JON M. HUNTSMAN, JR.
Governor
GARY R. HERBERT
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Water Rights

MICHAEL R. STYLER
Executive Director

JERRY D. OLDS
State Engineer/Division Director

BEAVER RIVER
REGULATION OF RESERVOIR STORAGE

INTERIM DISTRIBUTION ORDER

RESERVOIR STORAGE

The attached "General Schedule and Schematic" dated 02/28/2005 and "General Description and Relative Priority" dated 02/28/2005 are incorporated into these instructions to the water commissioner by reference.

Water may be stored in Minersville Reservoir, Three Creeks Reservoir, and Kent's Lake Reservoirs according to the relative priority schedule shown on the "General Schedule and Schematic" and subject to the limitations described in the "General Description and Relative Priority".

Any deviation from the relative priority schedule must be based on water right change applications that have been submitted to and approved by the State Engineer.

THE FLOW OF BEAVER RIVER ABOVE PATTERSON DAM

When no storage is occurring in either Three Creeks Reservoir or the Kent's Lake Reservoirs, the flow of the river will be determined as the flow measured at the USGS gauging station at the mouth of Beaver Canyon (#10234500). At any time water is being stored in or released from any or all of the reservoirs, the flow of the river will be calculated from the following formula:

Beaver River Flow = USGS + (TCI – TCO) + (KLI – KLO)

Where

USGS = the flow measured at the USGS gauging station at the mouth of Beaver Canyon
TCI = the calculated inflow to Three Creeks Reservoir
TCO = the measured outflow from Three Creeks Reservoir
KLI = the calculated inflow to the Kent's Lake Reservoirs
KLO = the measured outflow from Kent's Lake Reservoirs

The flow of the river shall be calculated as often as necessary for an accurate distribution of Beaver River direct flow, reservoir storage, and reservoir storage releases. At a minimum it shall be calculated weekly.

THE FLOW OF BEAVER RIVER BELOW PATTERSON DAM

The flow is determined as the sum of all the measured diversions below Patterson Dam.

The flow of the river below Patterson Dam shall be determined as often as necessary for an accurate distribution of the water.

THREE CREEKS RESERVOIR INFLOW

The inflow to the reservoir is calculated from the following formula:

Three Creeks Inflow = [(TCcs/T) x 12.10] + TCOa

Where

TCcs = the change in storage content at Three Creeks Reservoir since the previous measurement in acre-feet (may be a positive or negative number);

T = the elapsed time since the previous measurement in hours (the time of each measurement should be recorded at least to the closest hour);

12.10 = multiplier factor to convert acre feet per hour (af/h) to cubic feet per second (cfs);

TCOa = the average of the outflow measurement taken at the time of the previous reservoir content measurement and the current outflow measurement in cfs.

KENT'S LAKE RESERVOIR INFLOW

The inflow to the reservoir is calculated from the following formula:

Kent's Lake Inflow = [(KLucs/T) x 12.10] + [(KLmcs/T) 12.10] + KLOa

Where

KLucs = the change in storage content at Upper Kents Lake Reservoir since the previous measurement in acre-feet (may be a positive or negative number);

KLmcs = the change in storage content at Middle Kents Lake Reservoir since the previous measurement in acre-feet (may be a positive or negative number);

T = the elapsed time since the previous measurement in hours (the time of each measurement should be recorded at least to the closest hour);

12.10 = multiplier factor to convert acre feet per hour (af/h) to cubic feet per second (cfs);

KLOa = the average of the outflow measurement taken at the time of the previous reservoir content measurement and the current outflow measurement in cfs.

MINERSVILLE RESERVOIR INFLOW

The inflow to the reservoir is calculated from the following formula:

Minersville Inflow = [(Mcs/T) x12.10] + MOa

Where

Mcs = the change in storage content at Minersville Reservoir since the previous measurement in acre feet (may be a positive or negative number);

T = the elapsed time since the previous measurement in hours (the time of each measurement should be recorded at least to the closest hour);

12.10 = multiplier factor to convert acre feet per hour (af/h) to cubic feet per second (cfs);

MOa = the average of the outflow measurement taken at the time of the previous reservoir content measurement and the current outflow measurement in cfs.

COMMISSIONER'S REPORT

In addition to the diversion data currently reported by the commissioner, the following data shall be included in the Beaver River Commissioner's reports beginning with the report for 2005:

The inflow to Three Creeks Reservoir for every date it was calculated;
The outflow of Three Creeks Reservoir for every date it was measured;
The storage content of Three Creeks reservoir for every date it was measured;
The inflow to Kent's Lake Reservoirs for every date it was calculated;
The outflow from Kent's Lake Reservoirs for every date it was measured;
The storage content of each of the Kent's Lake Reservoirs for every date they were measured;
The inflow to Minersville Reservoir for every date it was calculated;
The outflow of Minersville Reservoir for every date it was measured;
The storage content of Minersville reservoir for every date it was measured;
The flow of the Beaver River above Patterson Dam for every date it was calculated;
The flow of the Beaver River below Patterson Dam for every date it was calculated;

Although this order is adopted on an interim basis, it will remain in effect until another Distribution Order from the State Engineer supercedes it. The implementation and operation of this order will be reviewed and comments taken after the close of the 2005 irrigation season.

Jerry D. Olds — 3/1/05

Jerry D. Olds, P.E.
State Engineer

Date

BEAVER RIVER WATER RIGHTS
GENERAL DESCRIPTION AND RELATIVE PRIORITY
02/28/05

Water Rights	Description
77-408 (a10425); 77-1662; 77-1818	**STORAGE IN THREE CREEKS RESERVOIR*** **Water rights moved from Twin Lakes Reservoir** 325 acre feet. Priority Date – 1890 Storage period - 4/1 to 6/30 • No other limitations or conditions.
Various water rights	**DIRECT FLOW DIVERSIONS** **Beaver River above Patterson Dam** Priority Dates – 1870, 1890, 1903 • BRD indicates a total diversion rate of 161.31 cfs; however, actual diversion capacity appears to be about 120 cfs.
Various water rights	**DIRECT FLOW DIVERSIONS** **Beaver River below Patterson Dam** Priority Dates – 1870, 1890, 1903 • BRD Section II subordinates these rights to all water rights above Patterson Dam; however, the reduced diversion capacities above Patterson Dam and the limitations placed on DF above P changed to storage give these rights a higher priority relative to the upstream storage rights when BR is flowing between 120 cfs and 161.31 cfs.
71-2445	**STORAGE IN MINERSVILLE RESERVOIR** **Water right owned by Minersville** 7500 acre feet. Priority Date – 1870. Storage Period - 1/1 to 12/31 • BRD Section II - subordinates this right to the Twin Lakes rights and DF above P. When BR flow is greater than 161.3 cfs. this right is also subordinate to storage in Kent's Lake Res. and Three Creeks Res.
77-181 (a2752); 77-182 (a2753); 77-183 (a2754); 77-184 (a2755); 77-185 (a2764)	**STORAGE IN THREE CREEKS RESERVOIR*** **DF above P that were changed to storage** 1193 acre feet Priority Date – 1870; Change Priority Dates – 1956, 1953, 1961, 1953, & 1953 respectively Storage Period – 4/1 to 10/31 Storage rate limited to 41.31 cfs • The approval on each change application requires that all junior downstream rights (DF below P) be first satisfied before water can be stored under these rights. • Paragraphs 3 and 4 of the 1953 Agreement give these storage rights priority over Rocky Ford storage rights in Minersville Reservoir. • Minersville did not sign the agreement so its 7500 acre feet of storage in Minersville Reservoir must be filled before water can be stored under these rights. • When water is being stored in Three Creeks Reservoir under these rights, the sum of the flow measured at the USGS station plus the calculated or measured inflows retained as storage in Three Creeks Reservoir is the equivalent of the flow of BR "measured at the USGS Station" as stated in the BRD.
77-4 77-407 77-1815 (a25114 pending)	**STORAGE IN KENT'S LAKE RESERVOIR** **Decreed in BRD** 830 acre feet. Priority Date – 1890 Storage Period 4/1 to 6/30 • BRD Section V – flow of BR must be greater than 161.31 cfs measured at the USGS station before water can be stored under this right. Flows stored in Three Cr. under above rights are included in the 161.31 cfs.
77-177 (a1413) 77-1817 (a25114 pending)	**STORAGE IN THREE CREEKS RESERVOIR*** **Water rights moved from Kent's Lake Reservoir** 830 acre feet. Priority Date – 1870; Change Priority Date – 1938 Storage Period - 4/1 to 6/30 • BRD Section V - flow of BR must be greater than 161.31 cfs measured at the USGS station before water can be stored under this right. Flows stored in Three Cr. under above rights are included in the 161.31 cfs. • ABRD – the storage rate under this right is limited to the flow at the point of diversion on South Fork that could be but is not diverted to storage in Kent's Lake Res.
71-1948	**STORAGE IN MINERSVILLE RESERVOIR** **Water right owned by Rocky Ford** Priority Date – 1907 Storage Period – 1/1 to 12/31 • 1953 Agreement subordinates this right to the DF above P changed to storage and the Kent's Lake Reservoir storage rights changed to Three Creeks Reservoir.

* The 1953 Agreement limits Three Creeks Res. to one fill each year.

1953 Agreement = The 1953 Agreement between Kent's Lake and Rocky Ford
ABRD = 1943 Supreme Court Decision and Amended Court Decree
BR = Beaver River
BRD = 1931 Beaver River Decree
DF above P = Direct flow diversion rights above Patterson Dam
DF below P = Direct flow diversion rights below Patterson Dam
Kent's Lake = Kent's Lake Reservoir Company
Minersville = Minersville Reservoir and Irrigation Company
P = Patterson Dam
Rocky Ford = Rocky Ford Irrigation Company
USGS station = USGS stream gauging station on Beaver River at the mouth of Beaver Canyon