DECLARATION OF INITIATION OF SYSTEM REFILL

Flood Risk Management Requirements
Report #5 for Water Year 2015
Issue Date: 1 May 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.
Columbia Basin Water Management is declaring the initiation of system refill in accordance with guidance for initiation of refill in low-flow years. Refill dates are listed 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 30April flood risk requirement elevation. During the runoff season, end-of-month reservoir elevation targets and control flow may change in response to the shape and timing of the runoff. An updated FRM Requirements document will be issued next week.

E. Individual Project Flood Risk Management Requirements Discussion.
Projects shall stay at or below 30 April flood risk management requirement elevations until project refill is triggered. See Table 1 for individual project refill dates.

Table 1. Flood Risk Management Requirements

Project	31Jan	28Feb	15Mar	31Mar	15 Apr	30 Apr[3]	Date Refill Starts	31 May[3]	30 Jun[3]	31 Jul[3]
MCDB (kaf) [2]	1662	2810	n/a	2468	n/a	2556	6 May	1534	179	0
ARDB (ft)	1430.5	1422.9	n/a	1426.6	1425.9	1425.9	9 May	1431.7	1443.5	1444.0
DCDB (ft)	1839.3	1812.5	1808.1	1808.1	1811.4	1811.4	1 May	1836.6	1877.8	1892.0
LIB (ft) [4]	2410.0	2435.7	n/a	2433.8	2428.6	2428.6	1 May	Est.	Est.	Est.
LIB (cfs)	n/a	n/a	n/a	n/a	n/a	n/a	1 May	n/a	n/a	n/a
HGH (ft)	3541.3	3536.3	n/a	3540.4	3548.5	3548.4	1 May	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	10 May	1286.0	1289.9	1290.0
BRN (ft) [5]	2077.0	2055.3	n/a	2074.7	2076.8	2077.0	10 May	2077.0	2077.0	2077.0
DWR (ft)	1550.6	1566.5	n/a	1577.7	1590.7	1590.7	10 May	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	Residual Runoff [2] (%)
MCDB	Apr-Aug	11758	11679	11320	10945				100	95
ARDB	Apr-Aug	23695	23338	22548	22223				101	93
DCDB	Apr-Aug	2148	2061	1995	1958				98	94
LIB	Apr-Aug	6297	5523	5683	5808				99	91
HGH	May-Sep	1977	1930	1678	1496				88	100
KERM[1]	Apr-Jul	6246	5897	5175	5259				91	82
ALF[1]	Apr-Jul	12881	12102	10419	10683				91	81
GCL[1]	Apr-Aug	56539	55845	49419	51165				90	88
BRN[1]	Apr-Jul	4831	4665	3738	3052				56	83
DWR	Apr-Jul	2136	1922	1815	1709				71	75
TDA[1]	Apr-Aug	87324	83108	71784	72233				83	85

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.
2. Residual runoff values are applicable starting April. Residual runoff volume (Maf) is the amount of the current month's seasonal volume forecast that is still left to runoff. The percentage shows the volume that is yet to runoff, divided by the forecasted volume. As an example, at Libby, the residual runoff volume will be the current month's Apr-Aug forecast volume minus the amount of observed runoff since April 1st.

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