

Flood Risk Management Requirements
Report #2 for Water Year 2016
Issue Date: 09 February 2016

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.
None are currently in effect.

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 February 2016 official forecast is 83221 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 February forecast is 305 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	29Feb	15Mar	31Mar	15 Apr	30 Apr³	31 May³	30 Jun³	31 Jul³
MCDB (kaf) ²	1648	2824	n/a	4080	4080	4080	2448	286	0
ARDB (ft)	1430.5	1422.9	n/a	1414.1	1414.1	1414.1	1423.9	1443.2	1444.0
DCDB (ft)	1839.8	1813.8	1809.6	1809.6	1809.6	1809.6	1835.6	1877.6	1892.0
LIB (ft) ⁴	2411.0	2407.0	n/a	2405.7	2405.7	2405.7	2436.3	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)	3547.0	3547.9	n/a	3547.1	3546.8	3546.4	3556.7	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	1290.0	n/a	1283.3	1270.3	1253.6	1272.7	1289.7	1290.0
BRN (ft)	2077.0	2051.6	n/a	2050.7	2052.6	2053.9	2073.7	2077.0	2077.0
DWR (ft)	1556.4	1557.0	n/a	1569.5	1572.3	1572.3	1587.8	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 (RGC) 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. 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	11010	11230						102
ARDB	Apr-Aug	22136	22618						103
DCDB	Apr-Aug	2063	1978						99
LIB	Apr-Aug	6249	6318						107
HGH	May-Sep	1629	1531						90
SKQ ^{1,2}	Apr-Jul	4785	5061						87
ALF ¹	Apr-Jul	10294	10381						88
GCL ¹	Apr-Aug	52783	54491						96
BRN ¹	Apr-Jul	4693	4689						86
DWR	Apr-Jul	1913	1986						82
TDA ¹	Apr-Aug	82621	83221						95

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 2016: Jan 8, Feb 5, Mar 7, Apr 7, May 6, Jun 7, and Jul 8.
2. Formerly known as Kerr Dam.

William Proctor, P.E.
Ch., Hydrologic Engineering and Power Branch