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FEMA

R8-MT

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Jill Townley
Planner Principal, EIS Project Manager
Environmental Policy and Review Unit
Division of Ecological and Water Resources
MN Department of Natural Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155

Re: FEMA Comments to Minnesota Department of Natural Resources Distributed Storage Alterative

Dear Jill Townley,

FEMA continues to support the natural and beneficial function of the floodplain and sound floodplain management. FEMA is providing consultation to USACE, the State of North Dakota and Minnesota, and the local sponsors of the Fargo-Moorhead Diversion Project regarding EO 11988 and locally adopted floodplain management ordinances. Through this coordination we anticipate all locally adopted floodplain management ordinances will be adhered to by those working on this flood risk reduction project.

FEMA was asked to provide comments on the Distribute Storage Alternative (DSA) being screened as part of the Minnesota Department of Natural Resources. After reviewing provided documentation on the DSA alternative we have identified several challenges which could prevent accreditation under FEMA, thus limiting the feasibility of the project alternative. FEMA's concerns include: the inability of the project to meet 65.10 requirements; mapping behind the proposed levees must be based on the existing conditions of the upstream drainage area; and the requirement to mitigate all structures within storage areas and classify the storage areas as floodway.

Per CFR 65.10, evidence that adequate design, operation, and maintenance systems are in place to provide reasonable assurance that protection from the base flood exists must be provided. Several assumptions made in the DSA prevent the above statement from being satisfied. The likelihood of a 100 percent utilization of storage from the HUR during a 1% flood event has not been analyzed in the DSA. This would have to occur in order to provide an adequate reduction in discharge to meet freeboard requirements. The assumption of an even distribution of snow over the storage areas is not likely. As a result, some storage areas would be overwhelmed reducing the overall performance of the system. This would prevent full utilization of the total storage volume required for adequate protection. The hydrologic dataset for the design flows have not been specifically modeled with the

upstream storage conditions presented in the HUR. The assumption that conditions would be similar is not adequate for a design alternative of this complexity. The design flows would have to be modeled to show no adverse effects on water surface elevations on the proposed levees.

It is FEMA's policy to provide mapping based on existing conditions. In order to map the proposed levees as providing protection from the 1% flood event, all of the proposed storage areas would have to be online. Based on information discussed during a call on April 16th, 2014, it is estimated that the full storage will not be available for 30 years. As a result, the levees would not be certified prior to substantial completion and the freeboard requirements of CFR 65.10 being meet.

In order to guarantee that the storage areas identified in the DSA would be able to function as designed, all insurable structures within the inundation areas would have to be mitigated. In addition to that, all storage areas being used to reduce downstream base flood elevations would need to be designated and mapped as floodway.

All of the concerns discussed will need to be addressed in the DSA in order for it to be considered for the project to be shown on an effective Flood Insurance Rate Map as providing protection from the 1% base flood elevation.

If you have additional questions please contact Ryan Pietramali.

Sincerely,

Ryan Pietramali
Risk Analysis Branch Chief