 <sup>(1)</sup>	15,000	None

- (1) With Union Park Reservoir  
(2) Without Union Park Reservoir

TABLE 1 (Cont'd)  
PUMPED STORAGE COST COMPARISONS

<u>Project</u>	<u>Helms (PG&amp;E)</u>	<u>Spring Canyon</u>	<u>Spring Canyon</u>	<u>St. Vrain Project N. Sheep Mtn. To Buttrock</u>
Status	On-line April 1985	Feasibility being conducted	Feasibility being conducted	Pre-Feasibility completed
Location	70 miles East of Fresno, CA	Lake Mead, AZ Colorado River	Lake Mead, AZ Colorado River	North St. Vrain Creek, CO
Plant Capacity (MW)	1,200	1,000	2,000	350
Head (ft.)	1,740	750	750	1,000
Est. construction cost including engineering & contingencies (Jan. 1985 \$)	715,000,000 (Restated)	790,000,000	994,000,000	230,000,000 (Pumped storage features only)
Est. construction cost per installed kW incl. eng. and contingencies (\$/kW)	596	790	497	657
Transmission costs included (Yes/No)	Yes	Yes	Yes	No
Firm water yield (af/yr) included in costs shown above	None	None	None	None

293,000 af of water storage capacity with a firm yield somewhere in the neighborhood of 50,000 af/yr for beneficial consumptive use. A 50 MW pump/turbine unit would be used to fill Union Park Reservoir by pumping 1000 to 1200 cfs 550 feet up from Taylor Reservoir. The facility would recover much of the pumping cost when flows are released from Union Park Reservoir. A plan of the Union Park Reservoir is shown in Figure 3.

The key issue for the Authority is one of water development associated with hydroelectric power production. The Project as currently formulated could include major upgrading of the Taylor Reservoir spillway to meet the Federal Dam Safety Act. The possibility of constructing Union Park Reservoir as a second phase after the pumped storage/Taylor Reservoir improvements are completed should also be evaluated.

In order to complete the FERC licensing requirements for the Rocky Point component of the Project NECO estimates that it will need approximately \$5 million which will be spent over the next three years. Included in the above estimate is \$2 million in engineering and consulting fees, \$1 million in technical services and fees to support water rights, permitting, and contractual activities, and \$2 million for NECO administration. Environmental field studies and geotechnical investigations of the proposed project site should be funded and underway this summer if the Project is to proceed according to schedule. NECO does not have any funds available at this time to continue the development of the Project and is looking for financial support of the Project from others. Approximately \$2 million has been spent to date by NECO for engineering and administration.

A number of entities have indicated a willingness to participate financially in the Union Park Project for licensing activities if project sponsorship can be obtained from an organization like the Authority. Ebasco Services, Inc. a consulting firm, and Harrison-Western (HW), a heavy construction firm, have each tentatively offered \$1 million in services-in-kind. The Swiss Handelsbank (mechanical/electrical equipment export) has offered \$1.5 million subject to certain restrictions. There are some risks associated with a consultant, construction company, mechanical, or electrical supplier "buying" into a project such as this. It is possible that the net result could be an increased cost over a straight competitive bidding situation. It will be necessary to carefully structure the contracts with the other participating entities to limit the potential increase in cost over that which would be competitively bid. This is normally done by the owner (Authority) retaining a third party to develop an independent cost estimate for all services, equipment and construction costs. Differences in the estimates developed by the project participants and the third party are then negotiated.

Based on preliminary discussions, the key for the entities listed above to participate financially is for an organization with the stature of the Authority to manage the Project. Ebasco and HW correctly believe that our name associated with the Project will render a great deal of

credibility and marketability. Ebasco and HW have done considerable work in screening other pumped storage projects and discussing peaking power needs with utilities in the entire western market area. Their conclusion is that the Project has considerable potential.

The analysis of the Project performed by Black & Veatch concludes that the Project is technically feasible. However, until exploratory drilling is performed at the proposed site it will not be possible to say with confidence that geological conditions are adequate for construction of the Project.

The economic and financial feasibility of the Project was studied by Black & Veatch through the use of a computerized economic model and was found to have a favorable benefit-cost ratio. The Project was found to be competitive with conventional methods of meeting peaking power requirements such as gas turbines. The Project has not been analyzed for its feasibility under the tax and financing conditions available to a public entity such as the Authority. A comprehensive financing plan for the Project from licensing and permitting through construction is needed. With major overhaul of the entire tax structure likely, such an analysis is important.

In order for the Project to be successful a market for the water and power developed must exist. At this point it is unknown whether a future viable market for peaking power will exist in 1989 or 1990 when the power purchase contracts must be finalized according to the present schedule. Utility industry projections are that no new commitments for generation will be made until 1992-1994. Utility and PUC forecasts indicate that neither a local nor a western market will exist to utilize the full output of a 1000 MW peaking plant at the time the project comes on-line in 1995. Private forecasters on the other hand predict that future demand is being understated by the utilities and regulatory agencies, and that a significant shortage in supply will develop by the 1990's creating a considerable opportunity for investors in power development. The Project could be staged at 250 MW increments in order to better match future load growth.

In order to be successful the Project will have to compete with other planned pumped storage projects for the available market. It appears that there are less costly pumped storage alternatives available for serving New Mexico, Arizona and west coast, however, costs for Rocky Point compare quite favorably with projected costs for other projects competing to serve the Colorado market. The Project is compared with other pumped storage projects in Table 1. Some of these other projects however, could be subject to environmental constraints which would not be present at Rocky Point or Union Park.

Study area during the last six weeks expressing opposition to the Snowball Creek Site and a request that the Echo Canyon Site be reconsidered. Mr. Law then presented a brief history of the project to date and the reasons for the choice of the Snowball Creek Site.

Mr. Law stated that it now appears that at least some documentation of the existing information on the upper Echo Canyon Site is warranted and perhaps a brief cursory analysis of the other alternative involving the existing reservoir is also warranted.

Mr. Law further stated that upon receipt of the draft Final Report in January he would expect to leave the document in draft form until an evaluation and documentation of the existing information on these alternatives, either through the staff or other consultants, has been performed.

In response to the question as to whether the work on the alternatives could be completed within the existing budget, Mr. Law stated that the amount of effort has not been determined. If it could be done within a two or three week time period then perhaps staff could perform the work. Mr. Law commented that he felt Western Engineers could not accomplish the extra work within the existing budget.

DIRECTIVE

THAT STAFF GATHER THE ADDITIONAL INFORMATION AS NEEDED BUT TO STAY WITHIN THE BUDGET AND TO REMEMBER THAT STAFF TIME ALSO COSTS MONEY. THE INFORMATION WILL BE PRESENTED TO THE BOARD AT THE NEXT MEETING OF THE AUTHORITY.

UNION PARK PROJECT

Mr. Kappus reported that the staff has been busy attending meetings with NECO and Black & Veatch. He stated that the analysis is almost completed and the documentation will be presented to the Board at the February meeting.

ERDA, INC.

Mr. Kappus reported that due to some unforeseen circumstances the representative from ERDA, Inc. is unable to be present at the meeting. Their presentation will be made in February.

PROPOSED LEGISLATION

Mr. Kappus provided an update to the Board on the proposed legislation for 1986.



COLORADO WATER RESOURCES &  
POWER DEVELOPMENT AUTHORITY

Logan Tower Bldg. - Suite 620, 1580 Logan Street, Denver, Colorado 80203  
303/830-1550

MEMORANDUM

January 16, 1986

TO: Board of Directors, Colorado WR & PD Authority,  
J. Ziglar, D. Krahl, J. Carlson

FROM: U. Kappus, Executive Director

RE: Union Park Water Supply and Pumped Storage Project

Introduction

The purpose of this memo is to provide a status report on the staff's ongoing analysis of the Union Park Water Supply and Pumped Storage Project (Project) application. A preliminary recommendation as to possible Authority participation in the Project is included. A meeting was held with the Natural Energy Resources Company (NECO), the project sponsor, on January 13, to review the concepts discussed herein. We will review this memorandum with you on February 6, 1986.

Analysis

The Project has two independent components; a large pumped storage facility to be located at the Rocky Point site north of Taylor Reservoir and a large water storage feature at Union Park south of Taylor Reservoir.

The Rocky Point Reservoir would have an active storage of 3900 af and would be located approximately 2350 feet above Taylor Reservoir. A pumped storage hydroelectric plant at Rocky Point is presently conceptualized to generate power at a rate of 1000 MW for an eight-hour period before pumping would be required to refill the upper reservoir. A plan and profile of the Rocky Point pumped storage features is shown in Figures 1 and 2.

The Union Park Reservoir would be created by constructing a 1000-foot long, 320-foot high, rock filled dam on Lottis Creek in the southwest corner of Union Park. The reservoir would provide approximately



REPORT OF CHAIRMAN

Chairman Williams reported that he was appointing a Legislative Committee which would be available for telephone consultations, etc., during the legislative session. The members of the committee are:

Anthony W. Williams     W. D. Farr  
L. R. Bratton             Thomas R. Sharp

REPORT OF COLORADO  
WATER CONSERVATION  
BOARD

J. William McDonald, Director, reported on the following items:

1. Colorado River Floodway Protection Act
2. USBR Small Projects Act
3. 1986 Appropriation Bill for Water & Energy
4. Arkansas River Litigation
5. Colorado River Basin Operating Criteria
6. CWCB Board Actions.

Mr. McDonald then answered questions from the Board concerning Judge Kane's Decision on Federal reserved water rights and the USBR Small Projects Act.

REPORT OF EXECUTIVE  
DIRECTOR

Mr. Uli Kappus, Executive Director, reported on the following items:

1. Skip Kerr has joined the Authority as Project Manager and will be working on the San Luis Project.
2. Elizabeth Azuero is the new Receptionist.
3. Publication of the Revised Statutes which include HB 1088
4. Summary report from Thomas R. Sharp on the NWRM Meeting.
5. Meetings and speaking engagements which included the Interim Committee on Water and Land Resources, CWC and the Closed Basin Dedication in the San Luis Valley.

REPORT OF INVESTMENT  
COMMITTEE

L. Richard Bratton reported that the Investment Committee had completed making the investments in the Treasury Bills and referred the Board to the October 30, 1985 Memo from the Executive Director concerning the investment strategy. Mr. Bratton stated that the goal was to maximize yield in safe investments so that they are sufficiently liquid to provide cash as needed, not only for the Operating Fund but the Project Fund as well, since it is not known what the outcome of the Animas LaPlata negotiations will be.

MOTION

THAT THE BOARD AUTHORIZE THE EXECUTIVE DIRECTOR TO PREPARE A REPORT ON THE SOUTH PLATTE BASIN STUDY AS REFERRED TO UNDER ITEM SIX OF THE APPLICATION PROCESSING SCHEDULE.

Motion: Charlie Jordan  
Second: Carl Trick

DISCUSSION

Mr. Sharp expressed some concerns about the study, particularly the high expense. He also stated that he was concerned about it being premature without an analysis of the Cache La Poudre Study, the St. Vrain Study and the results of the Systemwide EIS. Mr. Bratton stated that this involved the whole issue of whether or not the Authority should be involved in these types of studies. It was suggested that when the South Platte report is discussed at the next meeting other interested parties, such as the CWCB should be involved in the discussion.

MOTION CARRIED

DISCUSSION

In the additional discussion that followed the above motion, Mr. Sharp stated that he would like to pursue the possibility of expanding the scope of the Cache La Poudre Project in the areas of quantification of future water demands, water supplies and potential water shortages. This expansion would be from the present basin limits to the Nebraska state line. Mr. Sharp further stated that he thought it would have some validity and would be somewhat cost effective to to consider this approach at the present rather proceed separately down the road with the South Platte Study. Mr. Williams suggested that in planning the POS for the South Platte Study perhaps consideration could be given to folding the South Platte Study into the Cache La Poudre Study and then present those projected costs to the Board along with the costs for the South Platte Study.

TURKEY CREEK PROJECT

Dan Law, Associate Director, reported on the status of the Turkey Creek Project. Mr. Law stated that he had received a copy of the Geotechnical Report and that a copy of the Final Report Draft is expected in mid-January. Mr. Law reported that a great deal of correspondence has been received from people in the

## MEMORANDUM

Natural Energy Resources Company  
Rocky Point Pumped Storage Project  
Union Park Hydroelectric Project

4

B&V Project 11263  
B&V File 15.0800  
November 1, 1985

Proposal #3

The premise of this proposal would be that Project Development and Control would be assumed by CWRPDA. This would require a total or partial "buyout" of NECO. This negotiation would have many possibilities, the most obvious being:

1. Establishing a value of NECO's equity plus a reasonable return on investment. Encumbrances, such as the B&V deferred fees, would be calculated in. Under this plan NECO would no longer be involved in the project.
2. Negotiate a value of NECO's equity that would retain some residual profit incentives to the stockholders. Under this plan NECO would relinquish control of the project but would receive some future potential profits in return for a reduced equity.

In either scenario, B&V's position would have to be clearly defined.

If CWRPDA has bonding capability they could essentially own the project and subcontract the operations to a utility.

In my opinion this option could have legal entanglements since some "designated" money from CWRPDA would go to investors profit.

NECO is going to assume the responsibility to prepare the proposals. I agreed to assist them in any way they may choose.

ta

cc: W. E. Thompson  
D. F. Guyot  
T. W. Haag  
D. R. Froehlich

2500222

COLORADO WATER RESOURCES  
and  
POWER DEVELOPMENT AUTHORITY  
MINUTES  
December 6, 1985

CALL TO ORDER The meeting was called to order at 8:30 a.m. in the Queen City South Room at the Clarion Hotel, Denver, Colorado by Chairman Anthony W. Williams.

ROLL CALL The following members were present:

L. Richard Bratton	James D. Phillips
W. D. Farr	John Porter
Charlie Jordan	Thomas R. Sharp
Bill V. Kopfman	Carl Trick
Anthony W. Williams	

APPROVAL OF MINUTES MOTION THAT THE MINUTES OF THE OCTOBER 4, 1985 AUTHORITY MEETING BE APPROVED AS PRESENTED.

Motion: Tom Sharp  
Second: Bill V. Kopfman

MOTION CARRIED

TREASURER'S REPORT L. Richard Bratton, Treasurer, presented the financial statements and the budget reconciliation statement as of September 30, 1984 to the Board.

Mr. Bratton also presented Resolution No. 85-25 to the Board for adoption. He explained that due to unforeseen additional expenses related to maintaining sufficient Personal Property Liability Insurance it is necessary to make a line item transfer of \$500.00 from line item Office Machines to line item Insurance - Office Machines and Furniture.

MOTION THAT RESOLUTION NO. 85-25 "A RESOLUTION TRANSFERRING MONEYS AMONG LINE ITEMS IN A SINGLE SPENDING AGENCY WITHIN A SINGLE BUDGET FUND" BE ADOPTED.

Motion: L. Richard Bratton  
Second: John Porter

MOTION CARRIED

## MEMORANDUM

Natural Energy Resources Company  
Rocky Point Pumped Storage Project  
Union Park Hydroelectric Project

2

B&V Project 11263  
B&V File 15.0800  
November 4, 1985

It was agreed that a "brainstorming" session would be in order to refine any NECO proposals prior to the December 6 board meeting. It was established that NECO would try to have three proposals out for review no later than November 14. November 20 is the target date for the brainstorming session. Drafts will be sent to NECO board, CWRPDA board and B&V (PJA). Mr. Bratton will promote this concept with Mr. Kappus. Dale Raicc will handle logistics. He will obtain a schedule suitable to Mr. Phillips and Mr. Bratton since they are key to this effort. It was agreed that John Carlson, CWRPDA attorney, should attend this meeting. ( *Uli Kappus, Spec. Dir., CWRPDA* )

The potential of trans-mountain diversion of Union Park water was discussed with Mr. Miller. He asked if the abandoned Alpine tunnel had any potential in this regard. The following data was given him.

## Elevations:

West Portal	11,605
East Portal	11,600
Union Park	9,880
Taylor Park	9,330
Rocky Point	11,300±

The tunnel is about 1,900 feet long and is about 16 miles from Taylor Park "as the crow flies." Bill Thompson suggested a surface siphon from "Round Top" (el. 11,300±) through the tunnel may have possibilities.

ta

cc: W. E. Thompson  
D. F. Guyoc  
T. W. Haag  
D. R. Froehlich

2500218

BLACK &amp; VEATCH

## MEMORANDUM

Natural Energy Resources Company  
Rocky Point Pumped Storage Project  
Union Park Hydroelectric Project

B&V Project 11263  
B&V File 15.0800  
November 1, 1985

To: P. J. Adam

From: J. R. Stack :jrs

A meeting was held on October 30, 1985 with Jim Phillips in reference to participation in the Union Park Project by Colorado Water Resource and Power Development Authority (CWRPDA).

Attending: Jim Phillips - CWRPDA  
Ab Watts - NECO  
Ron Thomas - NECO  
Dave Miller - Major NECO stockholder  
John Stack - Black & Veatch  
Bill Thompson - Black & Veatch

*C.S.* → Mr. Phillips showed familiarity with the project and expressed his general approval of the conceptual plan. He stated this project has reached a stage of development beyond what CWRPDA is accustomed to. He stated that Colorado Springs is interested in the project but cannot participate at this time. As a board member of CWRPDA he favors their involvement and will support the project.

Significant information obtained at this meeting:

- o CWRPDA was originally funded with 30 million dollars principal. Through investments this figure grew to 42 million at one time. Various projects have been funded and he was not sure of the balance. The original 30 million dollars is not available for funding projects, only its interest. However, he did not indicate that up to five million dollars funding would be a problem.
- o There is pending legislation in Colorado that would establish three or more water storage projects in Colorado. Specifically this legislation would aim at capturing water that would otherwise be lost to the state ("New Water"). There is an organization of 40 or so of the most prominent Colorado citizens that are involved in sponsoring this effort. This organization is know as the "Colorado Alliance." Specifically they plan on developing 250,000 AF storage on the west slope with 50,000 AF to be diverted to the east slope. These legislative efforts will be financed through a sales (?) tax. Union Park seems to fit perfectly.

2500219

## MEMORANDUM

Natural Energy Resources Company 2  
 Rocky Point Pumped Storage Project  
 Union Park Hydroelectric Project

B&V Project 11263  
 B&V File 15.0800  
 November 1, 1985

- o Mr. Phillips stated:
  - Importance of an environmentally acceptable transmission plan. (A copy of the WAPA Study was handed to him by NECO.)
  - Power purchase agreements are important. Probably cannot be negotiated now, but, the License Approval (3 years) would probably fit about right. (He seemed to believe that state support of the project at this time is probably required.)
  - There will probably be one major power project and several water projects sponsored by CWRPDA.
- o The predominant question at this time is how NECO and CWRPDA can combine efforts to further the development of Union Park.
- o To this end, it was agreed that NECO should present two or more proposals of how this could be accomplished. Various scenarios of how this could be accomplished is included at the end of this memorandum.
- o There is a Board meeting on December 6, 1985 and NECO is going to try for at least 30 minutes on the agenda. (CWRPDA) ✓
- o Mr. Phillips questioned the staying power (permanence) of the CWRPDA.
- o Mr. Phillips also questions the ability of CWRPDA to assume major equity position in the project. This seemed to conflict with a previous statement by Mr. Uli Kappus to Bill Thompson. The ability of the CWRPDA to bond projects is not clear, however, the program outlined previously as the "Colorado Alliance" will unquestionably have tax free bonding capability due to the underwriting by tax.

The following comments are my own thoughts. Since the feasibility of Union Park was difficult to ascertain due to the question on price of water, it seems to me that the "Colorado Alliance" could be a big factor in Union Park feasibility. Since NECO has only a "Water Right" for storage and the Colorado Alliance will have a consumptive water right for the "New Water," a price for municipal and industrial water will be established rather than the rather low agricultural water value we were trying to deal with. This seems to lead to a project structure that could be financed with the power phase (Rocky Point) underwritten by the power sales agreements and the water phase (Union Park) underwritten by the Colorado Alliance. This of course is speculation on my part, however, if CWRPDA has tax free bonding capability it could be a structure the project could be based on.

Lastly, the board presentation must be done in a professional manner. It was agreed that quality writing and editing will be required for the submittal of the proposals. I volunteered to assist in slides, etc. I suggested this strategy be reviewed with you.

2500220

## MEMORANDUM

Natural Energy Resources Company 3  
 Rocky Point Pumped Storage Project  
 Union Park Hydroelectric Project

B&V Project 11263  
 B&V File 15.0800  
 November 1, 1985

Proposal #1

The premise of this proposal would be for the CWRPDA to use the Union Park project as an investment. This would allow a portion of the principal amount of 30 million to be used. The terms of the investment (15% interest was mentioned) would be extremely favorable to CWRPDA. This investment would be repaid (principal and interest) at the time permanent construction financing was obtained.

The collateral for this investment would be the Water Rights and the license itself. The licensing effort would have to be expanded to include Union Park. Thereby, affecting the costs currently projected by NECO.

To further the acceptance of this option, limited approval of project development could be given to CWRPDA to insure development in public interest.

Under this scenario NECO would retain all equity in the project and all accrued potential profit.

Proposal #2

The premise of the second proposal would be a joint venture between NECO and CWRPDA. Funding for the studies and investigations necessary for licensing would be by CWRPDA. Funding for the NECO operation would be by others. (Presumably Swiss Banks.) The ownership (equity) of the project would then be negotiated to some percentage presumably on the order of

60% NECO  
 40% CWRPDA

The terms of the agreement with the Swiss Bank would have to be accepted by CWRPDA.

Upon receipt of the License, Power Purchase Agreements would be completed and the plan for permanent construction financing could be implemented. This could be bonding, as previously discussed, or presumably the project equity could be defined to a point that permanent investors would be available.

2500221

## MEMORANDUM

Natural Energy Resources Company  
 Rocky Point Pumped Storage Project  
 Union Park Hydroelectric Project

B&V Project 11263  
 B&V File 15.0800  
 November 4, 1985

To: P. J. Adam

From: J. R. Stack *JRS*

A meeting was held in Denver on October 31, 1985 with Dick Bratton, Board Member of the Colorado Water Resources and Power Development Authority (CWRPDA).

Attending: Dick Bratton (CWRPDA)  
 Alvin Steinmark (NECO)  
 Ab Watts (NECO)  
 Dale Raitt (NECO)  
 Dave Miller (Major NECO stockholder)  
 John Stack (B&V)  
 Bill Thompson (B&V)

Mr. Bratton is a Gunnison attorney specializing in water law. He advised his primary loyalties are in the Upper Gunnison region. He is also a board member on the Upper Colorado River Water Conservancy District (?). *Attorney, Upper Gunnison Water Cons. Dist.*

He explained that the Bureau had been working on an "Upper Gunnison Project" for years. Politics make development in the near future remote. He sees this project as a way to spur limited development in the Upper Gunnison Region.

Mr. Bratton is not an advocate of no growth; however, there is a small group vocal to the no growth idea. He believes that he can control this element through economic logic. Project development without local control of politics is remote. Mr. Bratton is an environmentalist that will listen to reason.

He believes that Union Park would be primarily agricultural reservoir. He considers a low likelihood of classifying Union Park water as municipal and industrial (M&I). Having said this, he stated he is not opposed to the Colorado Alliance and even though trans-divide transfer of water is controversial. My understanding of trans-divide water would be M&I. He personally thinks diversion of 50,000 AF out of a 250,000 AF to be reasonable.

He favors CWRPDA participation in a power project to develop a continuing source of money to promote water projects. This theory coincides more with Mr. Kappus' views than Mr. Phillips'. This translates to a larger equity share of any power project.

# The News:

## Union Park Water Project taking shape

A proposed major western Colorado hydroelectric project is now several steps closer to being a reality. Natural Energy Resources Company announced that its 900 megawatt Union Park pumped storage project has been granted the necessary water rights by the Montrose Water Court.

Union Park is approximately 40 miles northeast of the City of Gunnison in the Gunnison National Forest.

In addition, the Company's Preliminary Permit was issued by the Federal Energy Regulatory Commission on August 15, 1984 for a 36 month period. The FERC application was made to secure a priority position for filing for a long-term federal license.

The Union Park project contemplates the construction of a 325,000 acre foot reservoir on Lottis Creek. Power will be generated by exchanging water with Taylor Park Reservoir, some 550 vertical feet below Union Park.

The Water Court Decree recognized a conditional water right for the Union Park Reservoir. When the project is completed, the Company will be entitled to make the conditional right absolute. "The conditional water right gives us all the security we need to move forward," Company President Alvin Steinmark said.

The Uncompahgre Valley Water Users Association and the Bureau of Reclamation have interests in the facilities and water rights for Taylor Park Reservoir. Steinmark acknowledged that agreements with both groups would be necessary.

"We've been in contact with both the Bureau and Uncompahgre almost from day one," he said. "We believe that agreements can be achieved which will be beneficial to them in exchange for their letting us use Taylor Park Reservoir."

Steinmark noted that a work-study agreement with the Bureau of Reclamation and the water users had been finalized already.

The Union Park water case had opposition from area water users. However, an agreement was reached with the opponents which allowed the Court to issue the decree.

"In our stipulation with Perkins D. Sams and other area water users, we included numerous provisions relating to the stream fishery," Steinmark said. "If we get all the approvals and cooperation that we anticipate, Lottis Creek, the Taylor River and even the upper Gunnison should enjoy a vastly improved fishery."

The water case agreement called for flow stabilization, water temperature improvement, and water quality protection in the streams.

"Of course," Steinmark added, "we'll have the new 2,000 surface acre reservoir for additional recreational opportunities."

The Union Park project will pump water up from Taylor Park Reservoir during times of low demand on the power network. Typically this is nighttime and on weekends. Union Park Reservoir water would be released back down to Taylor Park Reservoir for power generation during peak demand periods.

"The project's capability for almost instantaneous power production also lends itself to assisting in emergency situations and as a reserve for unusually high demand periods," Steinmark said.

The Company has scheduled the project to be on line by 1994. "Our research and projections show that there will be a very significant demand for increased power production capabilities by then," the president said.

"The Phoenix area alone had electrical hookup orders for about 15,000 new homes in the first two months of 1984," he said. "If that kind of demand growth continues, the West will be in real trouble by the mid-1990's unless new projects, such as ours, are built."

Natural Energy Resources Company is a private Colorado corporation with offices in Greeley. It was organized primarily for developing hydroelectric power projects. The Union Park power will be sold to existing power utilities in the Rocky Mountain area.

A wide variety of governmental approvals will be needed before the project is completed. Steinmark indicated that the Company is gearing up for all the research and studies needed to complete the permit processes.

"We are giving a high priority to studying and fairly dealing with the existing Forest Service uses in Union Park," he said. "We are very sensitive to the wildlife issues and the concerns of the grazing permit holders."

Steinmark noted that the Company officials initially met with the Taylor Park Grazing Association in Gunnison last year. He anticipated having additional meetings with the group to attempt to work out their concerns.

Preliminary projections indicate that as many as 1,500 jobs will be created during the study, design and construction phases. "We anticipate about three years of data gathering by engineers, scientists and other professionals before the FERC license is issued," Steinmark said. "The construction phase will take approximately four more years after that."

The total project costs will be about 600 million dollars estimated in 1984 values.

### Limited licenses available from DOW

There are still plenty of limited licenses available for antlerless deer in the Southwest Region. Following is a list of units with permits available as of August 20, on a first-come first-serve basis:

Unit 52: 387 antlerless deer permits; Unit 53: 683; Unit 61: 181; Unit 62: 841; Unit 63: 714; Unit 64: 160; Unit 66: 39; Unit 70: 126; Unit 71: 337; Unit 72: 45; Unit 73: 107; Unit 411: 89; Unit 521: 285.

There are also 47 archery either sex elk licenses still available in Unit 61 for the season running September 8 through September 30. And, for those interested in hunting during the November 17-December 2 late season, there are 151 antlerless elk permits available in Unit 65 west of Imarron Ridge and north of Owl Creek.

Also, there are 223 antlerless elk licenses available during the late season starting December 8 and ending December 31 in Unit 70 west of State 141 and Disappointment Valley.

Apply for these licenses, fill out application using the ori-

ginal hunt codes. One application must be accompanied by a self-addressed stamped envelope. Payment must be in the form of a personal check or money order or alternative license. Send all applications to: Colorado Division of Wildlife, P.O. Box 21000 (21 thousand), Denver, Colorado 80221.

A person may not be in possession of more than one elk license, but a person may hold two deer licenses, only one of which may be a buck license.

**THE CLARKE AGENCY**

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**Prices good until  
September 1, 1984**

We reserve the right to limit quantities,  
while quantities last. No rain checks.



*"The last glass  
is as fresh  
as the first!"*

**Almaden  
Box wine  
4 liters**

**6 49**

**With this coupon  
Offer expires September 1, 1984**



**Black Velvet  
1.75 liter**

**9 99**

**With this coupon**

**Offer expires September 1, 1984**

**Coors & Coors Light**

**8 99**

Case of  
24 cans

**With this coupon  
Offer expires  
September 1, 1984**



**Old Crow  
1.75 liter**

**9 99**

**With this coupon  
Offer expires  
September 1, 1984**



**Spock's  
Beer**

**Old Smuggler  
1.75 liter**

**9 99**

**With this coupon  
Offer expires  
September 1, 1984**



**9 99**

Case of  
24 cans

**With this coupon  
Offer expires September 1, 1984**

**Carlo Rossi  
4 liters**

**3 99**

**With this**

**Offer expires  
September 1,  
1984**



**Smirnoff  
VODKA  
1.75 liter**

**9 99**

**With this coupon  
Offer expires  
September 1, 1984**



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Gunnison

## MEMORANDUM

Natural Energy Resources Company  
 Rocky Point Pumped Storage Project  
 Union Park Hydroelectric Project

B&V Project 11263  
 B&V File 15.0800  
 November 4, 1985

To: P. J. Adam

From: J. R. Stack *JRS*

A meeting was held in Denver on October 31, 1985 with Dick Bratton, Board Member of the Colorado Water Resources and Power Development Authority (CWRPDA).

Attending: Dick Bratton (CWRPDA)  
 Alvin Steinmark (NECO)  
 Ab Watts (NECO)  
 Dale Raitt (NECO)  
 Dave Miller (Major NECO stockholder)  
 John Stack (B&V)  
 Bill Thompson (B&V)

Mr. Bratton is a Gunnison attorney specializing in water law. He advised his primary loyalties are in the Upper Gunnison region. He is also a board member on the Upper Colorado River Water Conservancy District (?). *Cattaraugus, Upper Gunnison Water Cons. Dist.*

He explained that the Bureau had been working on an "Upper Gunnison Project" for years. Politics make development in the near future remote. He sees this project as a way to spur limited development in the Upper Gunnison Region.

Mr. Bratton is not an advocate of no growth; however, there is a small group vocal to the no growth idea. He believes that he can control this element through economic logic. Project development without local control of politics is remote. Mr. Bratton is an environmentalist that will listen to reason.

He believes that Union Park would be primarily agricultural reservoir. He considers a low likelihood of classifying Union Park water as municipal and industrial (M&I). Having said this, he stated he is not opposed to the Colorado Alliance and even though trans-divide transfer of water is controversial. My understanding of trans-divide water would be M&I. He personally thinks diversion of 50,000 AF out of a 250,000 AF to be reasonable.

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2500217

## MEMORANDUM

Natural Energy Resources Company  
 Rocky Point Pumped Storage Project  
 Union Park Hydroelectric Project

2

B&V Project 11263  
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 November 4, 1985

It was agreed that a "brainstorming" session would be in order to refine any NECO proposals prior to the December 6 board meeting. It was established that NECO would try to have three proposals out for review no later than November 14. November 20 is the target date for the brainstorming session. Drafts will be sent to NECO board, CWRPDA board and B&V (PJA). Mr. Bratton will promote this concept with Mr. Kappus. Dale Raitt will handle logistics. He will obtain a schedule suitable to Mr. Phillips and Mr. Bratton since they are key to this effort. It was agreed that John Carlson, CWRPDA attorney, should attend this meeting. (W. Kappus, E. Raitt, J. Carlson)

The potential of trans-mountain diversion of Union Park water was discussed with Mr. Miller. He asked if the abandoned Alpine tunnel had any potential in this regard. The following data was given him.

## Elevations:

West Portal	11,605
East Portal	11,600
Union Park	9,880
Taylor Park	9,330
Rocky Point	11,300±

The tunnel is about 1,900 feet long and is about 16 miles from Taylor Park "as the crow flies." Bill Thompson suggested a surface siphon from "Round Top" (el. 11,300±) through the tunnel may have possibilities.

W. E. Thompson  
 D. F. Guyot  
 T. W. Haag  
 D. R. Froehlich

2500218



## MEMORANDUM

Natural Energy Resources Company  
Rocky Point Pumped Storage Project  
Union Park Hydroelectric Project

B&V Project 11263  
B&V File 15.0800  
November 1, 1985

To: P. J. Adam

From: J. R. Stack :jrs

A meeting was held on October 30, 1985 with Jim Phillips in reference to participation in the Union Park Project by Colorado Water Resource and Power Development Authority (CWRPDA).

Attending: Jim Phillips - CWRPDA  
Ab Watts - NECO  
Ron Thomas - NECO  
Dave Miller - Major NECO stockholder  
John Stack - Black & Veatch  
Bill Thompson - Black & Veatch

Mr. Phillips showed familiarity with the project and expressed his general approval of the conceptual plan. He stated this project has reached a stage of development beyond what CWRPDA is accustomed to. He stated that Colorado Springs is interested in the project but cannot participate at this time. As a board member of CWRPDA he favors their involvement and will support the project.

Significant information obtained at this meeting:

- o CWRPDA was originally funded with 30 million dollars principal. Through investments this figure grew to 42 million at one time. Various projects have been funded and he was not sure of the balance. The original 30 million dollars is not available for funding projects, only its interest. However, he did not indicate that up to five million dollars funding would be a problem.
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## MEMORANDUM

Natural Energy Resources Company 2  
 Rocky Point Pumped Storage Project  
 Union Park Hydroelectric Project

B&V Project 11263  
 B&V File 15.0800  
 November 1, 1985

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  - Importance of an environmentally acceptable transmission plan. (A copy of the WAPA Study was handed to him by NECO.)
  - Power purchase agreements are important. Probably cannot be negotiated now, but, the License Approval (3 years) would probably fit about right. (He seemed to believe that state support of the project at this time is probably required.)
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- o The predominant question at this time is how NECO and CWRPDA can combine efforts to further the development of Union Park.
- o To this end, it was agreed that NECO should present two or more proposals of how this could be accomplished. Various scenarios of how this could be accomplished is included at the end of this memorandum.
- o There is a Board meeting on December 6, 1985 and NECO is going to try for at least 30 minutes on the agenda. (CWRPDA)
- o Mr. Phillips questioned the staying power (permanence) of the CWRPDA.
- o Mr. Phillips also questions the ability of CWRPDA to assume major equity position in the project. This seemed to conflict with a previous statement by Mr. Uli Kappus to Bill Thompson. The ability of the CWRPDA to bond projects is not clear, however, the program outlined previously as the "Colorado Alliance" will unquestionably have tax free bonding capability due to the underwriting by tax.

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Lastly, the board presentation must be done in a professional manner. It was agreed that quality writing and editing will be required for the submittal of the proposals. I volunteered to assist in slides, etc. I suggested this strategy be reviewed with you.

2500220

## MEMORANDUM

Natural Energy Resources Company  
Rocky Point Pumped Storage Project  
Union Park Hydroelectric Project

3

B&V Project 11263  
B&V File 15.0800  
November 1, 1985

Proposal #1

The premise of this proposal would be for the CWRPDA to use the Union Park project as an investment. This would allow a portion of the principal amount of 30 million to be used. The terms of the investment (15% interest was mentioned) would be extremely favorable to CWRPDA. This investment would be repaid (principal and interest) at the time permanent construction financing was obtained.

The collateral for this investment would be the Water Rights and the license itself. The licensing effort would have to be expanded to include Union Park. Thereby, affecting the costs currently projected by NECO.

To further the acceptance of this option, limited approval of project development could be given to CWRPDA to insure development in public interest.

Under this scenario NECO would retain all equity in the project and all accrued potential profit.

Proposal #2

The premise of the second proposal would be a joint venture between NECO and CWRPDA. Funding for the studies and investigations necessary for licensing would be by CWRPDA. Funding for the NECO operation would be by others. (Presumably Swiss Banks.) The ownership (equity) of the project would then be negotiated to some percentage presumably on the order of

60% NECO  
40% CWRPDA

The terms of the agreement with the Swiss Bank would have to be accepted by CWRPDA.

Upon receipt of the License, Power Purchase Agreements would be completed and the plan for permanent construction financing could be implemented. This could be bonding, as previously discussed, or presumably the project equity could be defined to a point that permanent investors would be available.

MEMORANDUM

Natural Energy Resources Company  
Rocky Point Pumped Storage Project  
Union Park Hydroelectric Project

4

B&V Project 11263  
B&V File 15.0800  
November 1, 1985

Proposal #3

The premise of this proposal would be that Project Development and Control would be assumed by CWRPDA. This would require a total or partial "buyout" of NECO. This negotiation would have many possibilities, the most obvious being:

1. Establishing a value of NECO's equity plus a reasonable return on investment. Encumbrances, such as the B&V deferred fees, would be calculated in. Under this plan NECO would no longer be involved in the project.
2. Negotiate a value of NECO's equity that would retain some residual profit incentives to the stockholders. Under this plan NECO would relinquish control of the project but would receive some future potential profits in return for a reduced equity.

In either scenario, B&V's position would have to be clearly defined.

If CWRPDA has bonding capability they could essentially own the project and subcontract the operations to a utility.

In my opinion this option could have legal entanglements since some "designated" money from CWRPDA would go to investors profit.

NECO is going to assume the responsibility to prepare the proposals. I agreed to assist them in any way they may choose.

tz

cc: W. E. Thompson  
D. F. Guyot  
T. W. Haag  
D. R. Froehlich

2500222

Display Copy



September 1990  
(2nd. rev.)

CONCERNS AND PROBLEMS WITH THE PROPOSED UNION PARK RESERVOIR

Introduction

Proponents of the Union Park Reservoir and transmountain diversion project frequently express its "advantages and benefits." These and other aspects of the proposed project are questioned below, particularly as they pertain to the Upper Gunnison Basin. This report was researched and written by members of the POWER Technical Committee and is based on information available to it. Comments, criticisms, and suggestions are appreciated. References are given to enable further study and clarification. It is anticipated that additional concerns will arise as additional information about the Union Park proposal becomes available.

A. Background

1. Proponents claim: "The Upper Gunnison has only one fifth the population of the Upper Colorado, needs economic development, and should welcome the opportunity to exploit their surplus water to provide a lower cost water supply system for Denver that is environmentally sound". [Dave Miller, letter to Governor Roy Romer, 23 March 1987].

\* Our response: The proposed Union Park Reservoir project for transmountain diversion would result in very serious environmental and economic impacts. It is not welcomed. This proposal raises critical issues requiring further attention and study.

B. Project Details

1. Proponents claim: Capacity of the Union Park Reservoir could be 1.1 million acre-feet [Union Park Water Supply Concept, 8 July 1988], but is usually given as 900,000 acre-feet [Application for Water Storage Rights, Water Division No. 4, in Case No. 86-CW-226, 31 December 1986].

\* Our Response: Clarification is needed; we know Union Park Reservoir is supposed to be very big, but how big?

P O Box 1742  
Gunnison, CO 81230

2. Proponents claim: An annual average diversion of 60,000 acre-feet is to be taken from the Upper Gunnison drainage for storage and later sent to the Denver metropolitan area [Dave Miller, letter POWER, 21 May 1990]. However, by reducing commitments to instream flow maintenance, average annual diversions of 80,000 acre-feet can be achieved [D. B. Raftt and A. W. Watts, Union Park Plan for Optimum Development of Taylor River Water Resources, July 1989; Dave Miller, letter to William Miller et al., 16 February 1987; Arapahoe County, presentation handout, April - May 1988].

\* Our Response: There is confusion about the scale of diversions because the water right application for the project states: "Total maximum appropriation for the entire unified and interdependent facility is 900,000 acre-feet per year. All points of diversion are in Gunnison County, Colorado. Reservoir to be filled and refilled so as to achieve this maximum annual amount." [Application for Water Storage Rights, Water Division No. 4, Case No. 86-CW-226, 31 December 1986]. The project's concept is to take all water that can be made available - and from the Gunnison Basin's headwaters. This would be very damaging to almost all present and future water users and uses, and to indirect beneficiaries of water flow from the headwaters on downstream.

3. Proponents claim: Expansion alternatives, or ultimate phase plans, for the Union Park project range up to a project capacity for an annual average 210,000 acre-feet taken out of the Upper Gunnison Basin, principally by pumping water out of Blue Mesa Reservoir [EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, pp. 12-3 and chapters 15 - 19].

\* Our response: Such plans would be far more detrimental to the Gunnison Basin than the initial proposal discussed and set forth in the application for water storage rights. They would require major changes in Bureau of Reclamation policy and practice, which in turn requires consideration of state policy and interstate implications.

C. Union Park's Drought Protection

1. Proponents Claim: Union Park is supposed to provide drought protection to both the Western and Eastern Slopes. The East Slope is supposed to be willing to pay for drought protection on the Western Slope because the project's concept offers dry year storage for the East Slope - possibly as a by-product [Dave Miller, letter to Hubert Farbes, August 15, 1990; Dave Miller, letter to Colorado River Water Conservation District, 27 April 1990; Dave Miller, Gunnison County's Courageous Water Policy, 4 June 1990; Dave Miller, letter to POWER, 21 May 1990; Dave Miller, letter to Governor Roy Romer, 16 April 1990].

\* Our Responses: This seems an optimistic expectation of Eastern Slope municipalities.

\* Beneficiaries of such drought insurance could not afford it. At best, the annualized cost of water from Union Park is estimated at about \$305 per acre foot (Dave Miller, letter to Hubert Farbes, 24 July 1990). Many agricultural water users are unwilling to pay even \$10 per acre foot, when given the value of what they produce.

\* After investing in Union Park, would the owners want to release expensive water for drought and environmental protection? At \$305 per acre-foot, a release of 20,000 acre-feet would amount to foregoing use of \$6,100,000 worth of water.

\* As a practical matter drought releases from Union Park could reach and benefit only a small proportion of irrigation in the Upper Gunnison Basin. Below the land reached lies the water storage in the Aspinall Unit reservoirs for the benefit and protection of the Western Slope. Union Park would harm, not help, this source of drought protection.

\* The Upper Gunnison Basin really does not need the drought protection Union Park is supposed to provide. Already there is Blue Mesa Reservoir and Taylor Reservoir. Some agricultural consumptive water shortages do exist in the Upper Gunnison Basin (HDR Engineering Inc., Upper Gunnison-Uncompahgre Basin Phase I Feasibility Study, May 1989). But, these are dealt with by water sharing and use coordination. It is less expensive and more practical. Given the value of crops produced, it is also very cost effective.

2. Proponents claim: In a dry year such as 1977, the historic release from Taylor Park Reservoir of 81,600 acre-feet could be increased to about 100,000 acre-feet with Union Park Reservoir (D. B. Raitt and A. W. Watts, Union Park Plan For Optimum Development Of Taylor River Water Resources, July 1989).

\* Our Response: However, only 20,000 acre-feet appears to be actually set aside for dry year environmental releases into a combination of the Gunnison, South Platte and Arkansas Rivers (Arapahoe County, presentation handout, April - May 1988). This is only about 28 cfs on a year round basis and does little when spread around the three river systems.

3. Proponents claim: There is a diminishing need for water in the Upper Gunnison Basin. They note economic trends in agriculture; they claim decreasing requirements for water, they decry the consequences of more water lost to downriver states; and finally they perceive water owners looking for ways to realize a higher use and return for their water (Dave Miller, letter to William Miller et al., 16 February 1987).

\* Our Response: All this would suggest less need for drought protection. However, water use is not diminishing in the Gunnison Basin. The basin's water resource is being used more and more intensely, in more and more ways, out of the stream and instream. The protection offered in the Union Park proposal is trivial in comparison to the injuries to the Gunnison Basin from headwater diversion of the much greater amounts for the project.

#### D. Flood Protection

1. Proponents claim: Union Park would offer flood protection to the Upper Gunnison Basin by capturing excess spring runoff and flood waters (Dave Miller, letter to Roger Morris, 29 June 1990). The Taylor River is said to experience wide fluctuation in flow because of floods and droughts (Union Park Facts, 3 April 1990).

\* Our response: This is characteristic of Western Slope streams. Physically and ecologically the streams have adapted to this. However, Taylor Park Reservoir is already present to capture flood flows at the upper end of the drainage. Already there is the 1975 Storage Exchange Agreement to smooth out Upper Taylor flows and the Second Filling of Taylor Park Reservoir application intended to also provide flow stabilization. What more can Union Park provide?

2. Proponents claim: Reported flood damage cost in 1984 was about \$500,000 for an event with a recurrence interval of 30 years and: "Based on this occurrence and more frequent smaller floods and the fact that Taylor Park Reservoir controls only a small proportion of the flow in reaches where damage is most likely to occur, it is evident that flood control benefits, while of great value to those affected on the Taylor, will not have large monetary benefits." (EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, pp. 12-7 and 12-8).

\* Our response: Even Union Park could not cope with "extra ordinary" flood events. For more frequent events appropriate land use planning are a better way of dealing with such threats. For example, the 1984 flood had damage costs of only \$500,000 and a frequent recurrence interval of 30 years. While this flooding was wide spread, locations offered protection by Union Park's capability to control flood flows from the upper part of the Taylor River drainage are small in comparison. At present and because of topography, most development is appropriately outside the danger zone where protection would occur.

3. Proponents claim: Taylor Park Reservoir has a storage capacity of 111,330 acre-feet. Long-term average annual inflow into Taylor Park Reservoir is over 140,000 acre-feet, and during the period from 1977 to 1984 the flow varied from 62,500 acre-feet to 233,700 acre-feet (D. B. Raitt and A. W. Watts, Union Park Plan For Optimum Development Of Taylor River Water Resources, July 1989).

\* Our response: Since implementation of the Storage Exchange Agreement in 1975 a large portion of late season irrigation flow for the Uncompahgre Valley has come from Blue Mesa Reservoir. This has smoothed the late season flow from Taylor Park Reservoir and, in turn, benefits instream and out of stream water users.

4. Proponents claim: In a good water year such as 1984, 170,000 acre-feet of the historic release of 224,900 acre-feet from the Taylor Park Reservoir would be pumped into Union Park

Reservoir (D. B. Raitt and A. W. Watts, Union Park Plan For Optimum Development Of Taylor River Water Resources, July 1989). On an average year Union Park would extract less than 10% of the Gunnison River's "wasted flood waters" estimated on the basis of the Gunnison River contributing a loss annually of over 900,000 acre-feet from the Colorado's compact entitlements (Union Park Facts, 3 April 1990).

\* Our responses: The extracted amount would be a much greater percentage of the flow at the headwaters location where it was withdrawn - 40% on average to the more than 75% in the 1984 year example given above. This quantity taken from the headwaters river would cause severe harm.

\* More recent junior water rights in the Gunnison Basin depend on floods or higher than normal flows for satisfaction. A purpose of the Aspinall Unit and Taylor Reservoir is flood flow storage. The Union Park proposal, especially the possible withdrawals of 100,000 to 900,000 acre-feet per year, would conflict with this. Flood water stored in the Aspinall Unit of the Colorado River Storage Project goes toward meeting interstate compact requirements, as well as Western Slope needs.

\* Flooding should not be eliminated - just respected. The regular reliable surges of flood waters are essential for maintenance of ecological and physical systems associated with the river, especially the highly valued and increasingly rare riparian system. In turn these systems support valued economic systems, especially those associated with recreation and the second home industry. Physical and ecological characteristics of western streams are dependent on significant variations of flow from season to season and year to year. With loss of flood water, much of economic and ecologic value would be lost. These systems and their values are not sustained by constant minimum and limited flows released from dams. For example, optimal conditions for a naturally reproducing trout fishery require seasonal changes in flow, temperature, chemistry, turbidity, and other factors required for "triggering" lifecycle changes in the supporting food chain. As they move downstream, flood water provides benefits such as channel maintenance, fertilization, recreation, and aesthetics down through the Black Canyon and on through the Lower Gunnison and the Colorado River systems. A great proportion of these benefits would be lost.

\* Withdrawal of flood water and strict stream flow control may well be detrimental to squawfish habitat from Delta to Grand Junction. More importantly it may cause environmental protection calls upon the North Fork of the Gunnison drainage.

5. Proponents claim: To achieve the intended capture of flood water in Union Park Reservoir, the Taylor Park Reservoir would have to be operated with 31,300 acre-feet of this storage capacity transferred into Union Park Reservoir in order to provide vacated capacity exclusive to flood control purposes (D. B. Raitt and A. W. Watts, Union Park Plan For Optimum Development Of Taylor River Water Resources, July 1989).

\* Our Response: Storage capacity in Taylor Park Reservoir is 111,300 acre-feet. To transfer this quantity of storage would reduce the reservoir by about one-third to the detriment of recreation. "Bathtub ring" problems in Taylor Park Reservoir would be exacerbated by rapid rises and falls of water level in this reservoir prior to pumping water in it up to the Union Park Reservoir for storage. Also with reduced volume, Taylor Park Reservoir would fluctuate more because of flushing back and forth of water from NECO's proposed Rocky Point pump-storage hydropower project and from the Union Park project when it operates in a pump-storage mode. While Union Park's proponents recognize the problems of fluctuation in Taylor Park Reservoir attributed to the Collegiate Range project operations, they appear to neglect problems their own proposal will cause (Dave Miller, Technical Summary - Union Park vs Collegiate Range, 6 December 1989).

#### B. Water Yield From Union Park

1. Proponents claim: Union Park Reservoir offers an "unprecedented 2 for 1 safe yield increase" if used as a backup supply for Denver's water system according to a Corps of Engineers study, and this is "unprecedented in water engineering history (Dave Miller, letter to Hubert Farbes, 24 July 1990; Dave Miller, letter to POWER, 21 May 1990; see also Dave Miller, letter to William Reilly, 17 May 1989; Dave Miller, letter to William Miller et al., 16 February 1987). This would reduce the safe yield cost of the project by about half (Abner Watts, letter to the Rocky Mountain News, 19 December 1989).

\* Our Response: "However, since the project (Union Park) is envisioned as a dry year source, the time at which this supply would be provided cannot be determined and, hence, the revenue stream becomes too uncertain to satisfy financing requirements. The buyer of the water must therefore contract on the basis of anticipated average supply." (EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, p. 14-2). Thus the value of the multiplier is questionable.

\* This 2 for 1 safe yield "multiplier" effect of Union Park is its ability to top-up or backup a water supply system. The significance of this depends on water inventory management policy (EBASCO Services Inc. Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, pp. 5-3 - 5-4). A city can choose to spend enough to store enough water for a long series of dry years or choose to spend only for storing just enough water for the average year with conservation programs in place for dry years. Again, the value of the multiplier in the Union Park proposal is questionable.

2. Proponents claim: With the claimed multiplier, the yield from Union Park is expected to be 140,000 acre-feet (D. B. Raitt and A. W. Watts, Union Park Plan For Optimum Development Of Taylor River Water Resources, July 1989 and Dave Miller, nomination for Take Pride in America Award, 1989).

\* Our response: However, the Corps of Engineer's in the Metropolitan Denver Water Supply SIS, volume VIII, indicated that the safe yield for Union Park varied from 63,000 to 111,000 acre-feet depending on operating assumptions and this yield range would only be achieved if there were no releases from Union Park to any other users except for instream flows in Taylor River and Lottis Creek (HDR Engineering Inc., Upper Gunnison-Uncompahgre Basin Phase 1 Feasibility Study, May 1989, p. 15-28). The lower end of this range assumes a 200 cfs flow below Taylor Dam, May through September, agreed to by NECO as a stipulation of their 1982 water decree for Union Park (BBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, p. 4-2). The upper end of this range requires summer flows below Taylor Dam be reduced to 100 cfs, as opposed to the Colorado Water Conservation Board minimum of 150 cfs (Arapahoe County, public handout, April-May 1988). What are the yields; what are the plans for instream flows? Reduction in minimum instream flows is very significant throughout the Gunnison Basin.

3. Proponents claim: To store water for many years until needed in a dry cycle, the reservoir is sized at 900,000 acre-feet; but in an annual mode of operation wherein the assumed annual diversion of 60,000 acre-feet is transferred out each year for use, the storage volume needed would only be about 270,000 acre-feet (BBASCO Services Inc. Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, pp. 5-2 - 5-3).

\* Our Responses: While the average annual yield reflects assumptions of stream flow commitments below Taylor Reservoir, the size of Union Park Reservoir reflects the mode of its operation. This difference is significant in many ways for the Upper Gunnison Basin. In the dry-year mode, filling the 900,000 acre-foot reservoir would take 15 years on average but draining it eastward could be at a rate in excess of 300,000 acre-feet per year (Application for Water Storage Rights, Water Division No. 4, Case No. 86-CW-226, 31 December 1986). Expressed in another way, Union Park could move 1000 acre-feet per day to Denver when required in dry periods without need for any new regulating reservoirs on the Eastern Slope (Colorado's Union Park Water Supply Project, 8 July 1988). More consistency and predictability in reservoir operation over the years would contribute toward achieving Union Park's claimed recreational and fishery benefits. The reservoir would be slow to fill and quick to empty.

\* The 1982 power decree gives Union Park the right to fill and refill the Union Park Reservoir during flood periods to enhance Western Slope power, fish, and recreational flows (Dave Miller, letter to Aurora City Councilmembers, 14 September 1989). Again, given the filling capabilities of a 1000 cfs pumping system, the fluctuations in both Union Park and Taylor Park Reservoirs would produce severe "bathtub ring" problems.

#### F. Water Availability and Downstream Commitments

1. Proponents claim: The Gunnison River is the largest "leak" of Colorado's compact entitlements and loses almost a million acre-feet of Colorado's interstate compact water to California on average, but Union Park would put to use about 8% economically for growth in the Denver Metropolitan area (Dave Miller, Gunnison County's Courageous Water Policy, 4 June 1990 and D. B. Raitt and A. W. Watts, Union Park Plan For Optimum Development Of Taylor River Water Resources, July 1989). Proponents point to Bureau of Reclamation studies in the 1950's showing 450,000 acre-feet could be exported from the Gunnison River Basin without danger to senior water rights or the environment (Union Park Facts, 3 April 1990).

\* Our Responses: This may have been possible on paper then - but, there have been subsequent events and actions limiting the availability of water for the Union Park project. These include adjudication of water rights for Blue Mesa, Crystal, and Morrow Point reservoirs of the Aspinall Unit in 1960 and 1961 (Colorado River Water Conservation District, Assignment Of Water Rights, 23 October 1965) and adjudication of the "Taylor Park Pool" rights in 1974 and 1975 (HDR Engineering Inc., Upper Gunnison - Uncompahgre Basin Phase 1 Feasibility Study: Final Report, May 1989, p. 6-5).

\* Upper Basin and Colorado Compact deliveries are measured by total flow, not by date of flow. Transmountain diversion is a totally consumptive use of water otherwise available to meet our compact requirements. In 1984 or 1985 the State of Colorado estimated it had 1.2 million acre-feet available for consumptive use from all of the Colorado drainages before compact calls could not be met. At another time the Bureau of Reclamation estimated 500,000 acre-feet and California water authorities estimated less than 200,000 acre-feet. Whatever the number is it would appear that now is the time to inventory the resource and prioritize planned investments in it - not after the Union Park and Collegiate Range projects take out 60,000 or 150,000 or more acre-feet.

\* Exportation of water from headwaters, such as from Union Park Reservoir is damaging. Recognition of this gave rise to demands for basin of origin compensation. Water in the Gunnison River is used and reused many times over on its way downstream. Direct users and indirect beneficiaries from the head waters on down the stream will be severely harmed by removal of the quantities of water from the headwaters contemplated in the Union Park proposal.

2. Proponents claim: Colorado's water resource consumption is out of balance because all transmountain diversions for the Eastern Slope come from the Upper Colorado Basin (Union Park Facts, 3 April 1990). They say the Gunnison has never been tapped with a transmountain diversion project and the Colorado River district should declare a moratorium on all diversions from the Upper Colorado Basin until beneficial uses of the Gunnison's overlooked floodflows are properly evaluated (David Miller,



letter to Colorado River Water Conservation District, 27 April 1990].

\* Our Response: In fact the Gunnison Basin has been tapped to a limited extent for transmountain diversions averaging more than 1,300 acre-feet per year into the San Luis Valley and the Arkansas Valley. However, the Gunnison Basin is the major source of storage of water for meeting interstate compact obligations, hence the Aspinall Unit of the Colorado River Storage Project. In addition, the mean annual diversion from the Gunnison River through the Gunnison Tunnel is presently about 336,000 acre-feet per year but may soon increase to between 661,000 and 726,000 acre-feet [Bureau of Reclamation, Uncompahgre Valley Reclamation Project - AB Lateral Hydropower Facility - FEIS, August 1990, pp. S-5 - S-7]. Again, direct users and indirect beneficiaries from the head waters on down the stream will be severely harmed by removal of the quantities of water from the headwaters contemplated in the Union Park proposal.

3. Proponents claim: Colorado is the only western state that has not inventoried its water resources, and developed planning guidelines for them with the result of a water development gridlock damaging the economy and creating the highest water development costs and fees in the west [Dave Miller, letter to Governor Roy Roemer, 10 April 1990].

\* Our responses: The state of Colorado has approved and/or encouraged storage projects which hold conditional decrees in the Greater Gunnison Basin that predate the Union Park project. All may be adversely affected by Union Park either during the next 35 years before Union Park is built or when they seek financial support. Examples are the Dominguez, Cactus Park, Fruitland Mesa and Cow Creek projects. As a practical matter the lack of dam proposals is not the cause for a planning gridlock in water resource development, nor would the gridlock vanish with the inclusion of the Union Park proposal. Unbuilt water projects need to make sense in today's world, and Union Park does not. Gunnison River water is already committed downstream and used many times over to the benefit of the Gunnison Basin and Colorado.

\* Regardless of the strict appropriation method of calculating existing water resources in Colorado, the current status of water as a resource is that various interests have now, by historical practice and social value awareness, allocated all of the state's water resources. No matter what new purposed use of water arises, it causes serious dislocation to a segment of the society which has come to depend on the existing allocated use. Complete consumptive use is, of course, that most difficult to reallocate and when such use occurs at the headwaters of a major river system, the detrimental effects to the "allocated" user are greatly magnified. To introduce now such a consumptive use as Union Park becomes more the allocation of harms and not water.

\* Withdrawal of the quantities of water proposed by the Union Park would alter planning for salinity control downstream and all other water quality considerations.

\* The Union Park project will have serious implications to endangered species recovery programs. It would effectively cripple use of the Gunnison River in the endangered species recovery program unless more senior rights are condemned downstream.

4. Proponents claim: The Colorado Water Resources and Power Development Authority's Phase 1 Study found a need for supplemental water to meet proposed in-stream flow requirements through the Black Canyon of about 60,000 acre-feet in the dry year of 1977 with about 40% of this amount possibly coming from a total release of 99,700 acre-feet from Taylor Park, if Union Park Reservoir was in place [D. B. Raitt and A. W. Watts, Union Park Plan For Optimum Development Of Taylor River Water Resources, July 1989].

\* Our response: Union Park has already interfered with the minimum stream flow claims in the Black Canyon and would obviously place additional non-designed and unintended storage burdens on the power production capabilities of the Aspinall Unit which, in turn, is detrimental to all of the Upper Basin states.

5. Proponents claim: Down river states get Colorado's surplus water at no cost because Colorado has not developed it for its own usage [Union Park Facts, 3 April 1990].

\* Our response: However, water originating in the Gunnison Basin does not lose its economic productivity if eventually it flows to California. As noted above, much of the water originating on the Western Slope is obligated to flow downstream; however, first Colorado gets to use and reuse it, in-stream and out of stream, many times before it crosses our state line.

6. Proponents claim: Consumptive water needs on the Western Slope are declining and an outside interest can challenge any water right by technically proving underutilization or wasted water [Dave Miller, Gunnison County's Courageous Water Policy, 4 June 1990].

\* Our Response: While some traditional water uses decline in some places, there are increases in non-traditional uses which are much larger - especially those associated with recreation and water quality management. Use and reuse of the water out of stream and in-stream sustains a complex web of economically beneficial relationships. For example, return flows and deep percolation from flood irrigation permit "subbing." One person's use and application practices sustains another's. As a practical matter water is not "wasted" in flood irrigation or lost irretrievably. Withdrawal of water at the headwaters destroys this economically and ecologically productive system of water use relationships.

#### G. Operational Considerations

1. Proponents claim: The Bureau of Reclamation in 1983 acknowledged benefits of Union Park in regulation and

conservation of Blue Mesa complex water by capturing low value flood waters at high altitude for later release to high value purposes - irrigation and hydropower - and indeed the Bureau may be interested in paying to the developers a share of the costs of the Union Park project (Union Park Facts, 3 April 1990).

\* Our response: However, very little water actually spills and it does so very seldom from the Aspinall Unit. Hydrologic modeling of the performance of the Aspinall Unit between 1906 and 1979 shows spills average 6,500 acre-feet per year when they occur, but up to 35 years pass between actual spills [EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, pp. 3-2 - 3-3]. Besides these releases, water passes through the turbines producing some low value non-peak power at the Aspinall Unit, but that appears to be a function of inventory management policy rather than storage capacity limitations. Union Park is not needed to furnish hydroelectric power.

\* The annual average flow at Taylor Dam is about 140,000 acre-feet and the annual average flow at Blue Mesa Dam is 1,081,000 acre-feet [EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, pp. 3-3 - 3-4]. Water stored in Blue Mesa reservoir has the highest value on the Colorado River system for hydropower production because of the cumulative head between the Blue Mesa Reservoir water level and the power turbines at Havasu Reservoir. The loss of an annual average of 60,000 acre-feet of water to Union Park diversion amounts to an annual loss in excess of \$4,500,000 in power revenues from Blue Mesa through Havasu Reservoirs assuming the value of \$.05 per kilowatt hour. And, this may require compensation [EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, pp. 5-5 - 5-6; for methodology see T. C. Brown and B. L. Harding, A Preliminary Assessment of Timber and Water Production in Subalpine Forests in Management of Subalpine Forests: Building On 50 Years of Research, GTR RM-149, Rocky Mountain Forest and Range Experiment Station, Fort Collins, 1987, pp. 126-137].

2. Proponents claim: The long-term average annual inflow to Taylor Park Reservoir is over 140,000 acre-feet, during the period from 1977 to 1984 the flow varied from 62,500 acre-feet to 233,700 acre-feet, and in the water short year of 1977 the Uncompahgre Valley Water Users purchased 45,000 acre-feet from the Bureau of Reclamation [D. B. Raitt and A. W. Watts, Union Park Plan For Optimum Development Of Taylor River Water Resources, July 1989].

\* Our responses: Management of water originating in the upper basin of the Taylor River is not an issue. As illustrated, the Uncompahgre Valley Water Users Association has the capability of efficiently managing their water inventory utilizing both the Taylor Park and Blue Mesa Reservoirs.

\* In terms of average operational conditions the Union Park project is not viable - withdrawal on average of 60,000 acre-feet into Union Park from the average watershed yield of 140,000 acre-feet does not leave sufficient

water to satisfy the Taylor Reservoir storage decree for 111,300 acre-feet.

3. Proponents claim: Evaporation losses from the high altitude Union Park Reservoir would be only one-fourth the amount lost from the low altitude Two Forks concept [Colorado's Union Park Water Supply Project, 8 July 1988]. Evaporation from the average 3550 acre surface of Union Park is estimated to be 10 inches per year for an average net loss of 3,000 acre-feet [EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, p. 3-4].

\* Our response: The critical consideration is the excess of evaporation over precipitation from the reservoir surface. The sagebrush vegetation of the basin for Union Park suggests that during the ice free period evaporation is fairly high and that the estimate of 10 inches per year is too small. Publication of more recent studies done in a comparable South Park area for the Denver Water Board indicates that pan evaporation rates, measurement of the amount of water lost from a free water surface, are 28 to 37 inches from May to October [I. A. Walter, E. G. Steiner and others, Evapotranspiration and Agronomic Responses In Formerly Irrigated Mountain Meadows - South Park, Colorado, vol. 1, Denver Board of Water Commissioners, Denver, Colorado, March 1990, pp. 170-179.]. This recent report suggests evaporation from the Union Park Reservoir would conservatively be about 3 times the amount anticipated earlier, given that the elevation and climate between sites is generally comparable and due consideration is given for increased evaporation caused by wave action in the large reservoir. Consequently Union Park can expect to lose about 9000 acre-feet per year on average to evaporation which is about 15% of its average 60,000 acre-feet of inflow by diversion. Evaporative loss or shrinkage of water inventory could be severe if Union Park is operated in the dry-cycle mode of storing water over many years before release.

4. Proponents claim: Union Park Reservoir would provide massive high-altitude storage of water taken from the headwaters of a sub-basin of the Gunnison River [Dave Miller, letter to POWER, 21 May 1990; D. B. Raitt and A. W. Watts, Union Park Plan For Optimum Development Of Taylor River Water Resources, July 1989].

\* Our Response: As indicated above in Item 2 of this section, high altitude sub-basins are subjected to greater variability in received precipitation than their parent basin as a whole. Dependability of flow to satisfy the Taylor Park Reservoir storage decree is quite high, however, the dependability for Union Park's operation at the quantities contemplated is much less. It has been suggested that the Union Park Reservoir can and will perform a variety of functions. The fact that the intended combination and priority among these functions remains unclear at this time, makes review of the proposal's operating rules and their implications difficult - especially under conditions of increasing climatic variability commonly associated with the Greenhouse Effect [for discussion of

operational rules see Edward Kuiper, Water Resources Development: Planning, Engineering and Economics, Butterworth and Co., London, 1965, Chapters 6 through 11).

## II. Environmental and Recreational Implications

1. Proponents claim: Union Park is to guarantee flows below Taylor Dam substantially higher than the minimum flows established by the Colorado Water Conservation Board (Union Park Facts, 3 April 1990).

\* Our Responses: This appears unlikely. There is a commitment to a 200 cfs flow below Taylor Dam during the summer resulting in an average annual yield of 60,000 acre-feet [EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, p. 4-2 - 4-3]. However, proponents appear to contemplate reducing this and the Colorado Water Conservation Board's 150 cfs flow decree as well to produce a larger water yield [Arapahoe County, public handout, April-May 1988]. The maintenance, and indeed improvement, of flow conditions, below Taylor Dam are economically very important to the Gunnison Basin. Beginning in 1975 the Upper Gunnison Water Conservancy District has, along with the Uncompahgre Valley Water Users Association and the Bureau of Reclamation, controlled releases of water from Taylor Park Reservoir with an exchange agreement for the purpose of enhancing fisheries, irrigation, flood control, and ice control. The Gunnison District has also filed in water court for the second filling of Taylor Reservoir with purposes of environmental and economic enhancement.

\* The monetary significance of flows below Taylor Dam has recently been studied. Indirect valuation studies of the Taylor River below Taylor Dam indicate that increasing the critical winter flow by 10 cfs above the Colorado Water Conservation Board minimum of 50 cfs produces an increase in the fishery and an imputed net value within this flow range to anglers of approximately \$193.00 per cfs or \$1.63 per acre foot released [David Harpaan, The Value of Instream Flow Used To Produce A Recreational Fishery, Ph.D. Dissertation, Colorado State University, Fort Collins, Colorado, 1990, pp. 119-121]. This study indicated that summer releases above the present pattern contribute little additional value for the fishery, but reports on the value of increased flows for recreational and other purposes are still in the process of preparation.

2. Proponents claim: The private minimum stream flow water rights on the Taylor River benefit only the property owners along certain stream segments by having water pass by the property on its way out of the state. They say the land is posted with no trespassing signs and that the amount of water in the decreed rights is far in excess of need for rafting, fish and plants, and indeed, that it is more than the same private owners agreed to accept in decrees pertaining to the Union Park hydroelectric power rights [Dave Miller letter to Roger Morris - Editor of the Gunnison Country Times, 29 June 1990].

\* Our Response: There are many owners of private instream flows on the Taylor River and in the Taylor River drainage. In 1973 individuals with foresight tried to protect a part of the Gunnison Basin's heritage by obtaining water rights to assure instream flows on the Taylor River and its tributaries. These rights were decreed in 1974 and 1975 for recreation, wildlife protection, fish culture, heritage preservation, and stockwater purposes [HDR Engineering Inc., Upper Gunnison-Uncompahgre Basin Phase 1 Feasibility Study, May 1989, p. 6-5]. Residents, and visitors have shared in the benefits of their effort. In 1990, proponents of Union Park set out, along with proponents of the Collegiate Range project, to quash these valued rights in water court to further their own objectives.

3. Proponents claim: Union Park will enhance Gunnison's water based economy by providing excellent Lake Trout fishery in an off-river sage covered bowl and by stabilizing the current wide fluctuation in Taylor Park Reservoir [Dave Miller, letter to POWER, 21 May 1990; Union Park Facts, 3 April 1990].

\* Our Response: Given the frequency and extent of fluctuation, as noted above, that would be expected in both Taylor Park and Union Park Reservoirs as a result of the Union Park proposal, fisheries in both reservoirs would be poor. There is not a need for an additional flat-water recreation resource with large "bathtub rings." The Gunnison Basin already has a sufficiency of flat water recreation opportunities and indeed one of particularly outstanding quality - Taylor Park Reservoir. Withdrawal of water by Union Park will be detrimental to this resource base. Development of a lake trout fishery in Union Park appears questionable and the project's effects in conjunction with the Rocky Point hydroelectric project would adversely impact the existing high quality fishery and other recreational usage in Taylor Park Reservoir and the Taylor River. Can the proponents quantify the value of recreation foregone because of diversions to Union Park?

\* Concerns for the adverse implications upon wildlife were voiced at presentations of the Union Park and Rocky Point projects [Laura Anderson - reporter, Crested Butte Chronicle and Pilot, 27 February 1987]. The district wildlife manager for the Division of Wildlife questioned the description of the impacts from the proposed Rocky Point and Union Park projects as being "minor" and brought up concerns for elk migration routes and fawning areas for bighorn sheep. A fisheries biologist for the Division of Wildlife raised the issue of draining and filling of Taylor reservoir making it difficult to keep a major fishery going. Also the impact of powerline corridors was raised at the meeting.

\* Union Park will fluctuate greatly and more erratically than most traditional reservoirs, if it is operated in the dry-cycle or topping-up mode. This causes storage in Union Park to fluctuate between about 900,000 acre-feet and 200,000 acre feet over a period of 17 years, with yearly withdrawals of often more than 150,000 acre-feet [Dave Miller, letter to William Miller et al., 16 February 1987]. This is

Indeed detrimental to biological conditions above and below the reservoir's water line.

#### I. Relations With The Gunnison Basin

1. Proponents claim: The Union Park project is to benefit the Gunnison Basin community by building a consensus rather than the traditional nonproductive infighting between historically competitive interests [Dave Miller, nomination for the Take Pride in America National Awards, 1989].

\* Our response: However, proponents have undertaken to quash a sufficient quantity of established conditional water rights within the Upper Gunnison Basin to assure a safe yield for their project, saving those conditional rights applied for by the City of Gunnison in 1981 [Agreement between Natural Energy Resources Company and the City of Gunnison, January 1987, p. 6]. This is not neighborly. More recently the proponents joined with proponents of the Collegiate Range project to quash and invalidate decreed private instream flow rights on the Taylor River which were adjudicated in 1974 and 1975.

2. Proponents claim: Participation in the Union Park project is said to provide the City of Gunnison with a value of \$50 million, for a downpayment of \$1000 and total cost of \$200,000, which includes needed storage, water rights, and reduced power fees [Union Park Facts, 3 April 1990].

\* However, by resolution in February of 1990, the City of Gunnison acted to formally and expeditiously withdraw from its agreement with NECO and Arapahoe County regarding water storage in the proposed Union Park Reservoir and to vigorously and persistently oppose transmountain diversion of Gunnison Basin water. Water and water storage space is available in Blue Mesa Reservoir five miles away for purchase from the Bureau of Reclamation and this would imply less cost and less commitment to operating expenses [HDR Engineering Inc., Upper Gunnison- Uncompahgre Basin Phase 1 Feasibility Study, May 1989, pp. 10-5 and 10-6; Bureau of Reclamation, Water Service Contracting From Colorado River Storage Project Storage Reservoirs, circa 1985].

\* The City of Gunnison does not need peaking power. "The ultimate criterion of a pump-storage project is whether or not its addition to an existing power system will lower the overall cost of the system as compared to the least costly alternative addition to the system [Edward Kuiper, Water Resources Development: Planning Engineering and Economics, Butterworth and Co., London, 1965, p. 310]. Under the agreement between the City of Gunnison and proponents of Union Park, the City must pay the full cost of pumping water up into Union Park Reservoir for later release as peaking power which the City is able to purchase at half the going price. This would not lower the overall cost of the City's system.

#### J. Alternatives

1. Proponents claim: Union Park is offered as the ideal alternative to versions of the Two Forks project [Dave Miller, letter to Hubert Farbes, 24 July 1990; and Dave Miller, letter to William Reilly, 17 May 1989].

\* Our responses: While the 2 for 1 multiplier is pointed out by proponents as a cost advantage, its value is questionable. A buyer would be expected to purchase on the basis of anticipated average supply - 60,000 acre-feet per year [EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, p. 14-2]. Various component costs can be included or taken out of the proposal to arrive at the unit cost per acre-foot of annual yield which is \$4200 at its lowest and \$8600 at the high end [EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, pp. 11-1 - 11-4]. Costs may ultimately be on the high side because of a buyer's inability to utilize all the concepts packaged into the proposal.

\* Other viable and sensible alternatives to the Union Park proposal do exist and include conservation and water sharing within the Denver metropolitan area. If transmountain diversion must be undertaken in Colorado, the Colorado Aqueduct Return Project (- CARP-) offers many advantages - including reliability, cost, and basin of origin protection - over Union Park for the Gunnison Basin, the Western Slope, and Colorado as a whole [Ralph Clark, Colorado Aqueduct Return Project, January 1989 and March 1990].

2. Expansion alternatives for the Union Park project range up to a project capacity of an annual average 210,000 acre-feet taken out of the Upper Gunnison Basin principally by pumping water out of Blue Mesa Reservoir [EBASCO Services Inc., Union Park Water Supply Project Reconnaissance Evaluation Study, October 1986, pp. 12-3 and chapters 15 - 19 and Arapahoe County, presentation handout, April - May 1988].

\* Our response: Such plans would be more devastating to the Gunnison Basin than the proposal discussed above. It appears that the initial application to the water court for storage rights is only the beginning.

COLORADO WATER RESOURCES  
and  
POWER DEVELOPMENT AUTHORITY  
MINUTES  
February 6 & 7, 1986

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CALL TO ORDER

The meeting was called to order at 1:30 p.m. in the Queen City South Room at the Clarion Hotel, Denver, Colorado by Chairman Anthony W. Williams.

ROLL CALL

The following members were present:

L. Richard Bratton	John Porter
W. D. Farr	Thomas R. Sharp
Charlie Jordan	Carl Trick
James D. Phillips	Anthony W. Williams

Absent: Bill V. Kopfman

APPROVAL OF MINUTES  
MOTION

THAT THE MINUTES OF THE DECEMBER 6, 1985  
AUTHORITY MEETING BE APPROVED AS PRESENTED.

Motion: James D. Phillips  
Second: L. Richard Bratton

MOTION CARRIED

REPORT OF COLORADO  
WATER CONSERVATION  
BOARD

J. William McDonald, Director, reported on the following items:

1. Colorado River Floodway Protection Act
2. Small Reclamation Projects Act
3. Federal Budget Bill
4. Changes in the Tax Law
5. Sierra Club vs Block
6. Arkansas River Litigation
7. Colorado River Review
8. Endangered Fish Species
9. Animas La Plata Project
10. CWCB Board Activities

TREASURER'S REPORT

L. Richard Bratton, Treasurer, presented the financial statements as of October 31, 1985, November 30, 1985 and December 31, 1985 to the Board.

THAT THE FINANCIAL STATEMENTS AS OF OCTOBER 31,  
NOVEMBER 30 AND DECEMBER 31, 1985 BE APPROVED AS  
PRESENTED.

Motion: Carl Trick  
Second: W. D. Farr

MOTION CARRIED

REPORT OF LEGAL COUNSEL John Carlson presented Resolution No 85-1 to the Board for approval.

MOTION THAT RESOLUTION NO. 85-1 "A RESOLUTION AUTHORIZING THE EXECUTIVE DIRECTOR TO EMPLOY SPECIAL CONSULTANTS FOR ASSISTANCE AS REQUIRED ON AUTHORITY PROJECTS" BE ADOPTED.

Motion: W. D. Farr  
Second: L. Richard Bratton

MOTION CARRIED

REPORT OF CHAIRMAN Chairman Williams reported he had received a letter from the Colorado Water Congress asking the Authority to contribute \$5000 toward the expenses for an appeal with respect to Sierra Club vs Block. Mr. Williams reported he had declined the request but he would submit the request to the Board and if the Board desired to overrule or discuss the matter they may do so. The Board did not comment.

REPORT OF EXECUTIVE DIRECTOR Mr. Uli Kappus, Executive Director, reported on the following items:

1. CWCB & CWC Meetings
2. Water Resources Planning Legislation
3. Presentation to Senate Agriculture & Natural Resources Committee.
4. Presentation to the Capital Development Committee.
5. Mr. Kappus' appointment by the Governor to Chair the Green Mountain Exchange Team.
6. Series of meetings with Providers to discuss the submittal of a feasibility study application to study their needs of water over the next twenty years. Will make a presentation to the Providers in the next two weeks.
7. Appointed by the Governor's office to participate in the Super Conductor/Super Collider Project.
8. Discussions with the Town of Parker for a major storage project on Cherry Creek.

9. Receipt of a letter from the Colorado River Conservation District regarding HB 1088.
10. Receipt of a letter from Greg Johnson requesting authorization of a fee increase. If there is no objection from the Board, Mr. Kappus will respond to Mr. Johnson accordingly.
11. Presentation of Memo on Water Project Financing. This will be discussed on February 7.

STATE WATER RESOURCES  
PLANNING NEEDS

Mr. Kappus reported that on January 7, a memo was sent to the Board regarding comments on 12/23/85 draft discussion paper on the Future of Water Resources Development in Colorado. This paper was discussed at a meeting of the Colorado Water Conservation Board. Mr. Kappus also stated that at the Senate confirmation hearings for Mr. Phillips and Mr. Sharp, numerous comments were made concerning the CWCB and the Authority and their respective roles. He then opened the floor to the Board for comment. (Copy of memo of 1/7/86 on file in Authority office.)

Mr. Phillips requested that the staff acquire a transcription of the Senate confirmation hearings and transmit it to the Board. This will enable the Board to hear some of the questions, answers and directions that were given by members of the Senate Agricultural and Natural Resources Committee to Mr. Phillips and Mr. Sharp. At the request of the Chairman, Mr. Phillips and Mr. Sharp briefly outlined for the Board the various points addressed during the hearing.

Mr. Phillips concluded his outline by stating that the Authority was formed as a financing vehicle and it was found that there are not enough projects to finance. The Authority should not be duplicating the work of the CWCB, but the Authority should be out in front finding projects, maybe not even trying to fund them, but to get them ready for review by both Boards and reporting back to the Senate on what we are finding so that additional money can be put together. Mr. Sharp added that the Senators emphasized that in the ongoing debates on the bills that provide a revenue stream the legislators really need to know the detailed information on what projects the Authority has looked at and their estimated cost. Mr. Sharp further stated that the Senators had

requested a list so that they know what kind of numbers that relate to the funds that would be needed over the next several years. Mr. Sharp further commented that the Senators were looking to the Authority to provide leadership back to the Senators on information, direction, drive and specificity.

The discussion continued on the draft paper with Mr. Jordan stating that he thought it would be a good idea for the members of the staff of both the CWCB and the Authority to sit down together to work out the answers and how both groups plan to work together. Mr. Bratton suggested that the two Boards should get together as a follow-up.

The Chairman stated that he will work with the Executive Director in the attempt to coordinate the two Boards.

#### SATELLITE MONITORING PROJECT

Chairman Williams introduced Jeris Danielson, the State Engineer, who expressed his appreciation to the Board for their financial and moral support of the Satellite Monitoring Project. He then announced that the Satellite Monitoring System had received an award from the National Society of Professional Engineers as one of the ten outstanding engineering accomplishments in the United States during 1985.

Mr. Danielson then presented a commemorative framed photo to the Authority in appreciation. Chairman Williams accepted the gift on behalf of the Authority.

John Kaliszewski, Project Manager, gave a brief status report. He stated that the system is gearing up for the runoff season and its first full year of operation. It is anticipated that entire network of 225 to 235 GOES collection platforms statewide, including a flood warning component, will be operational by the runoff season. Eleven installations still need to be completed and Sutron will be in Colorado during the last week in March and first week in April for the final installations. To date \$106,000 has been committed in the form of user fees from various groups.

Judy Anne Kriss, Administrative Office Manager, presented a report to the Board on the status of the Satellite Monitoring Budget. (Copy of



report on file in Authority office.) The first item addressed was the completion of the Building Modifications Contract. Upon the recommendation of Legal Counsel the following motion was presented to the Board for action.

MOTION

THAT THE BOARD DIRECTS THE EXECUTIVE DIRECTOR TO ACKNOWLEDGE RECEIPT OF THE LETTER FROM THE DEPARTMENT OF ADMINISTRATION AND THAT THE AUTHORITY HEREBY ADVISES THE OTHER PARTIES THAT THE AUTHORITY CONSIDERS ITS FUNDING OBLIGATIONS WITH RESPECT TO BUILDING MODIFICATIONS COMPLETE.

Motion: Thomas R. Sharp  
Second: John Porter

MOTION CARRIED

Ms. Kriss then presented Resolution No. 86-2 to the Board for adoption. The Resolution authorizes the transfer of moneys among line items in the Project Acquisition and Maintenance Fund in the amount of \$115,710 in order to pay for outstanding balances due on invoices not paid as of the end of 1985 and which will be due in 1986.

MOTION

THAT RESOLUTION 86-2 "TRANSFERRING MONEYS AMONG LINE ITEMS IN A SINGLE SPENDING AGENCY WITHIN A SINGLE BUDGET FUND" BE ADOPTED.

Motion: John Porter  
Second: Carl Trick

MOTION CARRIED

Ms. Kriss then presented a memorandum from John Kaliszewski requesting the deletion of the graphics emulation software from the purchase authorization to Sutron dated October 17, 1985. Sutron is unable to comply with the request and a satisfactory software package is available from DPZ Systems in Colorado for the same price. Ms. Kriss requested a motion from the Board authorizing this change.

MOTION

TO MODIFY THE PRIOR ACTION BY THE AUTHORITY IN RESOLUTION NO. 85-20 SO THAT THE PURCHASE OF THE GRAPHICS EMULATION SOFTWARE CAN BE COMPLETED FROM A VENDOR OTHER THAN SUTRON AT AN AMOUNT NOT TO EXCEED \$4800.00.

Motion: L. Richard Bratton  
Second: James D. Phillips

MOTION CARRIED

CLEAR CREEK PROJECT

Tyler Martineau, Project Manager, reported that all of the letters of agreement except for one have been received by the Authority. That letter was received on February 5 but it contained a paragraph that our Legal Counsel deems unacceptable. It is hoped that the issue will be resolved by the March meeting.

UNION PARK PROJECT

Uli Kappus, Executive Director, reported on the status of the Union Park Project. He stated that over the last month there have been a number of meetings with NECO and their engineers to discuss the relative merits of the Union Park water and power project. Mr. Kappus referred to his memo to the Board of January 16. He then briefly discussed the following points:

1. NECO needs additional capital to develop the licensing step of the project.
2. The opportunity exists for the Authority to develop an equity position in a major project.
3. The project could potentially develop water as well as a stream of revenues that could support the Authority's activities in furthering water developmental work in the State of Colorado.
4. NECO has a preliminary permit but needs to get into the field this spring to start their drilling program and they need a commitment of funds in order to maintain their schedule.
5. NECO has looked at the marketability of the project and it appears that a market niche may be coming up in the mid 1990's.
6. NECO needs about \$3 million from the Authority of a total \$7.1 million estimated investment in the licensing phase over the next five years.

Mr. Kappus concluded his comments by saying that the staff is looking for authorization from the

Board to initiate negotiations and also to address several key issues relative to what form of contract can be executed with NECO and how that might be structured.

Mr. Kappus then introduced Mr. Dave Miller, President of NECO. Mr. Miller addressed the Board on the merits of the project and the funding needs.

The floor was then opened for discussion on the project and the legal aspects concerning a joint venture.

MOTION

THAT THE BOARD INSTRUCTS THE STAFF TO COMMENCE NEGOTIATIONS THAT WOULD CONSIDER THE LEGAL, BUSINESS, AND ANY OTHER ASPECTS THAT ARE APPROPRIATE IN PURSUING THIS PROJECT AND THAT WOULD BE IN THE BEST INTEREST OF THE AUTHORITY.

Motion: L. Richard Bratton  
Second: Carl Trick

DISCUSSION

Mr. Sharp stated that he would vote against the motion because he is troubled by the level of commitment that the Authority is pursuing. He further stated that he views this as a speculative venture with good upside for a potential stream of revenue and some downside in that the commitment is not there and the scenario for the mid 1990's does not pan out or if other projects elsewhere get underway and preempt the salability of this power. He concluded by saying that the Authority may be competing with itself as it promotes studies on the drainages such as the St. Vrain and the Cache la Poudre where the purpose is to look for combined projects in which hydro-power will aid in the financiability of a project. "For those reasons," Mr. Sharp stated, "I am going to vote no."

During the additional discussion that followed Chairman Williams stated that he would like to know where the revenue stream is going to come from and how much it might be. He asked the staff if they had studied the Black and Veatch Study with respect to market prediction to the point that the staff is willing to endorse it or does the staff have any reservations? Mr. Kappus replied that when you go ten years on a projection given all the economic uncertainty that we are facing then what was done is reasonably good.

TO ASK THE STAFF TO PROCEED DILIGENTLY TO FORMULATE A METHOD BY WHICH THE AUTHORITY COULD WORK WITH NECO IN MOVING THE PROJECT FORWARD. TO NEGOTIATE WITH NECO AS TO WHAT THE AUTHORITY'S POSITION WOULD BE FROM THE OUTSET UNTIL THE AUTHORITY WAS FINISHED WITH THE PROJECT AND TO DEVELOP A REPORT ON THE BUSINESS OPPORTUNITY OR THE RETURN THE AUTHORITY MIGHT BE ABLE TO EXPECT FROM PARTICIPATING AND THAT A METHOD BE FORMULATED MOVING INTO THIS PROJECT THAT COMPLIES WITH THE AUTHORITY'S STATUTE.

MOTION CARRIED

Yes - seven No - one (Thomas R. Sharp)

Chairman Williams announced that he would appoint a committee to work with the staff on Union Park Project.

SOUTH PLATTE STUDY

Mr. Kappus reported that a number of meetings have taken place with the project sponsors in order to comply with the next step in the application evaluation in terms of the identification of bondable structural measures and what financing relationships might be there. A number of concepts were discussed and the project sponsors are currently studying them and it is anticipated that a report will be made at the March meeting.

Mr. Kappus continued by stating that time had been spent on responding to Mr. Sharp's suggestion concerning the initiation of an analysis of the South Platte Basin water demands as a separate module on the front end of the South Platte Study. It is a good idea to get a handle, right up front, in terms of what in fact is the future water demand and also some indication of what is the ability to pay. Mr. Kappus then referred to his memo of January 28.

MOTION

TO AUTHORIZE THE EXECUTIVE DIRECTOR TO PROCEED TO NEGOTIATE SUCH A STUDY CONTRACT FOR THE PURPOSES OUTLINED IN THE JANUARY 28, 1986 LETTER. (COPY OF LETTER ATTACHED TO AND THEREFORE BECOMES A PART OF THE ORIGINAL MINUTES.)

Motion: Thomas R. Sharp  
Second: W.D. Farr

MOTION CARRIED

Mr. Kappus commented that he would be discussing the memo with the project sponsors prior to the March meeting.

CACHE LA POUFRE PROJECT Tyler Martineau, Project Manager, reported that the project is approximately at the half way mark and about one half of the budget has been expended to date. The Study was started in June 1985 and should be completed in July or August of 1986. During December and January work has been proceeding concurrently on a number of fronts. The bulk of the effort has been directed towards determining the amount of future shortages that will occur in the basin. (Copy of report on file in Authority office.)

SAN LUIS CONFINED  
AQUIFER STUDY Skip Kerr, Project Manager, reported that the consultant selection process was completed prior to Christmas. In-Situ, a local firm, was selected. They will be assisted by HRS Consultants and Halepaska & Associates. Tim Steele of In-Situ will be the Project Manager. A Plan of Study has been formulated and sent to the Advisory Committee. Contract negotiations have begun and it is anticipated that it will be presented to the Board for approval at the March meeting.

EXECUTIVE SESSION The Board then moved to Executive Session to discuss the R.W. Beck Contract.

RECESS Upon adjournment of the Executive Session the Board recessed until 8:30 a.m. on February 7.

RECONVENE The meeting was reconvened by Chairman Anthony Williams at 8:30 a.m. on Friday, February 7, 1986.

ROLL CALL All members were present as per the Thursday Roll Call with the exception of Charlie Jordan.

ST. VRAIN STUDY Mr. Kappus reviewed the Summary Report that the staff had prepared for the Board. (Copy on file in Authority office.) Mr. Kappus stated that this is the first basin wide study the State of Colorado taxpayers have ever paid for. He further commented that based on the results of the study there is now a solid data base from which to move forward. Mr. Kappus reported that the Advisory Committee has elected to stay

together and has already had one meeting which means that they are moving forward. He further stated that there was excellent input by the Northern Colorado Water Conservancy District and by the Colorado Water Conservation Board. At the conclusion of his review Mr. Kappus commented that until the Authority hears back from the sponsors and the staff develops the next level of work and what the scope would be no action by the Board is required at this time.

Mr. Kappus then asked members of the St. Vrain Advisory Committee to introduce themselves and provide additional comments if so desired. Those members are listed below. Mrs. Poquette presented a letter from the Advisory Committee. (Copy of letter on file in Authority office.)

Ron Gosnell, Advisory Committee  
Barbara Poquette, Advisory Committee  
Vern Pepler, Advisory Committee

Mr. Kappus expressed his appreciation to the Advisory Committee for their responsiveness and the dedication of their time. He further stated that he feels the document produced is a major contribution to the future of water resources development in the State of Colorado.

Chairman Williams stated that he is pleased that the Study has been accomplished satisfactorily to this point and hopefully it will be productive for the future to really be of aid to the people of your sector of the State in the development of water resources.

JOINT-USE RESERVOIR  
GREEN MOUNTAIN  
EXCHANGE STUDY

Dan Law, Associate Director, presented a report to the Board on the Joint-Use Reservoir/Green Mountain Exchange Study. He reported that an Advisory Committee meeting was held in December, with 29 members in attendance, to discuss the various evaluation factors that were to be used in the Task 3 - Initial Screening Report. The next Advisory Committee meeting will be held on February 12. At the conclusion of his report Mr. Law requested 30 minutes at the March meeting for a more detailed report on the status of the next Advisory Committee meeting and the reservoir sites that are being looked at, etc. Chairman Williams requested that Mr. Law use visual aids so that the Board members can visualize where the sites

are located. (Copy of report on file in Authority office.)

#### TURKEY CREEK PROJECT

Mr. Dan Law, Associate Director, reported to the Board on the current status of the Turkey Creek Project. (Copy of report on file in Authority office.) He also presented a brief report on the Echo Canyon Site.

At the conclusion of his report Mr. Law introduced Herb Haist, Town Manager, Pagosa Springs who addressed the Board concerning a study of the Echo Canyon site.

Mr. Haist began by stating that he was representing the Town of Pagosa Springs, The Archuleta Water Company, Pagosa Area Water & Sanitation District and the Echo Ditch Company. He stated that the parties he is representing would like to see the Echo Canyon site included either in the present study or addressed separately for the following reasons:

1. Echo Canyon has sufficient flow - best historical data available in Archuleta County.
2. There is a reasonable reservoir site of sufficient capacity.
3. The costs projected for the Turkey Creek and Snowball sites in the draft statements would be substantially beyond the town's present bonding capacity.
4. As a result of some recent survey work done in town, from the benchmark shots taken, there apparently is a gravity feed from the Echo Dam site to town.
5. Additional work by the SCS addresses primarily the dam site, some scoping for capacity and M&I use i.e. treatment and distribution is also needed.
6. There is much local opposition that has been expressed condemning private ranch land for construction of a reservoir. The Town has been put on notice that if the Snowball site is selected, extensive litigation would result.

In conclusion Mr. Haist requested an examination of the Echo Canyon site. He further stated that the parties involved would be willing to fund at least half and possibly a little more of the cost

of \$20,000 were the Authority to consider the possibility of an additional study.

Mr. Law added that the status of the existing report is about two weeks away.

During the discussion that followed it was the consensus of the Board that before any additional sites were considered a feasibility application would have to be submitted. Mr. Phillips stated that water rights and the pipeline right of way are also important issues that need to be addressed before fees are expended for drilling, etc.

Mr. Law stated that he would hope that an application will be filled out with a scope of cost associated with the study and a scope of work prior to the next Board meeting.

#### ENGINEER INSURANCE

Mr. Law reported that in a review of the contract with Western Engineers in December it came to his attention that their professional liability insurance had lapsed as of October 7. Mr. Law stated that he then contacted Western Engineers and asked them to provide a certificate of coverage for \$500,000 of professional liability insurance. Because of the escalated cost of insurance, Western Engineers decided to set up a self insurance program for their firm. The firm has offered to set up an escrow account of \$20,000 and to indemnify and hold harmless the Board for 90 days following completion of this study. The study is essentially complete with about 10% of the work remaining.

Mr. Law stated that he did not see much point in terminating the contract at this time. He recommends proceeding with the completion of the study report and that the Authority utilize the proposal that Western Engineers has made pertaining to the establishment of an escrow account and the indemnification.

After considerable discussion regarding the insurance issue it was recommended that Legal Counsel present a report at the next meeting on the insurance issue.

Because Western Engineers is currently in breach of their contract, the Chairman requested an



action motion from the Board addressing the question as to whether the Authority should continue with Western to complete the contract knowing that they are without insurance.

MOTION

TO AUTHORIZE LEGAL COUNSEL TO NEGOTIATE A CONTRACT AMENDMENT THAT WILL DEAL WITH THE LACK OF INSURANCE AND, IF PRUDENT FROM THE POINT OF VIEW OF THE AUTHORITY, INCLUDE APPROPRIATE SUBSTITUTE MEASURES FOR INSURANCE.

Motion: Thomas R. Sharp  
Second: John Porter

MOTION CARRIED

Chairman Williams thanked Mr. Haist for coming to the meeting. He further stated that he feels that it is important that closer contact between the Board and Pagosa Springs be maintained.

LEGISLATIVE ISSUES

Mr. Kappus reported that he had appeared before the Capital Development Committee on December 18 and at that time a portion of the discussion centered on the CWCB and the Authority. Mr. Kappus stated that it would be timely to draft a clear memorandum of understanding between the Authority and the CWCB to avoid confusion on the differences between the two entities in the future. Another key aspect that was discussed in the hearing was how it would be possible to blend tax-supported revenues with revenue bond financing on projects.

Mr. Kappus then reported on the Alliance Bill, HB 1238 and Chris Paulson's bill HB 1255 which have been introduced in the General Assembly and other water legislation.

WATER RESOURCES  
DEVELOPMENT FINANCING  
LEGISLATION

Mr. Kappus then referred to his memo of February 6 and opened the discussion on the Authority taking a position on water resources financing legislation and responding to the request from the Capital Development Committee asking what tax monies are needed to carry forward the projects that the Authority has identified.

At the conclusion of the discussion the Chairman summarized for the Board the following points.

1. The memo will be reworked with input from the financial advisors and members of the Board.
2. The memo will be presented to the Board at the March meeting.
3. The table attached to the memo will be sent to Senator Lee on February 10 with "draft to be revised" marked on the front.

LEMON DAM PROJECT

Mr. Dan Law, Associate Director, reported that the copy of the final report had been received in early December. It was reproduced in-house and distributed in early January. The district's application for a FERC license has been completed and sent. Mr. Law then reviewed the January 16 memo to the Board and the Joint Resolution Procedures.

After some discussion the following motion was presented to the Board for adoption.

MOTION

THAT THE PROPER LETTERS BE TRANSMITTED TO THE COLORADO WATER CONSERVATION BOARD FOR SUBMITTAL TO THE GENERAL ASSEMBLY.

Motion: John Porter  
Second: W.D. Farr

MOTION CARRIED

DURANGO WEST  
APPLICATION

Mr. Law reported that an application had been received from Durango West, a copy of the application and supporting documentation are in the meeting folders. He stated that a formal presentation from the applicants will be made at the March meeting.

E & O INSURANCE

Mr. Law and Mr. Carlson reported to the Board on the status of Public Official's Liability Insurance for the Authority. Applications have been received from insurers. After considerable discussion Legal Counsel was directed to make a presentation at the next Board meeting on the current insurance issues.

CASH FLOW MEMO

Mr. Kappus reported that on December 27 Staff completed the preparation of a Cash Flow Projection Memorandum that will be updated on a semi-annual basis or as frequently as needed when additional funding requests are received. Mr. Kappus then reviewed the memo with the Board.

OTHER BUSINESS

Mr. Sharp stated that on small site specific application if perhaps there isn't some duplication with the CWCB and perhaps the reason these applications are coming to the Authority is because the Authority offers 100% financing. Maybe this should be reexamined in conjunction with the CWCB and perhaps these applications should be redirected to the CWCB and maybe there should be some arrangement that we would be standing by to provide some subsidy for studies. There should be some middle ground because there is no distinction between Durango West applying to the CWCB and the Authority.

INVESTMENT BANKER REPORT

Jim Ziglar, Paine Webber, spoke to where tax exempt financing stands in Congress. He reported that the tax bill passed out of the House in December and was sent to the Senate. The bill has redefined the entire tax exempt market. It has categorized bonds into two different types: 1. Essential functional bonds - financing for schools, roads, courthouses, etc. and 2. Non-essential bonds - industrial development bonds, airports, water, hydro-electric, etc. Mr. Ziglar discussed the two types of bonds at great length and then answered questions from the Board.

At the conclusion of discussion it was determined that letters would be sent to the members of the Congressional delegation informing them of the direct adverse effect the change in legislation will have on the Authority.

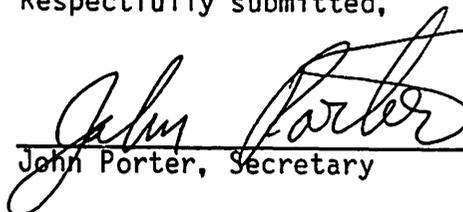
FUTURE MEETINGS

The next meeting of the Authority will be on March 7, 1986.

ADJOURNMENT

The meeting was adjourned at 12:00.

Respectfully submitted,

  
\_\_\_\_\_  
John Porter, Secretary

### Personal Opinion

## The First Statewide Water Convention

by Pete Klingsmith

For more than 35 years I have been engaged in battles with various Eastern Slope interests attempting to gain the right to move Upper Gunnison Basin waters to the Eastern Slope.

These conflicts have involved six major lawsuits, each one more serious and well-financed than the one before. I have represented many different Gunnison residents and organizations, including the Rocky Mountain Biological Laboratory, Gunnison County Electric Association, the Union Park Cattle Pool, the Taylor Park Cattle Pool and many ranch corporations and individuals.

Without any exception, the people and organizations attempting to gain access to Gunnison River water display little if any consideration toward the people of this community and the havoc they would wreak on the community if their plans bore fruit.

None of them, to my knowledge, have ever offered mitigation for this damage and loss.

My impressions of the convention, therefore, are no doubt colored by my experience.

The conference was attended by around 500 people, most of whom appeared to be prosperous, professional, dedicated water owners, movers, suppliers and users.

They appeared to be well-informed, and the great majority of them appeared to be, or representatives of, Front Range interests.

Conservationists and environmentalists played only a modest part in the proceedings. The speakers were principally government officials, with a sprinkling of engineers, professors and organization managers.

My impression was that certain things were assumed to be immutable facts, not subject to serious discussion or

compromise. These are:

- \* The metropolitan areas of the Front Range must have more water;
- \* The Western and Eastern Slope agricultural users must release water to these metro areas;
- \* Cooperation between the Western Slope, the water users and metro areas is a must;
- \* An area-wide cooperative effort to locate, identify and secure these supplies of water is required;
- \* Population of the metro areas will increase;
- \* Efforts to curb population increases are futile, silly and not a subject for discussion;
- \* Excess water exists on the Western Slope; and
- \* Conservation is a potential source of supply.

There were several areas of inquiry which were omitted or disregarded that I thought were of great importance, the neglect of which I believe to be a harbinger of things to come. Some of these are as follows:

1) I personally could raise no interest at all in the Colorado Aqueduct Return Project (CARP). I could not even get enough discussion going to find out why this project was not of interest. I have an idea that two factors are involved.

First, of course, is the cost, which is assumed to be higher than diverting water eastward from Taylor Park. The second is that the quality of the Taylor River water would be better than that of the water to be withdrawn below Grand Junction.

2) No discussion or interest seemed to be present concerning the necessity or desirability of maintaining and enhancing flowing streams, wetlands or wildlife habitat. This was surprising to me because some lip service was given to the fact that tourism was one of

Colorado's most profitable industries. I had no feeling that the people involved made any connection between the profits from tourism and the necessity to leave water in the Western Slope streams.

3) As above mentioned, the problem of overpopulation did not concern this convention. On the contrary, the assumption was that population would continue to increase dramatically and that the new people had to be served. Some of the obvious problems of overpopulation such as crime, grime, smog, travel delays, etc., were not problems that a water group or its speakers wished to concern themselves with.

4) Finally, the concerns of the Western Slope were important to this group only as they might effect obtaining the cooperation of the Western Slope in allowing the Front Range to Develop its water for its use.

Another important omission from the discussions of the convention, it seemed to me, was the problem involved with the obligation of Colorado to meet lower basin Compact requirements. I believe that the unspoken basis for this omission was the feeling, or belief that Colorado was "wasting" water to the tune of perhaps 800,000 acre feet per year.

Continued, page 2

### Inside . . .

- \* A Cowboy's Poem.
- \* Rocky Point/Union Park Update.
- \* POWER networks throughout state.
- \* Join POWER! See page 5.
- \* Geological Hazards of Rocky Point.

# Untapped Resources . . . A Cowboy's View

By John Nelson

You say Taylor Park Valley is one of the few places left

with untapped resources galore.

Why, with a couple of dams, we could send water east

And electricity to our western shore.

It's bad business you say to let water run away.

You'll be hurtin', and I'm here to warn you.

If you don't send it eastbound, it'll flow to foreign ground,

Like Arizona or California.

Our land and water's not being used??? I believe I'm amused.

I just don't agree with your reasoning.

Resources untapped??? That's a tough bird to swallow.

No matter how sweet your seasoning.

Our water is being used by ranchers and rafters,

Fly fishermen and to quench Gunnison's thirst.

Then, farmers and cities and states below us -

To the Pacific, they all beat you here first.

And our river flows downstream. It just won't run up hill.

Gravity is a tough law to duck!

It's always run west, as it always should run,

Regardless the way you rugbagers suck.

You've heard that "Cattle Free 'in '93" may be the cry

From some EcoFreaks' battle.

But to flood Union Park? That ain't quite what they meant.

Drown the grass, you'll get rid of the cattle.

You say the elk can find a new place to graze.

And the cattle, yeah, they'll have to move.

And along with the cattle, must go the rancher.

You say our economy - it will improve???

Your NECO man says that it's what's best in the long run.

This cowboy ain't buying that, fella!

There's ranchers today that were ridin' herd up this way,

When you was a still poopin' yella.

You'd run elk, deer and bighorns off Rocky Point's crest,

And treat outfitters and hunters like tramps.

We'd still have to use lanterns and wood burning stoves.

Although your power lines ran right through our camps.

Your Rocky Point dam, like a great giant toilet,

Would flush great trout fishing right down the drain.

Pollute our view of Lake's beauty, tear and ravage the earth.

And God's tears would fall with the rain.

Isn't a habitat, resource and what about lifestyle,

Grass, flowers, fish and big game?

For human resources untapped, go back to Aurora.

There's lots of jungle there you should tame.

No, you'd descend on the Park, with your Euclids and dozers,

And your elite corps of smug engineers.

But intelligence says let our beavers do the damming,

Like they've been doing for hundreds of years.

Our water means life, and it runs through this country

Like the blood that runs through our veins.

Don't you dare dam it up like some damned clotted artery.

Hold our funeral, cremate our remains.

Our resources are being used now in so many ways

That the U.S.G.S. couldn't map them.

But the way they're used now, they just keep coming back.

You must have to destroy 'em to tap 'em.

## Statewide Water Convention, Cont.

As far as I know, no hard or accurate figures concerning this "waste" over a ten-year moving average was, or is, available. If such figures are or will become available, then it might well be a weapon that the Western Slope can use to prevent further Front Range diversion.

Naturally, the unquantified amounts of water which will some day be awarded to the Indian tribes was not even discussed, considered or thought about.

Governor Roy Romer spoke at the meeting and discussed state cooperation with water users in identifying and obtaining the necessary waters that the Front Range cities desired to obtain.

Most of the above points that I have raised were discussed by him with apparent approval. I was struck with the willingness of the Governor to lend state support to Eastern Slope municipalities to obtain more water, not so much as to the damage to Eastern Slope agricultural users, but of course, to the loss of water by the Western Slope.

Finally, my impression of this convention was that people on the Western Slope are faced with determined, intelligent, well-financed people who are absolutely committed to obtaining all of the water that they can demand from Western Slope sources.

This newsletter is the fruit of efforts by many POWER members, including you. With your contributions we are better able to fight transmountain diversion of our most precious resource: water. Our Motto: Not One Drop over the Hill!

POWER is a grass-roots organization dedicated to the preservation of the last remaining natural riverways and watersheds in the Gunnison River Territory. If you can help, offer ideas or suggest sources of information, please contact POWER.

Newsletter development committee: Cindy Hansen, Mary B. Vader, Mel Bemis and contributing writers.

# Update on Rocky Point & Union Park

by Butch Clark

For the past few months, we have been in the "wait" part of a hurry-up-and-wait situation on both Arapahoe County's proposed Union Park transmountain diversion project and NECO's proposed Rocky Point 1,000-megawatt hydroelectric pumped storage project.

Slowly the appeal of the 1991 decision by the water court on availability of water for Union Park is working its way up the scheduling calendar of the Colorado Supreme Court.

Preparing a transcript of the month-long trial was delayed. There was also a good sized truckload of submitted evidence to be dealt with.

Meanwhile in march, Arapahoe made a stipulation or agreement with the Upper Gunnison River Water Conservancy District. From the beginning, proponents of Union Park set out to subordinate or eliminate any conditional water rights threatening their project. A conditional water right is obtained to keep one's place in line or priority between the time when a project is first proposed and when it is actually built and operating.

More senior or earlier local conditionals in the basin, if built in the future, could take water away from a more junior project such as Union Park, should both eventually be built.

One group of conditionals threatening Union Park are those belonging to the UG District. Two of these were for proposed large irrigation canals starting on the upper East River and on the Gunnison River near Almont.

Holders of conditional rights are supposed to diligently work toward building their projects. They can be challenged on whether they are showing sufficient progress. If not, the conditional rights are cancelled by the Water Court.

In early 1991, Arapahoe successfully challenged the District's diligence and achieved the cancellation of these two conditionals most threatening to Union Park. The District then agreed with Arapahoe to subordinate these cancelled rights to Union Park, if they are restored by the Water Court. Both parties then asked the Court to accept this arrangement.

Since these two conditionals had been cancelled before the Water Court's decision in 1991 on availability of water for the Union Park project, the stipulation



The view from atop Matchless Mountain shows the natural beauty of Taylor Park below. Matchless Mountain is the site of the upper reservoir on the proposed Rocky Point hydroelectric power project. Michael Vader photo.

does not make any more water available for Union Park.

On the plus side, the stipulation would restore the District's cancelled conditionals, but make them junior to Union Park. On the negative side, POWER generally feels that the stipulation sends the wrong political message- a willingness to negotiate. We shall see what happens.

Here is where things presently stand.

The Water Court found 20,000 acre feet of available or "free" unappropriated water in the Upper Gunnison Basin.

Of course, this is subject to the results of the appeal of this decision to the Colorado Supreme Court. However, Union Park's water collection system would tap the upper East River, the Brush Creeks, Cement Creek and Spring Creek. During the few weeks of peak runoff, this could produce about 80,000 acre feet each year.

If Union Park goes ahead, Arapahoe likely will have to contract to annually buy from the Bureau of Reclamation the difference between 80,000 acre feet and the available "free" water.

Therefore, Arapahoe must now address economic and environmental feasibility and permitting considerations - no longer the question of whether water is available. This can be a very long process which in Colorado now seems to average some 40 years.

As for Rocky Point, this proposal

seems caught up in questions over jurisdictional responsibilities for permitting between the Federal Energy Regulatory Commission and the Bureau of Reclamation.

The Bureau is to have jurisdiction over everything within the boundaries of its Taylor Reservoir. The FERC is to have jurisdiction over everything else.

Rocky Point's proponents (NECO, Black & Veatch and EBASCO Services) keep trying to fit together and coordinate the permitting requirements of these two large federal bureaucracies. Everyone else is watching and of course not being very helpful.

Continued study of the Rocky Point project is producing a growing host of harmful and totally unacceptable environmental, social and economic impacts. POWER continues to research the project in order to more strongly assert its objections and reasons for intervening in the FERC proceedings against Rocky Point.

Meanwhile, new technological developments, new energy policies, and new design considerations for Rocky Point appear to make this proposal less and less viable.

Help on a variety of issues is most welcome.

Help is also needed to identify considerations and consequences of taking away more than half the annual flow at the top of the headwaters during peak runoff.

# POWER Networks Throughout State

## POWER Meets With Salida/Buena Vista. Discusses Threats of Water Raids

by Mary B. Vader

Members of the POWER Steering Committee spent an informative Jan. 3, 1993 luncheon with the Summit group, a group of leaders from the immediate other side of the Continental Divide.

Organized by Patrick Lee, former news director at KGUC in Gunnison and current news director at KVRH in Salida, the meeting took place at Mt. Princeton Hot Springs between Salida and Buena Vista.

Attending from Salida and Buena Vista were: Tom Eve, Commissioner; David Grimes, Southern Colorado Economic Development District; Ira Curry, Chaffee County Visitor Bureau; Ron Slaughter, the Mountain Main; Jim Thompson, Commissioner; Jeff Ollinger, Upper Arkansas COG; John Harrington, Buena Vista Mayor; Patsy Brooks, Salida Mayor; Charlie Abel, Fire Chief.

Ken Plewes, Public Service Co.; Terry Barkett, Commissioner; Frank McMurry, Commissioner; Stan Ogilvie, DOW; Steve Reese, Arkansas Headwaters Recreation Area; John Engelbrecht,

Poncha Springs Mayor; Sue Gonroe, Salida Chamber; and Pegi Brown, Buena Vista Chamber.

Attending the luncheon representing POWER from Gunnison were president Butch Clark, vice president Gerald Lain, Secretary Mary Vader, Frank Vader and Paul Vader.

The Summit group had been curious about POWER's success in achieving a consensus regarding water projects in the basin. Residents of the Upper Arkansas Valley are now faced with a possible dam and diversions, being proposed by the city of Colorado Springs. (See Butch Clark's story on the Elephant Rock Reservoir and Dam.)

Butch Clark led Summit members through the history of water projects in the Gunnison Basin, focusing on the current Union Park project. Union Park's plumbing could conceivably hook in with that of the Elephant Rock project, he said.

"It appears that the upper Arkansas River basin is a hub for getting water to the east; the Gunnison basin is a hub for

getting water to the west," Clark said.

Gerald Lain spoke about the cohesiveness the Gunnison basin has experienced and the strength of a united group.

"'We the People' and 'United We Stand' aren't phrases coined by Ross Perot during his campaign for president," Lain said.

I spoke about the diverse nature of the POWER group, which boasts as its members professional engineers to ski instructors. I also talked about the importance of a friendly media to help fight the water battles.

Paul Vader brought to light the agreements between ranchers and environmentalists. Both groups want the same protection for streams, rivers and lakes.

His son Frank Vader said another strength of POWER is the group's unwavering motto: Not one drop over the hill.

The meeting was yet another way for POWER to network and gain allies in rural Colorado.

## Front Range Water Plans Discussed at Douglas County Meeting

by Butch Clark

On a VERY snowy November 21, 1992, three members of POWER attended a conference titled, "Douglas County Water: Its Future."

Obviously it was intended for Douglas County residents, and actually the target audience was land developers in the county.

The most important lesson for POWER from the conference was the need to watch carefully for Front Range local governments forming a water development authority to undertake the proposed Union Park Project.

North of Douglas County is the expanding Denver Metropolitan Area, and of course Arapahoe County with its Union Park Project. South of Douglas County is El Paso County with expanding development pressure coming from Colorado Springs.

Within Douglas County is the Town of Parker and its Parker Water and Sanitation District. This just happens to be the minor partner in the Union Park project.

Douglas County has been one of the

fastest growing areas in the United States. Its population in 1980 was 25,000, and in 1990 the population was almost 60,400. By 2010 the population is expected to be 195,000, and the ultimate build-out of already approved developments would result in a population of 500,000.

Douglas County's primary problem is insufficient water. With only recent development, most surface supplies are distant "juniors" on an already over-committed South Platte Basin. Most all water supplies in Douglas County come from wells drilled into four major aquifers at depths of up to 3,700 feet.

Recent development has produced very evident water problems. Some early homeowners now have dry wells as the water level of aquifers declined as much as 200 feet. Some new homeowners cannot even get well permits. Of course, the cost of pumping from wells is increasing.

The county is looking for outside water sources as everything nearby is taken -- and that means the Western Slope. To meet the needs of already approved

developments, the county anticipates needing a water supply of more than twice the yield of the Two Forks Project.

Douglas County is proposing a water development authority and has considered inviting Arapahoe County to join. Arapahoe already has a proposed project -- Union Park.

It also just happens there was talk at the conference of Colorado Springs or El Paso County joining the proposed water development authority.

Colorado Springs has proposed Elephant Rock Dam, located a few miles upstream of Buena Vista on the Upper Arkansas River. From Elephant Rock water would be pumped up and over the divide to flow into South Park and the systems already delivering water to the Colorado Springs area.

The pipeline to deliver water from the Union Park Reservoir to South Park and the Front Range just happens to pass by the Elephant Rock Dam. It also just

We think our Gunnison Basin will continue to face major challenges as Front Range Water developers try to connect up the plumbing system.

While Water Follows Money, Our Children Will Follow Us.

## Preservation, the Natural Solution

Please join POWER if you are not already a member. If you are, please give this form to a friend.

POWER is comprised of a dedicated, diverse, volunteer, bipartisan group of homemakers, ranchers, business people, engineers, teachers and lawyers – young and old. Become a member today – your vacation spot depends on it.

The annual membership is \$5 on up, with \$20 individual (or couple) suggested. Choose the level of support you can give to this effort, but please do join us. Memberships are valid for one year. If you have any special concerns or questions, please write them on a separate sheet and include it with your membership form.

Also, if you would be willing to volunteer for a special committee, please mention that also. And we thank you very much for your membership.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Amount: \_\_\_\_\_

Make checks payable to Gunnison Basin POWER. Mail to Box 1742, Gunnison, Colorado 81230 in care of Marsha Julio.

### Personal Opinion

## Colorado Sponsors First Water Convention

by Steve Glazer

*The West was meant to be dry-oh  
But we want it to look like O-hi-oh  
We are servants to lawns  
While to farms we are pawns  
And the mournful historians ask why-oh?*

Colorado Governor Roy Romer convened the 1993 Colorado Water Convention at the Stouffer Hotel in Denver on Jan. 4-5, 1993.

The sponsors were the Colorado Department of Natural Resources, the Colorado Water Conservation Board (CWCB), the Colorado State Engineer and the Division of Water Resources.

The subject of the first day was "Front Range Water Alternatives."

The subject of the second day was "Transfer of water from one area of the state to another." More than 500 people from all over the state represented all groups interested in water issues.

The Governor spoke on the role of the state on Front Range water challenges. He encouraged the formation of a regional water authority which could coordinate all Front Range planning and reduce the wasteful, unproductive

litigation and bickering between competing interests.

The mayor of Thornton disagreed with Romer's suggestion because any regional authority would probably want Thornton to share some of the water it has already acquired.

Aurora also later expressed the same attitude. Denver's Mayor Wellington Webb and the Denver Water Board's Chips Barry both offered to cooperate to develop water resources of the surrounding communities, but said they would not continue to take the lead to acquire water for them.

The afternoon session was divided in two. A panel discussion of potential alternative ventures for Front Range water supply lead the first half of the session. Topics included conservation, system integration, pump-back storage, interruptible supplies and expanded, shared and conjunctive uses.

In the second half of the afternoon, the participants were divided into small groups that discussed strategies to assure adequate supplies for the Front Range and what the role of the state should be.

The second day was devoted to

"Water Transfer within Colorado." A legislative panel was both partisan and predictable.

The Colorado Water Resources Research Institute presented and discussed a basin of origin scoping study. The CWCB has since authorized \$400,000 for an expanded study.

A dynamic panel discussion followed on the subject of "Is there a need for statutory protection in out-of-basin transfers?" The last panel discussion was "Alternative legislative proposals," which included Constitutional changes, a study of options from the Natural Resources Law Center at the University of Colorado at Boulder and proposals from the Colorado Water Congress.

There was no consensus on any of the issues.

The entrenched water buffaloes seem to think that water is more sacrosanct than land when it comes to private property rights and they intend to continue their efforts at water raids while trying to minimize their responsibilities to mitigate the impacts of their actions.

A report on the convention will be published soon.

## Remember: Water Conservation Begins at Home



# Geological Hazards with Rocky Point Hydro Project

by Don Graham

*Professional Geologist Don Graham, a new member of the POWER Steering Committee, has researched the Proposed Rocky Point project with the aid of Gunnison geologist Joe Hershey. Here are the interesting results from their studies.*

The proposed Rocky Point project would require the construction of an asphalt-faced, rock fill dam which would encircle an upper reservoir with a surface area of about 50 acres.

The reservoir would be located at an elevation of 11,630 feet and would be linked to the existing Taylor Park Reservoir 2,300 feet below by a complex of tunnels, inlet/outlet structures and an underground powerhouse.

A new network of roads would be necessary and a new transmission line with 80-foot steel towers would be built and connected to an existing line several miles south of the city of Gunnison.

Water would be pumped from the Taylor Reservoir to the upper reservoir, utilizing off-peak power and released daily to generate peaking power.

The proponents, Natural Energy Resources Company (NECO) and their consultants EBASCO Services and Black & Veatch have applied for a license from the Federal Energy Regulatory Commission.

All new construction projects, large and small, must be planned in such a manner as to avoid or mitigate various geologic hazards.

Some of the potential hazards and concerns the project proponents must investigate include:

- \* Unstable and potentially unstable slopes where rock slides, landslides, earthflows and debris fans are possible;
- \* Avalanche areas;
- \* Earthquakes;
- \* High water table areas;
- \* Expansive soils;
- \* Stability of stream channels and lake and reservoir banks;
- \* Excessive sedimentation in streams and lakes/reservoirs;
- \* Soil productivity;
- \* Safety of existing reservoirs;
- \* Subsidence due presence of caverns and/or sinkholes;
- \* Floods;
- \* Disruptions of natural drainage;
- \* Impacts on surface and ground water quality and quantity;
- \* Unique land forms or geologic

formations;

- \* Soil erosion;
- \* Occurrence of mineralized zones;
- \* Site stability problems due to fractured bedrock; and
- \* Source of road bed material.

A review of the applicant's geotechnical field studies reveals extensive data gaps in the investigation of many of these potential hazards.

The proponent's studies indicate extensive fracturing and brecciation in the Paleozoic sedimentary rocks below the proposed reservoir site.

What measures would be taken to ensure site stability and to prevent water leakage into and out of the tunnels?

The applicant has drilled 11 core borings at the proposed upper reservoir site and one at the proposed lower inlet/outlet structure; however, no borings were made along the proposed tunnel route.

Would extensive fracturing along the proposed tunnel route pose difficult construction problems and safety concerns?

The applicant's geologic mapping at the proposed upper reservoir site was limited because of poor rock outcrop exposure; however, there are reported to be sinkholes in the Leadville Limestone nearby.

How extensive are these features, and do they indicate possible stability problems?

Geologic mapping in the vicinity of the proposed "trailrace tunnel" indicates the presence of several normal faults dipping towards Taylor Reservoir and cutting across the planned tunnel route.

Could these structures be activated by water leakage? Would repeated filling and draining of the proposed upper reservoir cause stability problems in the underlying fractured bedrock?

The applicant refers to small landslide features in the vicinity of the inlet/outlet structure.

Do these slides pose any significant hazard? Has the potential avalanche hazard in the area been evaluated?

There is reported to be anomalous amounts of lead, zinc and silver in mineral exploration drillholes 7,000 feet away. The possible presence of minerals in excavated rock subsequently disposed of in spoil areas could have water quality implications.

Have chemical analyses been

performed on the boring samples? Would groundwater monitoring as well as surface water monitoring be conducted in the vicinity of the spoil areas?

Would repeated water withdrawals from Taylor Reservoir result in bank erosion?

The applicant refers to the occurrence of a single, magnitude 4-plus earthquake 12 miles northeast of the Rocky Point site. Would a future quake of this size threaten the upper reservoir or tunnels?

The "Transmission Line Corridor Study" (April 1988) states that the proposed corridors were drawn on USFS soil maps but that, "Slope stability could not be correlated with any specific soil unit," and that the geology was not differentiated enough to separate out unstable units.

In addition, the report states that stereo air photo coverage is not available for certain segments of the proposed corridors and that, "Additional corridor analysis is needed." What additional analysis is needed in order to distinguish unstable and potentially unstable slopes and rock fall areas?

The applicant's consultant contacted various government agencies in an attempt to solicit comments regarding mines and mineral activities in the area, but did not report any contact with the U.S. Bureau of Land Management, which manages unpatented mining claims or the U.S. Geological Survey, which conducts extensive mineral resource investigations.

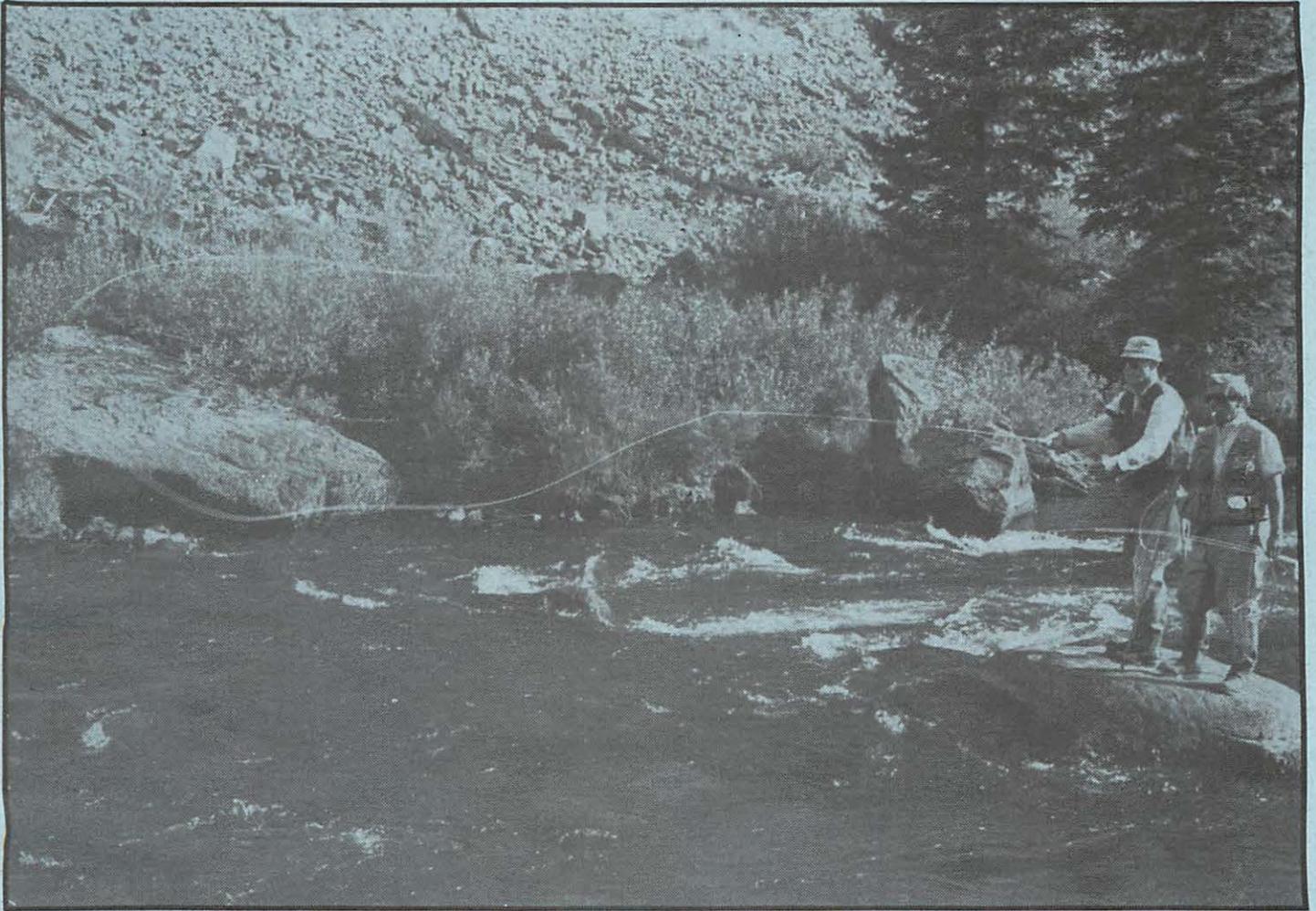
An Environmental Impact Statement of this proposed project must address these issues in order to eliminate the existing data gaps concerning potential geologic hazards.

## Silt of the Earth?

When a reservoir fills with silt and the life of that reservoir is over, what happens then? What happens when the silt begins to move downstream? How will the erosion be stopped?

To date, far-reaching and detailed monitoring programs concerning the environmental impact of river impoundment are the exception.

Perhaps we have reached a point in time when the preservation of a few river systems as "Gardens of Eden" should be seriously considered.



Retiring U.S. Supreme Court Justice Byron White enjoys dry fly fishing on the threatened Taylor River.

## Water Conservation Whets Dismay

by Cindy Hansen

I joined People Opposing Water Export Raids (POWER) with the self-appointed task of creating more public awareness concerning water conservation. Easier said than done.

As I began to research water conservation efforts, I received all the information that is abundantly printed and familiar.

Excitedly, I reviewed article after article. Then in dismay, I discovered this information was very ineffective. Yes, it contained many helpful examples of water use efficiency, both residential and commercial.

I was looking for real conservation. I wanted headlines that shouted, "NO MORE RESERVOIRS -- CONSERVE WATER." I discovered the efforts to conserve water were, well, conservative.

Why should I feel such dismay? Every "politically correct" repartee was included in this information, "xeriscape, low-flow plumbing fixtures, retrofit and even, 'yes, you can fix a leaky toilet.'"

All these suggestions were a great place to start, but I still felt I had to get to the bottom of this dismay!

Finally, after much research and reading, I began to put together a very startling picture. It told me of my dismay in three parts.

First, I encountered an old American dilemma . . . We do not conserve water unless forced to by the threat of drought or water supply contamination.

Second, my dismay continued when I discovered that people do not really understand the environmental consequences of water projects or what

I now term as "river impoundment and watershed ruin." My dismay worsened when I discovered that nobody addresses the reservoir of silt that is the long-term, end result of river impoundment. Period.

What do we do with these huge reservoirs of silt?

And third, this final observation was a big shock to my idealistic and hopeful outlook for the human race. Get ready because it is very naive. The contractors and water developers behind these water projects simply do not care about the long-term effects that their decisions will have on the land, the animals and our future generations. Their only "green" interest is the color of money.

Extremely naive. . .

It was a very sad day.

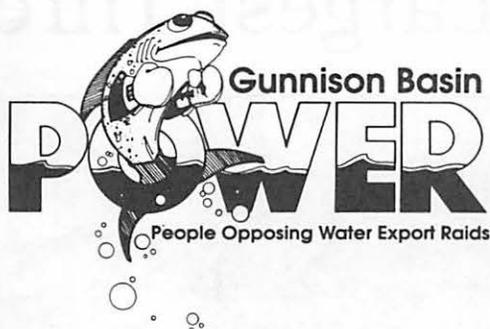


This Bureau of Reclamation photo was taken of the construction of the Blue Mesa (Curecanti Unit) dam in November of 1964. Water management has historically centered on river impoundment to supply water wherever desired.

## People Opposing Water Export Raids

Gunnison Basin POWER  
P.O. Box 1742  
Gunnison, CO 81230

# People Opposing Water Export Raids



P.O. Box 1742, Gunnison, CO 81230

Summer, 1992

## From Taylor the Fighting Trout

Allow me to introduce myself. My name is Taylor. I am a fighting trout. (See my picture above, in the logo.) I am the mascot of the group POWER (People Opposing Water Export Raids). My group is working toward keeping Gunnison Basin water which is flowing on the Western Slope from being diverted to the Front Range, more specifically, Arapahoe County and the cities of Parker and Aurora.

My group has found a second reason to fight — proposed large scale hydroelectric power plants which are threatening Taylor Park.

I couldn't help but notice that you are here vacationing and enjoying this beautiful area where I live. I live in the Taylor River Basin with its clear streams and lakes and its small local reservoirs. And since you're visiting, you must enjoy and value this area with its free-flowing streams and natural conditions.

Because of that I think you ought to know about the threats to the water and to me as well as my other fishy friends. Those threats are also yours, if you enjoy coming to this area.

Read on in this newsletter. You may not enjoy what you read, but you will learn why I have to become a fighting trout and why my friends and I need your help.

If it wasn't for those people and you, our welcomed visitor, I wouldn't have a fishes' chance in a sandy desert against water and hydroelectric development.

The people of the Gunnison Basin are leading the fight to save the water because they care about leaving Colorado the pristine beautiful area that it is world renowned for. Water and its high quality sustains the economy of this area. All of Colorado

needs to manage its water in ways that make sense — for all of us.

Let me give you a basic outline:

### • Rocky Point Hydroelectric Project.

This project, also involves building a dam. This dam would be on Rocky Point, about 2,300 feet above the Taylor Reservoir on Matchless Mountain. You can see the proposed site by looking across Taylor Reservoir from the Cranor parking lot.

Water would be pumped back and forth between the two reservoirs, consuming more energy than the 1,000 megawatts it would produce. This project is supposed to produce profits by selling electricity at times of peak demand.

• Union Park Transmountain Diversion Project. Proposed by Arapahoe County, a county in the Denver suburbs, this project proposes to collect some 900,000 acre feet of

water in Union Park, just south of Taylor Park. This very large reservoir would be about the size of Blue Mesa Reservoir.

• Union Park Hydroelectric Project. This project, also called the Upper Gunnison Basin Project, would add a second reservoir to the Union Park Project. This reservoir, called Pieplant, would have its dam about four miles upstream of Taylor Reservoir, just north of the River's End campground. Water would be pumped back and forth between Union Park, Taylor and the Pieplant reservoirs.

• W.A.T.E.R. Amendment. This amendment to the Colorado constitution would not allow any transbasin diversions of water without approval of a majority vote from the people in the area most affected by the transbasin diversion.

Read on. I hope you will help me and my fish friends. And thank you.

## POWER seeks a change

The Gunnison Basin is not alone in opposing water raids. Across Colorado — in the San Luis Valley, in the lower and upper Arkansas Valleys, near Greeley, and many other areas throughout the state — water resources have been targeted by speculative financial water plays.

Knowing that something MUST change, State Sen. Bob Pastore (D-Alamosa) introduced the W.A.T.E.R. Amendment for Colorado's constitution.

WATER stands for Willingness and Appropriateness in Transfers and Exports of Rivers. This proposed amendment gives those affected by a water transfer to outside their local

water district, the opportunity for approving the transfer by a majority vote at the first general election held after the water rights are granted by the water court.

WATER's sponsors are now in the process of collecting more than 50,000 signatures of registered Colorado voters to put the amendment on the ballot in November.

Tom Gavin, columnist for the Denver Post, says, "(The amendment) would prevent the further sucking up of distant rivers and underground water reserves for use in Denver's ever-expanding suburbs, and Colorado Springs and all the other

continued on page 2

### Inside . . .

• Information on Rocky Point Hydroelectric Project planned for the Taylor Park Reservoir;

• Update on Arapahoe County's Union Park Transmountain Water Diversion Plan;

• Map of water collection systems and electrical lines and their corridors

• Information on how you can help stop the destruction of this beautiful area.

This edition written and edited by

Marija Vader, 641-0138 and Ralph Clark, 641-2907.

# Rocky Point May be Largest Threat

The Rocky Point Hydroelectric proposal could be the most threatening in the Taylor River drainage.

The proponent of the project, the Natural Resources Energy Co., (NECO) aims to generate 1,000 megawatts of electricity. This would be accomplished by pumping water up 2,300 feet from Taylor Reservoir into a reservoir on Matchless Mountain (The Rocky Point Reservoir,) just west of Taylor Reservoir. The electricity would be generated by gravity flow of water down into Taylor Reservoir.

The project would actually consume more electricity than it would generate -- approximately 4 units used for every 3 units generated.

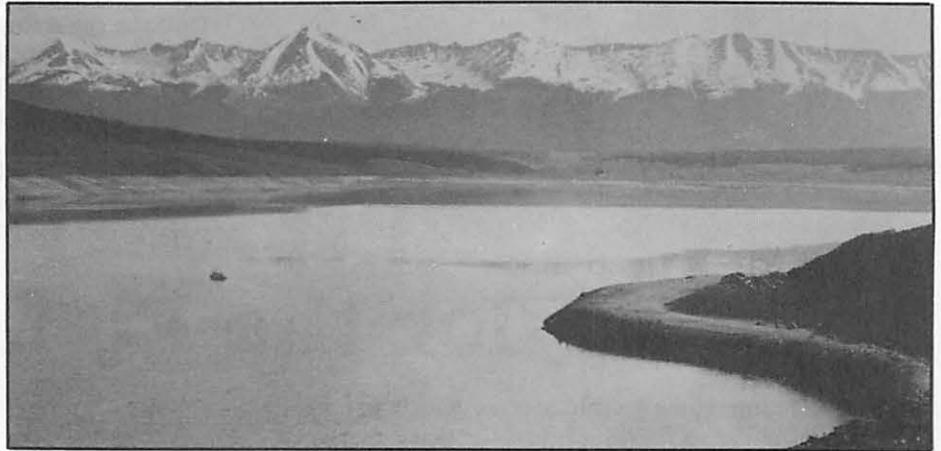
The project would make money by producing what is known as peaking power. The project owner would buy electricity at a low rate during the day while the demand for the electricity is not very high. They would use that electricity to pump the water up the mountain to the Rocky Point dam.

Then, when the demand for electricity -- and also its value -- is at its daily peak, the water would be released through the turbines in the upper reservoir to generate electricity.

So therefore, the project only generates money -- at the expense of the people who live and vacation here.

Although the plan does not include a consumption or transmountain diversion of water, POWER has become involved because of the magnitude of the plan.

Proponents feel they can build the project for about \$1 billion, and that it



This pristine view of Taylor Reservoir could be a thing of the past if Rocky Point is built. One of the points of contention is where the electrical lines would be placed. The proponents say they still don't know where they will sell the power, and where they will buy the power they need.

Photo, Marija B. Vader

would take around five years to build. Experience with projects of this scale elsewhere suggest Rocky Point will take longer, cost more and require more employees to build than proponents estimate.

The proponents must go through the Federal Energy Regulatory Commission in Washington, D.C., to gain permission to build the massive project.

**History:** The Rocky Point Hydroelectric project, when first proposed, was joined with the Union Park transmountain diversion project. Both plans are the brainchild of NECO, formed in 1982 and self-described as a group of water attorneys and retired U.S. Bureau of Reclamation executives.

Both proposed projects were to use Taylor Reservoir and the Gunnison Basin's water resources.

Now these projects are technically split apart by the sale of the Union Park project to Arapahoe County (see related story). But the initial proponents -- NECO and its engineering firm partners -- still appear closely tied financially to both projects. NECO's partners are Black and Veatch and Ebasco Services, both large engineering firms.

As yet there is no specific customer for the peaking power projected from Rocky Point. However, though speculative, it was to be the initial money maker for financing the transmountain diversion component (Union Park).

POWER members feel Rocky Point is the wrong thing in the wrong place. POWER's intervention for Rocky Point requested a comprehensive river plan, clarification of relationships between Union Park and Rocky Point and full consideration of all the alternatives to Rocky Point. This huge project is not needed to serve a Colorado market. Better projects closer to customers should be considered.

**What you can do to help:** Get in touch with your representatives and senators in Washington, D.C. Tell them you do NOT want Taylor Park ruined by this proposed speculative hydroelectric project, the construction and transmission lines.

Whether you're from New York or California, let your representatives know how you feel about a special place in Colorado.

## POWER Seeks a Change

continued from page 1

Front Range towns so hell-bent on growing into a single strip city.

"The proposed W.A.T.E.R. amendment could save the Western Slope and San Luis Valley from further threatened losses of water to the Denver Striplex -- and their own ultimate dehydrated ruin."

Persons who would like to become involved, either financially or to sign a petition, are encouraged to call 303-837-1564.

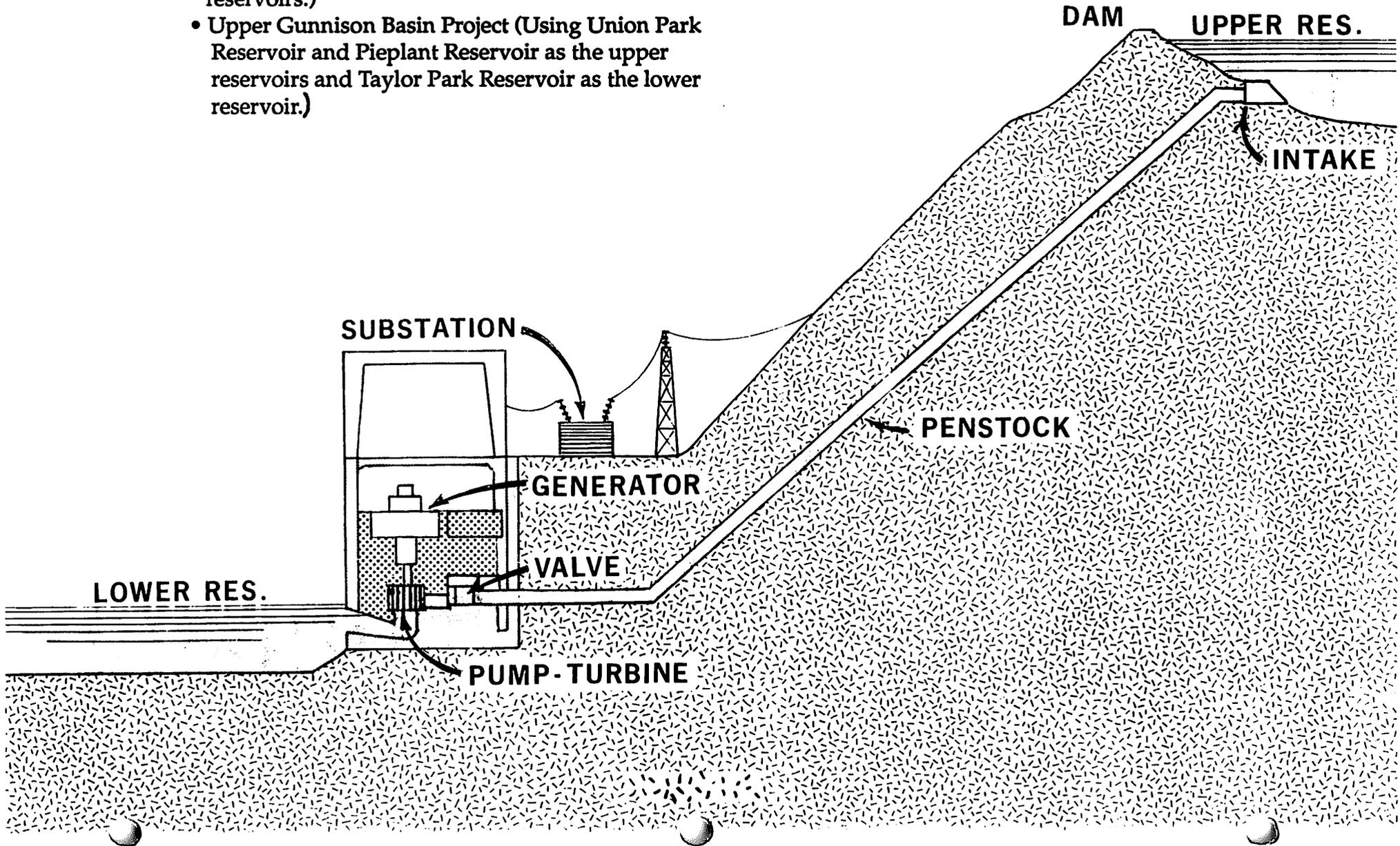
Those persons involved include Pastore, Richard Hamilton, former Colorado Trout Unlimited official; Robert McPhee, ex-Colorado Land Board Commissioner; and Marlene Zanetell, Gunnison resident and founder of POWER.

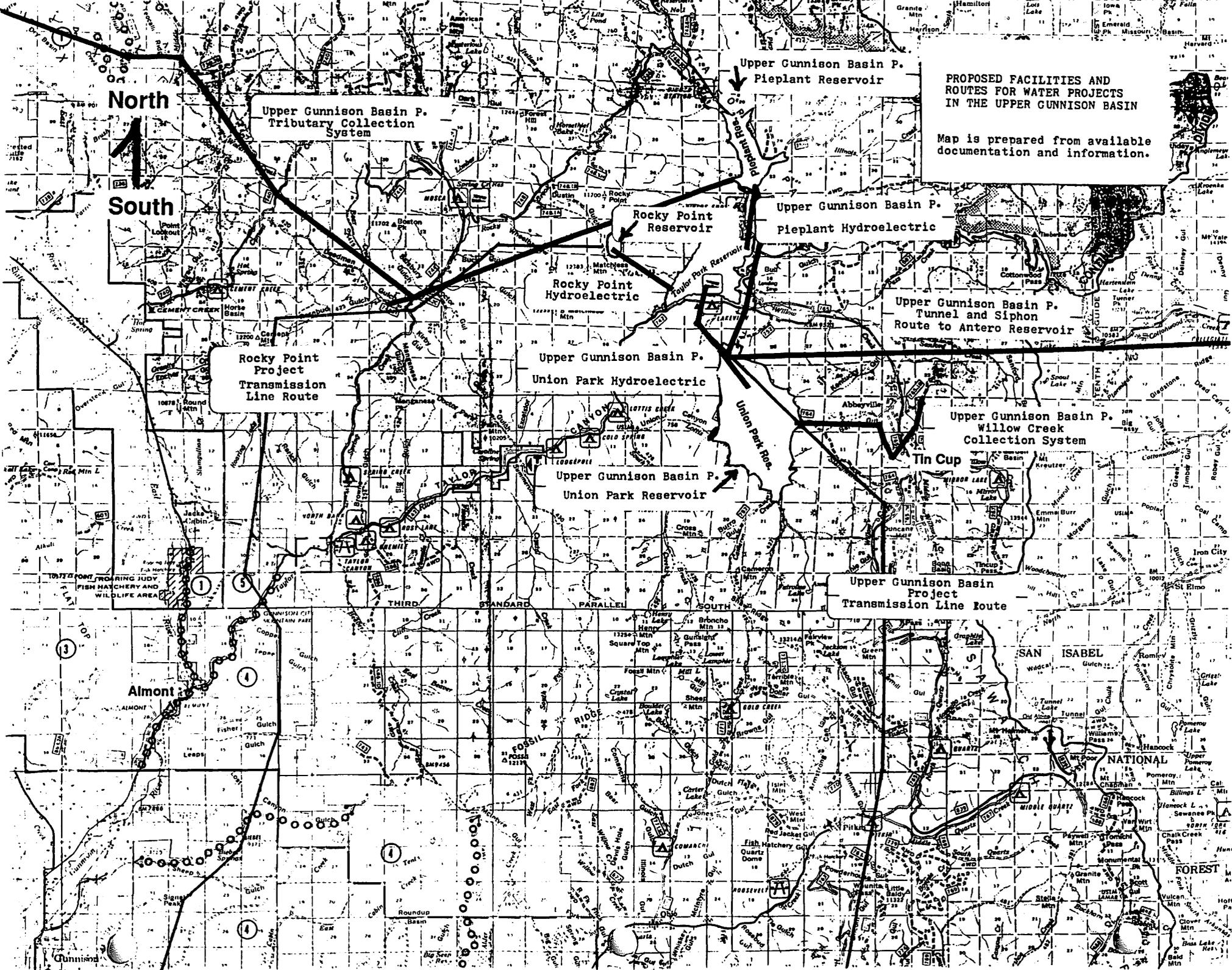
The amendment has got quite a start, but needs the help and signatures to get it on the ballot. Once on the ballot, please remember to give the vote for water in November.

## Pumped Storage Hydroelectric Plant

This is an example of the type of hydroelectric plants listed:

- Rocky Point (Using Rocky Point Reservoir and Taylor Reservoir as the upper and lower reservoirs.)
- Upper Gunnison Basin Project (Using Union Park Reservoir and Pieplant Reservoir as the upper reservoirs and Taylor Park Reservoir as the lower reservoir.)





**PROPOSED FACILITIES AND ROUTES FOR WATER PROJECTS IN THE UPPER GUNNISON BASIN**

Map is prepared from available documentation and information.

# Union Park: Hydropower and Water Diversion

There are two stages of the Union Park project, the transmountain diversion component and the hydroelectric component. Both focus on Taylor Reservoir. And they both work hand in hand with each other, but were proposed separately. Their histories are a little confusing.

## Transmountain Diversion

In 1985 a combined peaking power hydroelectric and water storage project was proposed by NECO.

In 1986 NECO sold the water diversion part called the Union Park Project to Arapahoe County to serve estimated doubling of the population by the year 2020.

The project would collect 900,000 acre feet of water (enough for 3.6 million people) in historic Union Park, just over the low ridge and a mile south of Taylor Park. Around 60,000 acre feet of stored water per year would be taken by an 11-foot diameter tunnel under the Continental Divide to the Front Range.

The proponent claims to have the interests of Gunnison Basin residents in mind, but persons of the area are not fooled by the rhetoric of NECO.

According to court papers, Arapahoe County claims to be able to divert 450 cubic feet per second (cfs) of water to the Front Range. Most summers the Taylor River runs at about 400 cfs. Arapahoe County intends to take water not only from the Taylor River, but also from the East River Basin starting above Mt. Crested Butte. It proposes to divert from the East River, Copper Creek, Brush Creeks, Cement Creek and also Spring Creek in the lower Taylor River Drainage. Arapahoe is even looking at piping water from Blue Mesa Reservoir to Union Park for diversion.

The water would be diverted via a 12.5-mile tunnel/aqueduct under the Continental Divide to Antero Reservoir, near Buena Vista. The water then would travel through the South Platte river system.

The first stage of the water court litigation determined that only 20,000 acre feet of water is available; however, Arapahoe has appealed that ruling to the Colorado Supreme Court, and a reply is pending.

## Hydroelectric Component

The latest change in the proposal is a return to a two-component project.



Union Park, a beautiful expanse of the Gunnison National Forest, is also threatened by water projects. The Union Park project would hold around 900,000 acre feet of water, about the same as that in the Blue Mesa Reservoir.

Photo courtesy Gunnison Country Times

This version, first presented in 1990, involves not only Union Park Reservoir, but Taylor Reservoir and yet another proposed reservoir, Pieplant.

It has two hydroelectric pumped storage dams, similar to Rocky Point, but much smaller. One would have a 60-megawatt capacity, and the capacity of the other has yet to be defined. Like Rocky Point, both would flush water back and forth from Taylor Reservoir.

Although the Colorado water courts have forbidden the use of Taylor Reservoir, the proponents persist in wanting to use this reservoir.

It appears the proponent, Arapahoe County and the city of Parker, want to circumvent the state's water law system with an application to the Federal Energy Regulatory Commission (FERC) for permission to build this massive project.

The proponents claim that just the studies for this project will cost \$4.6 million in October, 1990 dollars. The project alone for the transmountain diversion Union Park project, they say will cost around \$1.4 billion.

They also feel they can pay for it by using "general revenues, municipal utility revenues, bond issues, public works funds and other authorized funds," according to documents provided by Arapahoe County.

The documents also state that Arapahoe County has no intention of using the power it generates, but merely wants to sell the power to utilities in the southwestern United States.

Opponents in the Gunnison Basin feel that the project is invalid for

many reasons, one of which is that the proponents have no water rights - or right to use Taylor Reservoir - yet.

In addition, their ability to finance the project is being questioned. They therefore, may not be acting fiscally responsible to the people of Arapahoe County and Parker.

Finally, both Rocky Point, and the Arapahoe hydroelectric proposals would require construction of large scale electrical power transmission lines to get power into and out of Taylor Park.

Those could be devastating to the scenic qualities of this special area. Both proposals want to connect to existing major transmission lines running parallel to U.S. Highway 50.

However, it appears that these lines have limited capacity to serve the additional load. Both proposals may be forced to construct several thousand miles of new transmission lines to bring power to the area to pump water uphill and then deliver the peaking power to the ultimate consumers - wherever they may be.

## How do you help?

Again, when dealing with FERC on power projects, contact your U.S. Senators and Representatives.

When dealing with the transmountain diversion of water, if you live in Arapahoe County, Parker or Aurora, you may write your commissioners (Jeannie Jolly, John Nicholl and Tom Eggert) and let them know you do not want your tax dollars supporting these speculative projects. Be vocal and send your letters to the newspapers. With your help, all of Colorado can win.



# Fun facts for water followers

•If both the Rocky Point project and the hydroelectric component of the Union Park transmountain diversion project were built, the water level of Taylor Reservoir could fluctuate up and down five feet per day – and more when Taylor Reservoir is not full.

•Rocky Point would pump water 2,300 feet uphill at a rate of 5,400 cfs and send it back into Taylor Reservoir at 6,460 cfs. By comparison, the Colorado River at the state line has an average rate of flow of 6,299 cfs.

•A frequently given rule of thumb is that one acre foot of water (enough

water to cover 1 acre 1 foot deep) will serve a suburban family of four or five for one year. That is about 890 gallons used per day or 178 gallons per person per day.

•In 1991, Denver water users used about 230 gallons per resident per day, about 500 gallons per household.

•Aurora's average use is about 145 gallons per day per person, of which half is for landscaping. However, Aurora makes its plans using about 160 gallons per day per person.

•Peaking power is that extra amount of electrical power needed at the peak of demand – when everyone wants to use appliances at

about the same time. Peaking power capacity can thus serve many users. Rocky Point's capacity of 1,000 megawatts is enough for 10 million customers, and some experts say as many as 22 million residents could be served.

•Residents of the Gunnison Basin as well as the San Luis Valley voted yes by 84 percent and 98 percent respectively to raise their taxes last year in order to fight water grabs.

•Colorado Gov. Roy Romer, U.S. Rep. Ben Nighthorse Campbell, U.S. Rep. Tim Wirth are among the prestigious owners of POWER t-shirts and bumper stickers.

Gunnison Basin POWER  
People Opposing Water Export Raids  
P.O. Box 1742  
Gunnison, Colorado 81230

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While water follows money, our children will follow us . . .

## Lead Wisely!

Please join POWER if you are not already a member. If you are, please give this form to a friend.

POWER is comprised of a dedicated, diverse, volunteer, bipartisan group of homemakers, ranchers, business people, engineers, teachers and lawyers – young and old. Become a member today – your vacation spot depends on it.

The annual membership is \$5 on up, with \$20 individual (or couple) suggested. Choose the level of support you can give to this effort, but please do join us. Memberships are valid for one year. If you have any special concerns or questions, please write them on a separate sheet and include it with your membership form.

Also, if you would be willing to volunteer for a special committee, please mention that also. And we thank you very much for your membership.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Amount: \_\_\_\_\_

Make checks payable to Gunnison Basin POWER. Mail to Box 1742, Gunnison, Colorado 81230 in care of Marsha Julio.