Flood Risk Management Requirements
Report #4 for Water Year 2015
Issue Date: 9 April 2015

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, NorthWestern Energy, 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 April 2015 official forecast is 72,233 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 forecast is 275 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	n/a	2468	n/a	2556	1534	179	0
ARDB (ft)	1430.5	1422.9	n/a	1426.6	1425.9	1425.9	1431.7	1443.5	1444.0
DCDB (ft)	1839.3	1812.5	1808.1	1808.1	1811.4	1811.4	1836.6	1877.8	1892.0
LIB (ft) [4]	2410.0	2435.7	n/a	2433.8	2428.6	2428.6	Est.	Est.	Est.
LIB (cfs)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
HGH (ft)	3541.3	3536.3	n/a	3540.4	3548.5	3548.4	3557.1	3560.0	3560.0
KERM (ft)	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) [5]	1290.0	1289.5	n/a	1282.8	1283.3	1281.8	1286.0	1289.9	1290.0
BRN (ft) [5]	2077.0	2055.3	n/a	2074.7	2076.8	2077.0	2077.0	2077.0	2077.0
DWR (ft)	1550.6	1566.5	n/a	1577.7	1590.7	1590.7	1593.1	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. Grand Coulee and Brownlee flood risk management data reflect shift volume from Brownlee to Grand Coulee. Values reflect a BRN shift to GCL on Feb 28, Mar 31, and Apr 15.

Table 2. Water Supply Forecasts (Kaf)

Project	Forecast Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Current month Forecast % of Normal
MCDB	Apr-Aug	11758	11679	11320	10945				100
ARDB	Apr-Aug	23695	23338	22548	22223				101
DCDB	Apr-Aug	2148	2061	1995	1958				98
LIB	Apr-Aug	6297	5523	5683	5808				99
HGH	May-Sep	1977	1930	1678	1496				88
KERM[1]	Apr-Jul	6246	5897	5175	5259				91
ALF[1]	Apr-Jul	12881	12102	10419	10683				91
GCL[1]	Apr-Aug	56539	55845	49419	51165				90
BRN[1]	Apr-Jul	4831	4665	3738	3052				56
DWR	Apr-Jul	2136	1922	1815	1709				71
TDA[1]	Apr-Aug	87324	83108	71784	72233				83

Notes:

1. Official water supply forecasts for KERM, ALF, GCL, BRN and TDA are the ESP 5-day-QPF median values published by the NWRFC on the following days for 2015: Jan 8, Feb 6, Mar 6, Apr 8, May 7, and Jun 5.

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