Responses to the City of Grand Forks

Comments on the Draft Report on the Red River Valley Water Supply Project Needs and Options

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September 29, 2005

Ms. J. Signe Snortland
Senior Environmental Specialist
Bureau of Reclamation
P.O. Box 1017
304 East Broadway
Bismarck, ND 58502

Re: Draft Needs and Options Report Comments
Red River Valley Water Supply (RRVWS) Project

Dear Ms. Snortland:

Thank you for the opportunity to review and provide comments on the Draft Needs and Options Report (Report) prepared by the Bureau of Reclamation for the RRVWS Project. Please accept the following categorized comments from the City of Grand Forks per your requested deadline of October 3, 2005.

Purpose and Need

In general, the City of Grand Forks believes that the draft Report achieves its primary objectives of identifying the projected water quantity needs, estimating the projected water supply shortages that could occur during a major drought event, and developing a range of potential options to meet the future water needs of the Red River Valley. The information and cost estimates are adequate for the City of Grand Forks to select a preferred alternative. However, it is anticipated that estimates for the preferred alternative that currently remain at an appraisal level will be refined to represent feasibility level estimates for the purposes of providing improved information for Grand Forks to better understand the cost impacts of participation and requesting authorization for funding appropriations. An objective list of non-cost advantages and disadvantages for each of the alternatives would also help support the selection of a preferred alternative. It is assumed that since non-cost considerations have not been discussed at length in the draft Report, this information will be adequately presented and discussed in the final Environmental Impact Statement (EIS).

Comment 1

Comment 2

Water Quantity and Quality

As presented in previous correspondence, the City of Grand Forks anticipates the need for water treatment improvements in the foreseeable future to address aging infrastructure, regulatory, and capacity concerns. Under historical low flow conditions, the City of Grand Forks experienced a significant decline in source water quality. Based on reported assumptions by Reclamation during its completion of the hydrology modeling, it is understood that the component of upstream wastewater discharges (return flows) is in part meeting the projected demands for the City of Grand Forks and other systems that rely on the Red River as a primary

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Response to Comment 1

Cost estimates were developed in the Draft Needs and Options Report to compare options, but were not refined to a feasibility level in the final report. Such estimates will be developed during final engineering after selection of a preferred alternative.

Response to Comment 2

The beneficial and adverse effects of each of the alternatives will be disclosed in the DEIS (Draft Environmental Impact Statement) and FEIS (Final Environmental Impact Statement). These effects will be considered when identifying a preferred alternative.

Response to Comment 3

Reclamation expanded the discussion of water quality needs in the Final Needs and Options Report in chapter two, pages 2-74 through 2-83. Reclamation addressed wastewater treatment plant impact on water quality in chapter two, page 2-84 of that report. Additional water quality analyses to address the impacts on wastewater treatment plant releases on surface water quality in the Sheyenne and Red Rivers and on water treatment processes will be included in the FEIS.

source of drinking water. Due to that assumption, there is concern that the Red River could become wastewater effluent dominant during low flow conditions, which could further increase instream salinity levels, increase the level of microbial pathogens, and limit the effectiveness of conventional treatment processes.

Although an adequate volume of water could potentially be available during a drought event, source water quality is a critical factor as to whether existing or planned treatment facilities would be capable of providing an acceptable aesthetic finished water quality to residents of our community. Based on identified water quality concerns, the City of Grand Forks needs to complete a water quality assessment and determine whether or not it would be able to discharge its wastewater during low flow conditions. The City also needs to consider the associated water quantity versus water quality impacts of whether or not the Fargo/Moorhead Metro area discharges its wastewater. Therefore, accurate water quality modeling results under each of the alternatives considered for the RRVWS Project are necessary for the City of Grand Forks to evaluate the alternatives and appropriately conduct its local water and wastewater treatment planning efforts. Specifically, the City is interested in the amount of flow present in the Red River at Grand Forks and the associated water quality under each of the alternatives and the composition of the flow with respect to naturalized flow, aquatic needs flows provided by the RRVWS Project, return flows, project flows, and Thompson-Acker releases from Lake Ashtabula.

Comment 4

Comment 5

Comment 6

The potential for future drinking water and/or wastewater effluent regulations with respect to pharmaceuticals, hormones, and personal care products should also be recognized. As a result of such regulations, it is possible that the North Dakota Department of Health (NDDH) would prohibit wastewater discharges during low flow conditions, which further supports the expressed concerns and justifies the need for the requested information and analysis. Such regulations could also increase the costs of water treatment if the flows at Grand Forks are wastewater dominated. Since the Report does not appear to address the issue of water quality in great detail, it is anticipated that water quality issues identified by the City of Grand Forks and other entities and the associated impacts on the alternatives will be addressed during the completion of the final EIS.

Hydrology

The City of Grand Forks commends Reclamation for the comprehensive hydrology modeling efforts completed to date for the RRVWS Project. According to the draft Report, the hydrology model was utilized to simulate the options developed for the alternatives. Although the draft Report provides information regarding the features and respective operational assumptions, the City of Grand Forks maintains concerns with respect to:

Comment 7

- The ability to forecast the need for permitted releases from Bald Hill Dam;
- The control over operation of Bald Hill Dam upon the need to release water to meet downstream demands;
- The extent of channel loss and evaporation associated with hydraulic travel time from the point at which water is released from Lake Ashtabula; and
- Efficiency and reliability of the various alternatives relating to the concerns listed above.

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Response to Comment 4

We would appreciate receiving a copy of your water quality assessment when it is completed.

Response to Comment 5

The specific identification of sources of water between Fargo and Grand Forks, including wastewater, natural flows, project flows, etc, were not delineated in the final report. The reason is because model output for each individual water user and/or river reach over the period of record was very extensive and too specific for this level of study. Each model run output file containing specific data on a monthly time step is approximately 6,000 pages in length. However, some of these data are in columns 19 through 21 of table B.3.13 – Municipal Water Source Quantity in section B.3.2 of Appendix B in the Final Needs and Options Report.

Response to Comment 6

Water quality will be addressed in greater detail in the DEIS and FEIS. Reclamation is working closely with U.S. Geological Survey, North Dakota Department of Health, Minnesota Pollution Control Agency, and Minnesota Health Department to address the potential impacts of the alternatives on surface water quality in the Red River Valley.

Response to Comment 7

Hydrologic modeling of the options in the Needs and Options Report was completed using StateMod. This modeling software is demand driven, meaning that like most water budget models it does not take into account operational targets for managing water releases or travel times associated with the distance between water source and water withdrawal. For this reason, Reclamation used the "max month peak day" approach to demands that takes the guess work or human error out of the equation by removing the need to dynamically operate the system. After the selection of a preferred alternative and during the stages of final engineering, operational considerations for travel time and release targets can be factored into an "operational model," which could improve the efficiency of the system, potentially reducing its size.

Comment 8

The City of Grand Forks has learned that the Garrison Diversion Unit (GDU) Import to the Sheyenne River alternative was conceptualized with the ability to discharge enough water from Lake Ashtabula to meet peak day demands throughout an entire month. A list of similar key operational assumptions for each alternative should be provided for the benefit of the stakeholders to evaluate the feasibility of the alternatives.

Thompson-Acker Plan Storage Volume Allocations **Comment 9**

The City of Grand Forks understands that Reclamation has chosen to "turn off" the storage volume allocations established under the Thompson-Acker Plan for Lake Ashtabula under the action alternatives as a strategy to maximize the available storage provided by the reservoir. Despite the potential identified benefit, the City of Grand Forks disagrees with excluding the provisions of the Thompson-Acker Plan under the RRVWS Project alternatives due to the commitment of historical funding by the City to obtain a share of stored water rights from Lake Ashtabula and the current permit held by the City of Grand Forks and other systems. The City understands that its stance on Reclamation's assumption regarding the Thompson-Acker Plan is ill-timed; therefore, the City would appreciate Reclamation's efforts to address this issue and associated impacts during the finalization of the EIS.

Groundwater **Comment 10**

The City of Grand Forks has expressed concerns related to groundwater features, such as the purchase of irrigation rights and the use of groundwater sources in Minnesota to meet municipal, rural, and industrial water needs. Legislation in North Dakota was recently enacted that discourages the conversion of irrigation permits for the domestic use. The basis for such legislation is likely attributable to the benefits of irrigation on the local agricultural economy. Similarly, Minnesota statute discourages diversions of water from Minnesota for the benefit of an entity from another state or region. Furthermore, the stipulated conditions of receiving water from Minnesota for the purposes of meeting identified shortages appear to contradict the objectives of the RRVWS Project. When coupled with operational concerns and technical issues that remain to be addressed due to the complexity and level of study necessary to comprehensively evaluate the availability of groundwater resources, the feasibility of the identified groundwater features is questionable.

Water Demands and Water Conservation **Comment 11**

The City of Grand Forks appreciates the consideration given by Reclamation toward developing two water demand scenarios that reflect the range of population and industrial growth of the Red River Valley. The City also appreciates the acknowledgment of previous comments during the finalization of the Water Conservation Potential Assessment. Most notably, Reclamation eliminated the impact of conservation on industrial water demands, as recommended. Although possible, a considerable amount of effort by the water systems will be necessary to achieve the level of conservation identified by Reclamation.

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Response to Comment 8

Key hydrology and operational assumptions used in modeling appear in the Final Needs and Options Report, section 3.5.3 of chapter three, section B.3.3 of the Appendix B, and Attachment B.3 of Appendix B. Hydrology assumptions that pertain to the development of flow data used in modeling can be found in "Historic and Naturalized Monthly Streamflow for Selected Sites in the Red River of the North basin in North Dakota, Minnesota, and South Dakota, 1931-2001," U.S. Geological Survey Scientific Investigations Report, 2005-5092."

Response to Comment 9

The Thompson-Acker water allocation was "turned off" in hydrologic modeling in the Final Needs and Options Report to maximize effective use of Lake Ashtabula storage. This decision was discussed with the Corps of Engineers, St. Paul District, State Water Commission, and Garrison Diversion Conservancy District. Reclamation may consider this comment further prior to the completion of the FEIS.

Response to Comment 10

The negative economic impacts that would result from converting Elk Valley Aquifer irrigation permits to municipal use are disclosed in the DEIS. A recent resolution passed by the North Dakota Legislature to discourage such actions is disclosed in the DEIS in chapter five, page 311. Discussion of legal obstacles using Minnesota water sources is outside the scope of the Needs and Options Report. Almost all of the potential water sources have legal obstacles associated with their use. This is not an issue unique to Minnesota water sources. Chapter five of the DEIS identifies laws, regulations, and executive orders that have been considered as part of Project development.

Response to Comment 11

Thank you.

Comment 12

Representatives of the City of Grand Forks look forward to continuing their participation on the Technical Team and as a Cooperating Agency while monitoring the progression of the RRVWS project. If you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Allen R. Grasser, P.E.
City Engineer

c: Curt Kreun, Grand Forks City Council
Rick Duquette, City Administrator
Todd Feland, Public Works Administrator
Hazel Fetters-Sletten, Water Utility Superintendent
Steve Burian, P.E., Advanced Engineering and Environmental Services, Inc.

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Response to Comment 12

We look forward to your continued participation on the Cooperating Agency Team.