Flood Risk Management Requirements
Report #2 for Water Year 2013
Issue Date: 11 January 2013

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, PPL Montana, 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 John Day Dam from January 1 through March 31, 2013. This will raise the upper operation level from 265.0 to 266.5 feet. This deviation can be terminated or suspended by the Reservoir Control Center of the CBWM if the Northwest River Forecast Center's (NWRFC) Community Hydrologic Prediction System (CHPS) model forecasts a river stage of 12 feet or more at the Vancouver, WA gage.

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 Jan 2013 official forecast is 92030 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 January forecast is 336.2 kaf. 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 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[4]	31 May[4]	30 Jun[4]	31 Jul[4]
MCDB (kaf) [3]	1662	2810	n//a	4080	4080	4080	2693	571	0
ARDB (ft)	1430.5	1422.9	n/a	1414.1	1414.1	1414.1	1423.6	1442.1	1444.0
DCDB (ft)	1839.3	1812.5	1807.7	1807.7	1807.7	1807.7	1840.6	1878.8	1892.0
LIB (ft) [5]	2395.2	2381.5	2375.9	2375.9	2375.9	2375.9	2424.5	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)	3541.4	3534.1	n/a	3525.7	3521.5	3517.2	3550.1	3560	3560
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)[2]	1290.0	1290.0	n/a	1266.4	1246.0	1235.7	1261.2	1290.0	1290.0
BRN (ft)	2077.0	2050.7	n/a	2047.8	2047.2	2046.1	2073.5	2077.0	2077.0
DWR (ft) [2]	1539.3	1528.9	n/a	1534.0	1534.5	1522.4	1575.2	1600.0	1600.0

Notes:

1. Albeni Falls flood risk management elevations are based on readings at the Hope gage.
2. Grand Coulee and Dworshak flood risk management data may reflect shift volumes from Dworshak to Grand Coulee.
3. KAF units refer to required flood risk management space (draft) in the reservoir.
4. Flood risk management requirements for May, June and July are based on estimated normal runoff shape. Under certain circumstances, the Flood Control Refill Curve (FCRC) procedure will be used to determine when refill is to begin at each project where applicable.
5. 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.

Table 2. Water Supply Forecasts (Maf)

Project	Forecast Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Current month Forecast % of Normal	Residual Runoff[1] (%/ Maf)
MCDB	Apr-Aug	11574							100	
ARDB	Apr-Aug	23609							104	
DCDB	Apr-Aug	2283							112	
LIB	Apr-Aug	6898							109	
HGH	May-Sep	1968							116	
KERM	Apr-Jul	5483							94	
ALF	Apr-Jul	11162							95	
GCL	Apr-Aug	58230							103	
BRN	Apr-Jul	4650							85	
DWR	Apr-Jul	2587							96	
TDA	Apr-Aug	92030							105	

Notes:

1. 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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