

DECLARATION OF INITIATION OF SYSTEM REFILL

Flood Risk Management Requirements
Report #5 for Water Year 2023
Issue Date: 27 April 2023

A. Purpose of Flood Risk Management Requirements. These requirements provide maximum end-of-month reservoir elevations and/or minimum outflows for flood risk management projects in the Columbia River Basin. These requirements are for use by U.S. Army Corps of Engineers, Bureau of Reclamation, Idaho Power, Energy Keepers, BC Hydro and Bonneville Power Administration for operations planning and include all formally approved deviations to date. Any deviation from the flood risk management requirements herein will require approval from the Chief, Columbia Basin Water Management Division (CBWM) per the Northwestern Division's (NWD) Deviation Policy (NWDR 1110-2-6). Requirements are in accordance with the Columbia River Treaty Flood Control Operating Plan (FCOP) and any project-specific water control manuals, with variations as described below. These flood risk management requirements will be revised and re-issued as new information becomes available.

B. List of Approved Flood Deviations from Water Control Manuals.

- Implementation of CRSO EIS operations at Libby (sliding scale measure and modified project flood risk management draft)
- Operations at Seliš Ksanka Qlispè Dam for low water year

C. Flood Risk Management Requirements

These requirements have been prepared using the most recent official seasonal volume forecasts. The April-August volume forecast at The Dalles Dam based on the April 2023 official forecast is 76,790 kaf. All other forecasts can be found in Table 2 or at:

<http://www.nwd-wc.usace.army.mil/report/colsum/>

Table 1 shows the flood risk management elevations, draft and flow limits for the evacuation, holding and refill periods. The Initial Controlled Flow (ICF) based on the official April forecast is 261 kcfs. If needed, the CF will be updated as the system refills. Note that flows in the lower Columbia may be lower or higher than the CF during the runoff season. See the FCOP for how the ICF is computed. More details on the values used can be found at:

<http://www.nwd-wc.usace.army.mil/report/storcorr/>

D. System Flood Risk Management Refill Requirement Discussion.

Columbia Basin Water Management is declaring the initiation of system refill as summarized in Table 1. Note that each reservoir may begin refill on the prescribed date. Until a reservoir's refill date is reached, that reservoir must be no higher than the prescribed 30 April flood risk management (FRM) requirement elevation. During the refill season, end-of-month reservoir elevation targets and control flow may change in response to the shape and timing of the runoff. The current 30 April FRM requirements are based upon the official April water supply forecasts. The 31 May FRM requirements will be updated during the first week of May based on the official May forecast (03 May 2023).

E. Individual Project Flood Risk Management Requirements Discussion.

No specific individual requirements at this time.

Table 1. Flood Risk Management Requirements

Project	31 Jan	28 Feb	31 Mar	15 Apr	30 Apr ³	Date Refill Starts	31 May ³	30 Jun ³	31 Jul ³
MCDB (kaf) ²	1146	1882	2910	3450	3450	27 Apr	2070	242	0
ARDB (ft)	1434.2	1429.8	1423.1	1419.0	1419.0	30 Apr	1427.1	1443.3	1444.0
DCDB (ft) ⁵	1841.3	1826.5	1819.1	1818.3	1818.3	27 Apr	1840.8	1878.8	1892.0
LIB (ft) ⁴	2409.5	2419.6	2415.9	2425.6	2426.2	01 May ⁶	n/a	n/a	2459.0
LIB (kcfs)	n/a	n/a	n/a	n/a	n/a	-	5	5	n/a
HGH (ft)	3541.7	3541.2	3536.4	3538.8	3537.3	01 May	n/a	3560.0	3560.0
HGH (kcfs)	n/a	n/a	n/a	n/a	n/a	-	TBD	TBD	n/a
SKQ (ft)	n/a	n/a	n/a	2883.0	n/a	-	2890.0	2893.0	2893.0
ALF (ft) ¹	2060.0	2060.0	2056.0	n/a	2056.0	-	2062.5	2062.5	2062.5
GCL (ft)	1290.0	1290.0	1281.9	1278.1	1280.5	01 May	1285.3	1289.9	1290.0
BRN (ft)	2077.0	2060.5	2067.6	2063.1	2069.3	01 May	2075.8	2077.0	2077.0
DWR (ft)	1549.5	1550.8	1550.5	1548.2	1520.9	01 May	1570.2	1600.0	1600.0

Notes:

1. Albeni Falls flood risk management elevations are based on readings at the Hope gage.
2. KAF units refer to required flood risk management space (draft) in the reservoir.
3. Flood risk management requirements for May, June and July are based on estimated normal runoff shape. Under certain circumstances, the Refill Guide Curve (also known as Flood Control Refill Curve) procedure may be used to determine when refill is to begin at each project where applicable and affect the 30 Apr elevations.
4. Per the Libby Dam WCM, Rule 1 of the VarQ operating procedures, releases will be limited to the hydraulic capacity of the powerhouse to the best extent possible.
5. Per the Duncan Storage Resevation Diagram, Duncan Reservoir is required to achieve its full flood risk management draft requirement of 1826.5 ft by 15 March (currently same as end of February FRM).
6. Per the Libby Water Control Manual, when the official Libby Water Supply Forecast released at the start of April is less than 6.9 MAF, refill is initiated on May 1.

Table 2. Water Supply Forecasts (Kaf)

Project	Forecast Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Current month Forecast % of Normal
MCDB	Apr-Aug	10326	9647	10096	9933				89
ARDB	Apr-Aug	20936	19267	20584	20198				91
DCDB	Apr-Aug	1946	1768	1864	1874				92
LIB	Apr-Aug	6061	5071	5298	4694				77
HGH	May-Sep	1950	1750	1760	1680				95
SKQ ¹	Apr-Jul	5105	4997	5088	4714				77
ALF ¹	Apr-Jul	9759	9916	10014	10126				82
GCL ¹	Apr-Aug	45777	48057	49697	49289				85
BRN ¹	Apr-Jul	4916	4194	4302	4934				96
DWR ¹	Apr-Jul	2178	2117	2344	2521				102
TDA ¹	Apr-Aug	72362	72791	74038	76790				86

Notes:

1. Official water supply forecasts for SKQ, ALF, GCL, BRN, DWR and TDA are the ESP 10-day-QPF median values published by the NWRFC on the following days for 2023: Jan 5, Feb 3, Mar 3, Apr 5, May 3, Jun 5.

Kasi Whorley, P.E., signing for William Proctor, P.E.
Ch., Hydrologic Engineering and Power Branch