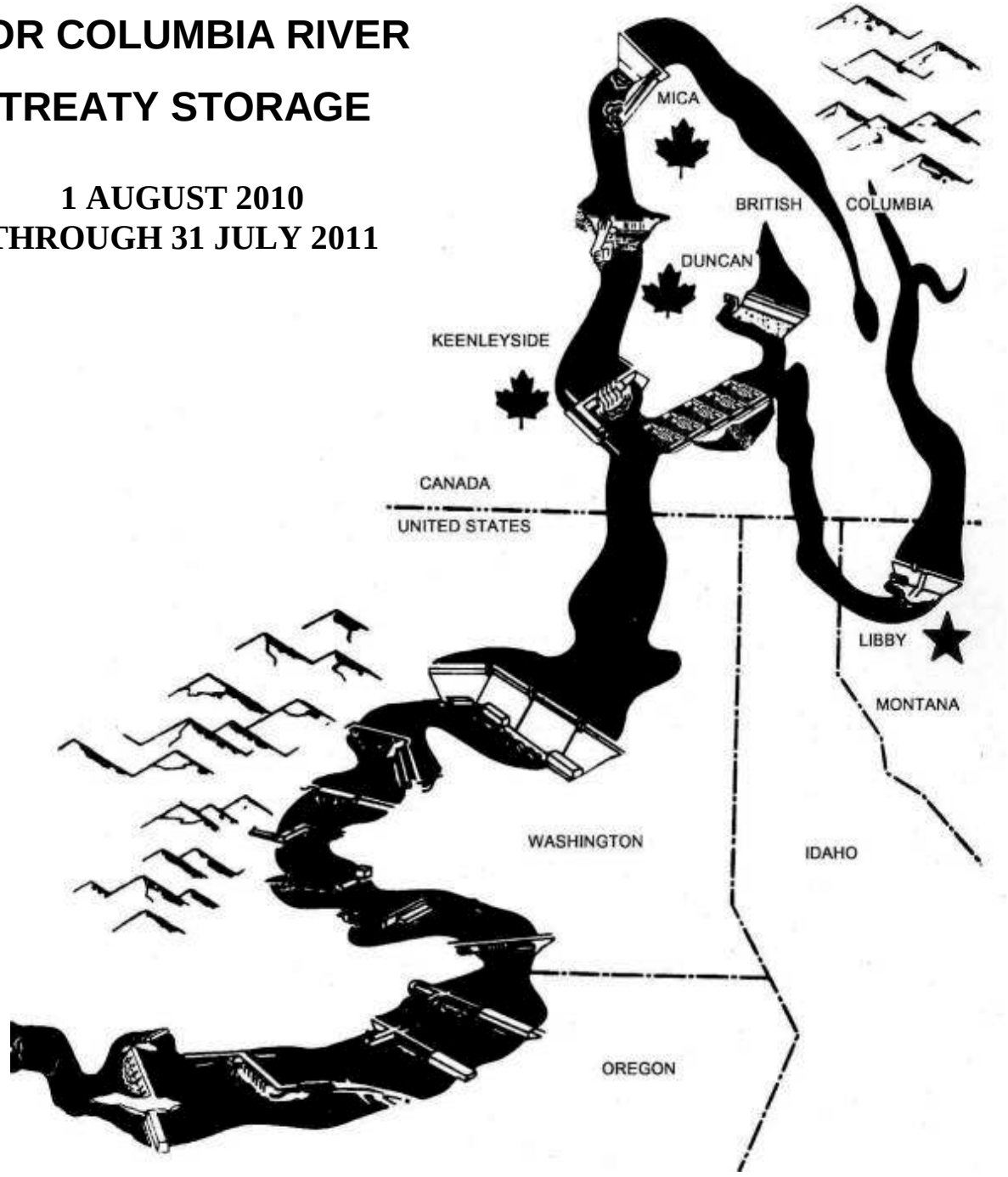
DETAILED OPERATING PLAN

FOR COLUMBIA RIVER

TREATY STORAGE

1 AUGUST 2010
THROUGH 31 JULY 2011



Columbia River Treaty Operating Committee June 2010

COLUMBIA RIVER TREATY ENTITY AGREEMENT ON THE DETAILED OPERATING PLAN FOR CANADIAN STORAGE 1 AUGUST 2010 THROUGH 31 JULY 2011

Article XIV 2.(k) of the Columbia River Treaty between Canada and the United States of America (Treaty) provides that the power and duties of the Entities include "*preparation and implementation of detailed operating plans that may produce results more advantageous to both countries than those that would arise from operation under the plans* [Assured Operating Plans (AOP)] *referred to in Annexes A and B.*"

The Entities agree that Treaty storage shall be operated and electric power delivered in accordance with the attached "Detailed Operating Plan for Canadian Storage – 1 August 2010 through 31 July 2011" (the 2010-11 Detailed Operating Plan), dated June 2010.

The Entities agree that the "Columbia River Treaty Principles and Procedures for Preparation and Use of Hydroelectric Operating Plans for Canadian Treaty Storage," dated October 2003, or any future document the Entities agree supersedes the 2003 document, and any Appendices approved by the Operating Committee, will guide the Entities in implementing the 2010-11 Detailed Operating Plan.

In witness thereof, the Entities have caused this agreement to be executed.

Executed for the Canadian Entity this 22 day of June, 2010.

By _____
David G. Cobb
Chair

Executed for the United States Entity this 29th day of June, 2010.

By _____
Stephen J. Wright
Chairman

By _____
Brigadier General John R. McMahon
Member

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COLUMBIA RIVER TREATY
DETAILED OPERATING PLAN
FOR CANADIAN STORAGE
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I. REFERENCES AND INTERPRETATION

In this document:

A. "Aspects Agreement" means the Entity Agreement on Aspects of the Delivery of the Canadian Entitlement for 1 April 1998 through 15 September 2024 between the Canadian Entity and the United States Entity, dated 29 March, 1999, together with its Attachment A – Points of Delivery and Attachment B - Scheduling Guidelines as they may be subsequently modified or amended by the Operating Committee.

B. "Assured Operating Plan" (AOP11) means the hydroelectric operating plan developed in accordance with the Columbia River Treaty (Treaty) for the Operating Year as further described in the document "Columbia River Treaty Hydroelectric Operating Plan - Assured Operating Plan for Operating Year 2010-11" dated February 2006."

C. "Canadian storage" and "Canadian Treaty Storage" mean the storage provided by Canada under Article II of the Treaty, which is a total of 19.119 cubic kilometers ($km^3 = 10^9$ cubic meters) (15.5 million acre feet (Maf)) at the Mica, Duncan, and Arrow reservoirs.

D. "Detailed Operating Plan" (DOP) means a detailed operating plan prepared for the Operating Year by the Operating Committee pursuant to the guidelines provided in the Principles and Procedures and consisting of the contents of this document.

E. "Flood Control Operating Plan" (FCOP) means the document "Columbia River Treaty Flood Control Operating Plan," dated May 2003, including any published updates.

F. "Libby Coordination Agreement (LCA)" means the "Columbia River Treaty Entity Agreement Coordinating the Operation of the Libby Project With the Operation Of Hydroelectric Plans on the Kootenay River and Elsewhere in Canada", dated 16 February 2000.

G. "Libby Operating Plan" (LOP) means the operating plan prepared by the U.S. Army Corps of Engineers ("Corps of Engineers") on behalf of the U.S. Entity for the Libby project in accordance with Section 9 of the LCA, and incorporated as Attachment B to the LCA.

H. "Operating Committee" means the Columbia River Treaty Operating Committee.

I. "Operating Year" means the period from 1 August 2010 through 31 July 2011.

J. "Principles and Procedures" (POP) means the document "Columbia River Treaty Principles and Procedures for Preparation and Use of Hydroelectric Operating Plans for Canadian Treaty Storage," dated October 2003, or any future document the Entities agree supersedes the 2003 document, and any Appendices approved by the Operating Committee.

K. "Supplemental Operating Agreement" (SOA) means any operating agreement(s) (signed either by the Entities or the Operating Committee) that authorize Canadian storage operations above or draft below the TSR levels as described in Section IV(A) of this DOP and Section 11 of the LCA, but not including Section 10 of the LCA.

L. "Treaty Storage Regulation" (TSR) means the Coordinated System hydro regulation study performed for the Operating Committee by Bonneville Power Administration (BPA) staff using actual and forecasted streamflow conditions and implementing operating criteria contained in this DOP, including any changes agreed to under subsection II(E), but excluding subsections IV(D) and SOA operations authorized under subsection IV(A). The TSR is used in accordance with POP and this DOP to determine operational Treaty rights to monthly regulation of Treaty storage.

M. "Weekly Treaty Storage Operation Agreement" means the note electronically transferred (e-mail or Fax) the last working day of each week from the U.S. Section to the Canadian Section of the Operating Committee to confirm the verbal agreement by the Operating Committee for the weekly Treaty storage changes and outflows that implement this DOP, including any changes agreed to under subsection II(E) and Section IV.

Other capitalized terms used in this document, not defined above, should be interpreted to have the meaning ascribed to them in POP (either in the definitions or the text), the FCOP or the generally accepted meaning within the industry in the Columbia River Basin.

II. PREPARATION AND SCOPE

A. General

This DOP for Canadian storage is based on the operating criteria contained in the AOP11 and its supporting hydro regulation studies with agreed revisions noted in subsection II(D) below, together with scheduling procedures and mutually beneficial changes from the AOP11 data agreed to by the Entities.

This DOP was developed in accordance with the procedures outlined in the POP and incorporates the use of the International System of Units (SI, or Metric); however, for operational purposes, reliance should be placed on measurements in the English system.

B. Storage Amounts

The usable Canadian storage space available for power purposes during the Operating Year is 19.119 km^3 (15.5 Maf) in Canada distributed as follows:

Duncan Reservoir

1.727 km^3 (1.4 Maf or 705.8 thousand second-foot-days (ksfd)) between elevations 576.68 meters (m) (1892.0 feet) and 546.87 m (1794.2 feet) as measured at Duncan

forebay, and based on British Columbia Hydro and Power Authority (B.C. Hydro) table dated 21 February 1973.

Arrow Reservoir
8.758 km³ (7.1 Maf or 3579.6 ksfd) between elevations 440.13 m (1444.0 feet) and 419.98 m (1377.9 feet) as measured at Fauquier, B.C, and based on B.C. Hydro table dated 28 February 1974.

Mica Reservoir
8.634 km³ (7 Maf or 3529.2 ksfd) between elevations 754.38 m (2475.0 feet) and 707.41 m (2320.9 feet) as measured at Mica forebay, and based on B.C. Hydro table dated 25 March 1974. The total available storage between these elevations is 14.802 km^3 (12 Maf, 6050.0 ksfd), but only 8.634 km^3 (7 Maf, 3529.2 ksfd) of this storage is utilized for power purposes, except as described in paragraph VII(C)6.

C. Flood Control

The requirements for flood control operations are defined in the Treaty and the FCOP. In accordance with Section 6-6 of the FCOP, the Canadian Entity selected for the AOP11 a reallocation of Mica/Arrow system flood control space to be 5.033 km³ (4.08 Maf) at Mica and 4.441 km³ (3.6 Maf) at Arrow for the Operating Year. The usable Canadian storage available for normal flood control purposes during the Operating Year will be 1.567 km³ (1.27 Maf) in Duncan Reservoir below elevation 576.68 m (1892.0 feet), 4.441 km³ (3.6 Maf) in Arrow Reservoir below elevation 440.13 m (1444.0 feet), and 5.033 km³ (4.08 Maf) in Mica Reservoir. Additional storage may also be operated for flood control purposes under special circumstances, as described in Section 3-2 of the FCOP.

During the 2010-11 operating year, the Canadian Entity may request a different allocation of Mica/Arrow system flood space. To the extent that the flood control storage allocation differs from that included in the AOP11, the Operating Committee will develop and execute an agreement that will result in the same Treaty flows at the U.S.-Canadian border as that provided in the AOP11, as modified in subsection II(D), unless otherwise agreed by the Operating Committee.

During the refill period, the Canadian Section of the Operating Committee may request local flood control elevations for Arrow with the intent to minimize the occurrence of flows above 165 kcfs at Trail (as measured at Birchbank). This local flood control objective which is below 225 kcfs will be included in the flood control rule curve and input as the Upper Rule Curve in the TSR studies only to the extent that it does not jeopardize system flood control needs.

In order to accommodate local minimum flow requirements downstream of Duncan Dam, the Canadian Entity has requested a permanent variance beginning with the 2009-10 Operating Year and beyond to the February Duncan flood control draft requirements in the May 2003 FCOP. The Corps of Engineers has agreed to the permanent variance as described in subsection II(D)2 below.

D. Preparation of the Treaty Storage Regulation Study

The TSR study uses DOP operating criteria for both Canadian and U.S. projects to define

a Canadian storage operation. The TSR11 study shall be based on the loads, thermal and other resources, rule curves, non-power constraints, and other plant and operating data contained in the AOP11 Step I hydro regulation study, except for the following changes agreed to by the Entities.

1. Flood control rule curves for Canadian projects will be defined as noted in subsection II(C) above unless otherwise agreed by the Operating Committee.

2. Limit the Duncan end of February flood control rule curve to no lower than 1812.5 feet (93.1 ksfd). This change does not affect the critical period studies.

3. Use the hydro-independent (HI) generation included in the AER (28 projects) plus the 60-year median values from the AOP11 for HIs not updated in the AER (same procedure as the DOP10). To make this process more consistent with the PNCA AER, we will add the HI operation of the eight Willamette projects to the TSR hydro-regulation model and use the same inflow and elevation data as submitted for the AER.

4. In accordance with Attachment C to the LCA, the maximum January outflow at Arrow in the TSR is limited to 2,265 m^3/s (80,000 cfs). However, the AOP11 value of 1,982 m^3/s (70,000 cfs) overrides this requirement as shown in Table 1.

5. Updated forecast errors and distribution factors based on the latest update to Appendix 8 of the 2003 POP. The Operating Committee may revise forecast errors and distribution factors in accordance with subsection II(E).

6. For current and future months, Coulee pumping flows from the 1 February 2010 PNCA data submittal, or current forecast values if available, and actual values for after-the-fact months will be used. Adjustments to return flows are not needed because the observed streamflows and streamflow forecasts include return flows.

7. Updated plant data for Mica Storage/Elevation table from the Feb. 2008 NWPP proposal to use 19 data points from the DOP exhibit 15, and from the Canadian Entity Feb. 1, 2009, data submittal, updated plant data for Arrow maximum generation, and adding a data point to the Duncan storage/elevation table. From the Canadian Entity in March 2008, updated Kootenay Lake Storage/Maximum Discharge (MD) data.

8. Use of the latest Mica plant data to reflect actual turbine performance, updated Revelstoke plant data to include the 5^{th} unit (with a projected in-service date of October 2010 or as early as August 2010), and updated Brilliant plant data to include unit upgrades and Brilliant Expansion

9. Updated Grand Coulee and Hungry Horse Storage/Elevation tables to the Feb. 1, 2008 PNCA data submittal, which includes a reduction in total usable storage at Hungry Horse of 45.1 ksfd due to no longer including the assumption of 3% bank storage. The AOP11 rule curves for Hungry Horse (CRC, ARC, VRC, VRCLL, ORCLL, & URC) will be adjusted to subtract 45.1 ksfd from all values, limited to empty, to avoid impact on system storage operation due to the updated data. In the event that the adjustment to Hungry Horse rule curves causes additional Canadian

draft in the TSR, which might happen during system operation below the 3rd year critical rule curve, the Operating Committee shall agree on a procedure to modify the TSR to prevent the additional Canadian draft.

10. Forecasted streamflows as a percentage of 71-year medians from the 2000 Modified Flows without Grand Coulee pumping will be used.

11. The hydro regulation model used will be PCHYDSIM version 28, or later version if agreed by the Operating Committee.

12. During the flood control evacuation period, the flood control curves at Grand Coulee may be adjusted to recognize drafts below the flood control levels at upstream storage reservoirs (including Canadian Treaty projects) in accordance with the latest update to the "Standard Operating Procedure for Computation of Flood Control Criteria for Treaty Storage Regulation and Actual Energy Regulation Models" agreed to by the Operating Committee.

13. The Dworshak operation will be updated as defined by the February 1, 2010 PNCA data submittal with total minimum outflow of 1600 cfs. This represents a minimum release of 1500 cfs through the powerhouse and 100 cfs of miscellaneous flow for the hatchery ;

14. Updated 70-year Energy Content Curves for Ross, base on the Feb. 1, 2009, PNCA data submittal and as updated in the PNCA AER.

15. The operation of Mossyrock, Mayfield, Swift #1, Swift #2, Merwin, and Yale will be based on past actual inflows and elevations, and median inflows and median Variable Energy Content Curves for future months.

Although not changed from the AOP11, some notable assumptions for this TSR include:

16. U.S. flood control curves will include VarQ at Hungry Horse but not at Libby, and will not include Variable End–of-December flood control rule curves at Libby or shifted flood control from Brownlee and/or Dworshak to Grand Coulee.

17. The Canadian flood control curves will not include impacts due to VarQ and Variable End–of-December flood control rule curves at Libby or any impacts related to shifting of flood control from Brownlee and/or Dworshak to Grand Coulee unless otherwise agreed by the Operating Committee.

18. Arrow Project Operating Criteria (APOC) will be updated based on the procedures defined in subsection VII(B)7 of this DOP. A minimum flow limit at Arrow of 10,000 cfs has been added to the APOC for all months except June (a substantial change from the DOP10). This operating limit may be reduced to as low as 5000 cfs to avoid drafting the combined Mica and Arrow storage beyond 14.1 Maf.

19. Brownlee's storage operation will be based on critical rule curves and energy content curves included in the AOP11, but the project minimum outflows will be

calculated based on the minimum flow requirement at Lime Point.

The TSR includes the operating guides and limits listed in Sections VI and VII of this DOP.

E. Authorization for Changes to the TSR

The Operating Committee is authorized to modify the TSR only as needed to correct errors or omissions, update forecast data and procedures, and update the hydroregulation model.

F. Libby

Libby operating limits and the expected operation of the Libby project are not included in the DOP. That information is available in the Libby Operating Plan that will be updated by the U.S. Entity when planned operations change. The operation of Libby in the TSR11 will be based on the AOP11 Step 1 operating criteria.

III. POWER DELIVERIES

A. Delivery of the Canadian Entitlement

The obligation of the United States to return the Canadian Entitlement to Canada for the Operating Year based on the AOP11 is:

Capacity Entitlement = 1,316.4 MW
Energy Entitlement = 535.7 annual aMW

Arrangement for the delivery of this Canadian entitlement power, including the point of delivery, transmission losses, and scheduling guidelines, are defined by the Aspects Agreement, and Articles V and VIII of the Columbia River Treaty. Section 11 of Attachment B to the Aspects Agreement delegates to the Operating Committee the responsibility for modifying or amending Attachment B - Scheduling Guidelines, as needed from time to time.

B. LCA Power

In accordance with Section 7(b) of the LCA, the Canadian Entity shall deliver to the U.S. Entity one (1) average MW, shaped flat, during the Operating Year. In accordance with Section 10 of the LCA, the Entities shall deliver and receive power relating to the provisional draft of Arrow reservoir. The Entities hereby authorize B.C. Hydro and BPA to make suitable arrangements for delivery of LCA power at the points of interconnection between B.C. Hydro and the Federal Columbia River Transmission System.

In the event of transmission limitations which curtail deliveries of energy under the LCA, curtailed deliveries shall be rescheduled for delivery as soon as it is practical after clearance of the limitation(s), but in no event longer than 168 hours later, unless mutually agreed otherwise.

C. Operational Agreement Power

In accordance with Section IV of this DOP, the Entities shall make arrangements to

deliver and/or receive power required by any SOA. The Entities hereby authorize B.C. Hydro and BPA to make suitable arrangements for delivery of Operational Agreement Power at the points of interconnection between B.C. Hydro and the Federal Columbia River Transmission System.

IV. STORAGE OPERATION

A. Operation Authority

The operation of Canadian storage by the Operating Committee during the period 1 August 2010 through 31 July 2011 shall be in accordance with this DOP, the FCOP, the LCA, and any SOA applicable to this Operating Year. Consistent with the operating objectives in this section, the Operating Committee is authorized to enter into SOA's consistent with the objectives defined in subsection IV(C) that store above or draft below end-of-month TSR levels, and may include the delivery of power, for mutual benefits that occur during the period covered by this DOP.

B. Canadian Storage Operation

The Weekly Treaty Storage Operation Agreements shall be based on operating Canadian storage to the end-of-month contents contained in the current TSR study, plus any operations under SOA's and the LCA (as described in subsections C and D below) or as required by the FCOP.

From time to time, due to updated forecasts or differences between forecast and actual inflows, the actual operation of Treaty composite storage will differ from the end of period storage prescribed by the TSR as modified by SOA, LCA, or flood control operations. The Operating Committee will make reasonable efforts to correct these inadvertent differences via the regular Weekly Treaty Storage Operation Agreements in a timely manner without exceeding the specified project limits for discharges and ramp-rates.

C. Objectives for Supplemental Operating Agreements

Consistent with the FCOP and operating limits defined in Section VII of this DOP, the objectives for SOA's include the following.

1. Power Objectives:
   Power objectives include minimizing spill and optimizing energy production, power marketing, and purchase decisions. Operations for power objectives may be combined with non-power objectives. When appropriate, the Operating Committee will make suitable arrangements for delivery of power relating to sharing of benefits from operational agreements.

2. Non-power Objectives:
   Potential Canadian non-power objectives may include, but are not limited to, whitefish and trout spawning downstream of Arrow, dust storm avoidance upstream of Arrow, and recreation needs. Potential U.S. non-power objectives may include, but are not limited to, storage of water up to 1.233 km^3 (1 Maf) for anadromous fish flow augmentation, minimum flows at Bonneville dam and at Vernita Bar for fish spawning, and recreation needs. Non-power objectives considered in this section do

not include flood control and operating limits in Section VII.

Recognizing that it may not be possible to meet all non-power objectives, the Operating Committee shall in general attempt to share equally the risk and amount of failure. The parties shall make reasonable efforts to use available flexibility at their projects prior to requesting changes to the Treaty storage operation.

Operations designed to help meet non-power objectives do not imply that either Entity acknowledges any obligation, domestic or international, to meet those objectives. The Entities agree that operations for non-power objectives do not set a precedent concerning any current or future dispute over Treaty rights and obligations, nor do they set a precedent for non-power objectives or flow objectives and contents.

D. Provisional Draft at Arrow

The Canadian Section of the Operating Committee may provisionally draft from Arrow reservoir below TSR levels in accordance with Section 10 of the LCA.

E. General Storage Operation Guidelines

The values used in the Assured Operating Plan studies to define the various rule curves were period-end values only. In actual operation, it is necessary to operate in such a manner during the course of each period that these period-end values can be achieved in accordance with the operating rules. Due to the normal variation of power load and streamflow during any period, straight-line interpolation between the period-end points should not be assumed. During the storage drawdown season, Canadian storage should not be drafted below its period-end point at any time during the period unless it can be conservatively demonstrated that sufficient inflow is available, in excess of the minimum outflow required to serve power demand, to refill the reservoir to its end-of-period values as required.

V. SCHEDULING STORAGE REGULATION

A. Operating Data

The Operating Committee will exchange all current operating data necessary for the regulation of Canadian storage projects as soon as available, including the beginning and end of the flood control season.

B. Volume Runoff Forecasts

Seasonal runoff volume forecasts for Canadian Treaty Projects shall be made available by the Canadian Section no later than the fifth working day of each month, as required. The Operating Committee may request forecasts of seasonal runoff volume at periods other than those representing month-end conditions if hydrologic conditions warrant. Seasonal runoff volume forecasts for the Columbia River at The Dalles, Oregon, shall be made available by the U.S. Section no later than the fifth working day of each month, as required.

C. Treaty Storage Regulation Study

The TSR study is performed at least twice each month (within the first nine working days

and the last eight working days of each month, unless otherwise agreed by the Operating Committee). Actual unregulated streamflows and forecasted unregulated streamflows will be updated for each TSR study. Variable refill curves, flood control storage evacuation requirements, and variable flood control refill curves will be updated for the first TSR of the month. At the request of either section of the Operating Committee, additional TSR studies shall be performed to reflect the most current unregulated streamflow forecasts and rule curves. The Operating Committee shall agree on procedures for developing streamflow forecasts and rule curves at that time.

Errors and omissions in the TSR will be handled as follows, unless otherwise agreed:

1. All identified errors, omissions, or revisions in the TSR issued during the current Operating Year should be documented and reported to the Operating Committee.

2. Errors/omissions identified within two working days of the initial TSR distribution which, in the view of either Section, may affect the final TSR for the previous operation period or which may impact operations prior to issuance of the next TSR, should be corrected immediately and the TSR re-run. If such errors/omissions are identified after the two-day review period, the TSR will be corrected only if requested by either Section of the Operating Committee.

3. Errors/omissions that do not affect the final TSR for the previous period or impact operations prior to issuance of the next TSR should be corrected in the subsequent TSR.

4. Errors/omissions that affect periods previously finalized and which result in a significant impact to the TSR in future periods, should be brought to the attention of the Operating Committee for resolution.

During the Flood Control Storage Evacuation Period and the Flood Control Refill period, project Flood Control Curves will be determined in August 2010 and January through July 2011 by the Columbia Basin Water Management Division, Northwestern Division, U.S. Army Corps of Engineers, in accordance with the FCOP. These curves will be computed consistent with the timing of the TSR Schedule.

D. Scheduling Agreements

Unless otherwise agreed, requests by the U.S. Section of the Operating Committee for the regulation of the Canadian storage content will be made to the Canadian Section on a regular basis in accordance with the following procedures:

1. Storage Regulation for Power Operations

   a) Timing: A preliminary request will be made not later than noon each Thursday, followed by a final agreement by noon Friday, or the last working day of the week.

   b) Confirmation: The agreed operation will be confirmed in a Weekly Treaty Storage Operation Agreement transmitted via electronic mail or fax on Friday, or the last working day of the week, in accordance with the following format

unless otherwise agreed:

> This message confirms our verbal agreement on _____ (*date*) that the _____ (*storing/drafting*) of an estimated _____ ksfd ____ (*in/from)* the whole of Canadian storage for the Period _____ through _____ is consistent with the Detailed Operating Plan (DOP).
>
> This agreement is based on an estimated average inflow during the above-mentioned period of _____ kcfs to Duncan Reservoir,
> _____ kcfs to Libby Reservoir,
> _____ kcfs to Mica Reservoir, an
> Estimated average regulated inflow of
> _____ kcfs to Arrow Reservoir, and an
> Estimated regulated outflow of
> _____ kcfs from the Libby Project,
> That will result in average weekly Treaty discharges of
> _____ kcfs from the Duncan Project,
> _____ kcfs from the Mica Project, and
> _____ kcfs from the Arrow Project.
>
> This operation of the whole of Canadian storage is based on the _____(date) DOP TSR expected end-of-_____ (*month, except split April & August*) storage level for the whole of Canadian storage of _____ ksfd.
> This operation includes expected _____ (*storage above/draft below*) the end-of-_____ (*month, except April & August*) DOP TSR level for the whole of Canadian storage of _____ ksfd.
>
> Treaty discharges will be made effective at the Canadian-United States border. The Weekly Treaty Storage Operation Agreement will be deemed to have been fulfilled if the total amount of Treaty water agreed to is released from Arrow plus Duncan reservoir provided an amount equal to or greater than the water released from Duncan reservoir is concurrently discharged from Kootenay Lake.

c) SOA's and LCA: The Weekly Treaty Storage Operation Agreements shall indicate storage operations under any SOA or LCA activity.

d) Period Covered by Weekly Treaty Storage Operation Agreement: The period covered by the agreement shall be from Saturday following the date of the weekly request to the following Friday.

e) Release Determination: The amount of water released or stored during the period of the Weekly Treaty Operation Storage Agreement will be determined by the changes in reservoir contents based on the recorded reservoir elevation and storage capacity tables for Duncan (Exhibit 12), Arrow (Exhibit 13), and Mica (Exhibit 14). The change in Arrow storage content will be determined using the recorded reservoir elevation at the gauge near Fauquier, B.C.

f) Modification: If any modification to a written Weekly Treaty Storage Operation Agreement is agreed by the Operating Committee, a further written Storage Agreement superseding the original will be dispatched immediately by the U.S. Section of the Operating Committee to the Canadian Section of the Operating Committee. In accordance with Section 12 of the LCA, the

Canadian Section shall implement at the request of the U.S. Section, up to five (5) mid-week requests for changes to the Canadian storage operation, consistent with this DOP and operating agreements entered into pursuant to this DOP. In addition, upon receipt of the preliminary weekly request each Thursday, the Canadian Section may request a modification to the current week's Treaty Storage Operation as may be necessary to meet flow ramping and fish salvage requirements in transitioning project releases from one Treaty week into the next, subject to agreement by the U.S. Section.

g) Provisional Draft: A preliminary request by the Canadian Section for provisional draft from Arrow reservoir, in accordance with Section 10 of the LCA, shall be made concurrent with the preliminary flow request. The provisional draft request will be confirmed not later than 2:00 pm on Thursday, and subsequently documented in the Weekly Treaty Storage Operation Agreement.

h) Non-routine Operation: Any special operation that is agreed to by the Operating Committee will be suitably documented.

2. Storage Regulation during Flood Control

a) Forecasts: Daily time-step streamflow forecasts will be accomplished by use of computer simulation by the National Weather Service River Forecast Center. The regulation center required by the FCOP for the flood regulation will be located in the Columbia Basin Water Management Division, Northwestern Division, U.S. Army Corps of Engineers offices in Portland, Oregon.

b) Requests for Project Outflows: Pursuant to the operating rules in the FCOP, the outflows from individual Canadian storage projects may be specified, as outlined in the FCOP. Requests will be coordinated by telephone daily or on an as needed basis, by conference calls between members of the Operating Committee or their representatives. The requests will normally prescribe the requested outflows as a mean daily discharge in cubic feet per second, for the 24-hour period from noon to noon of each day. Requests for project outflows will be determined by methods as agreed upon, and documented with a confirmation agreement by a message transmitted via e-mail or Fax from the Corps of Engineers, in Portland, Oregon. The Canadian Section of the Operating Committee or their representative will make acknowledgment of this agreement via e-mail or Fax. Any modification of the documented daily request shall be agreed by the Operating Committee before being put into effect, and shall be documented immediately using the procedure described above.

c) Regulation during Winter Floods: Daily requests for project outflows from Canadian projects are normally implemented in the flood control refill period. During the occurrence of winter floods (periods of high winter flows) in the Lower Columbia River, if a special regulation of Arrow storage becomes necessary to preserve the natural flood control storage effect, then the outflows from Arrow will be regulated on a day-to-day basis by agreement of the Operating Committee in accordance with the requests of the U.S. Section of the Operating Committee. Insofar as possible the outflows from Arrow will not

exceed the calculated natural lake outflows until the space obligated for this purpose as shown on Chart 5 of the FCOP is filled. The requests for such regulation will be in accordance with procedures described above. If, as a result of operation for winter flood control, a reservoir ends up above its flood control rule curve, then an appropriate outflow schedule for that reservoir will be determined to ensure that the reservoir will be drafted to its flood control rule curve as soon as feasible.

VI. OPERATING GUIDES

A. Operating Rule Curve

The ORC for the whole of Canadian storage shall be the sum of the ORC's for each of Duncan, Arrow, and Mica. The ORC for each of the Duncan, Arrow, and Mica Reservoirs during the period 1 August 2010 through 31 July 2011 is determined in accordance with the reference documents of Section I, and is defined as follows:

1. During the period 1 August 2010 through 31 December 2010, the ORC is the higher of the First Critical Rule Curve or the Assured Refill Curve.

2. During the period 1 January 2011 through 31 July 2011, the ORC is the higher of the First Critical Rule Curve or the Assured Refill Curve, unless the Variable Refill Curve (VRC) is below the higher of the above two curves; then it is defined by the VRC.

3. During the period 1 January 2011 through 15 April 2011, the ORC will not be lower than the Operating Rule Curve Lower Limit designed to protect firm loads with recurrence of 1936-37 hydro conditions unless a lower reservoir elevation is required for flood control (Exhibit 6).

4. During any month in the Operating Year, the ORC will not be higher than the Flood Control Rule Curve, defined as the maximum elevation of each reservoir established by flood control requirements and may be modified on mutual agreement for construction and other contingency requirements.

5. Operation of Mica will be in accordance with the Mica Project Operating Criteria tabulated with specified qualifications in Section VII(C). Differences between Mica's storage operation and its ORC (or Proportional Draft Point (PDP) if different) shall be balanced with equal and opposite changes to Arrow's ORC (or PDP) to the extent possible within agreed Operating Limits. The obligation to operate Mica and Arrow to produce optimum benefits in Canada and downstream in the United States will be deemed to have been fulfilled by operating to these criteria.

6. The VRCs for Arrow, Duncan, and Mica shall be constructed based on procedures, power discharge requirements, and Variable Refill Curve Lower Limits as specified in Exhibit 7 (Total Inflow Method), except that the Operating Committee, in consideration of mutually beneficial operating arrangements, may agree to use an alternate procedure for Arrow which uses Arrow local inflows (Arrow Local Inflow Method) as follows.

a) If the current TSR study shows for the end of the current month that 1) the projected Mica Treaty storage content is lower than its ORC, and 2) the Coordinated System draft point is on the ORC, then the TSR shall be rerun with Arrow's VRC calculated as follows:

i) The forecast volume of inflow for Arrow will exclude the volume of inflow above the Mica project. This Arrow local inflow volume will be reduced by a forecast error such that there is a 95 percent probability that the reduced forecast is equaled or exceeded.

ii) The total Mica target outflow as specified in VII(C) will be added to the forecast volume described in a(i) above.

iii) In computing water available for refill of Arrow Reservoir the power discharge requirements for Arrow as specified in Exhibit 7 will be deducted from the volume calculated in a(ii).

b) During any period when the Arrow Local Inflow Method is used, the Mica/Arrow balancing (as described in subsection VI(A)5) is not used. This is implemented in BPA's hydro regulation model by setting the composite ORC for Canadian storage equal to the Mica Treaty storage content as defined in subsection VII(C), plus the ORC at Arrow and Duncan.

B. Rule Curves and Operating Data

Rule Curves and operating data are shown in both English and SI (Metric) units. SI values are displayed with either one or two decimal places to assure consistency with English units and do not imply that level of precision.

1.	Assured Refill Curve for Duncan, Arrow, and Mica.	Exhibit 1
2.	First Critical Rule Curve for Duncan, Arrow, Mica, and the whole of Canadian storage.	Exhibit 2
3.	Second Critical Rule Curve for Duncan, Arrow, Mica, and the whole of Canadian storage.	Exhibit 3
4.	Third Critical Rule Curve for Duncan, Arrow, Mica, and the whole of Canadian storage.	Exhibit 4
5.	Fourth Critical Rule Curve for Duncan, Arrow, Mica, and the whole of Canadian storage.	Exhibit 5
6.	Operating Rule Curve Lower Limits based on 1936-37 Hydro Conditions.	Exhibit 6
7.	Variable Refill Curve Procedures.	Exhibit 7
8.	Coordinated System Loads and Resources Used in the TSR	Exhibit 8

9.	TSR Critical Rule Curves and ARCs for Other Major Projects	Exhibit 9
10.	U.S. PDRs, VRCLLs, Forecast Errors and Distribution Factors	Exhibit 10
11.	U.S. Operating Rule Curve Lower Limits based on 1936-37 Hydro Conditions.	Exhibit 11
12.	Composite Canadian Storage Contents from the DOP11 70-Year Continuous TSR hydroregulation study	Exhibit 12

C. Reservoir Capacity Tables

The following tables shall be considered to be the official storage for the projects:

1.	Duncan Reservoir Capacity Table (based on B.C. Hydro Table dated 21 February 1973).	Exhibit 13
2.	Arrow Reservoir Capacity Table (based on B.C. Hydro Combined Storage Table dated 28 February 1974).	Exhibit 14
3.	Mica Reservoir Capacity Table (based on B.C. Hydro Table dated 25 March 1974).	Exhibit 15

VII. OPERATING LIMITS

A. Duncan Project

1. Maximum outflow is 566.34 m^3/s (20,000 cfs) through outlets but limited to 283.17 m^3/s (10,000 cfs) each month in the TSR model.

2. Minimum average weekly outflow is 2.83 m^3/s (100 cfs).

3. Maximum rate of change in outflow is normally 113.27 m^3/s (4,000 cfs) per day unless a larger change is necessary to accomplish the objectives of the FCOP.

4. Normal full pool elevation is 576.68 m (1,892.0 feet).

5. Normal minimum pool elevation is 546.87 m (1,794.2 feet).

6. Normal maximum reservoir average monthly draft rate in elevation during any month is limited to 0.30 m (1 foot) per day.

B. Arrow Project

1. Maximum outflow is limited to physical capability only, except during January when Attachment C to the LCA requires that outflows in actual operations be limited to a maximum of 2,265 m^3/s (80,000 cfs), unless otherwise agreed or higher outflows are needed to meet flood control requirements or compensate for Duncan underruns.

2. Minimum average weekly outflow is 141.58 m^3/s (5,000 cfs).

3. Maximum rate of change in outflow is normally 424.75 m^3/s (15,000 cfs) per day unless a larger change is necessary to accomplish the objectives of the FCOP.

4. Normal full pool elevation is 440.13 m (1,444.0 feet).

5. Normal minimum pool elevation is 419.98 m (1,377.9 feet).

6. Normal maximum reservoir average monthly draft rate in elevation during any month is limited to 0.30 m (1 foot) per day.

7. The Arrow reservoir storage operation in the TSR will be limited by a maximum outflow, minimum outflow, or a maximum storage level as defined by the Arrow Project Operating Criteria (APOC). The APOC includes the following:

    a) Arrow's outflows will be limited, under all water conditions, to a maximum monthly outflow of 1,982 m^3/s (70,000 cfs) in January and 1,699 m^3/s (60,000 cfs) in February, subject to flood control requirements.

    b) The minimum average monthly outflow is increased from 142 m^3/s (5,000 cfs) to 283 m^3/s (10,000 cfs) for July through May, except that the minimum monthly outflow will be decreased as needed (but limited to no lower than 142 m^3/s (5,000 cfs)) to prevent the combined draft of Mica and Arrow from exceeding 17.39 km^3 (14.1 Maf).

    c) Arrow's storage contents during February through June are limited to a calculated maximum level depending on the forecast for The Dalles residual unregulated runoff for the current month through July.

Table 1 shows the criteria for calculating the maximum storage levels and the maximum and minimum outflows.

TABLE 1
ARROW PROJECT OPERATING CRITERIA

Period	Volume-Runoff Period	The Dalles Volume Runoff				Maximum Storage Limit 1/ & 2/			Max Outflow Limit 3/		Min Outflow Limit 4/	
		km^3	Maf		Maf	km^3		ksfd	hm^3	kcfs	m^3/s	kcfs	m^3/s
January								URC	URC	70	1982	10	283
February	1 Feb - 31 July			≤	70	86.3		URC	URC	60	1699	10	283
		>86.3	>70	to	<80	<98.7	URC to	1800	4403.8				
				≥	80	98.7		1800	4403.8				
March	1 Mar - 31 July			≤	65	80.2		URC	URC			10	283
		>80.2	>65	to	<75	<92.5	URC to	900	2201.9				
				≥	75	92.5		900	2201.9				
April 15	1 Apr - 31 July			≤	61	75.2		URC	URC			10	283
		>75.2	>61	to	<70	<86.3	URC to	900	2201.9				
				≥	70	86.3		900	2201.9				
April 30	1 Apr - 31 July			≤	61	75.2		URC	URC			10	283
		>75.2	>61	to	<70	<86.3	URC to	1000	2446.6				
				≥	70	86.3		1000	2446.6				
May	1 May - 31 July			≤	68	83.9		URC	URC			10	283
		>83.9	>68	to	<70	<86.3	URC to	1800	4403.8				
				≥	70	86.3		1800	4403.8				
June	1 Jun - 31 July			≤	33	40.7		URC	URC				
		>40.7	>33	to	<35	<43.2		3300	8073.7				
				≥	35	43.2		3300	8073.7				
July - December								URC	URC			10	283

Notes:

1. If the Maximum Storage Limit is computed to be above the URC, then the URC will apply.
2. Interpolate when there are two values. For example, if the February-July volume runoff is between 86.3 km^3 (70 Maf) and 98.7 km^3 (80 Maf), then the Maximum Storage Limit is interpolated between February's URC and 4403.8 km^3 (1800 ksfd).
3. The Maximum Average Monthly Outflow Limit takes precedence over the Maximum Storage Limit. However, the Maximum Outflow Limit may be exceeded to avoid storage above the URC.
4. The Minimum Average Monthly Outflow Limit is an operating limit and may be reduced to as low as 142 m^3/s (5,000 cfs) (Treaty minimum) to avoid drafting Mica+Arrow storage beyond 17.39 km^3 (14.1 Maf). There is no operating minimum flow limit for June.

d) APOC Implementation: In the DOP, the default implementation of the APOC will use the distribution factors shown in Table 2. These distribution factors are multiplied by the current month through July forecast volumes at The Dalles, to calculate future month through July volume forecasts. The resulting residual month-July volumes are then used to determine the maximum storage levels from the criteria provided in Table 1.

Table 2

APOC IMPLEMENTATION: DISTRIBUTION FACTORS FOR THE DALLES

Forecast Date	Forecast Period	The Dalles Distribution Factors					
		Jan-Jul	Feb-Jul	Mar-Jul	Apr-Jul	May-Jul	Jun-Jul
1-Jan	1 Jan - 31 July	1.0000	0.9392	0.8589	0.7735	0.7174	0.4393
1-Feb	1 Feb - 31 July		1.0000	0.9145	0.8235	0.7638	0.4677
1-Mar	1 Mar - 31 July			1.0000	0.9005	0.8352	0.5114
1-Apr	1 Apr - 31 July				1.0000	0.9275	0.5679
1-May	1 May - 31 July					1.0000	0.6123
1-Jun	1 Jun - 31 July						1.0000

Notes:

1. Unless otherwise agreed, the DOP11 will apply these distribution factors to the monthly volume forecast at The Dalles for computing the Month-July runoff volumes required by the APOC.
2. These distribution factors are calculated from the median 71 year Jan-Jul, Feb-Jul, etc., volumes. For example, if the 1 May volume runoff forecast equals 80.2 km^3 (65 Maf), then based on the June-July distribution factor of 0.6123, the estimated June-July volume runoff is 49.1 km^3 (39.8 Maf), and from Table 1, the Arrow maximum storage limits in May and June are the URC and 8074.7 hm^3 (3300 ksfd) respectively.

C. Mica Project

The Mica Project Treaty storage operation in the TSR will be according to the Mica Project Operating Criteria shown in Table 3 (and Table 3M) except as qualified in subsections VII(C)1 through VII(C)6.

1. VRCs shall be constructed according to Exhibit 7 with the 31 July Treaty storage content of 8,634.5 hm^3 (3,529.2 ksfd). However, the Operating Committee may agree to set Mica's VRC July refill target equal to the Mica End of Month Storage Content of 8,482.8 hm^3 (3,467.2 ksfd) indicated on the following "Mica Project Operating Criteria" table.

2. Mica project operation will be determined by the End of Previous Month Arrow Storage Content as shown in Table 3 (and Table 3M), except for the limitations or changes required by subsections VII(C)3 through VII(C)6. The End of Previous Month Arrow Storage Content shall be determined from the current TSR study,

except when the Arrow Local Inflow Method was used for the prior month the TSR with the Arrow Total Inflow Method shall be used. Mica's target operation will be defined either by a Target End of Month Storage Content or a Target Month Average Outflow.

3. Mica operation to the Target End-of-Month Treaty Storage Contents shall be limited by the Minimum and Maximum Outflows shown in Table 3 (and Table 3M), unless needed to accomplish the objectives of the FCOP.

4. Mica operation to the Target Month Average Outflow shall be limited by the Minimum Target Treaty Content shown in Table 3 (and Table 3M). Mica outflows shall be reduced as required down to a lower limit of the Minimum Outflow shown in the table below, to prevent draft below the Minimum Target Treaty Storage Content. Minimum Outflows may cause the reservoir to draft below the Minimum Target Treaty Content.

5. Mica outflows will be increased during the months October through July as required to avoid violation of the Flood Control Rule Curve.

6. Treaty storage releases from Mica in excess of 8.634 km^3 (7 Maf) that result from operating Mica under the criteria described in VII(C)2 through VII(C)5 above will be retained in the Arrow reservoir, subject to flood control and minimum flow requirements at Arrow, and Mica will be reduced to Minimum Outflow as required to minimize releases in excess of 8.634 km^3 (7 Maf). The total combined storage draft from Mica and Arrow will not exceed 17.392 km^3 (14.1 Maf) unless flood control or minimum flow criteria at Arrow will not permit the excess Mica storage releases to be retained at Arrow. If such a release should occur, the target Mica operation will remain as specified in Mica Project Operating Criteria, and the excess release will be returned as soon as the operating criteria permit.

Table 3

MICA PROJECT OPERATING CRITERIA

	Target Operation			Target Operation Limits		
Month	End of Previous Month Arrow Storage Content (KSFD)	Month Average Outflow (CFS)	End-of-Month Storage Content 1/ (KSFD)	Minimum Target Treaty Content at Mica 2/ (KSFD)	Maximum Outflow (CFS)	Minimum Outflow (CFS)
August 1-15	3,170 - FULL	-	3,439.2	-	34,000	15,000
	2,200 - 3,170	25,000	-	0.0	-	15,000
	0 - 2,200	32,000	-	0.0	-	15,000
August 16-31	3,220 - FULL	-	3,529.2	-	34,000	15,000
	2,260 - 3,220	25,000	-	0.0	-	15,000
	0 - 2,260	31,000	-	0.0	-	15,000
September	3,490 - FULL	-	3,529.2	-	34,000	10,000
	3,370 - 3,490	24,000	-	0.0	-	10,000
	1,100 - 3,370	27,000	-	0.0	-	10,000
	0 - 1,100	31,000	-	0.0	-	10,000
October	3,370 - FULL	-	3,428.4	-	34,000	10,000
	2,910 - 3,370	19,000	-	0.0	-	10,000
	500 - 2,910	22,000	-	0.0	-	10,000
	0 - 500	32,000	-	0.0	-	10,000
November	3,350 - FULL	21,000	-	0.0	-	10,000
	3,040 - 3,350	19,000	-	0.0	-	10,000
	390 - 3,040	25,000	-	0.0	-	10,000
	0 - 390	32,000	-	0.0	-	10,000
December	2,940 - FULL	25,000	-	254.1	-	10,000
	2,285 - 2,940	22,000	-	254.1	-	10,000
	400 - 2,285	27,000	-	254.1	-	10,000
	0 - 400	32,000	-	254.1	-	10,000
January	2,490 - FULL	27,000	-	204.1	-	12,000
	2,310 - 2,490	28,000	-	204.1	-	12,000
	1,400 - 2,310	26,000	-	204.1	-	12,000
	0 - 1,400	29,000	-	204.1	-	12,000
February	1,500 - FULL	21,000	-	0.0	-	12,000
	1,170 - 1,500	26,000	-	0.0	-	12,000
	500 - 1,170	23,000	-	0.0	-	12,000
	0 - 500	26,000	-	0.0	-	12,000
March	830 - FULL	21,000	-	0.0	-	12,000
	800 - 830	23,000	-	0.0	-	12,000
	500 800	19,000	-	0.0	-	12,000
	0 - 500	24,000	-	0.0	-	12,000
April 1-15	890 - FULL	22,000	-	0.0	-	12,000
	600 - 890	10,000	-	0.0	-	12,000
	60 - 600	17,000	-	0.0	-	12,000
	0 - 60	21,000	-	0.0	-	12,000
April 16-30	260 - FULL	10,000	-	0.0	-	10,000
	120 - 260	14,000	-	0.0	-	10,000
	20 - 120	10,000	-	0.0	-	10,000
	0 - 20	21,000	-	0.0	-	10,000
May	270 - FULL	8,000	-	0.0	-	8,000
	70 - 270	10,000	-	0.0	-	8,000
	0 - 70	8,000	-	0.0	-	8,000
June	850 - FULL	8,000	-	0.0	-	8,000
	660 - 850	18,000	-	0.0	-	8,000
	0 - 660	10,000	-	0.0	-	8,000
July	3,180 - FULL	-	3,467.2	-	34,000	10,000
	2,470 - 3,180	-	3,436.2	-	34,000	10,000
	1,430 - 2,470	20,000	-	0.0	-	10,000
	0 - 1,430	31,000	-	0.0	-	10,000

Notes:

1/ If the Mica target End-of-Month Storage Content is less than 3529.2 ksfd, then a maximum outflow of 34,000 cfs will apply. These maximum flows may be exceeded for flood control.

2/ For month average outflow target operation, Mica outflows will be reduced to minimum to maintain the reservoir above the Minimum Target Treaty Storage Content.

Table 3M

MICA PROJECT OPERATING CRITERIA (SI)

	Target Operation			Target Operation Limits		
Month	End of Previous Month Arrow Storage Content (hm^3)	Month Average Outflow (m^3/s)	End-of-Month Storage Content 1/ (hm^3)	Minimum Target Treaty Content at Mica 2/ (hm^3)	Maximum Outflow (m^3/s)	Minimum Outflow (m^3/s)
August 1-15	7755.7 - FULL	-	8414.3	-	962.77	424.75
	5382.5 - 7755.7	707.92	-	0.0	-	424.75
	0.0 - 5382.5	906.14	-	0.0	-	424.75
August 16-31	7878.1 - FULL	-	8634.5	-	962.77	424.75
	5529.3 - 7878.1	707.92	-	0.0	-	424.75
	0.0 5529.3	877.82	-	0.0	-	424.75
September	8538.6 - FULL	-	8634.5	-	962.77	283.17
	8245.0 - 8538.6	679.60	-	0.0	-	283.17
	2691.3 8245.0	764.55	-	0.0	-	283.17
	0.0 - 2691.3	877.82	-	0.0	-	283.17
October	8245.0 - FULL	-	8387.9	-	962.77	283.17
	7119.6 - 8245.0	538.02	-	0.0	-	283.17
	1223.3 7119.6	622.97	-	0.0	-	283.17
	0.0 - 1223.3	906.14	-	0.0	-	283.17
November	8196.1 - FULL	594.65	-	0.0	-	283.17
	7437.7 - 8196.1	538.02	-	0.0	-	283.17
	954.2 7437.7	707.92	-	0.0	-	283.17
	0.0 - 954.2	906.14	-	0.0	-	283.17
December	7193.0 - FULL	707.92	-	621.7	-	283.17
	5590.5 - 7193.0	622.97	-	621.7	-	283.17
	978.6 - 5590.5	764.55	-	621.7	-	283.17
	0.0 - 978.6	906.14	-	621.7	-	283.17
January	6092.0 - FULL	764.55	-	499.4	-	339.80
	5651.6 - 6092.0	792.87	-	499.4	-	339.80
	3425.2 - 5651.6	736.24	-	499.4	-	339.80
	0.0 - 3425.2	821.19	-	499.4	-	339.80
February	3669.9 - FULL	594.65	-	0.0	-	339.80
	2862.5 - 3669.9	736.24	-	0.0	-	339.80
	1223.3 - 2862.5	651.29	-	0.0	-	339.80
	0.0 - 1223.3	736.24	-	0.0	-	339.80
March	2030.7 - FULL	594.65	-	0.0	-	339.80
	1957.3 - 2030.7	651.29	-	0.0	-	339.80
	1223.3 1957.3	538.02	-	0.0	-	339.80
	0.0 - 1223.3	679.60	-	0.0	-	339.80
April 1-15	2177.5 - FULL	622.97	-	0.0	-	339.80
	1468.0 - 2177.5	283.17	-	0.0	-	339.80
	146.8 - 1468.0	481.39	-	0.0	-	339.80
	0.0 - 146.8	594.65	-	0.0	-	339.80
April 16-30	636.1 - FULL	283.17	-	0.0	-	283.17
	293.6 - 636.1	396.44	-	0.0	-	283.17
	48.9 - 293.6	283.17	-	0.0	-	283.17
	0.0 - 48.9	594.65	-	0.0	-	283.17
May	660.6 - FULL	226.53	-	0.0	-	226.53
	171.3 660.6	283.17	-	0.0	-	226.53
	0.0 171.3	226.53	-	0.0	-	226.53
June	2079.6 - FULL	226.53	-	0.0	-	226.53
	1614.8 - 2079.6	509.70	-	0.0	-	226.53
	0.0 - 1614.8	283.17	-	0.0	-	226.53
July	7780.2 - FULL	-	8482.9	-	962.77	283.17
	6043.1 - 7780.2	-	8407.0	-	962.77	283.17
	3498.6 - 6043.1	566.34	-	0.0	-	283.17
	0.0 - 3498.6	877.82	-	0.0	-	283.17

Notes:

1/ If the Mica target End-of-Month Storage Content is less than 8634.5 hm^3, then a maximum outflow of 962.77 m^3/s will apply. These maximum flows may be exceeded for flood control.

2/ For month average outflow target operation, Mica outflows will be reduced to minimum to maintain the reservoir above the Minimum Target Treaty Storage Content.

EXHIBITS

Exhibit 1 - Assured Refill Curves (English) 1/

	MICA						ARROW						DUNCAN				
	1931 Inflow	PDR	Water Available for Refill		CRC1	ARC	1931 Inflow	PDR	Water Available for Refill		MICA Refill	ARC	1931 Inflow	PDR	Water Available for Refill		ARC
Month	CFS	CFS 4/	CFS	KSFD	KSFD	**KSFD**	CFS	CFS 4/	CFS	KSFD	KSFD 2/	**KSFD**	CFS 3/	CFS 4/	CFS	KSFD	**KSFD**
Aug1	52209	3000	49209	738.1	3529.2	**0.0**	81724	5000	76724	1150.9	3529.2	**0.0**	5228	100	5128	76.9	**1.5**
Aug2	39436	3000	36436	583.0	3523.1	**531.5**	61741	5000	56741	907.9	-6.1	**0.0**	3875	100	3775	60.4	**61.9**
Sep	23080	3000	20080	602.4	3495.5	**1133.9**	38807	5000	33807	1014.2	-27.6	**0.0**	2310	100	2210	66.3	**128.2**
Oct	8761	3000	5761	178.6	3376.2	**1312.5**	14427	5000	9427	292.2	-119.3	**0.0**	1089	100	989	30.7	**158.9**
Nov	5176	3000	2176	65.3	2970.9	**1377.8**	9369	5000	4369	131.1	-405.3	**0.0**	684	100	584	17.5	**176.4**
Dec	3531	3000	531	16.5	2226.8	**1394.3**	6480	5000	1480	45.9	-744.1	**785.1**	461	100	361	11.2	**187.6**
Jan	2834	3000	-166	-5.1	1447.2	**1389.1**	6451	5000	1451	45.0	-779.6	**1609.6**	428	100	328	10.2	**197.7**
Feb	2589	3000	-411	-11.5	689.1	**1377.6**	5759	6000	-241	-6.7	-69.6	**1672.5**	428	100	328	9.2	**206.9**
Mar	3218	3000	218	6.8	413.3	**1384.4**	7849	7000	849	26.3	6.8	**1692.0**	555	100	455	14.1	**221.0**
Apr1	4666	3000	1666	25.0	165.9	**1409.4**	12047	7000	5047	75.7	25.0	**1742.8**	825	100	725	10.9	**231.9**
Apr2	7218	3000	4218	63.3	166.7	**1472.6**	20470	9000	11470	172.1	63.3	**1851.5**	1137	100	1037	15.6	**247.5**
May	28063	3543	24520	760.1	462.2	**2232.8**	69071	10395	58676	1819.0	760.1	**2910.4**	5170	141	5029	155.9	**403.4**
June	60134	25599	34535	1036.1	2096.3	**3268.8**	114433	63090	51343	1540.3	1036.1	**3414.6**	8030	2951	5079	152.4	**555.7**
July	56494	48094	8400	260.4	3059.6	**3529.2**	88803	75081	13722	425.4	260.4	**3579.6**	7320	2479	4841	150.1	**705.8**

Exhibit 1M – Assured Refill Curves (SI) 1/

	MICA						ARROW						DUNCAN				
	1931 Inflow	PDR	Water Available for Refill		CRC1	ARC	1931 Inflow	PDR	Water Available for Refill		MICA Refill	ARC	1931 Inflow	PDR	Water Available for Refill		ARC
Month	m^3/s	m^3/s 4/	m^3/s 4/	hm^3	hm^3	hm^3	m^3/s	m^3/s 4/	m^3/s	hm^3	hm^3 2/	hm^3	m^3/s 3/	m^3/s 4/	m^3/s	hm^3	hm^3
Aug1	1478.39	84.95	1393.44	1805.9	8634.5	**0.0**	2314.16	141.58	2172.58	2815.7	8634.5	**0.0**	148.04	2.83	145.21	188.2	**3.7**
Aug2	1116.70	84.95	1031.75	1426.3	8619.6	**1300.5**	1748.31	141.58	1606.72	2221.2	-14.9	**0.0**	109.73	2.83	106.90	147.8	**151.5**
Sep	653.55	84.95	568.60	1473.8	8552.1	**2774.3**	1098.89	141.58	957.31	2481.4	-67.5	**0.0**	65.41	2.83	62.58	162.2	**313.7**
Oct	248.08	84.95	163.13	436.9	8260.2	**3211.2**	408.53	141.58	266.94	715.0	-291.9	**0.0**	30.84	2.83	28.01	75.0	**388.7**
Nov	146.57	84.95	61.62	159.7	7268.6	**3370.9**	265.30	141.58	123.72	320.7	-991.6	**0.0**	19.37	2.83	16.54	42.9	**431.5**
Dec	99.99	84.95	15.04	40.3	5448.1	**3411.2**	183.49	141.58	41.91	112.3	-1820.5	**1920.7**	13.05	2.83	10.22	27.4	**458.9**
Jan	80.25	84.95	-4.70	-12.6	3540.7	**3398.6**	182.67	141.58	41.09	110.1	-1907.4	**3938.2**	12.12	2.83	9.29	24.9	**483.8**
Feb	73.31	84.95	-11.64	-28.2	1686.0	**3370.5**	163.08	169.90	-6.82	-16.5	-170.3	**4091.9**	12.12	2.83	9.29	22.5	**506.3**
Mar	91.12	84.95	6.17	16.5	1011.2	**3387.0**	222.26	198.22	24.04	64.4	16.5	**4139.8**	15.72	2.83	12.88	34.5	**540.8**
Apr1	132.13	84.95	47.18	61.1	405.9	**3448.1**	341.13	198.22	142.91	185.2	61.1	**4263.8**	23.36	2.83	20.53	26.6	**567.4**
Apr2	204.39	84.95	119.44	154.8	407.8	**3602.9**	579.65	254.85	324.79	420.9	154.8	**4530.0**	32.20	2.83	29.36	38.1	**605.4**
May	794.65	100.33	694.33	1859.7	1130.8	**5462.6**	1955.87	294.35	1661.52	4450.3	1859.7	**7120.5**	146.40	3.99	142.41	381.4	**986.9**
June	1702.80	724.88	977.92	2534.8	5128.8	**7997.4**	3240.38	1786.51	1453.87	3768.5	2534.8	**8354.2**	227.38	83.56	143.82	372.8	**1359.6**
July	1599.73	1361.87	237.86	637.1	7485.6	**8634.5**	2514.62	2126.06	388.56	1040.74	637.1	**8757.8**	207.28	70.20	137.08	367.2	**1726.8**

Notes on Exhibit 1 and Exhibit 1M:

1/ The Assured Refill Curve (ARC) indicates the end-of-month storage content required to assure refill of Canadian storage by 31 July based on 1931 historical monthly inflow. The monthly inflow at each reservoir is reduced by deducting the Power Discharge Requirements (PDR) and water required for refill, if any, at upstream reservoirs. The Entities may agree to revise the data upon the completion of the Refill Study by the Operating Committee.

2/ Upstream refill requirement: these values are computed by subtracting current month from previous month's higher of Mica's ARC or first critical rule curve (CRC1) except July value is Mica full minus previous month's higher of Mica's ARC or CRC1. CRC1 is shown in Exhibit 2.

3/ Inflows are from the 2000 Level Modified streamflow (HydSim file).

4/ PDRs are from the AOP11.

Exhibit 2 - First Critical Rule Curves (English & SI)

End-of-Period Usable Storage Content

	(English) (ksfd)				(SI) (hm^3)			
Month	**Mica**	**Arrow**	**Duncan**	**Total**	**Mica**	**Arrow**	**Duncan**	**Total**
August 15	3529.2	3579.6	705.8	7814.6	8634.5	8757.8	1726.8	19119.2
August 31	3523.1	3570.7	700.3	7794.1	8619.6	8736.1	1713.4	19069.0
September	3495.5	3290.1	672.2	7457.8	8552.1	8049.6	1644.6	18246.3
October	3376.2	3001.0	652.1	7029.3	8260.2	7342.2	1595.4	17197.9
November	2970.9	2741.2	589.3	6301.4	7268.6	6706.6	1441.8	15417.0
December	2226.8	2441.8	417.4	5086.0	5448.1	5974.1	1021.2	12443.4
January	1447.2	1459.3	336.3	3242.8	3540.7	3570.3	822.8	7933.8
February	689.1	753.8	250	1692.9	1686.0	1844.2	611.7	4141.8
March	413.3	677.1	170	1260.4	1011.2	1656.6	415.9	3083.7
April 15	165.9	753.7	128.6	1048.2	405.9	1844.0	314.6	2564.5
April 30	166.7	709.8	139.9	1016.4	407.8	1736.6	342.3	2486.7
May	462.2	1637.0	257.4	2356.6	1130.8	4005.1	629.8	5765.7
June	2096.3	3186.0	532.2	5814.5	5128.8	7794.9	1302.1	14225.8
July	3059.6	3539.2	634.4	7233.2	7485.6	8659.0	1552.1	17696.7

Source: First-year critical rule curves from the AOP11.

Exhibit 3 - Second Critical Rule Curves (English & SI)

End-of-Period Usable Storage Content

	(English) (ksfd)				(SI) (hm^3)			
Month	**Mica**	**Arrow**	**Duncan**	**Total**	**Mica**	**Arrow**	**Duncan**	**Total**
August 15	3394.7	3543.8	674.3	7612.8	8305.5	8670.3	1649.7	18625.5
August 31	3490.1	3527.1	638.1	7655.3	8538.9	8629.4	1561.2	18729.5
September	3364.4	3044.0	630.6	7039.0	8231.3	7447.5	1542.8	17221.6
October	2496.5	2981.9	615.6	6094.0	6107.9	7295.5	1506.1	14909.6
November	2008.8	2072.9	594.4	4676.1	4914.7	5071.6	1454.3	11440.5
December	1481.5	1517.2	452.5	3451.2	3624.6	3712.0	1107.1	8443.7
January	538.3	521.9	246	1306.2	1317.0	1276.9	601.9	3195.7
February	183.3	172.2	130.3	485.8	448.5	421.3	318.8	1188.6
March	0	0.9	0.6	1.5	0.0	2.2	1.5	3.7
April 15	0	2.6	0.7	3.3	0.0	6.4	1.7	8.1
April 30	201.4	368.3	33.1	602.8	492.7	901.1	81.0	1474.8
May	520	1323.1	148.1	1991.2	1272.2	3237.1	362.3	4871.7
June	1227.9	2601.0	367.7	4196.6	3004.2	6363.6	899.6	10267.4
July	2615.9	3419.9	538.7	6574.5	6400.1	8367.1	1318.0	16085.2

Source: Second-year critical rule curves from the AOP11.

Exhibit 4 - Third Critical Rule Curves (English & SI)

End-of-Period Usable Storage Content

	(English) (ksfd)				(SI) (hm^3)			
Month	**Mica**	**Arrow**	**Duncan**	**Total**	**Mica**	**Arrow**	**Duncan**	**Total**
August 15	2977.2	3492.2	604.1	7073.5	7284.0	8544.0	1478.0	17306.0
August 31	3284.6	3413.6	597.9	7296.1	8036.1	8351.7	1462.8	17850.6
September	3292.3	2917.8	642.8	6852.9	8054.9	7138.7	1572.7	16766.3
October	2529.1	2816.3	662.2	6007.6	6187.7	6890.4	1620.1	14698.2
November	2131.9	1903.9	640.3	4676.1	5215.9	4658.1	1566.6	11440.5
December	1318.7	1164.8	415.7	2899.2	3226.3	2849.8	1017.1	7093.2
January	791.9	326.1	188.2	1306.2	1937.5	797.8	460.5	3195.7
February	114.3	98.7	59.4	272.4	279.6	241.5	145.3	666.5
March	0.0	1.5	0.0	1.5	0.0	3.7	0.0	3.7
April 15	0.0	3.3	0.0	3.3	0.0	8.1	0.0	8.1
April 30	0.0	22.5	1.6	24.1	0.0	55.0	3.9	59.0
May	225.7	956.1	157.2	1339.0	552.2	2339.2	384.6	3276.0
June	955.5	1773.8	113.3	2842.6	2337.7	4339.8	277.2	6954.7
July	2109.7	1688.1	154.7	3952.5	5161.6	4130.1	378.5	9670.2

Adjusted for Crossover 1/

Source: Third-year critical rule curves from the AOP11, except for adjustments for crossovers.

Note 1/: A "crossover" occurs when a critical rule curve is higher than another critical rule curve in earlier time sequence (e.g. when a second critical rule curve is higher than the first critical rule curve). In the past, for all reservoirs during proportional draft, no individual project was permitted to refill while other projects were increasing their proportional draft. This was accomplished by eliminating crossovers, i.e. by reducing all subsequent critical rule curves to being no greater than previous (lower number) critical rule curves. Beginning with the AOP11, the procedure was modified for Canadian projects; only composite critical rule curve crossovers were corrected. For the DOP11, the composite critical rule curve crossovers shown in Exhibit 4 are adjusted by lowering Arrow's third-year critical rule curve such that the composite third year critical rule curve is equal to the composite second-year critical rule curve.

Exhibit 5 - Fourth Critical Rule Curves (English & SI)

End-of-Period Usable Storage Content

	(English) (ksfd)				(SI) (hm^3)			
Month	**Mica**	**Arrow**	**Duncan**	**Total**	**Mica**	**Arrow**	**Duncan**	**Total**
August 15	2030.7	1746.5	199.1	3976.3	4968.3	4273.0	487.1	9728.4
August 31	1867.8	1864.4	128.5	3860.7	4569.8	4561.4	314.4	9445.6
September	1226.3	1716.5	146.6	3089.4	3000.3	4199.6	358.7	7558.5
October	1072.2	1137.7	132.2	2342.1	2623.2	2783.5	323.4	5730.2
November	641.0	846.1	92.8	1579.9	1568.3	2070.1	227.0	3865.4
December	2.7	271.6	0.1	274.4	6.6	664.5	0.2	671.3
January	2.6	1.1	0.0	3.7	6.4	2.7	0.0	9.1
February	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Fourth-year critical rule curves from the AOP11.

Exhibit 6 - Operating Rule Curve Lower Limits (English & SI)

End-of-Period Usable Storage Content

	(English) (ksfd)			**(SI)** (hm^3)		
Month	**Mica**	**Arrow**	**Duncan**	**Mica**	**Arrow**	**Duncan**
January	325.1	204.1	113.3	795.4	499.4	277.2
February	53.7	0.1	27.9	131.4	0.2	68.3
March	0.0	0.1	0.0	0.0	0.2	0.0
Apr15	0.0	0.0	0.0	0.0	0.0	0.0

Source: Operating Rule Curve Lower Limits from the AOP11.

Exhibit 7 - Variable Refill Curve Procedures (English)

The Variable Refill Curves (VRCs) indicate the end-of-month storage content required to refill Canadian storage based on forecasts of natural inflow volume. The probable forecast volume at each reservoir is reduced by deducting the 95 percent confidence forecast error, Power Discharge Requirements (PDRs), and water required for refill at upstream reservoirs based on the ORC. The Entities have agreed to limit the VRC to be no lower than the Variable Refill Curve Lower Limit (VRCLL), which is defined by studies that optimize power production during the refill period. The VRCLLs are a function of the unregulated January through July runoff volume at The Dalles, Oregon. The following schedule for PDRs and VRCLLs will apply when computing the VRCs during the period January 1 through June 1, unless the Operating Committee agrees to use updated study results.

POWER DISCHARGE REQUIREMENTS, IN CFS,
AND VARIABLE REFILL CURVE LOWER LIMITS, IN KSFD, FOR
JANUARY - JULY VOLUME RUNOFF OF THE COLUMBIA RIVER AT THE DALLES, OREGON

Project	Jan	Feb	Mar	Ap1	Ap2	May	Jun	Jul
Mica								
ARC PDRs	3000	3000	3000	3000	3000	3543	25599	48094
80 MAF PDRs	3000	3000	3000	3000	3000	3000	29000	31000
95 MAF PDRs	3000	3000	3000	3000	3000	3000	18000	24000
110 MAF PDRs	3000	3000	3000	3000	3000	3000	18000	24000
80 MAF VRCLLs	224.9	241.3	270.8	331.0	470.1	1460.8	2823.8	3529.2
95 MAF VRCLLs	39.3	0.0	20.7	27.3	0.0	681.8	2297.2	3529.2
110 MAF VRCLLs	11.9	0.0	0.0	0.0	3.7	658.7	1809.5	3529.2
Arrow								
ARC PDRs	5000	6000	7000	7000	9000	10395	63090	75081
80 MAF PDRs	5000	5000	5000	5000	5000	5000	55000	58000
95 MAF PDRs	5000	5000	5000	5000	5000	5000	43000	57000
110 MAF PDRs	5000	5000	5000	5000	5000	5000	5000	38000
80 MAF VRCLLs	138.7	211.9	378.4	553.0	833.0	2118.5	3039.6	3579.6
95 MAF VRCLLs	14.6	0.2	18.9	32.1	26.7	1164.4	2953.5	3579.6
110 MAF VRCLLs	2.0	0.0	17.2	0.0	4.7	900.0	2703.8	3579.6
Duncan								
ARC PDRs	100	100	100	100	100	141	2951	2479
80 MAF PDRs	100	100	100	100	100	1400	1500	1500
95 MAF PDRs	100	100	100	100	100	100	600	1100
110 MAF PDRs	100	100	100	100	100	100	600	1000
80 MAF VRCLLs	190.5	40.6	62.1	81.9	114.8	323.1	598.4	705.8
95 MAF VRCLLs	27.6	18.8	16.9	0.0	33.2	204.6	522.7	705.8
110 MAF VRCLLs	5.9	0.0	0.3	4.8	2.9	105.5	444.6	705.8

Notes:

(1) If the forecasted natural January through July volume runoff at The Dalles is less than 80 Maf, the Power Discharge Requirement in the 80 Maf schedule will be used. For intermediate forecasted volumes, the Power Discharge Requirement will be interpolated linearly between the values shown above.

(2) PDRs and VRCLLs are from the AOP11. Data may be revised upon completion of any Refill Studies agreed to by the Operating Committee.

(3) Distribution factors and forecast errors are shown in Appendix 8 of the 2003 POP, as revised by the Operating Committee.

Exhibit 7M - Variable Refill Curve Procedures (SI)

The Variable Refill Curves (VRCs) indicate the end-of-month storage content required to refill Canadian storage based on forecasts of natural inflow volume. The probable forecast volume at each reservoir is reduced by deducting the 95 percent confidence forecast error, Power Discharge Requirements (PDR), and water required for refill at upstream reservoirs based on the ORC. The Entities have agreed to limit the VRC to be no lower than the Variable Refill Curve Lower Limit (VRCLL), which is defined by studies that optimize power production during the refill period. The VRCLLs are a function of the unregulated January through July runoff volume at The Dalles, Oregon. The following schedule for PDRs and VRCLLs will apply when computing the VRCs during the period January 1 through June 1, unless the Operating Committee agrees to use updated study results.

POWER DISCHARGE REQUIREMENTS, IN m^3/s,
AND VARIABLE REFILL CURVE LOWER LIMITS, IN hm^3, FOR
JANUARY - JULY VOLUME RUNOFF OF THE COLUMBIA RIVER AT THE DALLES, OREGON

Project	Jan	Feb	Mar	Ap1	Ap2	May	Jun	Jul
Mica								
ARC PDRs	84.95	84.95	84.95	84.95	84.95	100.33	724.88	1361.87
98.68 km^3 PDRs	84.95	84.95	84.95	84.95	84.95	84.95	821.19	877.82
117.18 km^3 PDRs	84.95	84.95	84.95	84.95	84.95	84.95	509.70	679.60
135.69 km^3 PDRs	84.95	84.95	84.95	84.95	84.95	84.95	509.70	679.60
98.68 km^3 VRCLLs	550.2	590.4	662.5	809.8	1150.1	3574.0	6908.7	8634.5
117.18 km^3 VRCLLs	96.2	0.0	50.6	66.8	0.0	1668.1	5620.3	8634.5
135.69 km^3 VRCLLs	29.1	0.0	0.0	0.0	9.1	1611.6	4427.1	8634.5
Arrow								
ARC PDRs	141.58	169.90	198.22	198.22	254.85	294.35	1786.51	2126.06
98.68 km^3 PDRs	141.58	141.58	141.58	141.58	141.58	141.58	1557.43	1642.38
117.18 km^3 PDRs	141.58	141.58	141.58	141.58	141.58	141.58	1217.62	1614.06
135.69 km^3 PDRs	141.58	141.58	141.58	141.58	141.58	141.58	141.58	1076.04
98.68 km^3 VRCLLs	339.3	518.4	925.8	1353.0	2038.0	5183.1	7436.7	8757.8
117.18 km^3 VRCLLs	35.7	0.5	46.2	78.5	65.3	2848.8	7226.0	8757.8
135.69 km^3 VRCLLs	4.9	0.0	42.1	0.0	11.5	2201.9	6615.1	8757.8
Duncan								
ARC PDRs	2.83	2.83	2.83	2.83	2.83	3.99	83.56	70.20
98.68 km^3 PDRs	2.83	2.83	2.83	2.83	2.83	39.64	42.48	42.48
117.18 km^3 PDRs	2.83	2.83	2.83	2.83	2.83	2.83	16.99	31.15
135.69 km^3 PDRs	2.83	2.83	2.83	2.83	2.83	2.83	16.99	28.32
98.68 km^3 VRCLL	466.1	99.3	151.9	200.4	280.9	790.5	1464.0	1726.8
117.18 km^3 VRCLLs	67.5	46.0	41.3	0.0	81.2	500.6	1278.8	1726.8
135.69 km^3 VRCLLs	14.4	0.0	0.7	11.7	7.1	258.1	1087.8	1726.8

Notes:

(1) If the forecasted natural January through July volume runoff at The Dalles is less than 98.7 km^3, the Power Discharge Requirement in the 98.7 km^3 schedule will be used. For intermediate forecasted volumes, the Power Discharge Requirement will be interpolated linearly between the values shown above.

(2) PDRs and VRCLLs are from the AOP11. Data may be revised upon completion of any Refill Studies agreed to by the Operating Committee.

(3) Distribution factors and forecast errors are shown in Appendix 8 of the 2003 POP, as revised by the Operating Committee.

Exhibit 8 - Coordinated System Loads and Resources Used in the TSR

(Energy in aMW)

Month	PNW Area Firm Loads 1/	Export, Imports and Resources 2/	Coordinated Hydro Load 3/
August 15	21249	10111	**11138**
August 31	21225	10058	**11167**
September	20077	9052	**11025**
October	20367	10408	**9958**
November	22419	11086	**11333**
December	24574	11205	**13369**
January	25007	11931	**13076**
February	23880	11978	**11902**
March	22206	11239	**10967**
April 15	21122	10880	**10241**
April 30	21153	8678	**12475**
May	20691	7198	**13493**
June	21097	7017	**14080**
July	21775	9050	**12725**

Notes: Data for columns 1, 2, and 3 are from Table 1A of the AOP11. References to line numbers in the notes below are references to lines in Table 1A of the AOP11.

1/ The Pacific Northwest Area Firm Load including pumping, but excluding Utah Power and Light loads in Idaho (line 1d).

2/ Includes total flows out (line 2g), total load served by flows-in (line 3d), load served by other resources (lines 4f – 4b), total thermal installations (line 7c), and hydro maintenance (line 8a). Other resources include hydro independents (1929 for example) that will be updated as described in subsection II(D)3.

3/ AOP11 Coordinated Hydro Model Load, DDPB Table 1A, line 8b.

Exhibit 9 – TSR Critical Rule Curves and ARCs for Other Major Projects (English)

End-of-Period Usable Storage Content in ksfd
Unadjusted for Crossovers

DATA	AUG15	AUG31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR15	APR30	MAY	JUN	JUL
							LIBBY							
ARC	1689.0	1737.4	1771.2	1767.3	1739.3	1688.6	1638.3	1586.5	1534.2	1473.8	1411.5	1820.1	2351.2	2510.5
CRC1	2510.5	2510.5	2357.4	2419.7	2106.7	1502.2	1446.4	1375.3	1160.0	1055.0	1062.8	1541.5	2510.2	2510.5
CRC2	2510.5	2509.2	2376.2	2361.2	2109.9	1502.2	1327.3	1291.0	1099.8	1140.0	1293.3	1770.2	2510.5	2483.3
CRC3	2510.5	2495.6	2371.1	2367.1	2114.9	1502.2	1063.2	793.0	705.0	656.9	654.5	1108.2	1655.0	1863.8
CRC4	1895.3	1908.1	1858.5	1605.2	1045.0	370.0	103.1	0.0						
							CORRA LINN							
ARC	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6
CRC1	285.4	285.4	396.9	396.9	396.9	396.9	322.8	234.8	69.8	69.8	69.8	69.8	285.4	285.4
CRC2	285.4	285.4	396.9	396.9	396.9	396.9	322.8	234.8	69.8	69.8	69.8	69.8	285.4	285.4
CRC3	285.4	285.4	396.9	396.9	396.9	396.9	322.8	234.8	69.8	69.8	69.8	69.8	285.4	285.4
CRC4	285.4	285.4	396.9	396.9	396.9	396.9	322.8	57.6						
							HUNGRY HORSE *							
ARC	1014.9	1017.4	1020.1	1036.3	1054.4	1065.5	1074.6	1084.5	1109.3	1141.6	1146.9	1498.5	1503.4	1503.4
CRC1	1503.4	1503.4	1379.3	1391.0	1346.3	1079.9	888.1	869.5	870.3	875.9	871.5	1196.6	1503.4	1503.3
CRC2	1446.3	1354.5	1103.9	975.1	785.0	609.1	409.8	405.8	404.3	495.1	646.9	919.3	1112.8	1024.8
CRC3	961.9	877.1	709.6	631.3	545.8	300.5	233.8	52.9	0.0	0.0	45.6	399.3	555.2	340.9
CRC4	275.0	184.3	84.7	76.1	65.1	0.0	0.0	0.0						
							KERR							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	506.6	614.7
CRC1	614.7	614.7	614.7	614.7	614.7	608.3	479.5	210.2	0.0	0.0	55.2	426.3	614.7	614.7
CRC2	614.7	614.7	614.7	614.7	614.7	490.1	335.0	239.8	0.0	0.0	240.5	426.3	614.7	614.7
CRC3	614.7	614.7	614.7	614.7	555.0	590.0	331.0	239.9	0.0	0.0	33.1	426.3	614.7	614.7
CRC4	614.7	614.7	614.7	539.5	469.4	247.7	0.1	0.0						
							ALBENI FALLS							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	421.7	582.4
CRC1	582.4	582.4	465.7	190.4	57.6	57.6	57.6	57.6	57.6	57.6	190.4	279.0	582.4	582.4
CRC2	582.4	582.4	465.7	190.4	57.6	57.6	57.6	57.6	57.6	57.6	190.4	279.0	582.4	582.4
CRC3	582.4	582.4	465.7	190.4	57.6	57.6	57.6	57.6	57.6	57.6	190.4	279.0	582.4	582.4
CRC4	582.4	582.4	465.7	190.4	57.6	57.6	57.6	0.0						
							GRAND COULEE							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	1413.8	1774.2	2369.2	2386.6	2364.0	2363.8	2614.3	2614.3
CRC1	2614.3	2614.3	2531.9	2531.9	2531.9	2490.7	2490.7	2490.7	2310.8	2194.0	1488.2	1723.0	2614.3	2614.3
CRC2	2614.3	2531.9	2531.9	2531.9	2531.9	2490.7	2490.7	2490.7	2305.1	2298.1	2295.6	2449.8	2614.3	2614.3
CRC3	2614.3	2531.9	2531.9	2531.9	2531.9	2490.7	2490.7	2490.7	2231.1	2281.0	1719.2	2353.3	2614.3	2614.3
CRC4	2614.3	2531.9	2531.9	2531.9	2531.9	2377.5	968.7	0.0						
							CHELAN							
ARC	33.9	49.2	67.4	79.8	91.3	101.4	113.8	124.2	142.3	157.0	182.0	282.1	341.5	341.5
CRC1	341.5	341.5	322.3	341.5	338.0	287.5	236.0	188.5	137.7	112.8	98.2	211.0	341.5	341.5
CRC2	341.5	341.5	308.7	259.7	207.1	155.5	95.8	53.4	14.9	48.1	98.9	191.7	295.1	341.5
CRC3	341.5	341.5	308.6	258.8	210.3	158.4	109.0	63.7	20.4	5.3	0.6	161.7	259.6	263.4
CRC4	248.0	230.1	193.7	145.5	100.4	50.5	1.1	0.0						
							BROWNLEE							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.1	143.4	242.7	376.7	491.7	491.7
CRC1	477.8	477.8	450.1	457.1	450.1	422.4	343.4	320.4	267.2	288.5	309.7	403.5	484.8	477.8
CRC2	477.8	477.8	450.1	457.1	450.1	422.4	343.4	320.4	267.2	288.5	309.7	403.5	484.8	477.8
CRC3	477.8	477.8	450.1	457.1	450.1	422.4	343.4	320.4	267.2	288.5	309.7	403.5	484.8	453.6
CRC4	419.7	379.2	355.8	457.1	450.1	422.4	343.4	0.0						

Exhibit 9 – TSR Critical Rule Curves and ARCs for Other Major Projects (English) Continued

End-of-Period Usable Storage Content in ksfd
Unadjusted for Crossovers

DATA	AUG15	AUG31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR15	APR30	MAY	JUN	JUL
							DWORSHAK							
ARC	165.2	159.1	150.5	154.5	166.8	162.9	171.8	187.3	299.7	443.6	552.8	923.5	1007.9	1016.0
CRC1	642.4	490.1	392.9	399.6	401.8	395.6	384.9	376.8	425.2	449.6	558.6	907.8	1016.0	779.3
CRC2	642.4	490.1	392.9	387.0	372.7	387.4	375.1	425.4	517.5	700.7	867.6	1016.0	1016.0	779.3
CRC3	642.4	490.1	392.9	396.9	409.1	405.3	414.1	429.6	542.0	685.9	795.2	1016.0	1016.0	779.3
CRC4	642.4	490.1	392.9	384.1	383.3	383.0	383.0	218.4						
							NOXON							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116.3
CRC1	116.3	116.3	112.3	112.3	112.3	112.3	112.3	100.8	78.7	78.7	116.3	116.3	116.3	116.3
							PRIEST LAKE							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.6	35.5
CRC1	35.5	35.5	35.0	23.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5	35.5	35.5
							CDA LAKE							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.6	91.0	112.5
CRC1	112.5	112.5	101.8	74.8	0.0	0.0	0.0	0.0	0.0	0.0	90.6	112.5	112.5	112.5
							LONG LAKE							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	52.5
CRC1	52.5	52.5	52.5	52.5	52.5	52.5	19.8	19.8	19.8	50.2	52.5	52.5	52.5	52.5

Note: This data is the same as in the AOP11 studies, and is provided here to verify the critical rule curves used in the TSR studies.
* Adjusted for 0% bank storage.

Exhibit 9M – TSR Critical Rule Curves and ARCs for Other Major Projects (SI)

End-of-Period Usable Storage Content in hm^3

Unadjusted for Crossovers

DATA	AUG15	AUG31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR15	APR30	MAY	JUN	JUL
							LIBBY							
ARC	4132.3	4250.7	4333.4	4323.9	4255.4	4131.3	4008.3	3881.5	3753.6	3605.8	3453.4	4453.1	5752.4	6142.2
CRC1	6142.2	6142.2	5767.6	5920.0	5154.3	3675.3	3538.8	3364.8	2838.1	2581.2	2600.2	3771.4	6141.5	6142.2
CRC2	6142.2	6139.0	5813.6	5776.9	5162.1	3675.3	3247.4	3158.6	2690.8	2789.1	3164.2	4331.0	6142.2	6075.6
CRC3	6142.2	6105.7	5801.1	5791.3	5174.3	3675.3	2601.2	1940.2	1724.9	1607.2	1601.3	2711.3	4049.1	4560.0
CRC4	4637.0	4668.4	4547.0	3927.3	2556.7	905.2	252.2	0.0						
							CORRA LINN							
ARC	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9
CRC1	698.3	698.3	971.1	971.1	971.1	971.1	789.8	574.5	170.8	170.8	170.8	170.8	698.3	698.3
CRC2	698.3	698.3	971.1	971.1	971.1	971.1	789.8	574.5	170.8	170.8	170.8	170.8	698.3	698.3
CRC3	698.3	698.3	971.1	971.1	971.1	971.1	789.8	574.5	170.8	170.8	170.8	170.8	698.3	698.3
CRC4	698.3	698.3	971.1	971.1	971.1	971.1	789.8	140.9						
							HUNGRY HORSE*							
ARC	2483.1	2489.2	2495.8	2535.4	2579.7	2606.9	2629.1	2653.3	2714.0	2793.0	2806.0	3666.2	3678.2	3678.2
CRC1	3678.2	3678.2	3374.6	3403.2	3293.9	2642.1	2172.8	2127.3	2129.3	2143.0	2132.2	2927.6	3678.2	3678.0
CRC2	3538.5	3313.9	2700.8	2385.7	1920.6	1490.2	1002.6	992.8	989.2	1211.3	1582.7	2249.2	2722.6	2507.3
CRC3	2353.4	2145.9	1736.1	1544.5	1335.4	735.2	572.0	129.4	0.0	0.0	111.6	976.9	1358.4	834.0
CRC4	672.8	450.9	207.2	186.2	159.3	0.0	0.0	0.0						
							KERR							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1239.4	1503.9
CRC1	1503.9	1503.9	1503.9	1503.9	1503.9	1488.3	1173.1	514.3	0.0	0.0	135.1	1043.0	1503.9	1503.9
CRC2	1503.9	1503.9	1503.9	1503.9	1503.9	1199.1	819.6	586.7	0.0	0.0	588.4	1043.0	1503.9	1503.9
CRC3	1503.9	1503.9	1503.9	1503.9	1357.9	1443.5	809.8	586.9	0.0	0.0	81.0	1043.0	1503.9	1503.9
CRC4	1503.9	1503.9	1503.9	1319.9	1148.4	606.0	0.2	0.0						
							ALBENI FALLS							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1031.7	1424.9
CRC1	1424.9	1424.9	1139.4	465.8	140.9	140.9	140.9	140.9	140.9	140.9	465.8	682.6	1424.9	1424.9
CRC2	1424.9	1424.9	1139.4	465.8	140.9	140.9	140.9	140.9	140.9	140.9	465.8	682.6	1424.9	1424.9
CRC3	1424.9	1424.9	1139.4	465.8	140.9	140.9	140.9	140.9	140.9	140.9	465.8	682.6	1424.9	1424.9
CRC4	1424.9	1424.9	1139.4	465.8	140.9	140.9	140.9	0.0						
							GRAND COULEE							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	3459.0	4340.8	5796.5	5839.1	5783.8	5783.3	6396.1	6396.1
CRC1	6396.1	6396.1	6194.5	6194.5	6194.5	6093.7	6093.7	6093.7	5653.6	5367.8	3641.0	4215.5	6396.1	6396.1
CRC2	6396.1	6194.5	6194.5	6194.5	6194.5	6093.7	6093.7	6093.7	5639.7	5622.5	5616.4	5993.7	6396.1	6396.1
CRC3	6396.1	6194.5	6194.5	6194.5	6194.5	6093.7	6093.7	6093.7	5458.6	5580.7	4206.2	5757.6	6396.1	6396.1
CRC4	6396.1	6194.5	6194.5	6194.5	6194.5	5816.8	2370.0	0.0						
							CHELAN							
ARC	82.9	120.4	164.9	195.2	223.4	248.1	278.4	303.9	348.2	384.1	445.3	690.2	835.5	835.5
CRC1	835.5	835.5	788.5	835.5	827.0	703.4	577.4	461.2	336.9	276.0	240.3	516.2	835.5	835.5
CRC2	835.5	835.5	755.3	635.4	506.7	380.4	234.4	130.6	36.5	117.7	242.0	469.0	722.0	835.5
CRC3	835.5	835.5	755.0	633.2	514.5	387.5	266.7	155.8	49.9	13.0	1.5	395.6	635.1	644.4
CRC4	606.8	563.0	473.9	356.0	245.6	123.6	2.7	0.0						
							BROWNLEE							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	107.9	350.8	593.8	921.6	1203.0	1203.0
CRC1	1169.0	1169.0	1101.2	1118.3	1101.2	1033.4	840.2	783.9	653.7	705.8	757.7	987.2	1186.1	1169.0
CRC2	1169.0	1169.0	1101.2	1118.3	1101.2	1033.4	840.2	783.9	653.7	705.8	757.7	987.2	1186.1	1169.0
CRC3	1169.0	1169.0	1101.2	1118.3	1101.2	1033.4	840.2	783.9	653.7	705.8	757.7	987.2	1186.1	1109.8
CRC4	1026.8	927.8	870.5	1118.3	1101.2	1033.4	840.2	0.0						

Exhibit 9M – TSR Critical Rule Curves and ARCs for Other Major Projects (SI) Continued

End-of-Period Usable Storage Content in hm^3
Unadjusted for Crossovers

DATA	AUG15	AUG31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR15	APR30	MAY	JUN	JUL
							DWORSHAK							
ARC	404.2	389.3	368.2	378.0	408.1	398.6	420.3	458.2	733.2	1085.3	1352.5	2259.4	2465.9	2485.7
CRC1	1571.7	1199.1	961.3	977.7	983.0	967.9	941.7	921.9	1040.3	1100.0	1366.7	2221.0	2485.7	1906.6
CRC2	1571.7	1199.1	961.3	946.8	911.8	947.8	917.7	1040.8	1266.1	1714.3	2122.7	2485.7	2485.7	1906.6
CRC3	1571.7	1199.1	961.3	971.1	1000.9	991.6	1013.1	1051.1	1326.1	1678.1	1945.5	2485.7	2485.7	1906.6
CRC4	1571.7	1199.1	961.3	939.7	937.8	937.0	937.0	534.3						
							NOXON							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	284.5
CRC1	284.5	284.5	274.8	274.8	274.8	274.8	274.8	246.6	192.5	192.5	284.5	284.5	284.5	284.5
							PRIEST LAKE							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.2	86.8
CRC1	86.8	86.8	85.6	57.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	86.8	86.8	86.8
							CDA LAKE							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.2	222.6	275.2
CRC1	275.2	275.2	249.1	183.0	0.0	0.0	0.0	0.0	0.0	0.0	221.7	275.2	275.2	275.2
							LONG LAKE							
ARC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	128.4
CRC1	128.4	128.4	128.4	128.4	128.4	128.4	48.4	48.4	48.4	122.8	128.4	128.4	128.4	128.4

Note: This data is the same as in the AOP11 studies, and is provided here to verify the critical rule curves used in the TSR studies.
* Adjusted for 0% bank storage.

Exhibit 10 – PDRs in cfs, VRC Lower limits in ksfd

Project	Jan	Feb	Mar	Apr15	Apr30	May	Jun	Jul
Libby								
ARC PDRs	4000	4000	4000	7000	8000	5456	4521	5599
80 MAF PDRs	4000	4000	4000	4000	4000	4000	15000	15000
95 MAF PDRs	4000	4000	4000	4000	4000	4000	15000	15000
110 MAF PDRs	4000	4000	4000	4000	4000	4000	8000	11000
80 MAF VRCLLs	1455.6	1414.3	1394.2	1420.0	1519.0	2233.4	2510.6	2510.5
95 MAF VRCLLs	180.6	122.2	17.6	12.2	94.4	727.4	1747.0	2510.5
110 MAF VRCLLs	171.8	20.0	0.0	0.0	1.9	898.4	1976.6	2510.5
Dworshak								
ARC PDRs	1300	1300	1300	1300	1300	1300	1300	1300
80 MAF PDRs	1300	1300	1300	1300	1300	1300	1300	1300
95 MAF PDRs	1300	1300	1300	1300	1300	1300	1300	1300
110 MAF PDRs	1300	1300	1300	1300	1300	1300	1300	1300
80 MAF VRCLLs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
95 MAF VRCLLs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
110 MAF VRCLLs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hungry Horse *								
ARC PDRs	400	400	400	400	3701	469	5518	1388
80 MAF PDRs	400	400	400	400	400	400	1600	1600
95 MAF PDRs	400	400	400	400	400	400	1600	1600
110 MAF PDRs	400	400	400	400	400	400	800	1200
80 MAF VRCLLs	937.5	917.7	947.6	990.0	1072.3	1377.4	1503.4	1503.4
95 MAF VRCLLs	484.5	498.8	521.9	542.7	618.8	970.5	1341.1	1503.4
110 MAF VRCLLs	428.5	433.2	462.0	506.0	665.5	1090.4	1404.8	1503.4
Grand Coulee								
ARC PDRs	30000	30000	30000	51719	38194	95002	101214	114647
80 MAF PDRs	30000	30000	30000	30000	30000	30000	30000	30000
95 MAF PDRs	30000	30000	30000	30000	30000	30000	30000	30000
110 MAF PDRs	30000	30000	30000	30000	30000	30000	30000	30000
80 MAF VRCLLs	2490.8	1842.4	1811.9	2086.2	1800.2	2155.2	2614.3	2614.3
95 MAF VRCLLs	818.2	889.9	493.0	193.5	0.0	1314.4	2614.3	2614.3
110 MAF VRCLLs	652.4	97.7	0.0	0.0	4.5	843.8	2210.3	2614.3
Chelan								
ARC PDRs	50	50	50	50	50	2026	2074	1958
80 MAF PDRs	50	50	50	50	50	50	550	550
95 MAF PDRs	50	50	50	50	50	50	50	50
110 MAF PDRs	50	50	50	50	50	50	50	50
80 MAF VRCLLs	173.3	131.9	107.4	118.3	163.1	270.1	341.3	341.5
95 MAF VRCLLs	47.1	17.9	18.6	3.6	10.7	142.2	326.0	341.5
110 MAF VRCLLs	47.3	0.0	0.0	0.0	7.3	239.7	288.1	341.5

Notes

1/ PDRs and VRCLLs from the AOP11.

2/ Distribution factors and forecast errors are shown in Appendix 8 of the 2003 POP.

* VRCLLs adjusted for 0% bank storage.

Exhibit 10M – PDRs in m^3/s , VRC Lower Limits in hm^3

Project	Jan	Feb	Mar	Apr15	Apr30	May	Jun	Jul
Libby								
ARC PDRs	113.27	113.27	113.27	198.22	226.53	154.50	128.02	158.55
98.68 km^3 PDRs	113.27	113.27	113.27	113.27	113.27	113.27	424.75	424.75
117.18 km^3 PDRs	113.27	113.27	113.27	113.27	113.27	113.27	424.75	424.75
135.69 km^3 PDRs	113.27	113.27	113.27	113.27	113.27	113.27	226.53	311.49
98.68 km^3 VRCLLs	3561.3	3460.2	3411.0	3474.2	3716.4	5464.2	6142.4	6142.2
117.18 km^3 VRCLLs	441.9	299.0	43.1	29.8	231.0	1779.7	4274.2	6142.2
135.69 km^3 VRCLLs	420.3	48.9	0.0	0.0	4.6	2198.0	4835.9	6142.2
Dworshak								
ARC PDRs	36.81	36.81	36.81	36.81	36.81	36.81	36.81	36.81
98.68 km^3 PDRs	36.81	36.81	36.81	36.81	36.81	36.81	36.81	36.81
117.18 km^3 PDRs	36.81	36.81	36.81	36.81	36.81	36.81	36.81	36.81
135.69 km^3 PDRs	36.81	36.81	36.81	36.81	36.81	36.81	36.81	36.81
98.68 km^3 VRCLLs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
117.18 km^3 VRCLLs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
135.69 km^3 VRCLLs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hungry Horse *								
ARC PDRs	11.33	11.33	11.33	11.33	104.80	13.28	156.25	39.30
98.68 km^3 PDRs	11.33	11.33	11.33	11.33	11.33	11.33	45.31	45.31
117.18 km^3 PDRs	11.33	11.33	11.33	11.33	11.33	11.33	45.31	45.31
135.69 km^3 PDRs	11.33	11.33	11.33	11.33	11.33	11.33	22.65	33.98
98.68 km^3 VRCLLs	2293.7	2245.2	2318.4	2422.1	2623.5	3369.9	3678.2	3678.2
117.18 km^3 VRCLLs	1185.4	1220.4	1276.9	1327.8	1514.0	2374.4	3281.1	3678.2
135.69 km^3 VRCLLs	1048.4	1059.9	1130.3	1238.0	1628.2	2667.8	3437.0	3678.2
Grand Coulee								
ARC PDRs	849.50	849.50	849.50	1464.52	1081.53	2690.15	2866.06	3246.44
98.68 km^3 PDRs	849.50	849.50	849.50	849.50	849.50	849.50	849.50	849.50
117.18 km^3 PDRs	849.50	849.50	849.50	849.50	849.50	849.50	849.50	849.50
135.69 km^3 PDRs	849.50	849.50	849.50	849.50	849.50	849.50	849.50	849.50
98.68 km^3 VRCLLs	6094.0	4507.6	4433.0	5104.1	4404.4	5272.9	6396.1	6396.1
117.18 km^3 VRCLLs	2001.8	2177.2	1206.2	473.4	0.0	3215.8	6396.1	6396.1
135.69 km^3 VRCLLs	1596.2	239.0	0.0	0.0	11.0	2064.4	5407.7	6396.1
Chelan								
ARC PDRs	1.42	1.42	1.42	1.42	1.42	57.37	58.73	55.44
98.68 km^3 PDRs	1.42	1.42	1.42	1.42	1.42	1.42	15.57	15.57
117.18 km^3 PDRs	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42
135.69 km^3 PDRs	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42
98.68 km^3 VRCLLs	424.0	322.7	262.8	289.4	399.0	660.8	835.0	835.5
117.18 km^3 VRCLLs	115.2	43.8	45.5	8.8	26.2	347.9	797.6	835.5
135.69 km^3 VRCLLs	115.7	0.0	0.0	0.0	17.9	586.5	704.9	835.5

Notes
1/ PDRs and VRCLLs from the AOP11.
2/ Distribution factors and forecast errors are shown in Appendix 8 of the 2003 POP.
* VRCLLs adjusted for 0% bank storage.

Exhibit 11 – U.S. Operating Rule Curve Lower Limits

(End-of-Period Usable Storage Contents

English Units in ksfd

Month	Libby	Dworshak	Hungry Horse *	Grand Coulee	Chelan
January	681.1	338.7	122.8	1884.9	82.2
February	409.7	327.5	0.9	1169.7	33.2
March	75.4	349.5	0.0	237.8	1.6
April 15	5.9	407.0	0.0	20.3	0.0

Metric Units in hm^3

Month	Libby	Dworshak	Hungry Horse *	Grand Coulee	Chelan
January	1666.4	828.7	300.4	4611.6	201.1
February	1002.4	801.3	2.2	2861.8	81.2
March	184.5	855.1	0.0	581.8	3.9
April 15	14.4	995.8	0.0	49.7	0.0

Source: Operating Rule Curve Lower Limits from the AOP11.

* Adjusted for 0% bank storage.

Exhibit 12 - Composite Canadian Storage Contents in ksfd (English)

From the DOP11 70-Year Continuous TSR Study

Water Year	AU1	AU2	SEP	OCT	NOV	DEC	JAN	FEB	MAR	AP1	AP2	MAY	JUN	JUL
1928-1929	7814.6	7794.1	7456.7	7025.8	6301.4	5083.8	3217.1	1984.9	1674.8	1094.8	980.5	2302.8	5682.0	7008.7
1929-1930	7493.6	7596.3	6997.5	6061.7	4659.0	3362.8	1280.3	1041.8	310.0	271.4	902.6	2559.2	4092.1	6298.8
1930-1931	6767.5	6978.7	6501.4	5628.3	4410.1	2720.5	1038.8	300.6	1.4	3.0	21.8	1561.0	2681.8	3756.4
1931-1932	3774.8	3665.4	3026.2	2352.2	1549.7	599.6	204.1	0.0	15.5	191.8	542.6	2300.6	5761.3	7721.6
1932-1933	7814.6	7794.1	7039.9	6339.2	6266.9	5086.0	2981.4	1349.3	392.9	368.1	453.0	2251.6	5543.5	7705.6
1933-1934	7814.6	7794.1	7457.8	7029.3	6301.4	5101.9	3145.2	1555.7	745.9	597.0	1178.7	2879.7	5079.9	6569.6
1934-1935	6955.4	7127.0	6476.9	5750.4	5921.8	4960.0	2865.3	1788.3	1068.8	933.4	996.2	2593.6	5704.1	7752.6
1935-1936	7814.6	7775.8	7383.9	6674.0	5571.3	4126.1	2119.3	1349.4	1232.8	964.1	1201.2	4163.7	6747.8	7721.8
1936-1937	7814.6	7726.6	7181.0	6320.8	4959.0	3488.4	1361.3	571.7	1.5	0.0	22.2	1358.3	4382.1	6107.5
1937-1938	6136.5	6073.3	5390.5	4752.3	4441.6	3720.9	1592.8	803.9	732.1	685.7	819.5	2447.0	5818.0	7752.6
1938-1939	7708.2	7655.0	7257.9	6633.2	5724.3	4669.5	3197.1	2702.3	1408.5	1401.4	1560.8	3857.3	5657.2	7721.6
1939-1940	7814.6	7747.6	7218.7	6570.8	5670.8	4806.0	2805.1	2440.7	1718.0	1876.3	2216.7	4478.0	6270.5	7183.2
1940-1941	7460.7	7501.7	7030.4	6728.1	5763.1	4609.8	3011.8	2518.1	2292.4	2472.2	2769.2	3947.0	4699.8	5894.3
1941-1942	6096.2	6168.4	6067.1	6421.7	6301.4	5086.0	3242.9	2674.1	1232.2	1045.6	1154.9	2891.4	5197.3	7615.9
1942-1943	7801.5	7794.1	7351.3	6652.1	6054.5	5086.0	2866.5	2122.5	1194.6	1028.1	1269.2	2427.6	4824.6	7314.6
1943-1944	7724.6	7794.1	7408.4	6951.0	6145.9	5022.6	3259.4	1885.5	1218.1	1087.5	1109.5	1978.3	3492.3	4356.7
1944-1945	4589.0	4537.0	3820.4	3285.3	2529.1	1169.6	496.1	170.0	0.6	0.0	1.7	1674.6	4639.6	6312.8
1945-1946	6308.6	6255.7	5510.0	4883.4	4196.8	3167.6	977.6	193.1	97.1	82.5	180.8	2043.3	5785.7	7721.6
1946-1947	7814.6	7794.1	7457.8	7010.9	6301.4	5086.0	2898.6	1269.1	317.5	306.1	433.1	2575.1	6080.4	7721.6
1947-1948	7785.3	7764.3	7457.8	7029.3	6301.4	5086.0	2928.5	1211.7	464.7	197.8	274.5	2160.8	5805.4	7802.1
1948-1949	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	3051.1	2701.8	1510.5	1255.6	1366.1	3917.3	6011.0	6929.4
1949-1950	7328.6	7479.2	6982.8	6240.1	6001.6	5086.0	2896.9	1240.4	520.3	484.9	581.0	1915.8	5058.2	7721.6
1950-1951	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	3066.7	1449.1	656.5	639.2	757.0	2467.6	5468.4	7721.6
1951-1952	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	2898.0	1196.1	948.7	908.1	1019.0	2854.3	6044.8	7752.6
1952-1953	7814.6	7764.2	7308.1	6572.2	5458.0	4186.2	2015.5	1457.7	1055.9	918.9	965.7	2422.9	5586.1	7521.6
1953-1954	7724.6	7794.1	7457.8	7029.3	6301.4	5086.0	2957.3	1405.1	623.1	358.9	219.3	2014.9	5347.0	7798.0
1954-1955	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	3005.2	1589.5	1495.1	1476.4	1087.0	2132.9	5414.8	7710.7
1955-1956	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	3027.5	1293.9	428.6	396.2	491.4	2346.7	5865.6	7721.6
1956-1957	7776.9	7794.1	7457.8	7029.3	6301.4	5086.0	2918.3	1282.8	604.9	584.2	680.4	2482.2	6037.5	7132.1
1957-1958	7456.4	7530.0	6999.2	6496.5	5623.3	4690.3	2551.9	968.2	459.9	446.5	561.2	2362.4	6089.2	7211.2
1958-1959	7511.4	7615.0	7150.5	6906.4	6301.4	5086.0	3046.8	1409.5	471.7	444.2	548.5	2320.9	5602.5	7721.6
1959-1960	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	2987.2	1365.7	1055.4	1066.6	1294.3	2771.9	5610.8	7752.6
1960-1961	7814.6	7761.1	7457.8	7029.3	6301.4	5086.0	2979.2	1487.5	671.7	447.9	263.3	2028.0	5672.2	7253.0
1961-1962	7580.8	7693.3	7171.1	6842.3	6057.0	5086.0	2913.5	1724.1	1227.2	982.2	1165.3	2915.5	5771.2	7645.8
1962-1963	7814.6	7794.1	7413.9	7029.3	6301.4	5086.0	2978.4	1985.9	1747.5	1512.1	1667.6	3458.5	6480.7	7752.6
1963-1964	7814.6	7792.1	7457.8	6939.3	6301.4	5086.0	2955.7	1266.7	850.5	820.8	795.1	2258.9	5703.7	7752.6
1964-1965	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	2982.8	1380.3	936.5	937.6	1074.6	2873.8	5941.7	7721.6
1965-1966	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	2973.0	1365.1	1061.3	1075.6	1274.6	3598.1	6291.1	7814.6
1966-1967	7814.6	7763.9	7385.0	6800.8	6145.2	5086.0	3011.6	1468.6	319.8	70.2	4.3	1664.2	5093.1	7814.6
1967-1968	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	2995.5	1396.3	568.8	596.6	240.7	2006.6	5879.7	7751.3
1968-1969	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	2961.4	1339.4	496.2	404.5	568.0	2506.7	5983.7	7814.5
1969-1970	7814.6	7744.8	7396.6	7029.3	6301.4	5086.0	3242.9	2950.2	1511.3	1253.0	869.0	2194.8	5662.6	7580.3
1970-1971	7724.6	7711.6	7275.0	6681.7	6089.0	5086.0	2922.9	1411.7	873.4	814.4	912.7	2708.6	6077.6	7713.3
1971-1972	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	2937.3	1271.9	265.7	65.5	70.2	1664.2	5265.9	7807.5
1972-1973	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	3267.7	3120.2	2825.0	2451.1	2421.4	4102.1	5847.3	7155.8
1973-1974	7560.1	7455.5	6957.9	6312.2	6301.4	5086.0	3070.3	1491.8	635.0	623.7	737.9	2279.2	5590.9	7686.5
1974-1975	7814.6	7794.1	7457.8	6995.2	6301.4	5086.0	2946.9	1465.8	1346.4	1307.9	1434.2	2838.7	4778.9	7501.0
1975-1976	7724.6	7794.1	7457.8	7029.3	6301.4	5086.0	3059.3	1467.5	753.0	575.9	654.9	2489.8	5484.1	7422.4
1976-1977	7671.4	7759.8	7457.8	7029.3	6258.6	5014.0	3202.7	1978.8	1291.7	1005.5	1117.7	1757.3	2758.2	3393.5
1977-1978	3474.1	3445.9	2711.0	2095.2	1502.3	1291.1	921.2	741.6	428.1	345.1	491.5	1854.4	4897.8	6935.0
1978-1979	7375.7	7542.0	7457.8	7029.3	6301.4	5086.0	3302.8	3109.7	1726.3	1730.0	1912.6	3561.9	5982.9	7424.2
1979-1980	7542.2	7624.6	7081.3	6271.9	5078.0	4162.7	2520.4	2022.7	983.9	863.3	1156.8	4074.6	6321.0	7752.6
1980-1981	7724.6	7708.6	7405.3	6902.5	6301.4	5086.0	3119.9	1528.6	1039.5	1080.3	1170.8	3020.0	5917.6	7752.6
1981-1982	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	2973.0	1395.7	656.9	642.3	730.3	2425.8	5598.2	7717.8
1982-1983	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	2972.5	1422.0	1244.6	1276.7	1416.7	2991.4	6033.4	7740.4
1983-1984	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	3003.3	1475.8	1510.6	1462.2	1546.6	2487.3	4812.4	7400.0
1984-1985	7705.7	7794.1	7457.8	7029.3	6301.4	5086.0	3242.9	2858.8	1415.7	1179.7	1274.1	3663.2	6193.2	7218.6
1985-1986	7431.0	7494.4	7146.0	7029.3	6301.4	5086.0	2929.5	1311.1	632.1	674.5	801.1	2577.4	5863.0	7495.7
1986-1987	7788.6	7717.7	7340.4	6968.1	6301.4	5086.0	2962.9	2527.4	2275.9	2443.9	2786.9	4964.7	6242.9	6979.8
1987-1988	7247.4	7199.2	6646.7	5501.3	4229.1	2822.9	1070.5	290.7	1.5	9.8	711.3	2843.5	5165.4	5824.4
1988-1989	5777.2	5660.5	4715.4	4197.5	3752.0	2513.2	1178.7	405.6	393.9	469.5	792.5	2662.2	5473.0	7078.2
1989-1990	7433.4	7641.3	7169.6	6498.4	6301.4	5086.0	3079.6	1471.0	560.0	587.2	965.3	2814.6	6073.6	7752.6
1990-1991	7814.6	7794.1	7350.1	6810.3	6301.4	5086.0	3119.5	1660.7	521.2	315.7	449.9	2295.3	5728.7	7651.9
1991-1992	7803.7	7794.1	7409.9	6614.8	5799.4	4764.6	3099.0	2750.7	2819.9	2749.6	3211.0	4963.0	5807.5	6686.7
1992-1993	6901.8	6837.2	6102.8	5358.0	4348.4	2812.1	1235.7	403.3	380.9	470.5	686.4	3250.1	5273.7	6557.0
1993-1994	6888.0	7093.4	6957.1	6131.0	4938.5	3747.6	2082.0	1166.2	1041.4	1022.0	1661.3	4130.4	5310.5	6861.9
1994-1995	7155.6	7109.0	6272.4	5236.7	4121.2	2864.0	1839.1	1418.0	912.2	831.6	904.1	2511.5	5719.8	7487.2
1995-1996	7724.6	7735.8	7209.0	7029.3	6301.4	5172.7	3177.3	1591.4	730.5	577.3	660.4	2316.9	5633.8	7814.6
1996-1997	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	3049.4	1481.0	627.5	472.3	577.2	2313.0	5692.1	7789.0
1997-1998	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	2999.2	1492.7	1153.4	1281.0	1548.1	3660.2	6217.5	7708.1
Max	7814.6	7794.1	7457.8	7029.3	6301.4	5172.7	3302.8	3120.2	2825.0	2749.6	3211.0	4964.7	6747.8	7814.6
90%	7814.6	7794.1	7457.8	7029.3	6301.4	5086.0	3204.1	2676.9	1679.1	1480.0	1661.9	3959.8	6195.6	7789.9
Average	7410.0	7415.3	6985.0	6461.3	5733.2	4562.1	2645.6	1519.8	919.8	843.1	976.9	2731.2	5518.9	7256.3
Median	7787.0	7764.1	7390.8	6945.2	6301.4	5086.0	2972.8	1435.6	801.8	750.1	903.4	2498.3	5687.1	7669.2
10%	6721.6	6779.1	6099.2	5345.9	4336.5	2859.9	1230.0	555.1	305.6	180.9	238.6	1909.7	4771.0	6311.4
Min	3474.1	3445.9	2711.0	2095.2	1502.3	599.6	204.1	0.0	0.6	0.0	1.7	1358.3	2681.8	3393.5

Exhibit 12M - Composite Canadian Storage Contents in hm^3 (SI)

From the DOP11 70-Year Continuous TSR Study

Water Year	AU1	AU2	SEP	OCT	NOV	DEC	JAN	FEB	MAR	AP1	AP2	MAY	JUN	JUL
1928-1929	19119.2	19069.0	18243.6	17189.3	15417.0	12438.0	7871.0	4856.3	4097.6	2678.5	2398.9	5634.0	13901.6	17147.5
1929-1930	18333.8	18585.1	17120.1	14830.6	11398.7	8227.4	3132.4	2548.9	758.4	664.0	2208.3	6261.3	10011.7	15410.6
1930-1931	16557.4	17074.1	15906.3	13770.2	10789.8	6656.0	2541.5	735.4	3.4	7.3	53.3	3819.1	6561.3	9190.4
1931-1932	9235.4	8967.8	7403.9	5754.9	3791.5	1467.0	499.4	0.0	37.9	469.3	1327.5	5628.6	14095.6	18891.7
1932-1933	19119.2	19069.0	17223.8	15509.5	15332.6	12443.4	7294.3	3301.2	961.3	900.6	1108.3	5508.8	13562.7	18852.5
1933-1934	19119.2	19069.0	18246.3	17197.9	15417.0	12482.3	7695.0	3806.2	1824.9	1460.6	2883.8	7045.5	12428.5	16073.2
1934-1935	17017.1	17436.9	15846.4	14068.9	14488.3	12135.1	7010.2	4375.3	2614.9	2283.7	2437.3	6345.5	13955.7	18967.5
1935-1936	19119.2	19024.3	18065.4	16328.6	13630.7	10094.9	5185.1	3301.4	3016.2	2358.8	2938.9	10186.9	16509.2	18892.2
1936-1937	19119.2	18903.9	17569.0	15464.5	12132.7	8534.7	3330.6	1398.7	3.7	0.0	54.3	3323.2	10721.2	14942.6
1937-1938	15013.6	14858.9	13188.4	11627.0	10866.8	9103.6	3896.9	1966.8	1791.2	1677.6	2005.0	5986.8	14234.3	18967.5
1938-1939	18858.9	18728.7	17757.2	16228.8	14005.1	11424.4	7822.0	6611.4	3446.0	3428.7	3818.7	9437.3	13840.9	18891.7
1939-1940	19119.2	18955.3	17661.3	16076.1	13874.2	11758.4	6863.0	5971.4	4203.3	4590.6	5423.4	10955.9	15341.4	17574.4
1940-1941	18253.3	18353.7	17200.6	16461.0	14100.0	11278.3	7368.7	6160.8	5608.6	6048.5	6775.1	9656.7	11498.5	14421.0
1941-1942	14915.0	15091.6	14843.8	15711.3	15417.0	12443.4	7934.1	6542.5	3014.7	2558.2	2825.6	7074.1	12715.7	18633.1
1942-1943	19087.1	19069.0	17985.7	16275.0	14812.9	12443.4	7013.2	5192.9	2922.7	2515.3	3105.2	5939.4	11803.9	17895.9
1943-1944	18899.0	19069.0	18125.4	17006.3	15036.6	12288.3	7974.4	4613.1	2980.2	2660.7	2714.5	4840.1	8544.3	10659.1
1944-1945	11227.4	11100.2	9347.0	8037.8	6187.7	2861.5	1213.8	415.9	1.5	0.0	4.2	4097.1	11351.2	15444.9
1945-1946	15434.6	15305.2	13480.8	11947.7	10267.9	7749.9	2391.8	472.4	237.6	201.8	442.3	4999.1	14155.3	18891.7
1946-1947	19119.2	19069.0	18246.3	17152.9	15417.0	12443.4	7091.7	3105.0	776.8	748.9	1059.6	6300.2	14876.3	18891.7
1947-1948	19047.5	18996.1	18246.3	17197.9	15417.0	12443.4	7164.9	2964.5	1136.9	483.9	671.6	5286.6	14203.5	19088.6
1948-1949	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7464.8	6610.2	3695.6	3072.0	3342.3	9584.1	14706.5	16953.5
1949-1950	17930.2	18298.6	17084.1	15267.0	14683.5	12443.4	7087.6	3034.8	1273.0	1186.4	1421.5	4687.2	12375.4	18891.7
1950-1951	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7503.0	3545.4	1606.2	1563.9	1852.1	6037.2	13379.0	18891.7
1951-1952	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7090.2	2926.4	2321.1	2221.8	2493.1	6983.3	14789.2	18967.5
1952-1953	19119.2	18995.9	17880.0	16079.5	13353.5	10242.0	4931.1	3566.4	2583.4	2248.2	2362.7	5927.9	13667.0	18402.3
1953-1954	18899.0	19069.0	18246.3	17197.9	15417.0	12443.4	7235.3	3437.7	1524.5	878.1	536.5	4929.7	13082.0	19078.6
1954-1955	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7352.5	3888.9	3657.9	3612.2	2659.5	5218.4	13247.8	18865.0
1955-1956	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7407.1	3165.7	1048.6	969.3	1202.3	5741.4	14350.8	18891.7
1956-1957	19027.0	19069.0	18246.3	17197.9	15417.0	12443.4	7139.9	3138.5	1479.9	1429.3	1664.7	6073.0	14771.3	17449.4
1957-1958	18242.8	18422.9	17124.2	15894.3	13758.0	11475.3	6243.5	2368.8	1125.2	1092.4	1373.0	5779.8	14897.8	17642.9
1958-1959	18377.4	18630.9	17494.4	16897.2	15417.0	12443.4	7454.3	3448.5	1154.1	1086.8	1342.0	5678.3	13707.1	18891.7
1959-1960	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7308.5	3341.3	2582.1	2609.5	3166.6	6781.7	13727.4	18967.5
1960-1961	19119.2	18988.3	18246.3	17197.9	15417.0	12443.4	7288.9	3639.3	1643.4	1095.8	644.2	4961.7	13877.6	17745.2
1961-1962	18547.2	18822.4	17544.8	16740.4	14819.1	12443.4	7128.2	4218.2	3002.5	2403.1	2851.0	7133.1	14119.8	18706.2
1962-1963	19119.2	19069.0	18138.8	17197.9	15417.0	12443.4	7287.0	4858.7	4275.4	3699.5	4080.0	8461.6	15855.7	18967.5
1963-1964	19119.2	19064.2	18246.3	16977.7	15417.0	12443.4	7231.4	3099.1	2080.8	2008.2	1945.3	5526.6	13954.7	18967.5
1964-1965	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7297.7	3377.0	2291.2	2293.9	2629.1	7031.0	14537.0	18891.7
1965-1966	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7273.7	3339.9	2596.6	2631.6	3118.4	8803.1	15391.8	19119.2
1966-1967	19119.2	18995.2	18068.1	16638.8	15034.8	12443.4	7368.2	3593.1	782.4	171.8	10.5	4071.6	12460.8	19119.2
1967-1968	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7328.8	3416.2	1391.6	1459.6	588.9	4909.3	14385.3	18964.3
1968-1969	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7245.4	3277.0	1214.0	989.6	1389.7	6132.9	14639.7	19119.0
1969-1970	19119.2	18948.4	18096.5	17197.9	15417.0	12443.4	7934.1	7218.0	3697.5	3065.6	2126.1	5369.8	13854.1	18546.0
1970-1971	18899.0	18867.2	17799.0	16347.4	14897.3	12443.4	7151.2	3453.9	2136.9	1992.5	2233.0	6626.9	14869.5	18871.4
1971-1972	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7186.4	3111.8	650.1	160.3	171.8	4071.6	12883.6	19101.8
1972-1973	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7994.8	7633.9	6911.6	5996.9	5924.2	10036.2	14306.0	17507.4
1973-1974	18496.5	18240.6	17023.2	15443.4	15417.0	12443.4	7511.8	3649.8	1553.6	1525.9	1805.3	5576.3	13678.7	18805.8
1974-1975	19119.2	19069.0	18246.3	17114.5	15417.0	12443.4	7209.9	3586.2	3294.1	3199.9	3508.9	6945.2	11692.1	18351.9
1975-1976	18899.0	19069.0	18246.3	17197.9	15417.0	12443.4	7484.9	3590.4	1842.3	1409.0	1602.3	6091.5	13417.4	18159.6
1976-1977	18768.8	18985.1	18246.3	17197.9	15312.3	12267.3	7835.7	4841.3	3160.3	2460.1	2734.6	4299.4	6748.2	8302.5
1977-1978	8499.7	8430.7	6632.7	5126.1	3675.5	3158.8	2253.8	1814.4	1047.4	844.3	1202.5	4537.0	11983.0	16967.2
1978-1979	18045.4	18452.3	18246.3	17197.9	15417.0	12443.4	8080.6	7608.2	4223.6	4232.6	4679.4	8714.5	14637.8	18164.0
1979-1980	18452.7	18654.3	17325.1	15344.8	12423.8	10184.5	6166.4	4948.7	2407.2	2112.1	2830.2	9968.9	15465.0	18967.5
1980-1981	18899.0	18859.9	18117.8	16887.7	15417.0	12443.4	7633.1	3739.9	2543.2	2643.1	2864.5	7388.7	14478.0	18967.5
1981-1982	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7273.7	3414.7	1607.2	1571.5	1786.8	5935.0	13696.6	18882.4
1982-1983	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7272.5	3479.1	3045.0	3123.6	3466.1	7318.8	14761.3	18937.7
1983-1984	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7347.9	3610.7	3695.8	3577.4	3783.9	6085.4	11774.0	18104.8
1984-1985	18852.8	19069.0	18246.3	17197.9	15417.0	12443.4	7934.1	6994.3	3463.7	2886.3	3117.2	8962.4	15152.3	17661.0
1985-1986	18180.7	18335.8	17483.4	17197.9	15417.0	12443.4	7167.3	3207.7	1546.5	1650.2	1960.0	6305.9	14344.4	18339.0
1986-1987	19055.6	18882.1	17959.0	17048.2	15417.0	12443.4	7249.0	6183.5	5568.2	5979.2	6818.4	12146.6	15273.9	17076.8
1987-1988	17731.5	17613.6	16261.8	13459.5	10346.9	6906.5	2619.1	711.2	3.7	24.0	1740.3	6956.9	12637.7	14250.0
1988-1989	14134.5	13849.0	11536.7	10269.6	9179.6	6148.8	2883.8	992.3	963.7	1148.7	1938.9	6513.3	13390.2	17317.5
1989-1990	18186.6	18695.2	17541.1	15899.0	15417.0	12443.4	7534.5	3598.9	1370.1	1436.6	2361.7	6886.2	14859.7	18967.5
1990-1991	19119.2	19069.0	17982.8	16662.1	15417.0	12443.4	7632.2	4063.1	1275.2	772.4	1100.7	5615.7	14015.8	18721.1
1991-1992	19092.5	19069.0	18129.1	16183.8	14188.8	11657.1	7582.0	6729.9	6899.2	6727.2	7856.0	12142.5	14208.6	16359.7
1992-1993	16885.9	16727.9	14931.1	13108.9	10638.8	6880.1	3023.3	986.7	931.9	1151.1	1679.3	7951.7	12902.6	16042.4
1993-1994	16852.2	17354.7	17021.2	15000.1	12082.5	9168.9	5093.8	2853.2	2547.9	2500.4	4064.5	10105.4	12992.7	16788.3
1994-1995	17506.9	17392.9	15346.1	12812.1	10082.9	7007.1	4499.5	3469.3	2231.8	2034.6	2212.0	6144.6	13994.1	18318.2
1995-1996	18899.0	18926.4	17637.5	17197.9	15417.0	12655.5	7773.6	3893.5	1787.2	1412.4	1615.7	5668.5	13783.7	19119.2
1996-1997	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7460.7	3623.4	1535.2	1155.5	1412.2	5659.0	13926.3	19056.6
1997-1998	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7337.8	3652.0	2821.9	3134.1	3787.6	8955.0	15211.7	18858.6
Max	19119.2	19069.0	18246.3	17197.9	15417.0	12655.5	8080.6	7633.9	6911.6	6727.2	7856.0	12146.6	16509.2	19119.2
90%	19119.2	19069.0	18246.3	17197.9	15417.0	12443.4	7842.8	6556.0	4118.7	3629.6	4067.6	9719.2	14948.7	19061.0
Average	18115.0	18128.8	17072.8	15788.1	14006.6	11143.1	6460.2	3719.4	2242.1	2047.1	2369.9	6649.3	13477.7	17737.3
Median	19047.5	18995.2	18068.1	16977.7	15417.0	12443.4	7272.5	3479.1	1842.3	1677.6	2208.3	6091.5	13901.6	18721.1
10%	16332.8	16443.4	14913.6	13049.5	10580.4	6987.0	2995.4	1317.4	736.8	415.8	578.4	4657.2	11653.4	15438.0
Min	8499.7	8430.7	6632.7	5126.1	3675.5	1467.0	499.4	0.0	1.5	0.0	4.2	3323.2	6561.3	8302.5

Exhibit 13 – Duncan Reservoir Capacity Table, dated 21 Feb. 1973

English Units - ksfd

ELEVATION IN FEET	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	AVERAGE DIFFERENCE PER TENTH FT
1892.	705.8										
1891.	696.9	697.8	698.7	699.6	700.5	701.3	702.2	703.1	704.0	704.9	0.89
1890.	688.0	688.9	689.8	690.7	691.6	692.4	693.3	694.2	695.1	696.0	0.89
1889.	679.2	680.1	681.0	681.8	682.7	683.6	684.5	685.4	686.2	687.1	0.88
1888.	670.4	671.3	672.2	673.0	673.9	674.8	675.7	676.6	677.4	678.3	0.88
1887.	661.5	662.4	663.3	664.2	665.1	665.9	666.8	667.7	668.6	669.5	0.89
1886.	652.8	653.7	654.5	655.4	656.3	657.1	658.0	658.9	659.8	660.6	0.87
1885.	644.0	644.9	645.8	646.6	647.5	648.4	649.3	650.2	651.0	651.9	0.88
1884.	635.3	636.2	637.0	637.9	638.8	639.6	640.5	641.4	642.3	643.1	0.87
1883.	626.6	627.5	628.3	629.2	630.1	630.9	631.8	632.7	633.6	634.4	0.87
1882.	617.9	618.8	619.6	620.5	621.4	622.2	623.1	624.0	624.9	625.7	0.87
1881.	609.2	610.1	610.9	611.8	612.7	613.5	614.4	615.3	616.2	617.0	0.87
1880.	600.6	601.5	602.3	603.2	604.0	604.9	605.8	606.6	607.5	608.3	0.86
1879.	592.0	592.9	593.7	594.6	595.4	596.3	597.2	598.0	598.9	599.7	0.86
1878.	583.4	584.3	585.1	586.0	586.8	587.7	588.6	589.4	590.3	591.1	0.86
1877.	574.8	575.7	576.5	577.4	578.2	579.1	580.0	580.8	581.7	582.5	0.86
1876.	566.3	567.1	568.0	568.8	569.7	570.5	571.4	572.2	573.1	573.9	0.85
1875.	557.8	558.6	559.5	560.3	561.2	562.0	562.9	563.7	564.6	565.4	0.85
1874.	549.3	550.1	551.0	551.8	552.7	553.5	554.4	555.2	556.1	556.9	0.85
1873.	540.9	541.7	542.6	543.4	544.3	545.1	545.9	546.8	547.6	548.5	0.84
1872.	532.4	533.2	534.1	534.9	535.8	536.6	537.5	538.3	539.2	540.0	0.85
1871.	524.0	524.8	525.7	526.5	527.4	528.2	529.0	529.9	530.7	531.6	0.84
1870.	515.7	516.5	517.4	518.2	519.0	519.8	520.7	521.5	522.3	523.2	0.83
1869.	507.3	508.1	509.0	509.8	510.7	511.5	512.3	513.2	514.0	514.9	0.84
1868.	499.0	499.8	500.7	501.5	502.3	503.1	504.0	504.8	505.6	506.5	0.83
1867.	490.7	491.5	492.4	493.2	494.0	494.8	495.7	496.5	497.3	498.2	0.83
1866.	482.4	483.2	484.1	484.9	485.7	486.5	487.4	488.2	489.0	489.9	0.83
1865.	474.2	475.0	475.8	476.7	477.5	478.3	479.1	479.9	480.8	481.6	0.82
1864.	466.0	466.8	467.6	468.5	469.3	470.1	470.9	471.7	472.6	473.4	0.82
1863.	457.8	458.6	459.4	460.3	461.1	461.9	462.7	463.5	464.4	465.2	0.82
1862.	449.7	450.5	451.3	452.1	452.9	453.7	454.6	455.4	456.2	457.0	0.81
1861.	441.6	442.4	443.2	444.0	444.8	445.6	446.5	447.3	448.1	448.9	0.81
1860.	433.5	434.3	435.1	435.9	436.7	437.5	438.4	439.2	440.0	440.8	0.81
1859.	425.4	426.2	427.0	427.8	428.6	429.4	430.3	431.1	431.9	432.7	0.81
1858.	417.4	418.2	419.0	419.8	420.6	421.4	422.2	423.0	423.8	424.6	0.80
1857.	409.4	410.2	411.0	411.8	412.6	413.4	414.2	415.0	415.8	416.6	0.80
1856.	401.4	402.2	403.0	403.8	404.6	405.4	406.2	407.0	407.8	408.6	0.80
1855.	393.5	394.3	395.1	395.9	396.7	397.4	398.2	399.0	399.8	400.6	0.79
1854.	385.6	386.4	387.2	388.0	388.8	389.5	390.3	391.1	391.9	392.7	0.79
1853.	377.7	378.5	379.3	380.1	380.9	381.6	382.4	383.2	384.0	384.8	0.79
1852.	369.9	370.7	371.5	372.2	373.0	373.8	374.6	375.4	376.1	376.9	0.78
1851.	362.1	362.9	363.7	364.4	365.2	366.0	366.8	367.6	368.3	369.1	0.78
1850.	354.3	355.1	355.9	356.6	357.4	358.2	359.0	359.8	360.5	361.3	0.78

Exhibit 13 – Duncan Reservoir Capacity Table (English) Continued

ksfd

ELEVATION IN FEET	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	AVERAGE DIFFERENCE PER TENTH FT
1849.	346.6	347.4	348.1	348.9	349.7	350.4	351.2	352.0	352.8	353.5	0.77
1848.	338.9	339.7	340.4	341.2	342.0	342.7	343.5	344.3	345.1	345.8	0.77
1847.	331.2	332.0	332.7	333.5	334.3	335.0	335.8	336.6	337.4	338.1	0.77
1846.	323.6	324.4	325.1	325.9	326.6	327.4	328.2	328.9	329.7	330.4	0.76
1845.	316.0	316.8	317.5	318.3	319.0	319.8	320.6	321.3	322.1	322.8	0.76
1844.	308.5	309.2	310.0	310.7	311.5	312.2	313.0	313.7	314.5	315.2	0.75
1843.	300.9	301.7	302.4	303.2	303.9	304.7	305.5	306.2	307.0	307.7	0.76
1842.	293.5	294.2	295.0	295.7	296.5	297.2	297.9	298.7	299.4	300.2	0.74
1841.	286.0	286.7	287.5	288.2	289.0	289.7	290.5	291.2	292.0	292.7	0.75
1840.	278.6	279.3	280.1	280.8	281.6	282.3	283.0	283.8	284.5	285.3	0.74
1839.	271.2	271.9	272.7	273.4	274.2	274.9	275.6	276.4	277.1	277.9	0.74
1838.	263.9	264.6	265.4	266.1	266.8	267.5	268.3	269.0	269.7	270.5	0.73
1837.	256.6	257.3	258.1	258.8	259.5	260.2	261.0	261.7	262.4	263.2	0.73
1836.	249.4	250.1	250.8	251.6	252.3	253.0	253.7	254.4	255.2	255.9	0.72
1835.	242.2	242.9	243.6	244.4	245.1	245.8	246.5	247.2	248.0	248.7	0.72
1834.	235.0	235.7	236.4	237.2	237.9	238.6	239.3	240.0	240.8	241.5	0.72
1833.	227.9	228.6	229.3	230.0	230.7	231.4	232.2	232.9	233.6	234.3	0.71
1832.	220.8	221.5	222.2	222.9	223.6	224.3	225.1	225.8	226.5	227.2	0.71
1831.	213.8	214.5	215.2	215.9	216.6	217.3	218.0	218.7	219.4	220.1	0.70
1830.	206.8	207.5	208.2	208.9	209.6	210.3	211.0	211.7	212.4	213.1	0.70
1829.	199.9	200.6	201.3	202.0	202.7	203.3	204.0	204.7	205.4	206.1	0.69
1828.	193.0	193.7	194.4	195.1	195.8	196.4	197.1	197.8	198.5	199.2	0.69
1827.	186.1	186.8	187.5	188.2	188.9	189.5	190.2	190.9	191.6	192.3	0.69
1826.	179.3	180.0	180.7	181.3	182.0	182.7	183.4	184.1	184.7	185.4	0.68
1825.	172.6	173.3	173.9	174.6	175.3	175.9	176.6	177.3	178.0	178.6	0.67
1824.	165.9	166.6	167.2	167.9	168.6	169.2	169.9	170.6	171.3	171.9	0.67
1823.	159.2	159.9	160.5	161.2	161.9	162.5	163.2	163.9	164.6	165.2	0.67
1822.	152.6	153.3	153.9	154.6	155.2	155.9	156.6	157.2	157.9	158.5	0.66
1821.	146.1	146.7	147.4	148.0	148.7	149.3	150.0	150.6	151.3	151.9	0.65
1820.	139.6	140.2	140.9	141.5	142.2	142.8	143.5	144.1	144.8	145.4	0.65
1819.	133.2	133.8	134.5	135.1	135.8	136.4	137.0	137.7	138.3	139.0	0.64
1818.	126.8	127.4	128.1	128.7	129.4	130.0	130.6	131.3	131.9	132.6	0.64
1817.	120.5	121.1	121.8	122.4	123.0	123.6	124.3	124.9	125.5	126.2	0.63
1816.	114.3	114.9	115.5	116.2	116.8	117.4	118.0	118.6	119.3	119.9	0.62
1815.	108.1	108.7	109.3	110.0	110.6	111.2	111.8	112.4	113.1	113.7	0.62
1814.	102.0	102.6	103.2	103.8	104.4	105.0	105.7	106.3	106.9	107.5	0.61
1813.	96.0	96.6	97.2	97.8	98.4	99.0	99.6	100.2	100.8	101.4	0.60
1812.	90.0	90.6	91.2	91.8	92.4	93.0	93.6	94.2	94.8	95.4	0.60
1811.	84.1	84.7	85.3	85.9	86.5	87.0	87.6	88.2	88.8	89.4	0.59
1810.	78.3	78.9	79.5	80.0	80.6	81.2	81.8	82.4	82.9	83.5	0.58

Exhibit 13 – Duncan Reservoir Capacity Table (English) Continued

ksfd

ELEVATION IN FEET	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	AVERAGE DIFFERENCE PER TENTH FT
1809.	72.5	73.1	73.7	74.2	74.8	75.4	76.0	76.6	77.1	77.7	0.58
1808.	66.9	67.5	68.0	68.6	69.1	69.7	70.3	70.8	71.4	71.9	0.56
1807.	61.3	61.9	62.4	63.0	63.5	64.1	64.7	65.2	65.8	66.3	0.56
1806.	55.8	56.3	56.9	57.4	58.0	58.5	59.1	59.6	60.2	60.7	0.55
1805.	50.4	50.9	51.5	52.0	52.6	53.1	53.6	54.2	54.7	55.3	0.54
1804.	45.1	45.6	46.2	46.7	47.2	47.7	48.3	48.8	49.3	49.9	0.53
1803.	39.9	40.4	40.9	41.5	42.0	42.5	43.0	43.5	44.1	44.6	0.52
1802.	34.8	35.3	35.8	36.3	36.8	37.3	37.9	38.4	38.9	39.4	0.51
1801.	29.8	30.3	30.8	31.3	31.8	32.3	32.8	33.3	33.8	34.3	0.50
1800.	25.0	25.5	26.0	26.4	26.9	27.4	27.9	28.4	28.8	29.3	0.48
1799.	20.3	20.8	21.2	21.7	22.2	22.6	23.1	23.6	24.1	24.5	0.47
1798.	15.7	16.2	16.6	17.1	17.5	18.0	18.5	18.9	19.4	19.8	0.46
1797.	11.3	11.7	12.2	12.6	13.1	13.5	13.9	14.4	14.8	15.3	0.44
1796.	7.1	7.5	7.9	8.4	8.8	9.2	9.6	10.0	10.5	10.9	0.42
1795.	3.0	3.4	3.8	4.2	4.6	5.0	5.5	5.9	6.3	6.7	0.41
1794.			0.0	0.4	0.8	1.1	1.5	1.9	2.3	2.6	0.37

Exhibit 13M – Duncan Reservoir Capacity Table, dated 21 Feb. 1973

SI Units - hm^3

ELEVATION IN METERS	.00	.03	.06	.09	.12	.15	.18	.21	.24	.27	AVERAGE DIFFERENCE PER 3/100 M
576.68	1726.8										
576.38	1705.0	1707.2	1709.4	1711.6	1713.8	1715.8	1718.0	1720.2	1722.4	1724.6	2.18
576.07	1683.3	1685.5	1687.7	1689.9	1692.1	1694.0	1696.2	1698.4	1700.6	1702.8	2.18
575.77	1661.7	1663.9	1666.1	1668.1	1670.3	1672.5	1674.7	1676.9	1678.9	1681.1	2.15
575.46	1640.2	1642.4	1644.6	1646.6	1648.8	1651.0	1653.2	1655.4	1657.3	1659.5	2.15
575.16	1618.4	1620.6	1622.8	1625.0	1627.2	1629.2	1631.4	1633.6	1635.8	1638.0	2.18
574.85	1597.1	1599.3	1601.3	1603.5	1605.7	1607.7	1609.9	1612.1	1614.3	1616.2	2.13
574.55	1575.6	1577.8	1580.0	1582.0	1584.2	1586.4	1588.6	1590.8	1592.7	1594.9	2.15
574.24	1554.3	1556.5	1558.5	1560.7	1562.9	1564.8	1567.0	1569.2	1571.5	1573.4	2.13
573.94	1533.0	1535.2	1537.2	1539.4	1541.6	1543.6	1545.8	1548.0	1550.2	1552.1	2.13
573.63	1511.8	1514.0	1515.9	1518.1	1520.3	1522.3	1524.5	1526.7	1528.9	1530.8	2.13
573.33	1490.5	1492.7	1494.6	1496.8	1499.0	1501.0	1503.2	1505.4	1507.6	1509.6	2.13
573.03	1469.4	1471.6	1473.6	1475.8	1477.7	1479.9	1482.2	1484.1	1486.3	1488.3	2.10
572.72	1448.4	1450.6	1452.5	1454.7	1456.7	1458.9	1461.1	1463.1	1465.3	1467.2	2.10
572.42	1427.3	1429.5	1431.5	1433.7	1435.7	1437.9	1440.1	1442.0	1444.2	1446.2	2.10
572.11	1406.3	1408.5	1410.5	1412.7	1414.6	1416.8	1419.0	1421.0	1423.2	1425.1	2.10
571.81	1385.5	1387.5	1389.7	1391.6	1393.8	1395.8	1398.0	1399.9	1402.1	1404.1	2.08
571.50	1364.7	1366.7	1368.9	1370.8	1373.0	1375.0	1377.2	1379.1	1381.4	1383.3	2.08
571.20	1343.9	1345.9	1348.1	1350.0	1352.2	1354.2	1356.4	1358.4	1360.6	1362.5	2.08
570.89	1323.4	1325.3	1327.5	1329.5	1331.7	1333.6	1335.6	1337.8	1339.8	1342.0	2.06
570.59	1302.6	1304.5	1306.7	1308.7	1310.9	1312.8	1315.0	1317.0	1319.2	1321.2	2.08
570.28	1282.0	1284.0	1286.2	1288.1	1290.3	1292.3	1294.3	1296.5	1298.4	1300.6	2.06
569.98	1261.7	1263.7	1265.9	1267.8	1269.8	1271.7	1273.9	1275.9	1277.9	1280.1	2.03
569.67	1241.2	1243.1	1245.3	1247.3	1249.5	1251.4	1253.4	1255.6	1257.6	1259.8	2.06
569.37	1220.9	1222.8	1225.0	1227.0	1228.9	1230.9	1233.1	1235.0	1237.0	1239.2	2.03
569.06	1200.5	1202.5	1204.7	1206.7	1208.6	1210.6	1212.8	1214.7	1216.7	1218.9	2.03
568.76	1180.2	1182.2	1184.4	1186.4	1188.3	1190.3	1192.5	1194.4	1196.4	1198.6	2.03
568.45	1160.2	1162.1	1164.1	1166.3	1168.3	1170.2	1172.2	1174.1	1176.3	1178.3	2.01
568.15	1140.1	1142.1	1144.0	1146.2	1148.2	1150.1	1152.1	1154.1	1156.3	1158.2	2.01
567.84	1120.1	1122.0	1124.0	1126.2	1128.1	1130.1	1132.0	1134.0	1136.2	1138.2	2.01
567.54	1100.2	1102.2	1104.2	1106.1	1108.1	1110.0	1112.2	1114.2	1116.1	1118.1	1.98
567.23	1080.4	1082.4	1084.3	1086.3	1088.2	1090.2	1092.4	1094.4	1096.3	1098.3	1.98
566.93	1060.6	1062.6	1064.5	1066.5	1068.4	1070.4	1072.6	1074.5	1076.5	1078.5	1.98
566.62	1040.8	1042.7	1044.7	1046.7	1048.6	1050.6	1052.8	1054.7	1056.7	1058.6	1.98
566.32	1021.2	1023.2	1025.1	1027.1	1029.0	1031.0	1033.0	1034.9	1036.9	1038.8	1.96
566.01	1001.6	1003.6	1005.6	1007.5	1009.5	1011.4	1013.4	1015.3	1017.3	1019.3	1.96
565.71	982.1	984.0	986.0	987.9	989.9	991.9	993.8	995.8	997.7	999.7	1.96
565.41	962.7	964.7	966.7	968.6	970.6	972.3	974.2	976.2	978.2	980.1	1.93
565.10	943.4	945.4	947.3	949.3	951.2	953.0	954.9	956.9	958.8	960.8	1.93
564.80	924.1	926.0	928.0	930.0	931.9	933.6	935.6	937.5	939.5	941.5	1.93
564.49	905.0	907.0	908.9	910.6	912.6	914.5	916.5	918.5	920.2	922.1	1.91
564.19	885.9	887.9	889.8	891.5	893.5	895.5	897.4	899.4	901.1	903.0	1.91
563.88	866.8	868.8	870.7	872.5	874.4	876.4	878.3	880.3	882.0	884.0	1.91

Exhibit 13M – Duncan Reservoir Capacity Table (SI) Continued

hm^3

ELEVATION IN METERS	.00	.03	.06	.09	.12	.15	.18	.21	.24	.27	AVERAGE DIFFERENCE PER 3/100 M
563.58	848.0	849.9	851.7	853.6	855.6	857.3	859.2	861.2	863.2	864.9	1.88
563.27	829.2	831.1	832.8	834.8	836.7	838.4	840.4	842.4	844.3	846.0	1.88
562.97	810.3	812.3	814.0	815.9	817.9	819.6	821.6	823.5	825.5	827.2	1.88
562.66	791.7	793.7	795.4	797.3	799.1	801.0	803.0	804.7	806.6	808.4	1.86
562.36	773.1	775.1	776.8	778.8	780.5	782.4	784.4	786.1	788.0	789.8	1.86
562.05	754.8	756.5	758.4	760.2	762.1	763.8	765.8	767.5	769.5	771.2	1.83
561.75	736.2	738.1	739.9	741.8	743.5	745.5	747.4	749.1	751.1	752.8	1.86
561.44	718.1	719.8	721.7	723.5	725.4	727.1	728.8	730.8	732.5	734.5	1.81
561.14	699.7	701.4	703.4	705.1	707.1	708.8	710.7	712.4	714.4	716.1	1.83
560.83	681.6	683.3	685.3	687.0	689.0	690.7	692.4	694.3	696.1	698.0	1.81
560.53	663.5	665.2	667.2	668.9	670.9	672.6	674.3	676.2	678.0	679.9	1.81
560.22	645.7	647.4	649.3	651.0	652.8	654.5	656.4	658.1	659.8	661.8	1.79
559.92	627.8	629.5	631.5	633.2	634.9	636.6	638.6	640.3	642.0	643.9	1.79
559.61	610.2	611.9	613.6	615.6	617.3	619.0	620.7	622.4	624.4	626.1	1.76
559.31	592.6	594.3	596.0	597.9	599.7	601.4	603.1	604.8	606.8	608.5	1.76
559.00	575.0	576.7	578.4	580.3	582.0	583.8	585.5	587.2	589.1	590.9	1.76
558.70	557.6	559.3	561.0	562.7	564.4	566.1	568.1	569.8	571.5	573.2	1.74
558.39	540.2	541.9	543.6	545.3	547.1	548.8	550.7	552.4	554.2	555.9	1.74
558.09	523.1	524.8	526.5	528.2	529.9	531.6	533.4	535.1	536.8	538.5	1.71
557.79	506.0	507.7	509.4	511.1	512.8	514.5	516.2	517.9	519.7	521.4	1.71
557.48	489.1	490.8	492.5	494.2	495.9	497.4	499.1	500.8	502.5	504.2	1.69
557.18	472.2	473.9	475.6	477.3	479.0	480.5	482.2	483.9	485.7	487.4	1.69
556.87	455.3	457.0	458.7	460.5	462.2	463.6	465.3	467.1	468.8	470.5	1.69
556.57	438.7	440.4	442.1	443.6	445.3	447.0	448.7	450.4	451.9	453.6	1.66
556.26	422.3	424.0	425.5	427.2	428.9	430.4	432.1	433.8	435.5	437.0	1.64
555.96	405.9	407.6	409.1	410.8	412.5	414.0	415.7	417.4	419.1	420.6	1.64
555.65	389.5	391.2	392.7	394.4	396.1	397.6	399.3	401.0	402.7	404.2	1.64
555.35	373.4	375.1	376.5	378.2	379.7	381.4	383.1	384.6	386.3	387.8	1.61
555.04	357.4	358.9	360.6	362.1	363.8	365.3	367.0	368.5	370.2	371.6	1.59
554.74	341.5	343.0	344.7	346.2	347.9	349.4	351.1	352.6	354.3	355.7	1.59
554.43	325.9	327.4	329.1	330.5	332.2	333.7	335.2	336.9	338.4	340.1	1.57
554.13	310.2	311.7	313.4	314.9	316.6	318.1	319.5	321.2	322.7	324.4	1.57
553.82	294.8	296.3	298.0	299.5	300.9	302.4	304.1	305.6	307.0	308.8	1.54
553.52	279.6	281.1	282.6	284.3	285.8	287.2	288.7	290.2	291.9	293.3	1.52
553.21	264.5	265.9	267.4	269.1	270.6	272.1	273.5	275.0	276.7	278.2	1.52
552.91	249.6	251.0	252.5	254.0	255.4	256.9	258.6	260.1	261.5	263.0	1.49
552.60	234.9	236.3	237.8	239.3	240.7	242.2	243.7	245.1	246.6	248.1	1.47
552.30	220.2	221.7	223.1	224.6	226.1	227.5	229.0	230.5	231.9	233.4	1.47
551.99	205.8	207.2	208.7	210.2	211.6	212.9	214.3	215.8	217.3	218.7	1.44
551.69	191.6	193.0	194.5	195.7	197.2	198.7	200.1	201.6	202.8	204.3	1.42

Exhibit 13M – Duncan Reservoir Capacity Table (SI) Continued

hm^3

ELEVATION IN METERS	.00	.03	.06	.09	.12	.15	.18	.21	.24	.27	AVERAGE DIFFERENCE PER 3/100 M
551.38	177.4	178.8	180.3	181.5	183.0	184.5	185.9	187.4	188.6	190.1	1.42
551.08	163.7	165.1	166.4	167.8	169.1	170.5	172.0	173.2	174.7	175.9	1.37
550.77	150.0	151.4	152.7	154.1	155.4	156.8	158.3	159.5	161.0	162.2	1.37
550.47	136.5	137.7	139.2	140.4	141.9	143.1	144.6	145.8	147.3	148.5	1.35
550.17	123.3	124.5	126.0	127.2	128.7	129.9	131.1	132.6	133.8	135.3	1.32
	110.3	111.6	113.0	114.3	115.5	116.7	118.2	119.4	120.6	122.1	1.30
549.56	97.6	98.8	100.1	101.5	102.8	104.0	105.2	106.4	107.9	109.1	1.27
549.25	85.1	86.4	87.6	88.8	90.0	91.3	92.7	93.9	95.2	96.4	1.25
548.95	72.9	74.1	75.4	76.6	77.8	79.0	80.2	81.5	82.7	83.9	1.22
548.64	61.2	62.4	63.6	64.6	65.8	67.0	68.3	69.5	70.5	71.7	1.17
548.34	49.7	50.9	51.9	53.1	54.3	55.3	56.5	57.7	59.0	59.9	1.15
548.03	38.4	39.6	40.6	41.8	42.8	44.0	45.3	46.2	47.5	48.4	1.13
547.73	27.6	28.6	29.8	30.8	32.1	33.0	34.0	35.2	36.2	37.4	1.08
547.42	17.4	18.3	19.3	20.6	21.5	22.5	23.5	24.5	25.7	26.7	1.03
547.42	17.4	18.3	19.3	20.6	21.5	22.5	23.5	24.5	25.7	26.7	1.03
546.81			0.0	1.0	2.0	2.7	3.7	4.6	5.6	6.4	0.91

Exhibit 14 – Arrow Reservoir Capacity Table, dated 28 Feb. 1974

English Units - ksfd

ELEVATION IN FEET	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	AVERAGE DIFFERENCE PER TENTH FT
1444.	3579.6										
1443.	3514.1	3520.6	3527.2	3533.7	3540.3	3546.8	3553.4	3559.9	3566.5	3573.0	6.55
1442.	3448.9	3455.4	3461.9	3468.5	3475.0	3481.5	3488.0	3494.5	3501.1	3507.6	6.52
1441.	3384.0	3390.5	3397.0	3403.5	3410.0	3416.4	3422.9	3429.4	3435.9	3442.4	6.49
1440.	3319.5	3325.9	3332.4	3338.8	3345.3	3351.7	3358.2	3364.6	3371.1	3377.5	6.45
1439.	3255.2	3261.6	3268.1	3274.5	3280.9	3287.3	3293.8	3300.2	3306.6	3313.1	6.43
1438.	3191.4	3197.8	3204.2	3210.5	3216.9	3223.3	3229.7	3236.1	3242.4	3248.8	6.38
1437.	3127.8	3134.2	3140.5	3146.9	3153.2	3159.6	3166.0	3172.3	3178.7	3185.0	6.36
1436.	3064.6	3070.9	3077.2	3083.6	3089.9	3096.2	3102.5	3108.8	3115.2	3121.5	6.32
1435.	3001.7	3008.0	3014.3	3020.6	3026.9	3033.1	3039.4	3045.7	3052.0	3058.3	6.29
1434.	2939.2	2945.4	2951.7	2957.9	2964.2	2970.4	2976.7	2982.9	2989.2	2995.4	6.25
1433.	2877.0	2883.2	2889.4	2895.7	2901.9	2908.1	2914.3	2920.5	2926.8	2933.0	6.22
1432.	2815.1	2821.3	2827.5	2833.7	2839.9	2846.0	2852.2	2858.4	2864.6	2870.8	6.19
1431.	2753.5	2759.7	2765.8	2772.0	2778.1	2784.3	2790.5	2796.6	2802.8	2808.9	6.16
1430.	2692.3	2698.4	2704.5	2710.7	2716.8	2722.9	2729.0	2735.1	2741.3	2747.4	6.12
1429.	2631.5	2637.6	2643.7	2649.7	2655.8	2661.9	2668.0	2674.1	2680.1	2686.2	6.08
1428.	2570.9	2577.0	2583.0	2589.1	2595.1	2601.2	2607.3	2613.3	2619.4	2625.4	6.06
1427.	2510.7	2516.7	2522.7	2528.8	2534.8	2540.8	2546.8	2552.8	2558.9	2564.9	6.02
1426.	2450.8	2456.8	2462.8	2468.8	2474.8	2480.7	2486.7	2492.7	2498.7	2504.7	5.99
1425.	2391.2	2397.2	2403.1	2409.1	2415.0	2421.0	2427.0	2432.9	2438.9	2444.8	5.96
1424.	2331.9	2337.8	2343.8	2349.7	2355.6	2361.5	2367.5	2373.4	2379.3	2385.3	5.93
1423.	2272.8	2278.7	2284.6	2290.5	2296.4	2302.3	2308.3	2314.2	2320.1	2326.0	5.91
1422.	2214.1	2220.0	2225.8	2231.7	2237.6	2243.4	2249.3	2255.2	2261.1	2266.9	5.87
1421.	2155.7	2161.5	2167.4	2173.2	2179.1	2184.9	2190.7	2196.6	2202.4	2208.3	5.84
1420.	2097.7	2103.5	2109.3	2115.1	2120.9	2126.7	2132.5	2138.3	2144.1	2149.9	5.80
1419.	2040.1	2045.9	2051.6	2057.4	2063.1	2068.9	2074.7	2080.4	2086.2	2091.9	5.76
1418.	1982.9	1988.6	1994.3	2000.1	2005.8	2011.5	2017.2	2022.9	2028.7	2034.4	5.72
1417.	1926.1	1931.8	1937.5	1943.1	1948.8	1954.5	1960.2	1965.9	1971.5	1977.2	5.68
1416.	1869.6	1875.2	1880.9	1886.5	1892.2	1897.8	1903.5	1909.1	1914.8	1920.4	5.65
1415.	1813.5	1819.1	1824.7	1830.3	1835.9	1841.5	1847.2	1852.8	1858.4	1864.0	5.61
1414.	1757.8	1763.4	1768.9	1774.5	1780.1	1785.6	1791.2	1796.8	1802.4	1807.9	5.57
1413.	1702.4	1707.9	1713.5	1719.0	1724.6	1730.1	1735.6	1741.2	1746.7	1752.3	5.54
1412.	1647.4	1652.9	1658.4	1663.9	1669.4	1674.9	1680.4	1685.9	1691.4	1696.9	5.50
1411.	1592.7	1598.2	1603.6	1609.1	1614.6	1620.0	1625.5	1631.0	1636.5	1641.9	5.47
1410.	1538.4	1543.8	1549.3	1554.7	1560.1	1565.5	1571.0	1576.4	1581.8	1587.3	5.43
1409.	1484.5	1489.9	1495.3	1500.7	1506.1	1511.4	1516.8	1522.2	1527.6	1533.0	5.39
1408.	1430.9	1436.3	1441.6	1447.0	1452.3	1457.7	1463.1	1468.4	1473.8	1479.1	5.36
1407.	1377.7	1383.0	1388.3	1393.7	1399.0	1404.3	1409.6	1414.9	1420.3	1425.6	5.32
1406.	1324.7	1330.0	1335.3	1340.6	1345.9	1351.2	1356.5	1361.8	1367.1	1372.4	5.30
1405.	1272.1	1277.4	1282.6	1287.9	1293.1	1298.4	1303.7	1308.9	1314.2	1319.4	5.26

Exhibit 14 – Arrow Reservoir Capacity Table (English) Continued

ksfd

ELEVATION IN FEET	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	AVERAGE DIFFERENCE PER TENTH FT
1404.	1219.5	1224.8	1230.0	1235.3	1240.5	1245.8	1251.1	1256.3	1261.6	1266.8	5.26
1403.	1167.3	1172.5	1177.7	1183.0	1188.2	1193.4	1198.6	1203.8	1209.1	1214.3	5.22
1402.	1115.4	1120.6	1125.8	1131.0	1136.2	1141.3	1146.5	1151.7	1156.9	1162.1	5.19
1401.	1063.9	1069.0	1074.2	1079.3	1084.5	1089.6	1094.8	1099.9	1105.1	1110.2	5.15
1400.	1012.8	1017.9	1023.0	1028.1	1033.2	1038.3	1043.5	1048.6	1053.7	1058.8	5.11
1399.	962.5	967.5	972.6	977.6	982.6	987.6	992.7	997.7	1002.7	1007.8	5.03
1398.	912.7	917.7	922.7	927.6	932.6	937.6	942.6	947.6	952.5	957.5	4.98
1397.	863.2	868.1	873.1	878.0	883.0	887.9	892.9	897.8	902.8	907.7	4.95
1396.	814.1	819.0	823.9	828.8	833.7	838.6	843.6	848.5	853.4	858.3	4.91
1395	765.2	770.1	775.0	779.9	784.8	789.6	794.5	799.4	804.3	809.2	4.89
1394.	716.2	721.1	726.0	730.9	735.8	740.7	745.6	750.5	755.4	760.3	4.90
1393.	667.5	672.4	677.2	682.1	687.0	691.8	696.7	701.6	706.5	711.3	4.87
1392.	619.3	624.1	628.9	633.8	638.6	643.4	648.2	653.0	657.9	662.7	4.82
1391.	571.5	576.3	581.1	585.8	590.6	595.4	600.2	605.0	609.7	614.5	4.78
1390.	524.2	528.9	533.7	538.4	543.1	547.8	552.6	557.3	562.0	566.8	4.73
1389.	477.9	482.5	487.2	491.8	496.4	501.0	505.7	510.3	514.9	519.6	4.63
1388.	432.3	436.9	441.4	446.0	450.5	455.1	459.7	464.2	468.8	473.3	4.56
1387.	387.2	391.7	396.2	400.7	405.2	409.7	414.3	418.8	423.3	427.8	4.51
1386.	342.6	347.1	351.5	356.0	360.4	364.9	369.4	373.8	378.3	382.7	4.46
1385.	298.5	302.9	307.3	311.7	316.1	320.5	325.0	329.4	333.8	338.2	4.41
1384.	254.6	259.0	263.4	267.8	272.2	276.5	280.9	285.3	289.7	294.1	4.39
1383.	211.2	215.5	219.9	224.2	228.6	232.9	237.2	241.6	245.9	250.3	4.34
1382.	168.4	172.7	177.0	181.2	185.5	189.8	194.1	198.4	202.6	206.9	4.28
1381.	126.1	130.3	134.6	138.8	143.0	147.2	151.5	155.7	159.9	164.2	4.23
1380.	84.3	88.5	92.7	96.8	101.0	105.2	109.4	113.6	117.7	121.9	4.18
1379.	43.2	47.3	51.4	55.5	59.6	63.7	67.9	72.0	76.1	80.2	4.11
1378.	2.7	6.7	10.8	14.8	18.9	22.9	27.0	31.0	35.1	39.1	4.05
1377.										0.0	2.70

Exhibit 14M – Arrow Reservoir Capacity Table, dated 28 Feb. 1974

SI Units - hm^3

ELEVATION IN METERS	.00	.03	.06	.09	.12	.15	.18	.21	.24	.27	AVERAGE DIFFERENCE PER 3/100 M
440.13	8757.8										
439.83	8597.6	8613.5	8629.6	8645.6	8661.7	8677.6	8693.7	8709.7	8725.8	8741.7	16.03
439.52	8438.1	8454.0	8469.9	8486.0	8501.9	8517.8	8533.7	8549.6	8565.8	8581.7	15.95
439.22	8279.3	8295.2	8311.1	8327.0	8342.9	8358.6	8374.5	8390.4	8406.3	8422.2	15.88
438.91	8121.5	8137.1	8153.0	8168.7	8184.6	8200.3	8216.2	8231.8	8247.7	8263.4	15.78
438.61	7964.2	7979.8	7995.7	8011.4	8027.0	8042.7	8058.6	8074.3	8089.9	8105.8	15.73
438.30	7808.1	7823.7	7839.4	7854.8	7870.5	7886.1	7901.8	7917.4	7932.9	7948.5	15.61
438.00	7652.5	7668.1	7683.5	7699.2	7714.6	7730.3	7745.9	7761.3	7777.0	7792.4	15.56
437.69	7497.9	7513.3	7528.7	7544.3	7559.7	7575.2	7590.6	7606.0	7621.6	7637.1	15.46
437.39	7344.0	7359.4	7374.8	7390.2	7405.6	7420.8	7436.2	7451.6	7467.0	7482.4	15.39
437.08	7191.0	7206.2	7221.6	7236.8	7252.2	7267.4	7282.8	7298.0	7313.4	7328.5	15.29
436.78	7038.9	7054.0	7069.2	7084.6	7099.8	7115.0	7130.1	7145.3	7160.7	7175.9	15.22
436.47	6887.4	6902.6	6917.8	6932.9	6948.1	6963.0	6978.2	6993.4	7008.5	7023.7	15.14
436.17	6736.7	6751.9	6766.8	6782.0	6796.9	6812.1	6827.2	6842.2	6857.3	6872.3	15.07
435.86	6587.0	6601.9	6616.8	6632.0	6646.9	6661.8	6676.8	6691.7	6706.9	6721.8	14.97
435.56	6438.2	6453.2	6468.1	6482.8	6497.7	6512.6	6527.5	6542.5	6557.1	6572.1	14.88
435.26	6290.0	6304.9	6319.6	6334.5	6349.2	6364.1	6379.0	6393.7	6408.6	6423.3	14.83
434.95	6142.7	6157.4	6172.0	6187.0	6201.6	6216.3	6231.0	6245.7	6260.6	6275.3	14.73
434.65	5996.1	6010.8	6025.5	6040.2	6054.8	6069.3	6084.0	6098.6	6113.3	6128.0	14.66
434.34	5850.3	5865.0	5879.4	5894.1	5908.5	5923.2	5937.9	5952.3	5967.0	5981.4	14.58
434.04	5705.2	5719.7	5734.3	5748.8	5763.2	5777.6	5792.3	5806.8	5821.2	5835.9	14.51
433.73	5560.6	5575.1	5589.5	5603.9	5618.4	5632.8	5647.5	5661.9	5676.4	5690.8	14.46
433.43	5417.0	5431.5	5445.6	5460.1	5474.5	5488.7	5503.1	5517.6	5532.0	5546.2	14.36
433.12	5274.1	5288.3	5302.8	5317.0	5331.4	5345.6	5359.8	5374.2	5388.4	5402.8	14.29
432.82	5132.2	5146.4	5160.6	5174.8	5189.0	5203.2	5217.4	5231.6	5245.8	5259.9	14.19
432.51	4991.3	5005.5	5019.4	5033.6	5047.6	5061.8	5076.0	5089.9	5104.1	5118.0	14.09
432.21	4851.4	4865.3	4879.3	4893.4	4907.4	4921.3	4935.3	4949.2	4963.4	4977.4	13.99
431.90	4712.4	4726.3	4740.3	4754.0	4767.9	4781.9	4795.8	4809.8	4823.5	4837.4	13.90
431.60	4574.2	4587.9	4601.8	4615.5	4629.5	4643.2	4657.1	4670.8	4684.7	4698.5	13.82
431.29	4436.9	4450.6	4464.3	4478.0	4491.7	4505.4	4519.4	4533.1	4546.8	4560.5	13.73
430.99	4300.6	4314.3	4327.8	4341.5	4355.2	4368.6	4382.3	4396.1	4409.8	4423.2	13.63
430.68	4165.1	4178.5	4192.2	4205.7	4219.4	4232.9	4246.3	4260.0	4273.5	4287.2	13.55
430.38	4030.5	4044.0	4057.4	4070.9	4084.4	4097.8	4111.3	4124.7	4138.2	4151.6	13.46
430.07	3896.7	3910.2	3923.4	3936.8	3950.3	3963.5	3976.9	3990.4	4003.9	4017.1	13.38
429.77	3763.8	3777.1	3790.5	3803.7	3816.9	3830.2	3843.6	3856.8	3870.0	3883.5	13.29
429.46	3632.0	3645.2	3658.4	3671.6	3684.8	3697.8	3711.0	3724.2	3737.4	3750.6	13.19
429.16	3500.8	3514.1	3527.0	3540.2	3553.2	3566.4	3579.6	3592.6	3605.8	3618.8	13.11
428.85	3370.7	3383.6	3396.6	3409.8	3422.8	3435.8	3448.7	3461.7	3474.9	3487.9	13.02
428.55	3241.0	3254.0	3266.9	3279.9	3292.9	3305.8	3318.8	3331.8	3344.7	3357.7	12.97
428.24	3112.3	3125.3	3138.0	3151.0	3163.7	3176.7	3189.6	3202.4	3215.3	3228.0	12.87

Exhibit 14M – Arrow Reservoir Capacity Table (SI) Continued

hm^3

ELEVATION IN METERS	.00	.03	.06	.09	.12	.15	.18	.21	.24	.27	AVERAGE DIFFERENCE PER 3/100 M
427.94	2983.6	2996.6	3009.3	3022.3	3035.0	3048.0	3060.9	3073.7	3086.6	3099.4	12.87
427.64	2855.9	2868.6	2881.4	2894.3	2907.1	2919.8	2932.5	2945.2	2958.2	2970.9	12.77
427.33	2728.9	2741.7	2754.4	2767.1	2779.8	2792.3	2805.0	2817.7	2830.5	2843.2	12.70
427.03	2602.9	2615.4	2628.1	2640.6	2653.3	2665.8	2678.5	2691.0	2703.7	2716.2	12.60
426.72	2477.9	2490.4	2502.9	2515.3	2527.8	2540.3	2553.0	2565.5	2578.0	2590.5	12.50
426.42	2354.9	2367.1	2379.6	2391.8	2404.0	2416.3	2428.7	2441.0	2453.2	2465.7	12.31
426.11	2233.0	2245.2	2257.5	2269.5	2281.7	2293.9	2306.2	2318.4	2330.4	2342.6	12.18
425.81	2111.9	2123.9	2136.1	2148.1	2160.3	2172.3	2184.6	2196.6	2208.8	2220.8	12.11
425.50	1991.8	2003.8	2015.8	2027.7	2039.7	2051.7	2064.0	2075.9	2087.9	2099.9	12.01
425.20	1872.1	1884.1	1896.1	1908.1	1920.1	1931.8	1943.8	1955.8	1967.8	1979.8	11.96
424.89	1752.3	1764.2	1776.2	1788.2	1800.2	1812.2	1824.2	1836.2	1848.2	1860.1	11.99
424.59	1633.1	1645.1	1656.8	1668.8	1680.8	1692.6	1704.5	1716.5	1728.5	1740.3	11.91
424.28	1515.2	1526.9	1538.7	1550.7	1562.4	1574.1	1585.9	1597.6	1609.6	1621.4	11.79
423.98	1398.2	1410.0	1421.7	1433.2	1445.0	1456.7	1468.4	1480.2	1491.7	1503.4	11.69
423.67	1282.5	1294.0	1305.8	1317.2	1328.7	1340.2	1352.0	1363.5	1375.0	1386.7	11.57
423.37	1169.2	1180.5	1192.0	1203.2	1214.5	1225.7	1237.2	1248.5	1259.8	1271.3	11.33
423.06	1057.7	1068.9	1079.9	1091.2	1102.2	1113.4	1124.7	1135.7	1147.0	1158.0	11.16
422.76	947.3	958.3	969.3	980.4	991.4	1002.4	1013.6	1024.6	1035.6	1046.7	11.03
422.45	838.2	849.2	860.0	871.0	881.8	892.8	903.8	914.5	925.5	936.3	10.91
422.15	730.3	741.1	751.8	762.6	773.4	784.1	795.1	805.9	816.7	827.4	10.79
421.84	622.9	633.7	644.4	655.2	666.0	676.5	687.2	698.0	708.8	719.5	10.74
421.54	516.7	527.2	538.0	548.5	559.3	569.8	580.3	591.1	601.6	612.4	10.62
421.23	412.0	422.5	433.0	443.3	453.8	464.4	474.9	485.4	495.7	506.2	10.47
420.93	308.5	318.8	329.3	339.6	349.9	360.1	370.7	380.9	391.2	401.7	10.35
420.62	206.2	216.5	226.8	236.8	247.1	257.4	267.7	277.9	288.0	298.2	10.23
420.32	105.7	115.7	125.8	135.8	145.8	155.8	166.1	176.2	186.2	196.2	10.06
420.02	6.6	16.4	26.4	36.2	46.2	56.0	66.1	75.8	85.9	95.7	9.91
419.71										0.0	6.61

Exhibit 15 – Mica Reservoir Capacity Table, dated 25 Mar. 1974

English Units - ksfd

ELEVATION IN FEET	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	AVERAGE DIFFERENCE PER TENTH FT
2475.	10121.1										5.38
2474.	10067.5	10072.9	10078.2	10083.6	10088.9	10094.3	10099.7	10105.0	10110.4	10115.7	5.36
2473.	10014.1	10019.4	10024.8	10030.1	10035.5	10040.8	10046.1	10051.5	10056.8	10062.2	5.34
2472.	9960.8	9966.1	9971.5	9976.8	9982.1	9987.4	9992.8	9998.1	10003.4	10008.8	5.33
2471.	9907.8	9913.1	9918.4	9923.7	9929.0	9934.3	9939.6	9944.9	9950.2	9955.5	5.30
2470.	9854.8	9860.1	9865.4	9870.7	9876.0	9881.3	9886.6	9891.9	9897.2	9902.5	5.30
2469.	9802.1	9807.4	9812.6	9817.9	9823.2	9828.5	9833.7	9839.0	9844.3	9849.5	5.27
2468.	9749.5	9754.8	9760.0	9765.3	9770.5	9775.8	9781.1	9786.3	9791.6	9796.8	5.26
2467.	9697.1	9702.3	9707.6	9712.8	9718.1	9723.3	9728.5	9733.8	9739.0	9744.3	5.24
2466.	9644.8	9650.0	9655.3	9660.5	9665.7	9671.0	9676.2	9681.4	9686.6	9691.9	5.23
2465.	9592.7	9597.9	9603.1	9608.3	9613.5	9618.8	9624.0	9629.2	9634.4	9639.6	5.21
2464.	9540.8	9546.0	9551.2	9556.4	9561.6	9566.8	9571.9	9577.1	9582.3	9587.5	5.19
2463.	9489.0	9494.2	9499.4	9504.5	9509.7	9514.9	9520.1	9525.3	9530.4	9535.6	5.18
2462.	9437.4	9442.6	9447.7	9452.9	9458.0	9463.2	9468.4	9473.5	9478.7	9483.8	5.16
2461.	9386.0	9391.1	9396.3	9401.4	9406.6	9411.7	9416.8	9422.0	9427.1	9432.3	5.14
2460.	9334.8	9339.9	9345.0	9350.2	9355.3	9360.4	9365.5	9370.6	9375.8	9380.9	5.12
2459.	9283.7	9288.8	9293.9	9299.0	9304.1	9309.3	9314.4	9319.5	9324.6	9329.7	5.11
2458.	9232.8	9237.9	9243.0	9248.1	9253.2	9258.3	9263.3	9268.4	9273.5	9278.6	5.09
2457.	9182.0	9187.1	9192.2	9197.2	9202.3	9207.4	9212.5	9217.6	9222.6	9227.7	5.08
2456.	9131.4	9136.5	9141.5	9146.6	9151.6	9156.7	9161.8	9166.8	9171.9	9176.9	5.06
2455.	9081.0	9086.0	9091.1	9096.1	9101.2	9106.2	9111.2	9116.3	9121.3	9126.4	5.04
2454.	9030.8	9035.8	9040.8	9045.9	9050.9	9055.9	9060.9	9065.9	9071.0	9076.0	5.02
2453.	8980.7	8985.7	8990.7	8995.7	9000.7	9005.8	9010.8	9015.8	9020.8	9025.8	5.01
2452.	8930.8	8935.8	8940.8	8945.8	8950.8	8955.8	8960.7	8965.7	8970.7	8975.7	4.99
2451.	8881.0	8886.0	8891.0	8895.9	8900.9	8905.9	8910.9	8915.9	8920.8	8925.8	4.98
2450.	8831.4	8836.4	8841.3	8846.3	8851.2	8856.2	8861.2	8866.1	8871.1	8876.0	4.96
2449.	8782.0	8786.9	8791.9	8796.8	8801.8	8806.7	8811.6	8816.6	8821.5	8826.5	4.94
2448.	8732.8	8737.7	8742.6	8747.6	8752.5	8757.4	8762.3	8767.2	8772.2	8777.1	4.92
2447.	8683.7	8688.6	8693.5	8698.4	8703.3	8708.3	8713.2	8718.1	8723.0	8727.9	4.91
2446.	8634.8	8639.7	8644.6	8649.5	8654.4	8659.3	8664.1	8669.0	8673.9	8678.8	4.89
2445.	8586.0	8590.9	8595.8	8600.6	8605.5	8610.4	8615.3	8620.2	8625.0	8629.9	4.88
2444.	8537.5	8542.4	8547.2	8552.1	8556.9	8561.8	8566.6	8571.5	8576.3	8581.2	4.85
2443.	8489.1	8493.9	8498.8	8503.6	8508.5	8513.3	8518.1	8523.0	8527.8	8532.7	4.84
2442.	8440.8	8445.6	8450.5	8455.3	8460.1	8465.0	8469.8	8474.6	8479.4	8484.3	4.83
2441.	8392.7	8397.5	8402.3	8407.1	8411.9	8416.8	8421.6	8426.4	8431.2	8436.0	4.81
2440.	8344.8	8349.6	8354.4	8359.2	8364.0	8368.8	8373.5	8378.3	8383.1	8387.9	4.79
2439.	8297.1	8301.9	8306.6	8311.4	8316.2	8321.0	8325.7	8330.5	8335.3	8340.0	4.77
2438.	8249.5	8254.3	8259.0	8263.8	8268.5	8273.3	8278.1	8282.8	8287.6	8292.3	4.76
2437.	8202.1	8206.8	8211.6	8216.3	8221.1	8225.8	8230.5	8235.3	8240.0	8244.8	4.74
2436.	8154.8	8159.5	8164.3	8169.0	8173.7	8178.5	8183.2	8187.9	8192.6	8197.4	4.73
2435.	8107.8	8112.5	8117.2	8121.9	8126.6	8131.3	8136.0	8140.7	8145.4	8150.1	4.70

Exhibit 15 – Mica Reservoir Capacity Table (English) Continued

ksfd

ELEVATION IN FEET	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	AVERAGE DIFFERENCE PER TENTH FT
2434.	8060.9	8065.6	8070.3	8075.0	8079.7	8084.4	8089.0	8093.7	8098.4	8103.1	4.69
2433.	8014.1	8018.8	8023.5	8028.1	8032.8	8037.5	8042.2	8046.9	8051.5	8056.2	4.68
2432.	7967.5	7972.2	7976.8	7981.5	7986.1	7990.8	7995.5	8000.1	8004.8	8009.4	4.66
2431.	7921.1	7925.7	7930.4	7935.0	7939.7	7944.3	7948.9	7953.6	7958.2	7962.9	4.64
2430.	7874.9	7879.5	7884.1	7888.8	7893.4	7898.0	7902.6	7907.2	7911.9	7916.5	4.62
2429.	7828.8	7833.4	7838.0	7842.6	7847.2	7851.9	7856.5	7861.1	7865.7	7870.3	4.61
2428.	7782.9	7787.5	7792.1	7796.7	7801.3	7805.9	7810.4	7815.0	7819.6	7824.2	4.59
2427.	7737.2	7741.8	7746.3	7750.9	7755.5	7760.1	7764.6	7769.2	7773.8	7778.3	4.57
2426.	7691.6	7696.2	7700.7	7705.3	7709.8	7714.4	7719.0	7723.5	7728.1	7732.6	4.56
2425.	7646.2	7650.7	7655.3	7659.8	7664.4	7668.9	7673.4	7678.0	7682.5	7687.1	4.54
2424.	7600.9	7605.4	7610.0	7614.5	7619.0	7623.6	7628.1	7632.6	7637.1	7641.7	4.53
2423.	7555.9	7560.4	7564.9	7569.4	7573.9	7578.4	7582.9	7587.4	7591.9	7596.4	4.50
2422.	7511.0	7515.5	7520.0	7524.5	7529.0	7533.5	7537.9	7542.4	7546.9	7551.4	4.49
2421.	7466.2	7470.7	7475.2	7479.6	7484.1	7488.6	7493.1	7497.6	7502.0	7506.5	4.48
2420.	7421.6	7426.1	7430.5	7435.0	7439.4	7443.9	7448.4	7452.8	7457.3	7461.7	4.46
2419.	7377.2	7381.6	7386.1	7390.5	7395.0	7399.4	7403.8	7408.3	7412.7	7417.2	4.44
2418.	7333.0	7337.4	7341.8	7346.3	7350.7	7355.1	7359.5	7363.9	7368.4	7372.8	4.42
2417.	7288.9	7293.3	7297.7	7302.1	7306.5	7311.0	7315.4	7319.8	7324.2	7328.6	4.41
2416.	7245.0	7249.4	7253.8	7258.2	7262.6	7267.0	7271.3	7275.7	7280.1	7284.5	4.39
2415.	7201.3	7205.7	7210.0	7214.4	7218.8	7223.2	7227.5	7231.9	7236.3	7240.6	4.37
2414.	7157.7	7162.1	7166.4	7170.8	7175.1	7179.5	7183.9	7188.2	7192.6	7196.9	4.36
2413.	7114.3	7118.6	7123.0	7127.3	7131.7	7136.0	7140.3	7144.7	7149.0	7153.4	4.34
2412.	7071.0	7075.3	7079.7	7084.0	7088.3	7092.7	7097.0	7101.3	7105.6	7110.0	4.33
2411.	7028.0	7032.3	7036.6	7040.9	7045.2	7049.5	7053.8	7058.1	7062.4	7066.7	4.30
2410.	6985.1	6989.4	6993.7	6998.0	7002.3	7006.6	7010.8	7015.1	7019.4	7023.7	4.29
2409.	6942.3	6946.6	6950.9	6955.1	6959.4	6963.7	6968.0	6972.3	6976.5	6980.8	4.28
2408.	6899.7	6904.0	6908.2	6912.5	6916.7	6921.0	6925.3	6929.5	6933.8	6938.0	4.26
2407.	6857.3	6861.5	6865.8	6870.0	6874.3	6878.5	6882.7	6887.0	6891.2	6895.5	4.24
2406.	6815.1	6819.3	6823.5	6827.8	6832.0	6836.2	6840.4	6844.6	6848.9	6853.1	4.22
2405.	6773.0	6777.2	6781.4	6785.6	6789.8	6794.1	6798.3	6802.5	6806.7	6810.9	4.21
2404.	6731.2	6735.3	6739.5	6743.7	6747.9	6752.1	6756.3	6760.5	6764.7	6768.9	4.20
2403.	6689.5	6693.7	6697.9	6702.0	6706.2	6710.4	6714.5	6718.7	6722.9	6727.1	4.17
2402.	6648.0	6652.2	6656.3	6660.5	6664.7	6668.8	6673.0	6677.1	6681.3	6685.5	4.16
2401.	6606.7	6610.9	6615.0	6619.2	6623.3	6627.4	6631.6	6635.7	6639.9	6644.0	4.14
2400.	6565.5	6569.7	6573.8	6577.9	6582.1	6586.2	6590.3	6594.5	6598.6	6602.7	4.13
2399.	6524.6	6528.7	6532.8	6536.9	6541.0	6545.1	6549.2	6553.3	6557.4	6561.5	4.11
2398.	6483.9	6487.9	6492.0	6496.1	6500.1	6504.2	6508.3	6512.4	6516.4	6520.5	4.07
2397.	6443.5	6447.6	6451.6	6455.6	6459.6	6463.7	6467.7	6471.8	6475.8	6479.8	4.03
2396.	6403.5	6407.5	6411.5	6415.5	6419.5	6423.5	6427.5	6431.5	6435.5	6439.5	4.00
2395.	6363.9	6367.8	6371.8	6375.7	6379.7	6383.7	6387.6	6391.6	6395.6	6399.5	3.96

Exhibit 15 – Mica Reservoir Capacity Table (English) Continued

ksfd

ELEVATION IN FEET	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	AVERAGE DIFFERENCE PER TENTH FT
2394.	6324.5	6328.5	6332.4	6336.3	6340.2	6344.2	6348.1	6352.0	6356.0	6359.9	3.93
2393.	6285.6	6289.5	6293.4	6297.2	6301.1	6305.0	6308.9	6312.8	6316.7	6320.6	3.90
2392.	6246.9	6250.8	6254.6	6258.5	6262.4	6266.2	6270.1	6274.0	6277.8	6281.7	3.87
2391.	6208.6	6212.4	6216.2	6220.0	6223.9	6227.7	6231.5	6235.4	6239.2	6243.1	3.83
2390.	6170.6	6174.4	6178.2	6181.9	6185.7	6189.5	6193.3	6197.2	6201.0	6204.8	3.80
2389.	6132.9	6136.7	6140.4	6144.2	6147.9	6151.7	6155.5	6159.2	6163.0	6166.8	3.77
2388.	6095.5	6099.2	6103.0	6106.7	6110.4	6114.2	6117.9	6121.7	6125.4	6129.2	3.74
2387.	6058.4	6062.1	6065.8	6069.5	6073.2	6076.9	6080.6	6084.3	6088.1	6091.8	3.71
2386.	6021.7	6025.3	6029.0	6032.7	6036.3	6040.0	6043.7	6047.4	6051.0	6054.7	3.68
2385.	5985.2	5988.8	5992.5	5996.1	5999.7	6003.4	6007.0	6010.7	6014.3	6018.0	3.65
2384.	5949.0	5952.6	5956.2	5959.8	5963.4	5967.0	5970.7	5974.3	5977.9	5981.6	3.62
2383.	5913.0	5916.6	5920.2	5923.8	5927.4	5931.0	5934.6	5938.2	5941.8	5945.4	3.59
2382.	5877.4	5881.0	5884.5	5888.1	5891.7	5895.2	5898.8	5902.3	5905.9	5909.5	3.56
2381.	5842.1	5845.6	5849.2	5852.7	5856.2	5859.7	5863.3	5866.8	5870.3	5873.9	3.53
2380.	5807.0	5810.5	5814.0	5817.5	5821.0	5824.5	5828.0	5831.6	5835.1	5838.6	3.51
2379.	5772.2	5775.7	5779.1	5782.6	5786.1	5789.6	5793.0	5796.5	5800.0	5803.5	3.48
2378.	5737.6	5741.1	5744.5	5748.0	5751.4	5754.9	5758.3	5761.8	5765.3	5768.7	3.45
2377.	5703.4	5706.8	5710.2	5713.6	5717.1	5720.5	5723.9	5727.3	5730.8	5734.2	3.43
2376.	5669.3	5672.7	5676.1	5679.5	5682.9	5686.3	5689.7	5693.1	5696.5	5700.0	3.41
2375.	5635.5	5638.9	5642.3	5645.6	5649.0	5652.4	5655.8	5659.2	5662.5	5665.9	3.38
2374.	5602.0	5605.3	5608.7	5612.0	5615.4	5618.7	5622.1	5625.5	5628.8	5632.2	3.35
2373.	5568.7	5572.0	5575.4	5578.7	5582.0	5585.3	5588.7	5592.0	5595.3	5598.7	3.33
2372.	5535.6	5538.9	5542.2	5545.5	5548.8	5552.1	5555.4	5558.7	5562.1	5565.4	3.31
2371.	5502.8	5506.1	5509.3	5512.6	5515.9	5519.2	5522.5	5525.7	5529.0	5532.3	3.28
2370.	5470.2	5473.4	5476.7	5479.9	5483.2	5486.5	5489.7	5493.0	5496.3	5499.5	3.26
2369.	5437.8	5441.0	5444.3	5447.5	5450.7	5453.9	5457.2	5460.4	5463.7	5466.9	3.24
2368.	5405.6	5408.9	5412.1	5415.3	5418.5	5421.7	5424.9	5428.1	5431.4	5434.6	3.22
2367.	5373.7	5376.9	5380.1	5383.3	5386.5	5389.7	5392.9	5396.1	5399.3	5402.4	3.19
2366.	5342.0	5345.2	5348.3	5351.5	5354.7	5357.8	5361.0	5364.2	5367.4	5370.5	3.17
2365.	5310.5	5313.6	5316.8	5319.9	5323.0	5326.2	5329.3	5332.5	5335.7	5338.8	3.15
2364.	5279.1	5282.3	5285.4	5288.5	5291.6	5294.8	5297.9	5301.0	5304.2	5307.3	3.13
2363.	5248.0	5251.1	5254.2	5257.4	5260.5	5263.6	5266.7	5269.8	5272.9	5276.0	3.11
2362.	5217.1	5220.2	5223.3	5226.4	5229.5	5232.6	5235.7	5238.7	5241.8	5244.9	3.09
2361.	5186.4	5189.4	5192.5	5195.6	5198.7	5201.7	5204.8	5207.9	5211.0	5214.0	3.07
2360.	5155.9	5158.9	5162.0	5165.0	5168.0	5171.1	5174.2	5177.2	5180.3	5183.3	3.05
2359.	5125.5	5128.5	5131.6	5134.6	5137.6	5140.7	5143.7	5146.7	5149.8	5152.8	3.03
2358.	5095.4	5098.4	5101.4	5104.4	5107.4	5110.4	5113.4	5116.5	5119.5	5122.5	3.02
2357.	5065.4	5068.4	5071.4	5074.4	5077.4	5080.4	5083.4	5086.4	5089.4	5092.4	3.00
2356.	5035.6	5038.5	5041.5	5044.5	5047.5	5050.4	5053.4	5056.4	5059.4	5062.4	2.98
2355.	5005.9	5008.9	5011.9	5014.8	5017.8	5020.7	5023.7	5026.7	5029.6	5032.6	2.96

Exhibit 15 – Mica Reservoir Capacity Table (English) Continued

ksfd

ELEVATION IN FEET	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	AVERAGE DIFFERENCE PER TENTH FT
2354.	4976.5	4979.4	4982.4	4985.3	4988.3	4991.2	4994.1	4997.1	5000.0	5003.0	2.94
2353.	4947.2	4950.1	4953.0	4956.0	4958.9	4961.8	4964.8	4967.7	4970.6	4973.6	2.93
2352.	4918.0	4920.9	4923.9	4926.8	4929.7	4932.6	4935.5	4938.4	4941.3	4944.3	2.91
2351.	4889.1	4892.0	4894.9	4897.8	4900.6	4903.5	4906.4	4909.3	4912.2	4915.1	2.90
2350.	4860.3	4863.1	4866.0	4868.9	4871.8	4874.6	4877.5	4880.4	4883.3	4886.2	2.88
2349.	4831.6	4834.4	4837.3	4840.2	4843.1	4845.9	4848.8	4851.7	4854.5	4857.4	2.87
2348.	4803.1	4805.9	4808.8	4811.6	4814.5	4817.3	4820.2	4823.0	4825.9	4828.7	2.85
2347.	4774.7	4777.5	4780.4	4783.2	4786.0	4788.9	4791.7	4794.6	4797.4	4800.2	2.84
2346.	4746.5	4749.3	4752.1	4755.0	4757.8	4760.6	4763.4	4766.2	4769.1	4771.9	2.82
2345.	4718.4	4721.2	4724.0	4726.8	4729.6	4732.4	4735.3	4738.1	4740.9	4743.7	2.81
2344.	4690.5	4693.3	4696.1	4698.8	4701.6	4704.4	4707.2	4710.0	4712.8	4715.6	2.79
2343.	4662.7	4665.4	4668.2	4671.0	4673.8	4676.5	4679.3	4682.1	4684.9	4687.7	2.78
2342.	4635.0	4637.8	4640.5	4643.3	4646.1	4648.8	4651.6	4654.4	4657.1	4659.9	2.77
2341.	4607.4	4610.2	4613.0	4615.7	4618.5	4621.2	4624.0	4626.7	4629.5	4632.2	2.76
2340.	4580.0	4582.8	4585.5	4588.2	4591.0	4593.7	4596.5	4599.2	4602.0	4604.7	2.74
2339.	4552.7	4555.4	4558.2	4560.9	4563.6	4566.4	4569.1	4571.8	4574.6	4577.3	2.73
2338.	4525.5	4528.2	4530.9	4533.6	4536.4	4539.1	4541.8	4544.5	4547.3	4550.0	2.72
2337.	4498.3	4501.0	4503.7	4506.5	4509.2	4511.9	4514.6	4517.3	4520.0	4522.8	2.72
2336.	4471.2	4473.9	4476.6	4479.3	4482.0	4484.7	4487.5	4490.2	4492.9	4495.6	2.71
2335.	4444.2	4446.9	4449.6	4452.3	4455.0	4457.7	4460.4	4463.1	4465.8	4468.5	2.70
2334.	4417.3	4420.0	4422.6	4425.3	4428.0	4430.7	4433.4	4436.1	4438.8	4441.5	2.69
2333.	4390.4	4393.1	4395.8	4398.4	4401.1	4403.8	4406.5	4409.2	4411.9	4414.6	2.69
2332.	4363.6	4366.3	4368.9	4371.6	4374.3	4377.0	4379.7	4382.3	4385.0	4387.7	2.68
2331.	4336.9	4339.6	4342.2	4344.9	4347.6	4350.2	4352.9	4355.6	4358.2	4360.9	2.67
2330.	4310.2	4312.9	4315.6	4318.2	4320.9	4323.6	4326.2	4328.9	4331.6	4334.2	2.66
2329.	4283.7	4286.3	4289.0	4291.6	4294.3	4296.9	4299.6	4302.3	4304.9	4307.6	2.66
2328.	4257.2	4259.8	4262.5	4265.1	4267.8	4270.4	4273.1	4275.7	4278.4	4281.0	2.65
2327.	4230.8	4233.4	4236.1	4238.7	4241.3	4244.0	4246.6	4249.3	4251.9	4254.5	2.64
2326.	4204.5	4207.1	4209.7	4212.3	4215.0	4217.6	4220.2	4222.9	4225.5	4228.1	2.63
2325.	4178.2	4180.8	4183.4	4186.1	4188.7	4191.3	4193.9	4196.6	4199.2	4201.8	2.63
2324.	4152.0	4154.6	4157.2	4159.9	4162.5	4165.1	4167.7	4170.3	4173.0	4175.6	2.62
2323.	4125.9	4128.5	4131.2	4133.8	4136.4	4139.0	4141.6	4144.2	4146.8	4149.4	2.61
2322.	4099.9	4102.5	4105.1	4107.7	4110.3	4112.9	4115.5	4118.1	4120.7	4123.3	2.61
2321.	4074.0	4076.6	4079.1	4081.7	4084.3	4086.9	4089.5	4092.1	4094.7	4097.3	2.59
2320.	4048.1	4050.7	4053.3	4055.9	4058.4	4061.0	4063.6	4066.2	4068.8	4071.4	2.59
2319.	4022.3	4024.9	4027.5	4030.0	4032.6	4035.2	4037.8	4040.4	4042.9	4045.5	2.58

Exhibit 15M – Mica Reservoir Capacity Table, dated 25 Mar. 1974

SI Units - hm^3

ELEVATION IN METERS	.00	.03	.06	.09	.12	.15	.18	.21	.24	.27	AVERAGE DIFFERENCE PER 3/100 M
754.38	24762.3										13.16
754.08	24631.1	24644.4	24657.3	24670.5	24683.5	24696.7	24709.9	24722.9	24736.1	24749.1	13.11
753.77	24500.5	24513.5	24526.7	24539.6	24552.9	24565.8	24578.8	24592.0	24605.0	24618.2	13.06
753.47	24370.1	24383.1	24396.3	24409.2	24422.2	24435.2	24448.4	24461.4	24474.3	24487.5	13.04
753.16	24240.4	24253.4	24266.4	24279.3	24292.3	24305.3	24318.2	24331.2	24344.2	24357.1	12.97
752.86	24110.8	24123.7	24136.7	24149.7	24162.6	24175.6	24188.6	24201.5	24214.5	24227.5	12.97
752.55	23981.8	23994.8	24007.5	24020.5	24033.4	24046.4	24059.1	24072.1	24085.1	24097.8	12.89
752.25	23853.1	23866.1	23878.8	23891.8	23904.5	23917.5	23930.4	23943.2	23956.1	23968.9	12.87
751.94	23724.9	23737.6	23750.6	23763.3	23776.3	23789.0	23801.7	23814.7	23827.4	23840.4	12.82
751.64	23597.0	23609.7	23622.7	23635.4	23648.1	23661.1	23673.8	23686.5	23699.2	23712.2	12.80
751.33	23469.5	23482.2	23494.9	23507.7	23520.4	23533.4	23546.1	23558.8	23571.5	23584.2	12.75
751.03	23342.5	23355.2	23368.0	23380.7	23393.4	23406.1	23418.6	23431.3	23444.1	23456.8	12.70
750.72	23215.8	23228.5	23241.2	23253.7	23266.4	23279.2	23291.9	23304.6	23317.1	23329.8	12.67
750.42	23089.5	23102.3	23114.7	23127.5	23139.9	23152.7	23165.4	23177.9	23190.6	23203.1	12.62
750.11	22963.8	22976.3	22989.0	23001.5	23014.2	23026.7	23039.1	23051.9	23064.3	23077.1	12.58
749.81	22838.5	22851.0	22863.5	22876.2	22888.7	22901.2	22913.6	22926.1	22938.8	22951.3	12.53
749.50	22713.5	22726.0	22738.5	22750.9	22763.4	22776.1	22788.6	22801.1	22813.6	22826.0	12.50
749.20	22589.0	22601.4	22613.9	22626.4	22638.9	22651.4	22663.6	22676.1	22688.5	22701.0	12.45
748.90	22464.7	22477.2	22489.6	22501.9	22514.3	22526.8	22539.3	22551.8	22564.0	22576.5	12.43
748.59	22340.9	22353.4	22365.6	22378.1	22390.3	22402.8	22415.3	22427.5	22440.0	22452.2	12.38
748.29	22217.6	22229.8	22242.3	22254.5	22267.0	22279.2	22291.5	22303.9	22316.2	22328.7	12.33
747.98	22094.8	22107.0	22119.2	22131.7	22143.9	22156.2	22168.4	22180.6	22193.1	22205.3	12.28
747.68	21972.2	21984.4	21996.6	22008.9	22021.1	22033.6	22045.8	22058.1	22070.3	22082.5	12.26
747.37	21850.1	21862.3	21874.6	21886.8	21899.0	21911.3	21923.2	21935.5	21947.7	21959.9	12.21
747.07	21728.3	21740.5	21752.7	21764.7	21776.9	21789.2	21801.4	21813.6	21825.6	21837.9	12.18
746.76	21606.9	21619.1	21631.1	21643.4	21655.3	21667.6	21679.8	21691.8	21704.0	21716.0	12.14
746.46	21486.0	21498.0	21510.3	21522.3	21534.5	21546.5	21558.5	21570.7	21582.7	21594.9	12.09
746.15	21365.7	21377.7	21389.6	21401.9	21413.9	21425.9	21437.8	21449.8	21462.1	21474.1	12.04
745.85	21245.5	21257.5	21269.5	21281.5	21293.5	21305.7	21317.7	21329.7	21341.7	21353.7	12.01
745.54	21125.9	21137.9	21149.9	21161.9	21173.9	21185.8	21197.6	21209.6	21221.6	21233.6	11.96
745.24	21006.5	21018.5	21030.5	21042.2	21054.2	21066.2	21078.2	21090.2	21101.9	21113.9	11.94
744.93	20887.8	20899.8	20911.6	20923.6	20935.3	20947.3	20959.0	20971.0	20982.8	20994.8	11.87
744.63	20769.4	20781.2	20793.2	20804.9	20816.9	20828.6	20840.4	20852.4	20864.1	20876.1	11.84
744.32	20651.3	20663.0	20675.0	20686.7	20698.5	20710.5	20722.2	20734.0	20745.7	20757.7	11.82
744.02	20533.6	20545.3	20557.1	20568.8	20580.6	20592.5	20604.3	20616.0	20627.8	20639.5	11.77
743.71	20416.4	20428.1	20439.9	20451.6	20463.4	20475.1	20486.6	20498.3	20510.1	20521.8	11.72
743.41	20299.7	20311.4	20322.9	20334.7	20346.4	20358.2	20369.7	20381.4	20393.1	20404.6	11.67
743.10	20183.2	20195.0	20206.5	20218.2	20229.7	20241.5	20253.2	20264.7	20276.4	20287.9	11.65
742.80	20067.3	20078.8	20090.5	20102.0	20113.7	20125.2	20136.7	20148.5	20160.0	20171.7	11.60
742.49	19951.5	19963.0	19974.8	19986.3	19997.8	20009.5	20021.0	20032.5	20044.0	20055.8	11.57
742.19	19836.5	19848.0	19859.5	19871.0	19882.5	19894.0	19905.5	19917.0	19928.5	19940.0	11.50

Exhibit 15M – Mica Reservoir Capacity Table (SI) Continued

hm^3

ELEVATION IN METERS	.00	.03	.06	.09	.12	.15	.18	.21	.24	.27	AVERAGE DIFFERENCE PER 3/100 M
741.88	19721.8	19733.3	19744.8	19756.3	19767.8	19779.3	19790.5	19802.0	19813.5	19825.0	11.47
741.58	19607.3	19618.8	19630.3	19641.5	19653.0	19664.5	19676.0	19687.5	19698.8	19710.3	11.45
741.28	19493.3	19504.8	19516.0	19527.5	19538.8	19550.3	19561.8	19573.0	19584.5	19595.8	11.40
740.97	19379.8	19391.0	19402.5	19413.8	19425.3	19436.5	19447.8	19459.3	19470.5	19482.0	11.35
740.67	19266.7	19278.0	19289.2	19300.7	19312.0	19323.2	19334.5	19345.8	19357.3	19368.5	11.30
740.36	19153.9	19165.2	19176.5	19187.7	19199.0	19210.5	19221.7	19233.0	19244.2	19255.5	11.28
740.06	19041.6	19052.9	19064.2	19075.4	19086.7	19097.9	19108.9	19120.2	19131.4	19142.7	11.23
739.75	18929.8	18941.1	18952.1	18963.4	18974.6	18985.9	18996.9	19008.1	19019.4	19030.4	11.18
739.45	18818.3	18829.5	18840.5	18851.8	18862.8	18874.1	18885.3	18896.3	18907.6	18918.6	11.16
739.14	18707.2	18718.2	18729.5	18740.5	18751.7	18762.7	18773.7	18785.0	18796.0	18807.3	11.11
738.84	18596.4	18607.4	18618.6	18629.6	18640.6	18651.9	18662.9	18673.9	18684.9	18696.2	11.08
738.53	18486.3	18497.3	18508.3	18519.3	18530.3	18541.3	18552.3	18563.3	18574.3	18585.4	11.01
738.23	18376.4	18387.4	18398.4	18409.4	18420.5	18431.5	18442.2	18453.2	18464.2	18475.3	10.99
737.92	18266.8	18277.8	18288.8	18299.6	18310.6	18321.6	18332.6	18343.6	18354.4	18365.4	10.96
737.62	18157.7	18168.7	18179.5	18190.5	18201.2	18212.2	18223.3	18234.0	18245.0	18255.8	10.91
737.31	18049.1	18059.8	18070.8	18081.6	18092.6	18103.4	18114.1	18125.1	18135.9	18146.9	10.86
737.01	17940.9	17951.7	17962.4	17973.5	17984.2	17995.0	18005.8	18016.5	18027.5	18038.3	10.81
736.70	17833.0	17843.8	17854.6	17865.3	17876.1	17887.1	17897.9	17908.6	17919.4	17930.2	10.79
736.40	17725.6	17736.4	17747.1	17757.9	17768.7	17779.4	17790.0	17800.7	17811.5	17822.3	10.74
736.09	17618.7	17629.5	17640.0	17650.8	17661.5	17672.3	17682.8	17693.6	17704.3	17714.9	10.69
735.79	17512.0	17522.8	17533.3	17544.1	17554.6	17565.4	17576.1	17586.7	17597.4	17607.9	10.67
735.48	17405.8	17416.4	17427.1	17437.7	17448.4	17458.9	17469.5	17480.2	17490.7	17501.5	10.62
735.18	17299.9	17310.4	17321.2	17331.7	17342.2	17353.0	17363.5	17374.0	17384.6	17395.3	10.59
734.87	17194.7	17205.2	17215.7	17226.3	17236.8	17247.3	17257.8	17268.3	17278.9	17289.4	10.52
734.57	17089.7	17100.3	17110.8	17121.3	17131.8	17142.3	17152.6	17163.1	17173.7	17184.2	10.50
734.26	16985.0	16995.6	17006.1	17016.3	17026.9	17037.4	17047.9	17058.4	17068.7	17079.2	10.47
733.96	16880.8	16891.3	16901.6	16912.1	16922.4	16932.9	16943.4	16953.7	16964.2	16974.5	10.42
733.66	16777.1	16787.3	16797.9	16808.1	16818.7	16828.9	16839.2	16849.7	16860.0	16870.5	10.37
733.35	16673.8	16684.1	16694.4	16704.9	16715.2	16725.4	16735.7	16746.0	16756.5	16766.8	10.32
733.05	16570.8	16581.1	16591.4	16601.6	16611.9	16622.4	16632.7	16643.0	16653.3	16663.5	10.30
732.74	16468.4	16478.7	16489.0	16499.2	16509.5	16519.8	16530.0	16540.3	16550.6	16560.8	10.27
732.44	16366.6	16376.8	16387.0	16397.2	16407.4	16417.6	16427.8	16438.0	16448.2	16458.5	10.21
732.13	16265.1	16275.3	16285.4	16295.6	16305.7	16315.9	16326.1	16336.3	16346.4	16356.6	10.17
731.83	16164.1	16174.2	16184.3	16194.4	16204.5	16214.6	16224.8	16234.9	16245.1	16255.2	10.13
731.52	16063.3	16073.4	16083.5	16093.6	16103.7	16113.8	16123.9	16134.0	16144.1	16154.2	10.10
731.22	15963.0	15973.1	15983.1	15993.1	16003.2	16013.2	16023.3	16033.3	16043.4	16053.4	10.05
730.91	15863.5	15873.4	15883.3	15893.3	15903.2	15913.2	15923.1	15933.1	15943.1	15953.1	9.96
730.61	15764.8	15774.6	15784.5	15794.3	15804.2	15814.0	15823.9	15833.8	15843.7	15853.6	9.87
730.30	15666.8	15676.6	15686.4	15696.2	15706.0	15715.7	15725.5	15735.3	15745.1	15755.0	9.79
730.00	15569.8	15579.5	15589.2	15598.9	15608.6	15618.2	15628.0	15637.7	15647.4	15657.1	9.70

Exhibit 15M – Mica Reservoir Capacity Table (SI) Continued

hm^3

ELEVATION IN METERS	.00	.03	.06	.09	.12	.15	.18	.21	.24	.27	AVERAGE DIFFERENCE PER 3/100 M
729.69	15473.6	15483.2	15492.8	15502.4	15512.0	15521.6	15531.3	15540.9	15550.6	15560.2	9.62
729.39	15378.3	15387.8	15397.3	15406.8	15416.4	15425.9	15435.4	15445.0	15454.5	15464.1	9.53
729.08	15283.7	15293.1	15302.6	15312.0	15321.5	15330.9	15340.4	15349.9	15359.3	15368.8	9.46
728.78	15189.9	15199.3	15208.6	15218.0	15227.3	15236.6	15246.0	15255.4	15264.8	15274.3	9.37
728.47	15096.9	15106.2	15115.5	15124.8	15134.0	15143.3	15152.6	15162.0	15171.3	15180.6	9.30
728.17	15004.7	15013.9	15023.1	15032.3	15041.5	15050.7	15060.0	15069.2	15078.5	15087.7	9.22
727.86	14913.2	14922.4	14931.5	14940.6	14949.8	14958.9	14968.1	14977.3	14986.4	14995.6	9.15
727.56	14822.5	14831.6	14840.6	14849.7	14858.7	14867.8	14876.8	14885.9	14895.0	14904.1	9.07
727.25	14732.6	14741.5	14750.5	14759.5	14768.5	14777.4	14786.5	14795.5	14804.5	14813.5	8.99
726.95	14643.4	14652.3	14661.2	14670.0	14678.9	14687.8	14696.8	14705.7	14714.7	14723.6	8.92
726.64	14554.7	14563.6	14572.4	14581.3	14590.1	14599.0	14607.8	14616.7	14625.6	14634.5	8.86
726.34	14466.8	14475.6	14484.4	14493.2	14502.0	14510.7	14519.5	14528.3	14537.1	14545.9	8.79
726.04	14379.7	14388.4	14397.1	14405.8	14414.5	14423.2	14431.9	14440.7	14449.4	14458.1	8.71
725.73	14293.3	14301.9	14310.6	14319.2	14327.8	14336.4	14345.1	14353.7	14362.4	14371.0	8.64
725.43	14207.4	14215.9	14224.5	14233.1	14241.7	14250.3	14258.9	14267.5	14276.1	14284.7	8.59
725.12	14122.2	14130.7	14139.2	14147.7	14156.2	14164.7	14173.3	14181.8	14190.3	14198.8	8.51
724.82	14037.7	14046.2	14054.6	14063.0	14071.5	14079.9	14088.4	14096.8	14105.3	14113.8	8.45
724.51	13953.8	13962.2	13970.6	13979.0	13987.4	13995.7	14004.1	14012.5	14020.9	14029.3	8.39
724.21	13870.5	13878.8	13887.2	13895.5	13903.8	13912.2	13920.5	13928.8	13937.2	13945.5	8.33
723.90	13787.9	13796.1	13804.4	13812.6	13820.9	13829.1	13837.4	13845.7	13854.0	13862.2	8.26
723.60	13705.8	13714.0	13722.2	13730.4	13738.6	13746.8	13755.0	13763.2	13771.4	13779.7	8.20
723.29	13624.4	13632.5	13640.7	13648.8	13656.9	13665.1	13673.2	13681.4	13689.5	13697.7	8.14
722.99	13543.4	13551.5	13559.6	13567.6	13575.7	13583.8	13591.9	13600.0	13608.1	13616.3	8.09
722.68	13463.1	13471.1	13479.2	13487.2	13495.2	13503.2	13511.3	13519.3	13527.3	13535.4	8.03
722.38	13383.4	13391.3	13399.3	13407.2	13415.2	13423.2	13431.2	13439.1	13447.1	13455.1	7.97
722.07	13304.2	13312.1	13319.9	13327.8	13335.7	13343.6	13351.5	13359.5	13367.5	13375.4	7.92
721.77	13225.5	13233.3	13241.2	13249.0	13256.8	13264.7	13272.6	13280.5	13288.4	13296.3	7.87
721.46	13147.3	13155.1	13162.9	13170.7	13178.5	13186.3	13194.2	13202.0	13209.8	13217.6	7.81
721.16	13069.7	13077.5	13085.2	13092.9	13100.7	13108.4	13116.2	13124.0	13131.8	13139.5	7.76
720.85	12992.6	13000.3	13008.0	13015.7	13023.3	13031.0	13038.8	13046.5	13054.2	13062.0	7.71
720.55	12915.9	12923.6	12931.2	12938.9	12946.5	12954.2	12961.9	12969.5	12977.2	12984.9	7.66
720.24	12839.9	12847.4	12855.0	12862.6	12870.2	12877.8	12885.4	12893.1	12900.7	12908.3	7.61
719.94	12764.2	12771.7	12779.3	12786.9	12794.4	12802.0	12809.5	12817.1	12824.7	12832.3	7.56
719.63	12689.0	12696.5	12704.0	12711.5	12719.1	12726.6	12734.1	12741.6	12749.1	12756.7	7.52
719.33	12614.3	12621.8	12629.2	12636.7	12644.2	12651.6	12659.1	12666.6	12674.0	12681.5	7.46
719.02	12540.1	12547.5	12554.9	12562.3	12569.7	12577.2	12584.6	12592.0	12599.5	12606.9	7.42
718.72	12466.3	12473.7	12481.0	12488.4	12495.8	12503.2	12510.5	12517.9	12525.3	12532.7	7.38
718.42	12392.9	12400.2	12407.6	12414.9	12422.3	12429.6	12436.9	12444.3	12451.6	12459.0	7.34
718.11	12320.0	12327.3	12334.6	12341.9	12349.1	12356.4	12363.7	12371.0	12378.3	12385.6	7.29
717.81	12247.5	12254.8	12262.0	12269.2	12276.5	12283.7	12291.0	12298.2	12305.5	12312.7	7.25

Exhibit 15M – Mica Reservoir Capacity Table (SI) Continued

hm^3

ELEVATION IN METERS	.00	.03	.06	.09	.12	.15	.18	.21	.24	.27	AVERAGE DIFFERENCE PER 3/100 M
717.50	12175.5	12182.7	12189.9	12197.1	12204.3	12211.5	12218.7	12225.9	12233.1	12240.3	7.20
717.20	12103.7	12110.9	12118.1	12125.2	12132.4	12139.6	12146.8	12153.9	12161.1	12168.3	7.17
716.89	12032.5	12039.6	12046.7	12053.8	12061.0	12068.1	12075.2	12082.3	12089.5	12096.6	7.13
716.59	11961.6	11968.7	11975.8	11982.8	11989.9	11997.0	12004.1	12011.2	12018.3	12025.4	7.09
716.28	11891.1	11898.2	11905.2	11912.2	11919.3	11926.3	11933.4	11940.4	11947.5	11954.5	7.04
715.98	11820.9	11828.0	11835.0	11842.0	11849.0	11856.0	11863.1	11870.1	11877.1	11884.1	7.02
715.67	11751.2	11758.2	11765.1	11772.1	11779.1	11786.0	11793.0	11800.0	11807.0	11814.0	6.97
715.37	11681.8	11688.8	11695.7	11702.6	11709.5	11716.5	11723.4	11730.4	11737.3	11744.3	6.94
715.06	11612.8	11619.7	11626.6	11633.5	11640.4	11647.3	11654.2	11661.1	11668.0	11674.9	6.90
714.76	11544.0	11550.9	11557.8	11564.7	11571.5	11578.4	11585.3	11592.2	11599.0	11605.9	6.87
714.45	11475.7	11482.5	11489.4	11496.2	11503.0	11509.8	11516.7	11523.5	11530.4	11537.2	6.83
714.15	11407.7	11414.5	11421.3	11428.1	11434.9	11441.6	11448.5	11455.3	11462.1	11468.9	6.80
713.84	11340.0	11346.8	11353.5	11360.3	11367.1	11373.8	11380.6	11387.4	11394.1	11400.9	6.77
713.54	11272.6	11279.3	11286.0	11292.8	11299.5	11306.3	11313.0	11319.8	11326.5	11333.3	6.74
712.93	11138.7	11145.4	11152.0	11158.7	11165.4	11172.1	11178.8	11185.4	11192.1	11198.8	6.68
712.62	11072.0	11078.7	11085.4	11092.0	11098.7	11105.3	11112.0	11118.7	11125.3	11132.0	6.66
712.32	11005.5	11012.2	11018.8	11025.5	11032.1	11038.8	11045.4	11052.1	11058.7	11065.4	6.65
712.01	10939.3	10945.9	10952.5	10959.1	10965.8	10972.4	10979.0	10985.6	10992.3	10998.9	6.63
711.71	10873.2	10879.8	10886.4	10893.0	10899.6	10906.2	10912.8	10919.4	10926.0	10932.7	6.61
711.40	10807.3	10813.9	10820.5	10827.0	10833.6	10840.2	10846.8	10853.4	10860.0	10866.6	6.59
711.10	10741.5	10748.1	10754.7	10761.2	10767.8	10774.4	10781.0	10787.5	10794.1	10800.7	6.58
710.80	10676.0	10682.5	10689.1	10695.6	10702.2	10708.7	10715.3	10721.8	10728.4	10734.9	6.55
710.49	10610.6	10617.1	10623.7	10630.2	10636.7	10643.3	10649.8	10656.3	10662.9	10669.4	6.53
710.19	10545.4	10552.0	10558.5	10565.0	10571.5	10578.0	10584.5	10591.1	10597.6	10604.1	6.52
709.88	10480.4	10486.9	10493.4	10499.9	10506.4	10512.9	10519.4	10525.9	10532.4	10538.9	6.50
709.58	10415.6	10422.1	10428.6	10435.1	10441.5	10448.0	10454.5	10461.0	10467.5	10473.9	6.48
709.27	10351.0	10357.5	10363.9	10370.4	10376.8	10383.3	10389.8	10396.2	10402.7	10409.2	6.46
708.97	10286.6	10293.0	10299.5	10305.9	10312.3	10318.8	10325.2	10331.7	10338.1	10344.6	6.44
708.66	10222.4	10228.8	10235.2	10241.6	10248.0	10254.4	10260.9	10267.3	10273.7	10280.2	6.43
708.36	10158.3	10164.7	10171.1	10177.5	10183.9	10190.3	10196.7	10203.1	10209.5	10215.9	6.40
708.05	10094.5	10100.9	10107.3	10113.6	10120.0	10126.4	10132.8	10139.2	10145.5	10151.9	6.38
707.75	10030.8	10037.1	10043.5	10049.9	10056.2	10062.6	10069.0	10075.4	10081.8	10088.1	6.37
707.44	9967.4	9973.7	9980.0	9986.4	9992.7	9999.0	10005.4	10011.7	10018.1	10024.4	6.34
707.14	9904.1	9910.4	9916.7	9923.1	9929.4	9935.7	9942.0	9948.4	9954.7	9961.0	6.33
706.83	9841.0	9847.3	9853.7	9859.8	9866.2	9872.5	9878.8	9885.1	9891.5	9897.8	6.31