



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

State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Water Rights

MICHAEL R. STYLER JERRY D. OLDS
Executive Director *State Engineer/Division Director*

March 1, 2005

Wade Bradshaw, Mayor
Beaver City Corporation
PO Box 271
Beaver, UT 84713-0271

Mark Truman, President
Rocky Ford Irrigation Co.
PO Box 49
Minersville, UT 84752

Robin Bradshaw, President
Kent's Lake Reservoir & Irrigation Co.
PO Box 421
Beaver, UT 84713

Hayward Marshall, President
Minersville Reservoir and Irrigation Co.
PO Box 6
Minersville, UT 84752

Re: Beaver River
Interim Distribution Order – Reservoir Storage

Gentlemen:

Enclosed please find a copy of the Interim Distribution Order for Reservoir Storage on the Beaver River. We appreciate those who provided comments regarding the Draft Order that was mailed to you on August 16, 2004. We have carefully considered the comments and based on them the Interim Order includes several revisions.

The Division of Water Rights will implement the interim order this year and will be working with the Beaver River Commissioner regarding the changes in his tasks and responsibilities. There probably will be a transition period between the time the commissioner starts the new procedures and the time when they will be considered fully implemented. We request your patience during this period.

The order is being implemented on an interim basis so there can be a review after the 2005 irrigation season and a determination if additional changes are needed. Although it is an interim order, it will remain in force until superseded by succeeding distribution order regarding reservoir storage on the Beaver River is issued by the State Engineer.

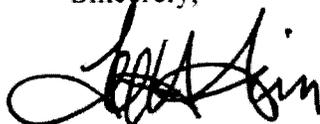
If you have any questions concerning either the interim order or its implementation, please contact me by phone at (801)538-7380 or by e-mail at LeeSim@utah.gov or Kerry Carpenter, Regional Engineer, by phone at (435)586-4231 or by e-mail at KerryCarpenter@utah.gov.

RECEIVED

JUN 11 2014

WATER RIGHTS
SALT LAKE

Sincerely,



Lee H. Sim, P.E.

Assistant State Engineer for Distribution

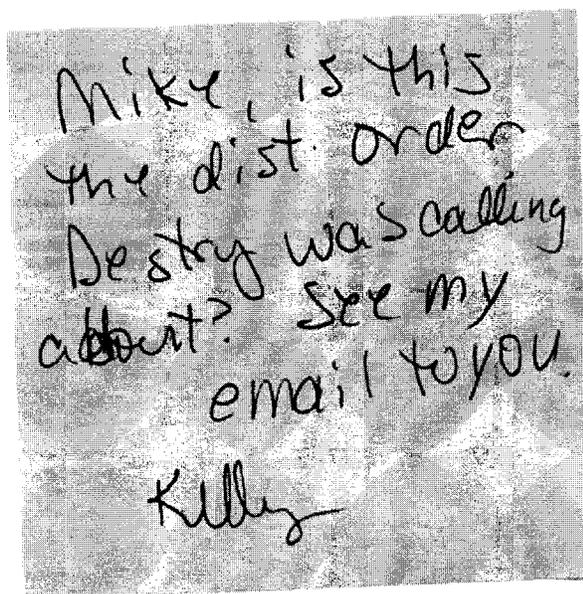
cc:

Ron Roberts, Water Commissioner
PO Box 605
Beaver City, UT 84713

Kerry Carpenter, Regional Engineer
P.O. Box 506
Cedar City, Utah 84721-0506

Mike Quealy
Parsons, Behle & Latimer
P.O. Box 45898
Salt Lake City, UT 84145-0898

John Mabey
265 East 100 South Suite 300
Salt Lake City, UT 84111



Mike, is this
the dist. order
De stoy was calling
about? See my
email to you.
Kelly



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

State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Water Rights

MICHAEL R. STYLER JERRY D. OLDS
Executive Director *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:

$$\text{Beaver River Flow} = \text{USGS} + (\text{TCI} - \text{TCO}) + (\text{KLI} - \text{KLO})$$

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:

$$\text{Three Creeks Inflow} = [(\text{TCcs}/\text{T}) \times 12.10] + \text{TCOa}$$

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:

$$\text{Kent's Lake Inflow} = [(\text{KLucs}/\text{T}) \times 12.10] + [(\text{KLMcs}/\text{T}) \times 12.10] + \text{KLOa}$$

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:

$$\text{Minersville Inflow} = [(\text{Mcs}/\text{T}) \times 12.10] + \text{MOa}$$

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);

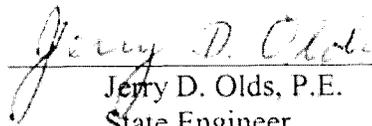
MOa = the average of the outflow measurement taken at the time of the previous reservoir content measurement and the current outflow measurement in cfs.

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, P.E.
State Engineer

3/1/05
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* 325 acre feet. Priority Date – 1890 • No other limitations or conditions. Water rights moved from Twin Lakes Reservoir Storage period - 4/1 to 6/30
Various water rights	DIRECT FLOW DIVERSIONS 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. Beaver River above Patterson Dam
Various water rights	DIRECT FLOW DIVERSIONS 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. Beaver River below Patterson Dam
71-2445	STORAGE IN MINERSVILLE RESERVOIR 7500 acre feet. Priority Date – 1870. • 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. Water right owned by Minersville Storage Period - 1/1 to 12/31
77-181 (a2752); 77-182 (a2753); 77-183 (a2754); 77-184 (a2755); 77-185 (a2764)	STORAGE IN THREE CREEKS RESERVOIR* 1193 acre feet Priority Date – 1870; Change Priority Dates – 1956, 1953, 1961, 1953, & 1953 respectively Storage Period – 4/1 to 10/31 • 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. DF above P that were changed to storage Storage rate limited to 41.31 cfs
77-4 77-407 77-1815 (a25114 pending)	STORAGE IN KENT'S LAKE RESERVOIR 830 acre feet. Priority Date – 1890 • 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. Decreed in BRD Storage Period 4/1 to 6/30
77-177 (a1413) 77-1817 (a25114 pending)	STORAGE IN THREE CREEKS RESERVOIR* 830 acre feet. Priority Date – 1870; Change Priority Date – 1938 • 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. Water rights moved from Kent's Lake Reservoir Storage Period - 4/1 to 6/30
71-1948	STORAGE IN MINERSVILLE RESERVOIR 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. Water right owned by Rocky Ford

* 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



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

State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Water Rights

MICHAEL R. STYLER JERRY D. OLDS
Executive Director *State Engineer/Division Director*

April 28, 2005

Wade Bradshaw, Mayor
Beaver City Corporation
PO Box 271
Beaver, UT 84713-0271

Mark Truman, President
Rocky Ford Irrigation Co.
PO Box 49
Minersville, UT 84752

Robin Bradshaw, President
Kent's Lake Reservoir & Irrigation Co.
PO Box 421
Beaver, UT 84713

Hayward Marshall, President
Minersville Reservoir and Irrigation Co.
PO Box 6
Minersville, UT 84752

Re: Beaver River
Interim Distribution Order - Reservoir Storage

Gentleman;

Several questions have arisen since the Interim Distribution Order was issued on March 1, 2005 and the Report on Inspection of Measuring Devices was circulated. The purpose of this letter is to address some if not all of these questions.

General Description and Relative Priority Table

There was a question regarding the limitations described under "Storage in Minersville Reservoir (Water Right owned by Minersville)". This portion of the table was re-written to clarify the limitations. The revised table is attached.

Beaver River Diversion / Storage - Flow Scenarios

This attached document was created to help describe, in broad terms, how reservoir storage would be regulated in conjunction with direct flow diversion at various flow stages of the Beaver River.

UP&L Hydropower Right

The UP&L 10 cfs power right was removed as a limitation on the flows that could be stored in Three Creeks under the storage rights changed from Kents Lake Reservoir because the UP&L hydropower right is later in priority than the Kents Lake Reservoir storage rights. Between April 1st and June 30th, the entire flow of South Fork can be diverted to storage in Kent's Lake Reservoir as long as the flow of Beaver River remains above 161.31 cfs (as determined by the formula set forth in the Interim Distribution Order). Since the entire South Fork flow can be diverted to storage in Kent's Lake, there is no reason to reduce the flow that could be stored in Three Creeks Reservoir based on the flows that are bypassed at Kent's Lake Reservoir.

Three Creeks Reservoir and Kents Lake Reservoir Measuring Device Status

Our review of Robin Bradshaw's January 21, 2005 letter indicates that of the necessary modifications listed in the Report on Inspection of Measuring Devices (June 30, 2004 Inspection), only a few actions remain for Kent's Lake Reservoir Company to address.

For Three Creeks Reservoir the following requirements remain to be completed:

- 1) Marking of the reservoir gauge posts. Numbers for the staff gauges were purchased but early winter storms prevented their installation. Installation should occur as soon as weather permits.
- 2) The parshall flume measuring reservoir outlet flows must be calibrated to actual metered flows as soon as reservoir outflows allow. A measurement curve/table should then be developed from this data.

For Upper Kent's Lake Reservoir the following requirement remains:

- 1) Develop an elevation/capacity table in 10ths of feet of elevation.

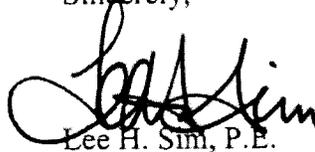
Hopefully, this information will help to further explain the water rights involved and the proper regulation of reservoir storage in the Beaver River Distribution System. If you have any questions, please contact me by phone at (801) 538-7380 or by email at LeeSim@utah.gov or Kerry Carpenter, Regional Engineer, by phone at (435) 586-4231 or by email at KerryCarpenter@utah.gov.

Page 3

April 28, 2005

Beaver River Interim Distribution Order - Reservoir Storage

Sincerely,



Lee H. Sim, P.E.

Assistant State Engineer for Distribution

cc:

Ron Roberts, Water Commissioner
PO Box 605
Beaver City, UT 84713

Mike Quealy
Parsons, Behle & Latimer
PO Box 45898
Salt Lake City, UT 84145-0898

Kerry Carpenter, Regional Engineer
PO Box 506
Cedar City, UT 84721-0506

John Mabey
265 East 100 South, Ste 300
Salt Lake City, UT 84111

**BEAVER RIVER WATER RIGHTS
GENERAL DESCRIPTION AND RELATIVE PRIORITY**

04/28/05

Water Rights	Description	
77-408 (a10425); 77-1662; 77-1818	STORAGE IN THREE CREEKS RESERVOIR* 325 acre feet. Priority Date – 1890 • No other limitations or conditions.	Water rights moved from Twin Lakes Reservoir Storage period - 4/1 to 6/30
Various water rights	DIRECT FLOW DIVERSIONS 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.	Beaver River above Patterson Dam
Various water rights	DIRECT FLOW DIVERSIONS 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.	Beaver River below Patterson Dam
71-2445	STORAGE IN MINERSVILLE RESERVOIR 7500 acre feet. Priority Date – 1870. • BRD Section II - from 4/1 to 10/31 this right is subordinated to DF above P (in the amount of 161.31 cfs) and to the Twin Lakes storage rights in Three Creeks Res. (as defined above) and the storage rights in Kent's Lake Res. (as defined below)	Water right owned by Minersville Storage Period - 1/1 to 12/31
77-181 (a2752); 77-182 (a2753); 77-183 (a2754); 77-184 (a2755); 77-185 (a2764)	STORAGE IN THREE CREEKS RESERVOIR* 1193 acre feet Priority Date – 1870; Change Priority Dates – 1956, 1953, 1961, 1953, & 1953 respectively Storage Period – 4/1 to 10/31 • 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.	DF above P that were changed to storage Storage rate limited to 42.20 cfs
77-4 77-407 77-1815 (a25114 pending)	STORAGE IN KENT'S LAKE RESERVOIR 830 acre feet. Priority Date – 1890 • 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.	Decreed in BRD Storage Period 4/1 to 6/30
77-177 (a1413) 77-1817 (a25114 pending)	STORAGE IN THREE CREEKS RESERVOIR* 830 acre feet. Priority Date – 1870; Change Priority Date – 1938 • 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.	Water rights moved from Kent's Lake Reservoir Storage Period - 4/1 to 6/30
71-1948	STORAGE IN MINERSVILLE RESERVOIR Priority Date – 1907 • 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.	Water right owned by Rocky Ford Storage Period – 1/1 to 12/31

* 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

BEAVER RIVER DIVERSION / STORAGE - FLOW SCENARIOS

WHEN THE FLOW OF THE BEAVER RIVER IS LESS THAN 120 CFS:

- The flow may be stored in Three Creeks Reservoir under Twin Lakes water rights between 4/1 and 6/30 up to 325 ac ft.
- The flow may be entirely diverted by the direct flow water users above Patterson Dam between 4/1 and 10/31.
- Between 4/1 and 10/31, if the direct flow water users below Patterson Dam are satisfied AND if there is 7500 ac ft in Minersville Reservoir, 1193 ac ft may be stored in Three Creeks Reservoir under the direct flow rights that were changed to storage. Storage rate may not exceed 41.31 cfs. Three Creeks Reservoir is limited to fill one time each year.
- Any flows bypassing or returning to the river below Patterson Dam may be diverted by the direct flow water users below Patterson Dam between 4/1 and 10/31.
- Any flows bypassing or returning to the river below Patterson Dam that reach Minersville Reservoir may be stored by Minersville Reservoir and Irrigation Company between 1/1 and 12/31 up to a total of 7500 AF.
- If the contents of Minersville Reservoir equal or exceed 7500 ac ft, any flows bypassing or returning to the river below Patterson Dam that reach Minersville Reservoir may be stored by Rocky Ford Reservoir and Irrigation Company between 1/1 and 12/31.

WHEN THE FLOW OF THE BEAVER RIVER IS BETWEEN 120 CFS AND 161.3 CFS

- The same diversions and storage are allowed as when the flow of the Beaver River is less than 120 cfs.

WHEN THE FLOW OF THE BEAVER RIVER IS GREATER THAN 161.3 CFS:

- The same diversions and storage are allowed as when the flow of the Beaver River is less than or equal to 161.3 cfs with the following exception and additions:
- The direct flow diversions above Patterson Dam are limited to 161.3 cfs (including storage in Three Creeks Reservoir under the direct flow rights that were changed to storage). Flows higher than this must be passed below Patterson Dam.
- The flows of South Fork may be stored in Kent's Lake Reservoir between 4/1 and 6/30 up to 830 ac ft.
- Kent's Lake water rights that were moved to Three Creeks Reservoir may be stored between 4/1 and 6/30 up to a limit of 830 ac ft. The storage rate is limited to the flow of South Fork that could be stored in Kents Lake but is bypassed. Three Creeks Reservoir is limited to fill one time each year.