

Memorandum

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DATE: October 23, 2006
TO: Steve Black
FROM: James S. Lochhead
RE: Million Flaming Gorge Pipeline Proposal

This memorandum is written to provide you with some background on the Green River pipeline project proposed by Aaron Million. It does not cover all the issues, but hopefully provides enough of an overview to answer initial questions. We will of course be happy to provide additional information.

Project Need

There will be a substantial need for water in eastern Colorado. For example, the SWASI study conducted by the Colorado Water Conservation Board identified a need for an additional 409,700 acre-feet of water for municipal and industrial purposes in the South Platte River basin by 2030. Similarly, there is a future need for water up and down the Front Range in Colorado.

To meet this demand, municipal water providers are increasingly looking to irrigated agriculture in both the South Platte and Arkansas River Basins. The result is a loss of irrigated farms and some of the local base supply of water. Additionally, growth in the Front Range will fuel demand for additional water from the Western Slope by expanding existing projects or building new ones. That demand, however, competes with other existing and planned water uses in the headwaters counties and on the Western Slope. Finally, the rapidly growing southern tier of the Denver area is dependent on nontributary groundwater. Conversion to renewable supplies is essential in preventing a long-term water crises in this area.

Therefore, there is a need for a project that will tap a water source that is not now fully utilized. This project can relieve pressure on Western Slope rivers, Eastern Slope agriculture, while at the same time providing additional water for municipal and other uses.

Project Description

The current concept of the project is to construct a diversion from Flaming Gorge Reservoir located on the Green River near the Utah-Wyoming border, and pipe water along the I-80 corridor to the Front Range of Colorado. If politically and legally feasible, the project could also divert from the Brown's Park area on the Green River in Colorado. However, the preference at this time is Flaming Gorge Reservoir. Flaming Gorge Reservoir is an existing reservoir operated by the Bureau of Reclamation, and was constructed under the Colorado River Storage Project Act for the purpose of allowing the Upper Basin states, including Colorado, to develop their unused allocation of water from the Colorado River and its tributaries under the Colorado River Compact. The Bureau of Reclamation has the authority to let Colorado water users receive this water under water supply contracts.

The original idea for the project was based on Mr. Million's academic thesis work at Colorado State University in Agricultural and Resource Economics. Considered a "new idea and concept" by all in the Colorado water community, the "Comparative Economics Study and Cost-Benefit Analysis of the Colorado River and Green River Basins" concluded that there were better alternatives to provide water to Colorado. Some of the reasons for this conclusion include the following:

- The Green River has better quality water than the Colorado River.
- Water can be delivered from the Green more efficiently and at a lower unit cost than from the Colorado. The project can take advantage of an existing federal storage facility that was constructed for the express purpose of utilizing the unused allocation of water for the Upper Basin under the Colorado River Compact. The pipeline can be co-located with other utility pipelines in the I-80 corridor, thus drastically minimizing environmental impacts. Power impacts for pumping can be minimized by utilizing gas lines that are already located in the corridor.
- There are very few consumptive water uses from the Green River in Colorado. As a result, a new project from the Green will not further deplete rivers that already are heavily used in Colorado. A project from the Green River will not compete for water with existing projects on Colorado's Western Slope.
- Flaming Gorge Reservoir has more storage capacity than all the existing reservoirs in Colorado. Environmental studies conducted by the Bureau

show that there is enough water to manage the reservoir to protected endangered fish species and still supply this project.

- The Green River offers a water supply to balance the supply that eastern Colorado receives from the Colorado River. For example, Lake Granby and the Adams Tunnel provide water to northern Colorado through the Colorado-Big Thompson Project. The Blue River supplies Denver through the Dillon Reservoir / Roberts Tunnel system. The headwaters of the Green River are located far away from the headwaters of the Blue River and the Colorado River. When one river system is low on water, the other can have abundant flow. Thus, the project potentially provides a regional solution by utilizing a different watershed and snowpack that may allow for increased efficiencies and less overall impacts on the entire Colorado River Basin Watershed

The project offers significant flexibility in where and how water will be used.

- Water can be delivered for use virtually anywhere in the Denver Front Range, either directly or by exchange.
- Because it is imported, the water can be used to extinction. Thus, either direct or subsequent uses of the water can be made by agriculture, perhaps providing some relief to the well pumping crises in the lower South Platte basin. Of course, the water can be re-used by supplementing currently on-going reuse projects in the South Platte.
- Direct or return flow water can be stored underground for later use. By reducing dependence in the Denver Basin aquifer, the aquifer can be used as a "bank" for managing through drought periods.
- Water might be exchanged back to the West Slope for mitigation or new uses.

The project will be developed under the concept of a "public/private partnership," which has commonly been used in other large infrastructure projects. The project will be privately financed and constructed at the outset, but the water will be delivered to municipalities, water districts or other publicly-controlled water user entities for distribution to their customers. The project developer will be responsible for obtaining the contracts and approvals for the project, for performing the necessary environmental studies, obtaining rights-of-way, etc. For example, one element of the project is obtaining a water supply contract with the Bureau of Reclamation, allowing the diversion of water from Flaming Gorge Reservoir. The Bureau will not enter that contract unless the action is analyzed under the National Environmental Policy Act ("NEPA") and an environmental impact statement is prepared. In other words, the project developer assumes the risk that the project cannot be built.

At some point, when the feasibility of the project is apparent, we anticipate that public water entities will want to assure that they will benefit from the project. They can contract for water and bear a share of the remaining costs of the project, or they may buy into the project itself. The market will set the price at which water will be available to the public water entities. Many of these entities, perhaps all of them, are looking at other potential projects to meet a portion of their water needs. It is anticipated that the price for water from the Green River project will be competitive with what the entities would need to pay for water from alternative sources.

The project developers and the project investors, including possibly public water entities, will receive a financial benefit commensurate with the risk that they bore. That return, however, ultimately will be constrained by the market for alternative sources of water and by their ability to develop the project efficiently and economically.

The Issue of a "Private Project"

Colorado and the West have a history of failed private water development schemes, including the infamous AWDI project, and proposals to market water from the Upper Colorado Basin to the Lower Colorado Basin. It is therefore legitimate to ask how this proposal is different, and why a private entity should be involved in developing a public resource.

It should be noted that this is not a traditional water export project. Unlike the Union Park project, for example, it proposes to utilize water from an existing facility – Flaming Gorge Reservoir – in an area of the basin where water quality is good and there are not significant competing demands for water. It should also be noted that public financing of water project development is not without controversy, the Referendum A debacle being a prime example.

The project is more likely to be built, and can be built sooner, with the private sector taking the lead, and the public sector receiving the water for municipal and other use, than if it were pursued as a purely public sector project. A public project of this size would need either state funding or the cooperation of a number of municipalities and districts. These are entities that have a history of competing with one another. It would not be easy to bring them all together to finance a project or to forge the type of support that would be needed to obtain state financing. Public financing, particularly before the project produces revenue to service bonds, entails taxing people to pay for the project.

Unquestionably water serves a public need, but that doesn't mean that the developer of a water project necessarily has to be a public entity. Consider the model provided by the electric industry. Private entities develop the resource and

serve the public. Additionally, public/private partnerships are common in housing and commercial developments and in public infrastructure such as E-470.

Environmental Impacts

Like any large construction project there will be impacts. As indicated above, several factors will minimize them on this particular project. Moreover, this project is designed to provide environmental benefits as well as to provide water.

The primary factor is that there is an existing reservoir at Flaming Gorge that has more storage capacity than all the existing reservoirs in Colorado combined. The project will use this existing infrastructure, which will minimize the amount of construction needed. However, the project will of course remove water from the reservoir, reducing water otherwise available for downstream fish management and power generation. The federal government already has studied how to manage Flaming Gorge Reservoir in order to protect endangered fish species downstream. They developed an environmental impact statement that quantifies what the flows released from Flaming Gorge Reservoir must be in order to accomplish this protection. The project developer believes there is enough water in the Green River to meet these flow requirements and to provide water for this project.

Aside from the environmental advantages noted above, the project will be developed to promote water conservation. Aaron Million plans to sell the water to cities and districts with conservation restrictions built into the sale. There are two mechanisms that will allow this project to push forward the conservation model in new and dynamic ways. Since the water is being priced in a "tiered" fashion according to the market, this encourages water conservation and efficient use much like the tiered pricing of many communities in the state. Also, the project will require state of the art conservation and reuse technologies be used by cities through the use of a "conservation" restriction.

Compact Issues

The Upper Colorado River Compact provides that water can be diverted from a river like the Green River upstream at Flaming Gorge Reservoir and put to use in Colorado. Water diverted from the Green can be allocated to uses in Colorado, and counted against Colorado's unused Compact allocation, not charged to the Compact allocations of other states. The Upper Colorado River Compact specifies the amount of water that must be delivered to Utah for some western Colorado rivers, like the Yampa River, but it does not set a delivery obligation for the Green. This means that the Green River provides maximum flexibility for a new project, compared with other rivers in Colorado.

There is a general consensus that Colorado has unused entitlement remaining under the Colorado and Upper Colorado River Compacts. Although it is currently

uncertain how much water is ultimately available to Colorado, this project allows Colorado to develop a significant amount of its entitlement without generating environmental impacts on the Colorado Western Slope. Moreover, because of the multiple locations for delivery of water either directly or by exchange, this project can be used to provide considerable flexibility in how Colorado might respond to a "compact call." The issue of how this project fits into Colorado's development of its compact entitlement warrants further discussion.

Conclusion

Despite the fact that the project concept has considerable merit, we acknowledge the political difficulties and issues that arise in the consideration of this proposal. We would appreciate a conference with the Senator to advise him of the project concept, answer any questions and understand his concerns, and seek his counsel on moving the project forward, if he finds the concept merits further consideration.