UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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December 22, 2020

Ref: 8ORA-N

Joe Hall, Area Manager
c/o Damien Reinhart, EIS Team Leader
Bureau of Reclamation
Dakotas Area Office
304 East Broadway Avenue
Bismarck, North Dakota 58501

Dear Mr. Hall:

The U.S. Environmental Protection Agency Region 8, in coordination with Regions 5 and 7, has reviewed the Bureau of Reclamation's (Reclamation's) November 2020 Final Environmental Impact Statement (EIS), CEQ No. 20200243, that analyzes the Eastern North Dakota Alternate Water Supply (ENDAWS) Project. We conducted this review pursuant to Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA). The Final EIS evaluates the potential impacts associated with a proposal by Garrison Diversion Conservancy District, on behalf of the State of North Dakota, to deliver an alternate water supply to the State's Red River Valley Water Supply Project (RRVWSP) serving the central and eastern communities of the state through a contract authorizing up to 165 cubic feet per second (cfs) of water.

The Preferred Alternative provides redundancy in the system for water delivery to the State RRVWSP pipeline through two potential water sources by either using 1) an intake from the McClusky Canal that conveys water from Lake Sakakawea and Lake Audubon, or 2) the State RRVWSP Missouri River intake located south of Washburn, North Dakota. The Preferred Alternative also includes an enhanced disinfection biota water treatment plant option prior to water entering the Hudson Bay Basin (HBB). This option includes a range of treatment methods including sand/grit removal and enhanced disinfection consisting of ultraviolet light and chlorination; it does not include media or membrane filtration as part of the treatment sequence. The EPA understands the importance of this project to North Dakota and that a biota water treatment plant is not a planned component of the existing State RRVWSP. In its executive summary, the Final EIS states that the purpose of the biota water treatment plant (WTP) is to treat the water prior to it being delivered into the HBB to assist in compliance with the 1909 Boundary Waters Treaty.

The primary focus of this EIS is the potential transfer of aquatic invasive species (AIS) to the HBB and it is also the focus of both our Draft and Final EIS comments. Our enclosed Detailed Comments are consistent with those we shared early in the NEPA process and include recommendations for coordinating with stakeholders to identify novel AIS to reduce the possibility of AIS transfer through the life of the project. Recognizing that turbidity and AIS treatment effectiveness are inversely related, we offer a recommendation to conduct a study of the proposed disinfection

regimen at various turbidity levels and determine the corresponding pathogen survival rates. We also provide recommendations related to water quality, wetlands and mitigation.

Through the cooperating agency process, the EPA appreciates the opportunities Reclamation provided to discuss concerns regarding the EIS analysis and options to avoid or reduce potentially significant project impacts to water resources. We recognize Reclamation's efforts in providing additional information and including new environmental commitments in the Final EIS in response to some of our previous comments. Notably, an environmental commitment has been added to monitor turbidity of incoming water and stop operations of the biota water treatment plan when turbidity exceeds 10 Nephelometric Turbidity Units. Also commendable is Reclamation's commitment to avoid impacts to all US Fish and Wildlife Service (USFWS) wetland and grassland easements by boring underneath or re-routing around the easements. We encourage Reclamation to include these commitments as part of the Record of Decision (ROD).

Please find enclosed EPA's Detailed Comments. These comments and recommendations are intended to facilitate the decision-making process and address the project's potential environmental impacts. We thank you for considering our input. If further explanation of our comments would be helpful as you finalize the ROD, please contact me at (303) 312-6704, or your staff may contact Melanie Wasco at (303) 312-6540 or wasco.melanie@epa.gov.

Sincerely,

Philip S. Strobel
Chief, NEPA Branch
Office of the Regional Administrator

Enclosure: EPA's Detailed Comments

cc: Eric Laux, Regulatory Branch Chief, USACE Omaha District
Drew Becker, Supervisor, USFWS North Dakota Ecological Services

EPA's Final EIS Comments on the Eastern North Dakota Alternate Water Supply Project
December 22, 2020

The EPA provides the following detailed comments and recommendations regarding the Final EIS analysis for your consideration as Reclamation develops the Record of Decision (ROD) and Operation Plans.

WATER QUALITY: CHLORINATION AND DISINFECTION BYPRODUCTS

In response to an EPA comment, the Final EIS now clarifies the intended water users for the approximately 20 cubic feet per second (cfs) of water that may be diverted prior to reaching the Sheyenne River. Specifically, this water is part of the Central North Dakota Water Supply Project and was identified for industrial use to specific delivery points within the Missouri River Basin (MRB). Given that the biota water treatment plant (WTP) will be using high levels of chlorine without physical removal processes to reduce precursors to disinfection byproducts (DBPs), it is expected that the DBP levels will be well above the maximum contaminant level (MCL) established in the National Primary Drinking Water Regulations (NPDWRs). We note that some types of industry further treat the water received from a public water system, and high levels of DBPs and dechlorination may increase treatment costs depending on the industry. The Final EIS further explains that the end user (i.e., industrial users) would be responsible for compliance with the NPDWRs.

Recommendation: To protect public health, we recommend providing a disclosure to prospective industrial or municipal users of water directly from the pipeline describing that DBPs will likely be over the MCL, are not safe for consumption or inhalation, and are not removed by conventional water treatment technologies.

AQUATIC INVASIVE SPECIES AND BIOTA WATER TREATMENT

Coordination with Missouri River Management Agencies and Garrison Diversion Conservancy District (Garrison Diversion)

The Draft EIS did not discuss post-project implementation coordination between Reclamation, the Garrison Diversion, and any state and federal agencies that monitor conditions in the Missouri River related to non-native or invasive biota. The Final EIS further responds by stating that monitoring of AIS in the influent water is beyond the scope of Reclamation's mission and generally states that there are other federal agencies and entities that do monitor AIS movement and establishment. Based on AIS history in the United States and the MRB, newly-discovered AIS are likely to be encountered in the MRB over the life of the project. It will be important to identify new AIS as early as possible and to ensure the biota treatment plant is capable of preventing their establishment in the HBB through this project.

Recommendation: The EPA continues to recommend establishing a long-term coordination and information sharing agreement with MRB states, Reclamation and other federal agencies such as

US Fish and Wildlife Service, US Army Corps of Engineers (Corps) and US Geological Survey, and stakeholders in downstream states and provinces. Such an agreement would allow Reclamation, the Garrison Diversion and entities downstream of the Project to remain current regarding any newly-identified AIS and to evaluate the ability of the current biota treatment plant design to prevent transfer of any newly-discovered AIS into the HBB. The November 2018 Great Lakes and Mississippi River Interbasin Study FEIS[1] may provide a useful model for this type of workgroup. It created a Monitoring and Response Workgroup (MRWG) co-led by the relevant state Department(s) of Natural Resources and relevant federal agencies. That MRWG is developing and implementing a Monitoring and Response Plan for AIS released annually to interested stakeholders. Similarly, a newly-formed workgroup for this project could assist with identifying which federal and state agencies would monitor and report AIS movement/establishment in the project area. Coordinated management of this information could inform the operational plan to avoid degradation of downstream waterbodies. We recommend a commitment along these lines be added to the ROD.

Biota Water Treatment Plant Design and Efficacy

As explained in the Final EIS, one of the primary considerations in the biota water treatment plant design is to assist in meeting the intent of the 1909 Boundary Waters Treaty to prevent the introduction of AIS into the HBB from the MRB. While there are no regulations for biota transfer, the pathogens of concern for this biota treatment plant (viral, bacterial and protozoal) are similar to pathogens extensively researched in the development of the NPDWRs. While we recognize that ENDAWS is not a public water system, the most applicable science has been developed and applied in a body of research to support the microbial set of regulations in the NPDWRs prescribed by the Safe Drinking Water Act. We provided comments on the Draft EIS regarding the application of this body of science. It is well established that biota attached to particles and entrapped within particles are much more difficult to inactivate and that the resistance mechanisms that make biota resistant to disinfectants are multiplicative. The Final EIS uses human health pathogen inactivation levels identified in the Safe Drinking Water Act (SDWA) for Giardia, Cryptosporidium, and viruses to compare inactivation efficacy in the biota WTP. We support using these treatment goals for reducing the risk of transmitting aquatic invasive species.

To achieve the public health goal of not increasing the levels of endemic disease (i.e., low level of disease in a community), the body of science and research on efficacy of disinfectants for drinking water is linked to very low levels of turbidity. The progression of microbial regulations has steadily decreased the allowable levels of turbidity to increase the efficacy of inactivation by disinfectants. For example, the EPA's latest microbial regulation achieves additional logs of reduction through a toolbox of inactivation and removal technologies commensurate to higher pathogen concentrations in the raw water when turbidity is maintained at 0.3 Nephelometric Turbidity Units (NTU). One should not expect similar pathogen reductions at higher turbidity levels above 0.3 NTU. The drinking water regulations acknowledge how turbidity shields pathogens from inactivation by establishing an acute public notice for drinking water systems exceeding a turbidity of 5 NTU.

[1] USACE. 2018. The Great Lakes and Mississippi River Interbasin Study – Brandon Road Final Integrated Feasibility Study and Environmental Impact Statement – Will County, Illinois. U.S. Army Corps of Engineers, Rock Island and Chicago Districts, Rock Island and Chicago, Illinois. November.

There is not yet a body of science that demonstrates the levels of biota (viral, bacterial and protozoal) that will survive different dosages of different disinfectants at each incremental 1 NTU increase of turbidity to some maximum NTU for biota WTPs. We understand that Reclamation recognizes the inverse relationship between turbidity and the effectiveness of ultraviolet light (UV) and chlorination disinfection. This Final EIS has responded to this concern by including an environmental commitment to monitor turbidity of incoming water and cease plant operations when the turbidity exceeds 10 NTU. This is unquestionably an important improvement toward protecting downstream waters in the HBB. The Final EIS further states that for the biota WTP facility, operational plans will be developed and implemented prior to facility startup including procedures by which chemical dosages for disinfection and other uses are varied to adjust to inlet water quality and will include a process for sharing finished water quality with stakeholders.

Recommendation: To inform those operational plans, we recommend that Reclamation consider including a commitment in the ROD to conduct a pilot study of the proposed chlorine and UV dosage levels for NTUs between 1 NTU and 10 NTU and determine the corresponding pathogen survival rates. Under the Preferred Alternative, the UV and chlorine disinfection systems are designed for a peak flow of 107 million gallons per day (MGD). By determining the levels of biota (viral, bacterial, protozoal) that may survive at each incremental increase of turbidity to 10 NTU, one could estimate the dosage of biota that would be transferred at 107 MGD to the receiving stream. If Reclamation will pursue this approach, the EPA offers to coordinate with our Office of Research and Development to investigate a potential research partnership.

WETLANDS AND AQUATIC RESOURCES

It remains unclear at this stage of the project planning whether a Clean Water Act (CWA) Section 404 individual permit or nationwide permit from the Corps will be needed. We provided comments on the Draft EIS that would be relevant if Reclamation and the Corps determine the project will need an individual permit. Specifically, we provided comments on purpose and need and range of alternatives, and we noted that the Preferred Alternative will be more impactful to the aquatic environment than other alternatives under consideration. Defining the project purpose to meet a specific request often precludes other potentially less environmentally damaging practicable alternatives. In the event an individual permit is required, we recommend referring to EPA's Draft EIS comments that provided recommendations related to the CWA Section 404 permitting process and supporting analysis.

Wetland Mitigation

The Final EIS adds new information on mitigation for any unavoidable jurisdictional and/or non-jurisdictional wetland impacts. The EPA is unfamiliar with the proposed *Mitigation and Enhancement Credit Ledger* approach. The approach is not sufficiently detailed to determine whether the mechanism for using the ledger to offset impacts to Waters of the United States is consistent with CWA requirements.

Recommendation: The EPA recommends that prior to construction, Reclamation coordinate with the Corps and EPA to review this novel proposed mitigation approach and determine adequate mitigation to offset the proposed project's impacts.