UUNarrative Response to Q. 1, 8, & 10:

RECLAMATION STATEMENT ON CONCERNS WITH PROJECT VIABILITY IN THE REPUBLICAN RIVER BASIN March 4, 2009

Bureau of Reclamation Involvement and Major Interests in the Republican River Basin

The devastating effects of a severe drought in much of the western United States during the 1930s was a major contributor to the states' strong interest in seeking Federally assisted water development in the Basin. During the late 1930s when the U. S. Bureau of Reclamation (Reclamation) was initially investigating the water projects in the Basin, we believed the first step to Federal water development was negotiation of a compact between Nebraska, Kansas and Colorado allocating water equitably between the states. This was needed to prevent conflict between the states and to insure long term project feasibility, protecting the large Federal investment. Reclamation requested that the states enter into negotiations to complete this necessary step. Reclamation stated in a 1940 Reconnaissance Report on the Basin (Project Investigation Report No. 41): "To avoid expensive litigation as a result of possible conflicting uses of water in the various states, further developments for irrigation should be preceded by a three-state compact or similar agreement on use of water." The negotiations for this compact were entered into by the three states and the Compact was signed by the states and the representative of the United States on December 31, 1942. Ratification of the Republican River Compact (Compact) by the States and the U.S. Congress followed in 1943. Although the United States was not one of the original parties to the Compact, Reclamation actively participated in the negotiating process by providing technical data and assistance to the States. Reclamation assisted the states in the Compact negotiations by preparing hydrology analysis for the Basin and sharing Reclamation's preliminary water development plans with each of the states.

Once the Compact was finalized, this water allocation laid the framework for the final planning and design of a system of Federal reservoir and irrigation projects that would assist each of the states in developing their allocated share of the Republican River. Reclamation believed that by acquiring necessary state water rights and designing its projects within each state's allocated share of the water, the water supply for these Federal projects would be protected against later water development. Between the late 1940s and 1960s seven Federal dams and reservoirs were constructed in the Basin above the Nebraska-Kansas stateline. Six of these are Reclamation projects and one is a Corps of Engineers project. Six irrigation districts were also developed which presently receive irrigation water from these reservoirs. Reclamation entered into repayment or water service contracts with each of the irrigation districts to provide for repayment of the irrigation portion of construction and their associated operation, maintenance, and

replacement (OM&R) costs for these projects. This was done with the expectation that the irrigation districts would be able to repay their share of the project costs.

Construction costs associated with the Republican River Basin Reclamation projects totaled more than $233,000,000. Of the total construction costs, $139,000,000 was allocated to irrigation and subject to reimbursement to the Federal government. The remaining construction costs were allocated to non-reimbursable public benefits such as flood control, fish and wildlife, and recreation. In accordance with Reclamation law, irrigation districts are responsible for repayment of the total construction costs allocated to irrigation, subject to their ability to repay these costs. In cases where it is determined that irrigation districts lack the ability to repay their share of the total construction costs allocated to irrigation, the remaining construction costs are included in the rates charged for the purchase of hydropower generated at Federal facilities in the Missouri River basin. This is known as "aid-to-irrigation". Of the approximate $139,000,000 irrigation construction costs, about $39,000,000 will have been repaid by districts, leaving approximately $100,000,000 to be repaid by Federal power users. These costs do not include the future revenues received from the associated OM&R costs for these projects. The reduced water supply also has effects to the local and State economies as a result of lower crop yields and decreased recreational opportunities. These types of effects are not quantified in the above mentioned impacts.

The total active conservation storage content in the seven Federal reservoirs is 480,051 acre-feet and the total project irrigated acreage served by the Federal projects is 137,594 acres. The City of Norton, Kansas also receives municipal and industrial water from Keith Sebelius Lake, a Reclamation reservoir in Kansas located on Prairie Dog Creek. The Federal projects also provide significant fish and wildlife, recreation and flood control benefits. Each of the Federal projects was granted state water rights and water use by these projects is an integral part of the river system and the Compact allocation of water for each state.

History of Inflows and Water Deliveries at Federal Projects

Our records show that surface water flows in the Basin began to decline significantly in the late 1960s right at the time groundwater development in the Basin was expanding at a rapid rate. The following table provides a comparison of reservoir inflows over progressive periods of time. The column labeled "DPR" refers to the expected reservoir inflows contained in the Definite Plan Reports (DPR), prepared for project planning purposes in the 1950s. The remaining columns show the average decade inflow for each decade between 1956 and 2005. Inflows have steadily declined since the projects were first planned to a level that is generally less than 40 percent of the DPR inflow. The DPR inflows were based on the historic records existing at the time the reports were prepared with adjustments for anticipated future upstream depletions. Significant irrigation development from groundwater wells was not anticipated at that time. Historic monthly inflow records for each of the reservoirs are included in folder Q.1. Graphs displaying reservoir inflow versus annual precipitation and well development are also included in this folder. These graphs indicate that the decline in inflow is not a result of a change in

the average precipitation amounts. The decline in inflow does, however, correlate closely with the increase of irrigation well development.

Federal Reservoir Average Annual Inflow - Acre-Feet

	DPR AVERAGE	1956-1965	1966-1975	1976-1985	1986-1995	1996-2005
BONNY (Armel Unit)	30,800	35,500	23,500	17,200	16,600	10,300
Percentage of DPR		**115%**	**76%**	**56%**	**54%**	**33%**
ENDERS (F-C Divison)	55,100	56,600	48,700	29,200	20,600	11,800
Percentage of DPR		**103%**	**88%**	**53%**	**37%**	**21%**
SWANSON (F-C Division)	115,300	121,100	82,900	67,100	58,700	32,300
Percentage of DPR		**105%**	**72%**	**58%**	**51%**	**28%**
HUGH BUTLER (F-C Division)	19,300	22,200	23,600	19,500	17,400	13,300
Percentage of DPR		**115%**	**122%**	**101%**	**90%**	**69%**
HARRY STRUNK (F-C Division)	56,800	59,700	51,400	42,300	40,900	35,500
Percentage of DPR		**105%**	**90%**	**74%**	**72%**	**63%**
NORTON (Almena Unit)	26,600	20,400	11,100	4,500	8,200	9,900
Percentage of DPR		**77%**	**42%**	**17%**	**31%**	**37%**
HARLAN COUNTY (Bostwick Division)	359,000	368,800	249,200	165,600	159,400	134,100
Percentage of DPR		**103%**	**69%**	**46%**	**44%**	**37%**

Reduced surface water supplies have caused project water deliveries, throughout the Basin, to decline. Groundwater development and other activities in the Basin directly impact the water supply for the canals associated with the Federal projects. The following table shows the planned full service canal deliveries to the farm included in the DPRs versus actual average canal deliveries to the farm for several ten year time periods. This table shows a consistent, progressive decline in water deliveries to irrigated farms served by these canals.

Average Water Deliveries to the Farm - Inches/Acre					
	1966-1975	1976-1985	1986-1995	1996-2005	DPR Full Supply
Frenchman-Cambridge Division					
CULBERTSON CANAL	17.2	9.7	6.2	4.5	18.0
CULBERTSON EXTENSION	14.6	7.9	5.1	2.7	18.0
MEEKER-DRFTWOOD CANAL	16.8	13.5	12.4	7.1	18.0
RED WILLOW CANAL	13.7	12.7	12.5	7.1	18.0
CAMBRIDGE CANAL	13.1	12.7	11.4	8.6	18.0
BARTLEY CANAL	15.9	13.6	10.7	6.1	18.0
Almena Unit					
ALMENA CANAL	9.8	1.3	1.7	3.4	18.0
Bostwick Division					
FRANKLIN CANAL	13.9	12.4	10.3	8.3	18.0
NAPONEE CANAL	15.8	13.2	9.7	7.7	18.0
FRANKLIN PUMP CANAL	11.9	11.3	9.7	8.1	18.0
SUPERIOR CANAL	14.8	13.2	10.0	9.2	18.0
COURTLAND CANAL (NE)	10.5	9.6	7.5	8.0	18.0
COURTLAND CANAL (KS)	10.5	11.0	8.9	10.5	18.0

An increase in groundwater wells in the basin, for irrigation development, became particularly evident during the 1960s and 1970s. Between 1960 and 1980 over 8,000 new wells were developed in Nebraska within 12 miles of a major stream in the Basin above Hardy, Nebraska (source: Nebraska Department of Natural Resources (DNR) well database). This time frame corresponds closely with a noticeable decline in base flows throughout the Basin providing evidence that there is a significant aquifer-streamflow interaction. Subsequently, significant declines in groundwater levels have continued to occur in the upper Republican River (Source: USGS). Reclamation believes, based on this data, that groundwater mining is occurring in the basin and that without a significant reduction in groundwater pumping, the water supply for Reclamation's projects in the Basin will continue to decline. This is further supported in the report prepared by HDR Consultants in June 2006 entitled "Hydrologic Trends and Correlations in the Republican River Basin in Nebraska."

The reduced water supply available to the Reclamation irrigation districts (districts) has significantly impacted the districts' ability to repay their share of the Reclamation project costs in the Republican River basin. During the districts' contract renewal, in the mid 1990s, the irrigators' ability to repay the Federal project costs was carefully reviewed and adjustments in cost allocations were made consistent with current policy. These adjustments were primarily a result of the depleted water supply. In testimony preparation, Reclamation recently evaluated the reduced revenue to the Federal Government caused by the depleted water supply. From the execution of the new

contracts to date, the reduced revenue to the Federal Government has been approximately $5,000,000.

Nebraska Republican Basin Natural Resources Districts' Integrated Management Plans (IMPs) and The Protection of Reclamation's Major Interest in the Basin

Under Nebraska State law (LB 962), the Natural Resources Districts (NRDs) and DNR are required to develop Integrated Management Plans (IMPs) for integrating the management of the surface and groundwater supply for streams that are designated as fully appropriated. While the IMPs prepared jointly by the NRDs in the Basin and DNR are an important first step in controlling groundwater depletions, we do not believe that the groundwater pumping allocations provided in the current plans are sufficient to prevent groundwater mining in the basin. Reclamation has provided written testimony at each of the IMP hearings held in the Basin outlining our concerns including our concern that the plans do not permit equity among water users as they still favor groundwater users over surface water use. A copy of each of the written testimonies provided at the hearings is included in Folder Q 9. Our experience leads us to believe that sustained Compact compliance requires addressing groundwater mining in the basin. It is our position that ground water consumptive use must be reduced to allow base flows to recover to a level that will allow both Colorado and Nebraska to consistently comply with the Compact.

The Federal storage projects provide significant benefits; storing water during higher runoff periods and then releasing this stored water to help augment low river flow conditions. This stored water helps satisfy project irrigation requirements and enhances river flows for other downstream needs. During 2006, 2007 and 2008 the state of Nebraska and the Republican River Basin Coalition entered into agreements with Reclamation and some of its irrigation districts to purchase portions of the districts' water supply. This purchased water was used to help Nebraska in their effort to comply with the Compact.

Groundwater pumping and other upstream uses are progressively depleting reservoir inflow. Without additional limits and controls on groundwater pumpers; irrigation deliveries and other important project benefits will continue to decline, irrigators' ability to repay the federal investment will be reduced, and Reclamation's ability to make stored water available to assist Nebraska with Compact compliance will be very limited.