Flood Risk Management Requirements
Report #5 for Water Year 2018
Issue Date: 10 APR 2018

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.
A deviation request was approved to increase the operating range of Arrow Dam through April 30, 2018. This will raise the upper operational level from 1404.8 feet to 1414.1. The system and weather conditions will be monitored weekly to identify the potential of increased impacts to system flood risk management as measured at The Dalles. If adverse impacts are identified operations will be modified as needed or the deviation terminated.

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 2018 official forecast is 103,337 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 April 2018 official forecast is 381 kcfs. 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.
No system refill requirements at this time.

E. Individual Project Flood Risk Management Requirements Discussion.
No specific individual requirements at this time.

Table 1. Flood Risk Management Requirements

Project	31Jan	28Feb	15Mar	31Mar	15 Apr	30 Apr[3]	31 May[3]	30 Jun[3]	31 Jul[3]
MCDB (kaf) [2]	1662	2810.0	n/a	3267.0	4080.0	4080.0	2448.0	286.0	0.0
ARDB (ft)	1430.5	1422.9	n/a	1408.5	1414.1	1414.1	1423.9	1443.2	1444.0
DCDB (ft)	1839.5	1812.5	1807.7	1807.7	1807.7	1807.7	1834.5	1877.3	1892.0
LIB (ft) [4]	2401.8	2387.7	n/a	2358.3	2359.3	2359.3	2421.0	2459.0	2459.0
LIB (cfs)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
HGH (ft)	3541.5	3529.6	n/a	3496.2	3476.6	3475.4	3542.1	3560.0	3560.0
SKQ (ft)[5]	n/a	n/a	n/a	n/a	2883.0	n/a	2890.0	2893.0	2893.0
ALF (ft) [1]	2060.0	2060.0	n/a	2056.0	n/a	2056.0	2062.5	2062.5	2062.5
GCL (ft)	1290.0	1289.6	n/a	1256.9	1234.0	1222.7	1259.5	1289.4	1290.0
BRN (ft)	2077.0	2046.8	n/a	2037.2	2025.0	2014.7	2069.2	2077.0	2077.0
DWR (ft)	1530.5	1516.5	n/a	1461.6	1470.0	1500.0	1565.8	1599.2	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.
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. Sə̀liš Ksanka Qĺispə̀ Dam, formerly known as Kerr Dam.

Table 2. Water Supply Forecasts (Kaf)

Project	Forecast Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Current month Forecast % of Normal
MCDB	Apr-Aug	11117	11334	11753	11727				107
ARDB	Apr-Aug	21606	22445	23532	23310				106
DCDB	Apr-Aug	1995	2061	2174	2208				110
LIB	Apr-Aug	6645	6765	7205	7189				122
HGH	May-Sep	1964	2062	2302	2395				141
SKQ[1,2]	Apr-Jul	5595	7346	7573	8241				142
ALF[1]	Apr-Jul	12382	15152	15578	17016				144
GCL[1]	Apr-Aug	55852	64817	65870	68335				120
BRN[1]	Apr-Jul	5690	5509	5665	6436				118
DWR	Apr-Jul	2941	2849	3093	3040				126
TDA[1]	Apr-Aug	87282	94748	98132	103337				118

Notes:
1. Official water supply forecasts for SKQ (KERM), ALF, GCL, BRN and TDA are the ESP 5-day-QPF median values published by the NWRFC on the following days for 2018: Jan 4, Feb 5, Mar 5, Apr 5, May 3, Jun 5, and Jul 6.
2. Sə̀liš Ksanka Qĺispə̀ Dam, formerly known as Kerr Dam.

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