

# **EXHIBIT**

## **App./Pet. Joint-20**

**Written Testimony of Chad Blanchard**

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STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF WATER RIGHTS

In the Matter of: ) Hearing Officers: Charles Hoppin  
) and Tam Doduc  
Water Right Applications 31487 and 31488 )  
filed by the United States Bureau of ) **WRITTEN TESTIMONY OF**  
Reclamation, and Petitions to Change License ) **CHAD BLANCHARD**  
3723 (Application 5169) of Washoe County ) **PROVIDED AT THE REQUEST**  
Water Conservation District, License 4196 ) **OF APPLICANT AND**  
(Application 9247) of Truckee Meadows Water ) **PETITIONERS**  
Authority, Permit 11605 (Application 15673) )  
and License 10180 (Application 18006) of the ) Date: July 21-23; 28-29, 2010  
United States Bureau of Reclamation ) Time: 9:00 a.m.  
) Dept: 1001 I Street, Second Floor  
) Coastal Hearing Room  
) Sacramento, California

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**WRITTEN TESTIMONY  
OF  
CHAD BLANCHARD**

**I. BACKGROUND INFORMATION**

1. My name is Chad J Blanchard. I graduated from Truckee Meadows Community College in 1991, and obtained a Bachelor of Science Degree in Resource Management-Hydrology from the University of Nevada, Reno in 1993. I went on to earn a Master's Degree in Resource and Applied Economics from the University of Nevada, Reno in 2003. I obtained a Master's Degree in Business Administration from the University of Nevada, Reno in 2009.

2. In 1994, I was employed by the Water Master appointed by the United States District Court for the District of Nevada under the Truckee River Decree, generally known as the Orr Ditch Decree, and under the Carson River Decree, generally known as the Alpine Decree, as a Field Hydrologist. I was Field Hydrologist from 1994 to 1996, and in 1996 I became the Chief Hydrologist. In 2007, I was appointed Chief Deputy Water Master, and I have held that position since that time.

**II. PURPOSE OF MY TESTIMONY**

3. The Applicant and Petitioners requested that the Federal Water Master's Office provide some general background information for this hearing concerning the current operation of the Truckee River and Reservoirs in the Truckee River Basin. The purpose of my testimony is to provide that information.

**III. FAMILIARITY WITH TRUCKEE AND CARSON RIVER WATERSHEDS**

4. During my 16 plus years of employment with the United States District Court Water Master's Office, I have become intimately familiar with the Truckee and Carson River watersheds and facilities. This familiarity has developed through travel for field work, office related meetings, discussions with co-workers, agencies, water users, and the public, along with daily monitoring of the river systems. I have gained particular detailed experience in regards to

1 the management of the Truckee River System. I have had direct involvement with the Truckee  
2 River and Reservoir management for my entire tenure with the Water Master's Office. I have  
3 also been responsible for the accounting of the waters of the Truckee River System from 1996  
4 to the present. Consistent monitoring of the Truckee River and its reservoirs is required for  
5 accurate accounting, informed decision making, and proper operations. During my  
6 employment with the Water Master's office, I have monitored the river and reservoirs, as well  
7 as the weather in the Truckee Basin, seven days a week, 365 days a year, with a few exceptions  
8 where vacations have taken me away from phone and/or internet access. This frequent  
9 observation has provided me with an in-depth knowledge of the Truckee River System.  
10

11 5. Throughout my testimony, I will be referring to some court decrees and  
12 agreements which relate to the operation of the Truckee River and reservoirs in the Truckee  
13 River Basin. One such court decree is "The "Truckee River General Electric Decree,"  
14 generally referred to as the "1915 Decree." That Decree resulted from an action brought by the  
15 United States in the United States District Court for the Northern District of California in order  
16 to condemn the existing dam at the outlet of Lake Tahoe. A judgment and decree was entered  
17 in that case in 1915. Another decree is referred to as the "Orr Ditch Decree." That Decree  
18 resulted from an action commenced by the United States in the United States District Court for  
19 the District of Nevada in 1913 against claimants to the waters of the Truckee River, primarily  
20 in Nevada. In 1935, the principal organizational defendants in the *Orr Ditch* action, and  
21 numerous individual parties, entered into what is referred to as the "Truckee River Agreement."  
22 A final decree was entered in the Orr Ditch litigation in 1944, specifically incorporating the  
23 Truckee River Agreement by reference. Prior to the construction of Prosser Creek Reservoir as  
24 part of the Washoe Project, the United States, Sierra Pacific Power Company, Truckee-Carson  
25 Irrigation District, and the Washoe County Water Conservation District entered into an  
26 agreement generally referred to as the "Tahoe-Prosser Exchange Agreement." Eventually, an  
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1 order was entered amending the Truckee River General Electric Decree to incorporate the  
2 provisions of the Tahoe-Prosser Exchange Agreement.

3 6. There are five federal reservoirs and two private reservoirs in the Truckee River  
4 Basin. The federal reservoirs are Lake Tahoe, Boca, Prosser Creek, Stampede, and Martis  
5 Creek. Lake Tahoe and Boca Reservoir were in existence when the Orr Ditch Decree was  
6 entered, and are operated pursuant to its provisions. Prosser Creek, Stampede and Martis were  
7 all constructed after entry of the Orr Ditch Decree. The two private reservoirs, Donner Lake  
8 and Independence Lake, were in existence as reservoirs when the Orr Ditch Decree was  
9 entered, but the water rights for them were not adjudicated by that Decree.  
10

11 7. In my testimony, I will briefly describe the five federal reservoirs, and will point  
12 out their locations on a map. I will also explain the current operation of the Truckee River  
13 including, in general, how the federal reservoirs are operated currently, including, when  
14 relevant, for flood control purposes. I will also explain the priority schedule on which new  
15 water is stored in these reservoirs in relation to one another and to water rights on the Truckee  
16 River. My testimony includes some information on how decisions are made concerning water  
17 that is diverted and passed-over Derby Dam. Finally, my testimony includes information on  
18 how water operations are monitored and accounted for.  
19

#### 20 **IV. TRUCKEE RIVER RESERVOIRS**

##### 21 **Lake Tahoe**

22 8. Lake Tahoe is a natural lake created by a geologic, block fault graben. Lake  
23 Tahoe has a maximum depth of 1,645 feet and an average depth of nearly 1,000 feet. The  
24 surface area of Lake Tahoe is approximately 122,000 acres with a capacity of 122 million acre  
25 feet, and a shore line of approximately 71 miles. The natural lake has been raised by the  
26 construction of Lake Tahoe Dam. The original dam on Lake Tahoe was constructed in the  
27 1870's, while the current dam was completed in 1913. The current dam and reservoir are  
28

1 principal features of the Newlands Project. The Lake Tahoe Dam impounds 6.10 vertical feet  
2 of water at its capacity, with a total storage of 744,600 acre feet. The primary function of Lake  
3 Tahoe Dam is for storage of Floriston Rate Water, which I describe below.

#### 4 **Boca Reservoir**

5 9. Boca Dam and Reservoir are located 6 miles northeast of Truckee, California  
6 and 25 miles southwest of Reno, Nevada, on the Little Truckee River approximately 0.3 miles  
7 above its confluence with the Truckee River. Construction of Boca Dam was initiated as part  
8 of the Truckee Storage Project and was completed in 1939. Boca Reservoir has a gross pool  
9 capacity of 40,870 acre feet, with a water surface of 980 acres, and approximately 14 miles of  
10 shoreline. The primary function of Boca Reservoir is to provide flood control protection, and  
11 storage of Floriston Rate Water.  
12

#### 13 **Prosser Creek Reservoir**

14 10. Prosser Creek Dam and Reservoir are located 4 miles northeast of Truckee,  
15 California, on Prosser Creek, approximately 1.5 miles above its confluence with the Truckee  
16 River. Construction of Prosser Creek Dam was initiated as part of the Washoe Storage Project  
17 and was completed in 1962. Prosser Creek Reservoir has a gross pool capacity of 29,840 acre  
18 feet, with a water surface of 745 acres, and approximately 11 miles of shoreline. The primary  
19 function of Prosser Creek Reservoir is to provide flood control protection, and storage of  
20 Tahoe-Prosser Exchange Water, which I describe below.  
21

#### 22 **Stampede Reservoir**

23 11. Stampede Dam and Reservoir are located 11 miles northeast of Truckee,  
24 California, on the Little Truckee River, approximately 6 miles upstream of Boca Reservoir and  
25 8 miles above its confluence with the Truckee River. Construction of Stampede Dam was  
26 initiated as part of the Washoe Storage Project and was completed in 1970. Stampede  
27 Reservoir has a gross pool capacity of 226,500 acre feet, with a water surface of 3,430 acres,  
28

1 and approximately 25 miles of shoreline. The primary use of Stampede Reservoir is for flood  
2 control and storage of Fish Water, which is dedicated to the threatened and endangered species  
3 in Pyramid Lake.

#### 4 **Martis Creek Reservoir**

5 12. Martis Creek Reservoir is strictly a flood control reservoir and is owned and  
6 operated by the United States Army Corp of Engineers (USACE). Occasionally, the USACE  
7 will make a request to store water in Martis to facilitate a seepage study on the dam. During  
8 these studies, water is stored during the spring months when the Floriston Rate and the Truckee  
9 Canal rights are being met. The water that is stored is accounted for and when it is released, it  
10 is passed through the system, over Derby Dam and down to Pyramid Lake as it would have, if  
11 it had been passed through Martis instead of being stored.  
12

#### 13 **V. CURRENT OPERATIONS**

14 Any discussion of operations under the Orr Ditch Decree must begin with an  
15 explanation of "Floriston Rates."  
16

#### 17 **Floriston Rates**

18 13. The Floriston Rates are the required rates of flow to be maintained at the  
19 Truckee River near Farad gage (formerly, the Truckee River at Iceland gage, near Floriston).  
20 The Floriston Rates are intended to meet the diversion requirements for power generation,  
21 municipal and industrial, domestic, as well as agriculture rights on the Truckee River, in  
22 Nevada. These rates of flow are to be 500 cfs from March 1, through September 30, and 400  
23 cfs from October 1, through the last day of the next following February of any year. The  
24 Floriston Rates flow requirements were originally agreed upon in 1908, and were required to be  
25 followed by The Truckee River General Electric Decree. The Orr Ditch Decree, through the  
26 Truckee River Agreement, allows for lower rates of flow, to conserve water, during the period  
27  
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1 November 1, through the next following March 31, of each year. These "Reduced Floriston  
2 Rates" are as follows:

3 (1) 350 cfs whenever the water surface elevation of Lake Tahoe is below  
4 6,226.0 feet and not below 6,225.25; and

5 (2) 300 cfs whenever the water surface elevation of Lake Tahoe is below  
6 6,225.25 feet.  
7

8 These water surface elevations are determined as provided in the Truckee River Agreement,  
9 and are sometimes referenced as "Lake Tahoe Datum."

10 14. The Floriston Rates are to be met from natural flow, Lake Tahoe storage  
11 releases, Boca storage releases, and Prosser Tahoe-Prosser Exchange Water releases. If the  
12 natural flow of the Truckee River is not sufficient to meet the Floriston Rates, water must be  
13 released from Lake Tahoe or Boca Reservoir at a sufficient quantity to satisfy the required rate.  
14 Likewise, if the Floriston Rates are being met by natural flow, and capacity allows, the releases  
15 from Lake Tahoe and Boca must be reduced to the extent possible to capture the inflow.  
16

17 15. The Truckee River Agreement states that storage should be released from Boca  
18 before Lake Tahoe, to maintain the Floriston Rate, if between April 1, and October 31, the  
19 water surface elevation of Lake Tahoe is higher than 6,225.5 feet. Likewise, Lake Tahoe  
20 storage is to be used before Boca, to maintain the Floriston Rate, if the water surface elevation  
21 of Lake Tahoe is 6,225.5 feet or lower. However, since the mid 1990's, when the Lake Tahoe  
22 elevation has been above 6225.5 feet, the releases from storage to maintain the Floriston Rates  
23 have been blended from a combination of Boca and Lake Tahoe. This management approach  
24 dramatically improves the operations of the river and reservoirs to benefit fish and wildlife, as  
25 well as recreational interests in Boca Reservoir, and the Truckee River below Lake Tahoe,  
26 while ending the season with the same storage in Lake Tahoe and Boca, thus avoiding any  
27 adverse effects on water right holders.  
28



1                   **Reservoir Storage Priorities**

2           16.     The storage of new water in the Truckee River Basin Reservoirs is on a priority  
3 schedule and may begin only after specific conditions are met. The following list details the  
4 order in which rights are satisfied, based on specific priorities, or in the case of the 25,000 acre  
5 feet of Supplemental Water in Boca Reservoir, ahead of Truckee Canal Diversions by reason of  
6 the provisions of the Truckee River Agreement:  
7

- 8                   (1)     Sierra Valley Diversion (up to 60 cubic feet per second)
- 9                   (2)     Donner Lake Storage (up to capacity of 9,500 acre feet)
- 10                  (3)     Independence Storage (up to 3,000 acre feet)
- 11                  (4)     Floriston Rates (met by natural flow or spills from Lake Tahoe)
- 12                  (5)     Lake Tahoe Storage (except for minimum releases 50-70 cfs)
- 13                  (6)     Boca Storage (25,000 acre feet of Supplemental Water)
- 14                  (7)     Truckee Canal Diversions (per Bureau of Reclamation Operating Criteria  
15 and Procedures in the Newlands Project (OCAP))
- 16                  (8)     Boca Storage (up to capacity of 40,870 acre feet)
- 17                  (9)     Independence Storage (up to capacity of 17,500 acre feet)
- 18                  (10)    Stampede Storage (up to capacity of 226,500 acre feet)
- 19                  (11)    Prosser Storage (up to capacity of 29,840 acre feet)

20  
21  
22     These conditions are not mutually exclusive, and if the natural flow is sufficient, all of the  
23 reservoirs may be storing at the same time.

24                   **Lake Tahoe Operations**

25           17.     Under the provisions of the controlling agreements and decrees, water may only  
26 be released from Lake Tahoe for three reasons: (1) for maintenance of the Floriston Rates; (2)  
27 to preclude the Lake from exceeding the upper limit of 6229.10 feet; and (3) to meet the  
28 minimum in-stream flow releases. Storage in Lake Tahoe may commence at any time the

1 Floriston Rate is being met by natural flow, and capacity allows. Lake Tahoe is not a flood  
2 control reservoir and there are no provisions allowing any flood control operations.

3 18. The Truckee River Agreement sets a maximum Lake Tahoe elevation of  
4 6,229.10 feet “to prevent high water damage” from occurring around the lake. The Lake Tahoe  
5 Dam is operated to prevent the maximum water surface elevation of the lake from exceeding  
6 elevation 6,229.10 feet, in so far as practicable. Beginning in December of each year, the  
7 Natural Resource Conservation Service (NRCS), through a snow survey program, provides a  
8 forecast of the rise of Lake Tahoe for the periods, March to the High, and April to the High  
9 (High, meaning the gates closed rise peak, or the point when evaporation exceeds the inflow to  
10 Lake Tahoe and the lake begins to naturally drop). If the water surface elevation of Lake  
11 Tahoe is estimated to exceed the elevation 6,230.00 feet, the United States and the Truckee  
12 Meadows Water Authority (successor to the “Power Company”), are to petition The Truckee  
13 River General Electric Court to withdraw sufficient water from the Lake to preclude the  
14 maximum water surface elevation from exceeding 6,229.10 feet, in so far as practicable. That  
15 Court will then issue an order allowing water to be released from Lake Tahoe at a flow that  
16 exceeds the Floriston Rates. These precautionary releases will continue until sufficient space  
17 has been created in the lake to store the forecasted runoff.  
18  
19

### 20 **Boca Reservoir Operations**

21 19. The United States Army Corp of Engineers Flood Control Criteria requires a  
22 flood reserve space of 8,000 acre feet by November 1, of each year, in order to provide a flood  
23 control storage reserve. This criterion necessitates the evacuation of any water stored above the  
24 level of 32,870 acre feet prior to this date. Under normal runoff conditions, storage into the  
25 flood control reserve space in Boca Reservoir may begin on April 10, at a rate of 200 acre feet  
26 per day to be filled to the capacity of 40,870 acre feet on May 20 of each year. During years  
27 with above normal forecasted runoff, the reservoir filling schedule may be delayed, per the U.S.  
28

1 Army Corp of Engineers Flood Control Regulations. This delay will continue until a specified  
2 portion of the runoff has passed, in order to reduce the risk of having a full reservoir with a  
3 significant snowpack and a substantial amount of runoff yet to come.

4 20. Under the Truckee River Agreement, new storage into Boca Reservoir, up to  
5 25,000 acre feet, may commence at any time the Floriston Rates are being met by natural flow,  
6 and the current Boca storage is less than the USACE Flood Reserve Levels. After Boca has  
7 stored the initial 25,000 acre feet, the Truckee Canal demands, as prescribed by OCAP, must be  
8 satisfied before Boca can continue to store up to the capacity of 40,870 acre feet.  
9

10 21. In paragraph 15 above, I have explained how Lake Tahoe and Boca were  
11 operated together to maintain Floriston Rates historically, and how they are operated together  
12 for that purpose at present.

#### 13 **Prosser Creek Reservoir - Current operation**

14 22. The United States Army Corp of Engineers Flood Control Criteria requires a  
15 flood reserve space in Prosser Creek Reservoir, of 20,000 acre feet by November 1, of each  
16 year, in order to provide a flood control storage reserve. This criterion necessitates the  
17 evacuation of any water stored above the level of 9,840 acre feet prior to this date.  
18

19 23. Any project water stored in Prosser Reservoir, other than Tahoe-Prosser  
20 Exchange Water, is labeled Uncommitted Water, and is used at the discretion of the Secretary  
21 of the Interior. At this time, the Uncommitted Water in Prosser above the level of 9,840 acre  
22 feet, is dedicated to the threatened and endangered species in Pyramid Lake, and is called upon  
23 for lower Truckee River use by the Pyramid Lake Paiute Tribe (PLPT) in conjunction with the  
24 U.S. Fish and Wildlife Service (USFWS). Waters dedicated to these threatened and  
25 endangered species is sometimes referred to as "Fish Water" and "Fish Credit Water." Any  
26 Uncommitted Water released as Fish Water from Prosser, is to be released on top of the  
27 Floriston Rate, and is not available for use by any other entity. The Fish Water is passed  
28

1 through the system, over Derby Dam, and delivered to the lower river without transportation  
2 losses.

3           24.     The Uncommitted Water stored below the level of 9,840 AF is to be held in the  
4 reservoir and made available for conversion to Tahoe Prosser Exchange Water. The Tahoe-  
5 Prosser Exchange Water, that is stored in Prosser, is released in conjunction with water from  
6 Lake Tahoe and/or Boca to supplement natural flow to maintain the Floriston Rate. This may  
7 include Tahoe-Prosser Exchange Water that is stored either above or below the 9,840 acre feet  
8 level.  
9

10           25.     Under normal runoff conditions, storage into the flood control reserve space in  
11 Prosser Creek Reservoir may begin on April 10, at a rate of 500 acre feet per day to be filled to  
12 the capacity of 29,840 acre feet on May 20 of each year. During years with above normal  
13 forecasted runoff, the reservoir filling schedule may be delayed, per the U.S. Army Corp of  
14 Engineers Flood Control Regulations. This delay will continue until a specified portion of the  
15 runoff has passed, in order to reduce the risk of having a full reservoir with a significant  
16 snowpack and a substantial amount of runoff yet to come.  
17

18           26.     New storage into Prosser Creek Reservoir may commence at any time the  
19 Floriston Rates are being met by natural flow, the Truckee Canal demands are being met, the  
20 Little Truckee River storage rights are being met, and the current Prosser storage is less than  
21 the USACE Flood Reserve Levels.  
22

23           27.     A minimum release of 5 cfs, or the natural flow of Prosser Creek, whichever is  
24 less, is required from Prosser Creek Reservoir for downstream fishery purposes. The minimum  
25 release may be charged to Uncommitted Water, Tahoe-Prosser Exchange Water, or Floriston  
26 Rates inflow pass-through water, depending on the situation.  
27

### 28           **Tahoe-Prosser Exchange**

1           28.     Under the provisions of the relevant decrees, if the natural flow of the Truckee  
2 River was sufficient to meet the Floriston Rates, the releases from Lake Tahoe were to be shut  
3 down, and all inflow stored. These operating criteria caused the stream, between the Lake  
4 Tahoe Dam and the first main tributary of the river, to fall to very low levels. In order to  
5 “preserve the fish and wildlife” along that stretch of the river, the Tahoe-Prosser Exchange  
6 Agreement was developed. The “Agreement for Water Exchange Operations of Lake Tahoe  
7 and Prosser Creek Reservoir” (Tahoe-Prosser Exchange Agreement) was made on June 15,  
8 1959. As a result of the Tahoe-Prosser Exchange Agreement, the Truckee River General  
9 Electric Decree was modified to provide a minimum release from Lake Tahoe for fishery  
10 maintenance.  
11

12           29.     The Tahoe-Prosser Exchange Agreement provides that “Whenever the flow of  
13 the Truckee River at the outlet of Lake Tahoe is less than 50 cubic-feet per second during the  
14 period from October 1 of any year through the next following March 31, and less than 70  
15 cubic-feet per second during the period from April 1 of any year through September 30 of that  
16 year, the United States may release or cause to be released, but not exceed, sufficient water  
17 from Lake Tahoe to maintain flows at said Lake outlet of 50 cubic-feet per second during the  
18 period from October 1 of any year through the next following March 31, and of 70 cubic-feet  
19 per second during the period from April 1 of any year through September 30 of that year.”  
20 Hence, if flows of at least the minimum release of 50-70 cfs are not needed from Lake Tahoe to  
21 meet the Floriston Rate, sufficient water may be released from the Lake Tahoe Storage to meet  
22 those minimum flows. To compensate the water users for the use of Floriston Rate Water, that  
23 is not required to maintain the Floriston Rate, an equivalent amount of water from Prosser  
24 Creek is used to replace the storage in Lake Tahoe. If sufficient inflow and storage space exist  
25 in Prosser Creek Reservoir, a like amount of inflow is captured and labeled Tahoe-Prosser  
26 Exchange Water, for later use to maintain the Floriston Rates. If the inflow is insufficient, or  
27  
28

1 the flood control criterion, or total capacity, does not allow new storage in Prosser Creek  
2 Reservoir, a like amount of previously stored Uncommitted Water is converted to Tahoe-  
3 Prosser Exchange Water to be used to maintain the Floriston Rates at a later date. The Tahoe-  
4 Prosser Exchange Water stored in Prosser is not diminished by Prosser Creek Reservoir losses.

### 6 **Stampede Reservoir Operations**

7 30. The United States Army Corp of Engineers Flood Control Criteria requires a  
8 flood reserve space in Stampede Reservoir, of 22,000 acre feet by November 1, of each year, in  
9 order to provide a flood control storage reserve. This criterion necessitates the evacuation of  
10 any water stored above the level of 204,500 acre feet prior to this date. Any Fish Water that is  
11 in storage above the level of 204,500 acre feet is released at the request of the PLPT in  
12 conjunction with the USFWS for the benefit of the threatened and endangered species in  
13 Pyramid Lake. Any TMWA Water described below that may be in storage above the 204,500  
14 acre feet level must be released prior to the deadline, and will be used for the benefit of the  
15 threatened and endangered species in Pyramid Lake.  
16

17 31. Under normal runoff conditions, storage into the flood control reserve space in  
18 Stampede Reservoir may begin on April 10, at a rate of 550 acre feet per day to be filled to the  
19 capacity of 226,500 acre feet on May 20 of each year. During years with above normal  
20 projected runoff, the reservoir filling schedule may be delayed, per the U.S. Army Corp of  
21 Engineers Flood Control Regulations. The delay will continue until a large enough portion of  
22 the runoff has passed, in order to reduce the risk of having a full reservoir with a significant  
23 snowpack and a substantial amount of runoff yet to come.  
24

25 32. New storage into Stampede Reservoir may commence at any time the Floriston  
26 Rates are being met by natural flow, Boca's storage rights are being met, the Truckee Canal  
27 demands are being met, Independence Lake storage rights are being met, and the current  
28 Stampede storage is less than the USACE Flood Reserve Levels.

1           33.     A minimum release of 30 cfs is required from Stampede Reservoir for the Little  
2 Truckee River Fishery between Stampede and Boca Reservoirs. This minimum release is  
3 either captured in Boca and credited to the proper account, or may be passed through Boca if  
4 there is a direct demand for that category of water from the Little Truckee System. The  
5 minimum release may be charged to various accounts, including:

- 6                   (1)     Floriston Rates inflow pass-through (if available);
- 7                   (2)     Floriston Rate Water temporarily stored in Stampede (if available);
- 8                   (3)     TMWA Privately Owned Stored Water (POSW), if needed;
- 9                   (4)     Fish or Fish Credit Water.

10  
11     If Fish or Fish Credit Water is released for the minimum flow from Stampede, and there is no  
12 current Fish Water demand, the Fish Water is captured in Boca. This water is accounted for as  
13 Fish Water in Boca, and is either released from Boca as Fish Water, when there is a demand, or  
14 it is moved back up to Stampede in an exchange with Floriston Rate Water. Occasionally, the  
15 California Department of Fish and Game will request a slight, temporary reduction in the  
16 minimum release from Stampede to facilitate fish sampling activities in the Little Truckee  
17 River.  
18

19           34.     The Fish Water and Fish Credit Water stored in Stampede Reservoir are  
20 dedicated to the threatened and endangered species in Pyramid Lake. This water is called upon  
21 for lower Truckee River use by the Pyramid Lake Paiute Tribe (PLPT) in conjunction with the  
22 U.S. Fish and Wildlife Service (USFWS). Any Fish Water released from Stampede, for use in  
23 the lower river, is to be released on top of the Floriston Rate, and is not available for use by any  
24 other entity. The Fish Water is passed through the system, over Derby Dam, and delivered to  
25 the lower river without transportation losses.  
26

27                   **Flood Control Operation Requirements**

1           35.     The United States Army Corp of Engineers maintains flood control regulations  
2 that dictate operational criteria for Martis Creek Reservoir, Prosser Creek Reservoir, Stampede  
3 Reservoir and Boca Reservoir. Lake Tahoe is not a flood control reservoir and has no  
4 provisions allowing storage for flood control purposes. Each of the flood control reservoirs are  
5 required to maintain a specific amount of free space in the reservoir from November 1, to April  
6 10 of each year. Under normal conditions, storage into the flood control reserve space may  
7 begin on April 10, and the reservoirs may be full by May 20. However, during years with  
8 above normal projected runoff, the reservoir filling schedule may be delayed, per the U.S.  
9 Army Corp of Engineers Flood Control Regulations. The delay will continue until a large  
10 enough portion of the runoff has passed in order to reduce the risk of having a full reservoir  
11 with a significant snowpack and a substantial amount of runoff yet to come. The purpose of  
12 the flood control reserve is to maintain enough free space in the reservoir to capture the runoff  
13 during a flood event, which reduces the amount of flow through Reno/Sparks and the lower  
14 river.  
15

16  
17           36.     While the USACE Flood Control Restrictions are in place, all inflow to the  
18 reservoirs, that would cause the storage to exceed the USACE flood control levels, are to be  
19 passed through the reservoir. During a flood event, the USACE criteria states that, “the flood  
20 control operation of the reservoirs will be coordinated to limit the flows in the Truckee River,  
21 at Reno, insofar as possible, to a maximum of 6,000 cfs.” Hence, when it is imminent that the  
22 flow of the Truckee River, measured at the Reno gage, will reach 6,000 cfs, the releases from  
23 the flood control reservoirs are to be reduced to their minimum flows, and the inflow captured.  
24 As the flows at the Truckee River, at Reno, gage fall back below 6,000 cfs, the releases from  
25 the flood control reservoirs are increased, and the water stored into the flood control reserve  
26 space is evacuated at the fastest possible rate that will not cause the Reno gage to again exceed  
27 the 6,000 cfs threshold.  
28



1           37.    Due to the large flow contribution to the main stem of the Truckee River from  
2 unregulated streams, such as Bear Creek, Squaw Creek, Cold Stream, Gray Creek, Bronco  
3 Creek, and numerous smaller streams, flows at the Truckee River at Reno gage have exceeded  
4 the 6,000 cfs level several times, despite the flood control operations. However, the operations  
5 under the flood control criteria have significantly reduced the flow at the Reno gage by  
6 capturing the inflows from the Little Truckee River and Prosser Creek, the Truckee River's two  
7 largest tributaries.  
8

### 9           **Current Operations at Derby Dam**

10           38.    Under the Orr Ditch Decree, regulation of the water to pass Derby Dam is  
11 accomplished based on several factors:

12                   •    The available/remaining Floriston Rate water reaching Derby Dam.  
13                   •    Whether or not there is any water in the river in addition to the Floriston  
14 Rates, such as "Fish Water" being released from Stampede and/or Prosser Reservoirs, which is  
15 discussed below; and  
16

17                   •    Allowable OCAP diversions to the Newlands Project at that given time.

18           39.    The remaining water rights with a place of use downstream of Derby Dam  
19 consist of approximately 1600 acres irrigated from several points of diversion; the upper most  
20 diversion ditch being the Washburn Ditch (claims 632 and 633 with a priority of 1889) down to  
21 the Indian Ditch being the lowest diversion located just above Pyramid Lake and serving the  
22 area in and around the town of Nixon (Claim 1 with a priority of 1859). In addition, there is  
23 Claim 2, which also has an 1859 priority and which has been changed to instream uses as  
24 described below. The priorities of the water rights below Derby Dam range from 1897, being  
25 the most junior right, to 1859 being the most senior right. The 1859 rights are for the Pyramid  
26 Lake Indian Reservation.  
27  
28

1           40. To deliver the irrigation annual entitlements below Derby Dam, the Water  
2 Master has required a specific and constant flow rate to pass the Dam during the irrigation  
3 season. The flow rate is based on the sum of the total seasonal volumes of all of the diversions  
4 below the dam. The total volume entitlement is then divided into a constant flow rate that will  
5 deliver the total seasonal volume over a 160 day irrigation season. The typical season start date  
6 for the irrigation season is around the 15<sup>th</sup> of April, however, this date can and will vary  
7 depending upon the type of spring season that is occurring (wet or dry).  
8

9           41. Since the priorities of all of the irrigation water rights below Derby Dam are  
10 senior to the Newlands Project (July 2, 1902), the irrigation entitlement below Derby Dam must  
11 be served first out of the available Floriston Rate water reaching Derby Dam. The remaining  
12 Floriston Rate water reaching Derby Dam, up to the allowable OCAP diversion entitlement, is  
13 allowed to be diverted into the Truckee Canal to serve the Newlands Project entitlement. The  
14 allowable Truckee Canal diversion is based on a monthly OCAP calculation and will vary from  
15 the maximum allowable diversion down to no diversions, depending upon several factors that  
16 go into the OCAP calculations including, but not limited to, Lahontan Reservoir levels and  
17 forecasted Carson River in-flows. Any water in excess of the irrigation entitlement below  
18 Derby Dam, plus the allowable OCAP Truckee Canal diversion, must stay in the Truckee River  
19 and pass Derby Dam.  
20

21           42. The Nevada State Engineer has approved several change applications in recent  
22 years that effectively change the original place of use and manner of use of irrigation water  
23 rights to “in-stream-flow” rights, having their new place of use consisting of the reach of the  
24 Truckee River beginning at Derby Dam down to Pyramid Lake. In the case of the Pyramid  
25 Lake Paiute Tribe’s unused portion of Orr Ditch Decree Claims 1 and 2, the State Engineer,  
26 upon issuing the change to “in-stream-flow,” specified a maximum delivery rate and schedule  
27 within the permit terms. These terms were based on an Environmental Assessment report, as  
28

1 well as based on consultation with the Federal Water Master's office on how to effectively  
2 administer the change. The delivery schedule for the Claims 1 and 2 changes has been  
3 restricted to a constant flow rate over a four month period (typically July through October). As  
4 for the remaining "in-stream-flow" permits, the Water Master has required that each party  
5 holding a permit, submit a written request stating the desired delivery schedule of the permit  
6 volume, and limit the delivery rate to a constant rate for the scheduled time period. The Orr  
7 Ditch Decree has its own limitation that each permit holder must follow, no more than 25  
8 percent of the seasonal volume entitlement may be diverted within any calendar month.

10 43. Administration and delivery of the various "in-stream-flow" permits are done  
11 based on the priority of the Orr Ditch Decreed water right in the permit. If the permit water  
12 right has a higher or more senior priority than the Newlands Project, then the permitted water  
13 right must be satisfied from the available Floriston Rate water reaching Derby Dam before any  
14 diversions can be made to the Truckee Canal. In addition to granting several "in-stream-flow"  
15 permits on various Truckee River water rights, that were originally located upstream and  
16 downstream of Derby Dam, the State Engineer has also granted this type of change to  
17 Newlands Project Water rights originally coming from the Truckee Division of the Newlands  
18 Project. The significance of this, in regards to the administration of the river at Derby Dam, is  
19 that these permits hold an equal priority to the rest of the Newlands Project Claim 3 water  
20 rights. Therefore, in the case where there is insufficient water available at Derby Dam to  
21 satisfy the full demand of the Claim 3 water rights within the Truckee Division along with the  
22 Claim 3 transfers, the Water Master must divide the remaining water at Derby on a pro-rata  
23 basis; a pro-rata share being diverted into the Truckee Canal to satisfy the Truckee Division  
24 demand and a pro-rata share remaining in the river to satisfy the claim 3 transfers to "in-stream-  
25 flow".  
26  
27  
28

1           44. To administer and regulate the flows over Derby Dam and diversions into the  
2 Truckee Canal, the Water Master will inform the Truckee-Carson Irrigation District of the  
3 required amount of water to be passed at Derby Dam. The required Derby Dam by-pass flow is  
4 the sum of:

- 5           ● Irrigation Demand;
- 6           ● Permits for In-Stream-Flow;
- 7           ● Fish Water Released from Storage; and
- 8           ● River Water in Excess of OCAP allowable diversions

9  
10           **TMWA Credit Storage**

11           45. TMWA can accrue credit storage in Stampede by two means per the Interim  
12 Storage Contract. First, by capturing TMWA's draft release from Independence in Stampede.  
13 This water is typically released from Independence storage in the fall, captured in Stampede,  
14 and labeled TMWA Independence Water in Stampede in the Water Master accounting system.  
15 The TMWA Independence Water can also be released from Stampede and captured in Boca at  
16 the discretion of TMWA. The TMWA Independence water is released and recaptured in a one-  
17 to-one ratio with no losses being charged in transportation. TMWA's Independence Credit  
18 Water is charged evaporation losses while in storage in Stampede and Boca. The evaporation  
19 losses are charged on a pro-rata basis with the other water stored in the reservoir.  
20

21           46. The second method of accruing TMWA credit storage in Boca and Stampede is  
22 by an "in-lieu-of exchange" of TMWA's Donner Lake water with Floriston Rate water in Boca.  
23 This exchange is accomplished by releasing TMWA's Donner water for Floriston Rates, in-  
24 lieu-of Floriston Rate water that would normally be released from Boca Reservoir. The  
25 TMWA Donner Lake water is released and used to maintain the Floriston Rate, and a like  
26 amount of Floriston Rate water in Boca is then converted to TMWA credit storage water in  
27 Boca. This water is then moved up to Stampede by means of a "block exchange" with  
28

1 Floriston Rate water that was stored upstream in Stampede, but owed to Boca. The block  
2 exchange of the TMWA Donner Credit Water and Floriston Rate water cannot occur until there  
3 is a like amount of Floriston Rate water in Stampede. The Floriston Rate water in Stampede  
4 accumulates when Boca is in storage priority and the inflows into Stampede exceed the  
5 Stampede release. This accumulation typically occurs in the winter and spring months when  
6 the natural flow in the Little Truckee River System is high and large reservoir inflow  
7 fluctuations are common.  
8

9 47. The TMWA Credit Storage that is stored in Stampede or Boca is considered to  
10 have a junior priority to the Project Water that is stored in those reservoirs. Consequently, if  
11 there are constraints on the storage levels, due to either capacity or flood control requirements,  
12 the TMWA Credit Storage will be spilled ahead of any project water in those reservoirs. Due  
13 to its senior storage right and smaller capacity, Boca is much more likely to fill each year.  
14 Thus, TMWA prefers to store their credit water in Stampede where the probability of their  
15 Credit Storage being lost to spill is dramatically reduced.  
16

17 48. The Interim Storage Contract also sets a limit on the amount of credit storage  
18 that can be carried over from one year to the next. The document dictates that any TMWA  
19 Credit Storage Water in Stampede or Boca above the level of 5,000 acre feet on September 1,  
20 of each year, will be converted to Fish Credit Water and made available to meet Fish Water  
21 demands. The Fish Credit Water that is stored in the Little Truckee River System is the first  
22 water released to meet any Stampede Fish Water demands.  
23

#### 24 **Examples of How Boca and Stampede are Currently Operated Together**

25 49. Stampede and Boca reservoirs are operated together in a manner that meets  
26 several objectives. The minimum release of 30 cfs that is required from Stampede Reservoir  
27 may be captured in Boca or passed through Boca depending on the current circumstances.  
28 Stampede Reservoir is also used as a buffer to calm the operations of the Stampede outlet

1 works. During the winter and spring months, the Little Truckee River natural flow above  
2 Stampede varies dramatically due to precipitation and snowmelt runoff. Due to Boca's senior  
3 storage priority, storable Little Truckee natural flow into Stampede needs to be passed through  
4 the dam and captured in Boca, if space is available. Because natural flow is highly variable  
5 during the winter and spring months, very frequent release changes would be needed from  
6 Stampede to continually pass inflow. To facilitate "smoother" operations of Stampede, the  
7 releases from the dam are tempered. Stampede releases are moderated during this time for  
8 three primary reasons: 1) to reduce the number of release changes that are made from  
9 Stampede; 2) to limit the impact of large fluctuations on the Little Truckee River between  
10 Stampede and Boca; and 3) to preclude Stampede releases that exceed the power generation  
11 capacity of the Stampede power plant, if feasible. The water that is stored in Stampede, while  
12 Boca is in priority, is accounted for as Floriston Rate Water. The Floriston Rate Water stored  
13 in Stampede may be released and restored in Boca, released and passed through Boca as  
14 Floriston Rate Water, or exchanged with TMWA Credit Storage or Fish Water stored in Boca.

### 17 **Daily Operations and Accounting**

18 50. The Water Master's Office accounts for the waters of the Truckee River and  
19 Reservoirs on a daily basis. Each morning, seven days a week, the Water Master's Office  
20 documents the river flows, and reservoir storage and release values for the Truckee and Carson  
21 River Systems, as well as the weather at the Lake Tahoe and Boca dams. The primary source  
22 of this data includes the United States Geologic Survey (USGS), the California Data Exchange  
23 Center (CEDC), and the Lake Tahoe and Boca Reservoir dam tenders. Along with the daily  
24 reservoir storage and release data, the dam tenders at Lake Tahoe and Boca, collect and report  
25 valuable weather data from National Weather Service Coop weather stations located near each  
26 dam. These stations have over 100 years of record, and the data provided is an important tool  
27 for forecasting.  
28

1           51.    The river, reservoir and weather data is compiled and produced in the U.S.  
2 District Court Water Master's Daily Worksheet. The data from the Daily Worksheet is used, in  
3 conjunction with other information, to make management decisions on the operations of the  
4 river and reservoirs. If reservoir release changes are necessary to meet storage or flow  
5 requirements, the respective dam tenders are notified, and the changes are completed at the  
6 specified time. Standard communication between the Water Master's Office and the reservoir  
7 dam tenders occurs in the morning, on a daily basis, for Lake Tahoe and Boca Reservoirs, and  
8 during the weekdays for Stampede and Prosser. However, if conditions necessitate,  
9 communication between the dam tenders and the Water Master's Office may occur at any time  
10 during the day or night, seven days a week.  
11

12           52.    The river, reservoir, and weather data is then entered into the Water Master  
13 accounting system, which keeps track of the different categories of water within the Truckee  
14 River System. The accounting system is an Excel Workbook that consists of five worksheets,  
15 each completing various functions. The information from the accounting system is then  
16 analyzed, which may prompt additional operational management decisions. The following are  
17 the various categories of water that are accounted for at various times and locations, within the  
18 Water Master's accounting system.  
19

- 20                   ●    Floriston Rate Water
- 21                   ●    Fish Water
- 22                   ●    Fish Credit Water
- 23                   ●    Tahoe-Prosser Exchange Water
- 24                   ●    Uncommitted Water
- 25                   ●    Pondage
- 26                   ●    TMWA POSW (Independence and Donner Lake water)
- 27                   ●    TCID POSW (Donner Lake water)
- 28

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53. This concludes my testimony.