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I am writing to provide comments on the Red River Valley Water Supply EIS and Supporting Documents. I do so as a concerned citizen. Though I am a professional economist, I am not commenting on behalf of my employer or any other party.

I read the EIS with interest. It provoked my thinking so I dug deeper into the Supporting Report "Industrial Water Needs Assessment for the Red River Valley Water Supply Project" which was prepared for the Garrison Conservancy District by D.A. Bangsund and F.L Leistritz at NDSU. I have professional training and experience in much of the economic analysis that is provided in the EIS and the NDSU report and appreciate the great difficulty in accurately modeling and estimating changes 40-50 years into the future. While there are numerous passages in both reports that explicitly refer to the uncertainties and approximations involved, the estimates provided in both reports are presented with much more precision than is appropriate for this kind of analysis.

General Concerns With the Analysis and Process

So much of the case for investing in any of these options appears to be predicated on growth in demand due to increases in population. While I am not a demographer, the economic development studies I've been a part of have led me to read population projections for the region. The overall picture presented in the EIS seems grossly inflated. It seems reasonable to project growth in the Fargo-Moorhead area and declines in most of the rest of the region, but these countervailing forces do not appear to be adequately captured.

There are huge equity impacts involved with the various build-alternatives or the no-build alternative that are not properly addressed in the EIS or the public process. I appreciate that additional public meetings were scheduled in the last couple of months with Native communities in the region, etc. but these appeared to be an afterthought and not indicative of a proper, inclusive public process. Diverting water supplies from communities is an enormous policy intervention and the process unfolded in this case in a way that seems to lack an understanding of how serious this is. When indigenous communities are affected, in light of the tragic history of broken promises from the federal government, a great deal of respect must be given to their opposition to interference with flows of surface and groundwater.

Native and Non-Native communities in North Dakota and elsewhere have reason to see these alternatives as inequitable. Water supply is viewed by many as too basic a need to mess with. Why should communities in the Missouri Basin or elsewhere accept the risks that come from having water diverted from their surface or groundwater? One risk that the EIS seems oblivious to is communities sensing losses of self-determination. It should come as no surprise that average citizens would have many reasons to oppose merging water from different basins. Not least of these is perceived loss of security. Should we be surprised by this unease given the enormous public relations campaign that the federal

government has waged to convince people about threats to homeland security? Contamination of water supplies, whether due to terrorist activities or environmental accident, would be more widespread due to the proposed alternatives. The EIS is woefully lacking in addressing social justice concerns of these alternatives.

Projections over this long of a time frame are crude at best, and it is puzzling to me why the analysis would place so little emphasis on future advances in technologies and measures to conserve or re-use water. The estimates for 2050 seem to systematically err on the high side for growth in demand and on the low side for potential supply enhancement, conservation or re-use. This systematic imbalance leaves the impression that the analysis was conducted to reach a pre-determined conclusion. It will be a dire global future, far beyond the worst-case scenarios reported for the Red River Valley, if so little progress is made in water conservation by 2050 and such a huge expansion occurs in water-intensive industries.

I found the estimates of potential losses in future recreation benefits to be way out of line with current values in the region. Reasonable projections of potential growth in water-dependent or water-related recreation for the Red would not yield such high values even if recreation is treated as a luxury good and high income growth rates are projected for the period. The Red offers some nice opportunities, but economic values of the magnitudes given seem unreasonable even if all recreational opportunities were destroyed and no substitutes were available in the region.

Specific Concerns with the Economic Analysis

Dollar figures as large as the price tags on these alternatives present an extremely high burden of proof that this is a wise investment. These resources, both physical and financial, have an opportunity cost and imply huge taxpayers' burdens at some point. Given the uncertainty of benefits and the long-time frame it would be more financially sound to address the most immediate concerns first at a smaller scale and respond incrementally as conditions and events unfold. In the literature of benefit-cost analysis, this is referred to as endogenous learning and it is a principle that should be applied here. This principle and the related concept of quasi-option value are conspicuously absent from the analyses and if included would argue against such large-scale, irreversible projects.

Economic analysis ought to help us sort out priorities and I fear that the analyses in the EIS and the NDSU report do more to obfuscate than reveal public priorities. The literature in natural resource economics consistently establishes the priority of public health above all other concerns. In the case of water supply, the highest priority is clean, safe, reliable drinking water. It is a huge concern that these reports lump public/residential needs in with commercial and industrial demands. Drinking water needs are a quantum leap above the others in public importance. Is it possible that these categories of use are lumped together to mask that the anticipated demand is primarily for future industrial activities? Combining these demands together with higher public priorities for drinking water makes the projected shortage seem more important, crucial and urgent than it really is.

Public demand for drinking water should be emphasized as a priority and the alternatives should be evaluated for that purpose separately - as well as cumulatively - in the analysis. If the priority for drinking water is given its due, the State of Minnesota's recommendation (provided in the comments) to take an incremental approach makes more sense as a way to address these needs. If there are dire drinking water needs on the horizon for Fargo-Moorhead (as the area where growth is likely to occur) than the analysis should focus on that like a laser. Identifying this need and proposing alternatives to address it specifically would garner widespread support. The fact that the reports do not provide this focus leaves one to wonder whether there are other agendas driving these proposals and the reports.

I have friends and relatives in the Fargo-Moorhead area and it strikes me as unconscionable to detract from attention on a potential crisis in drinking water supply to these people. It is even more troublesome if it is done to inflate estimates of overall water demand to justify investments to subsidize anticipated growth in water-intensive industries.

In relating the economic analysis in the EIS and the NDSU report, I come away with the impression that the underlying agenda driving the results is subsidizing growth in industrial demand from emerging uses of agricultural commodities that promise to be water intensive. If supplying the Fargo area with ample water is actually intended to give an economic advantage in value-added agricultural activities, this should be made explicit in the analysis and overall conclusions. An alternative scenario that would be appropriate in the EIS in this case would be to look at the relative economic returns from locating these activities near the water supply (perhaps in central North Dakota where job opportunities are desperately needed) rather than diverting the water to Fargo as the favored area for industrial development. It is likely to be more equitable and economically efficient to base decisions on information which makes these goals transparent. As noted above, the equity and efficiency implications of these choices are enormous, and the analysis in the NDSU report should leave open the possibility that decisions in locating industries would be different if the full social costs of diverting water were to be properly and completely accounted for.

The EIS should be revised to sort out the priorities of drinking water supply for the citizens of Fargo-Moorhead versus the desire to subsidize industrial demand. The component of the analysis dealing with industrial demand could then properly portray the advantages to locating industry near the water supply rather than interfering with public water supply to provide in-kind subsidies in the form of cheap and available water to specific industries. The EIS as it stands is ill-suited to inform choices regarding the important resources that are at stake.

Respectfully Submitted,

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