Flood Risk Management Requirements
Report # 1 for Water Year 2013
Issue Date: 18 December 2012

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, CBWM per the 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
Table 1 shows the flood risk management elevation, draft and flow limits for the evacuation, holding and refill periods. The Initial Controlled Flow (ICF) will be published beginning in January. 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/

These requirements have been prepared using the December seasonal volume forecasts for Libby, Dworshak and Duncan, and the 71-year median seasonal volumes for all other projects. All forecasts can be seen in Table 2 or found at:
http://www.nwd-wc.usace.army.mil/report/colsum/

D. System Flood Risk Management Refill Requirement Discussion.
No system requirements at this time.

E. Individual Project Flood Risk Management Requirements Discussion.
Libby – December 31, 2012 flood risk management requirement is 2411.0 ft based on the April through August water supply forecast of 6238 kaf.

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]	2411.3	2410.1	2409.5	2409.5	2409.5	2409.5	2436.8	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)	3543.6	3538.5	n/a	3532.5	3529.6	3526.7	3552.1	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)[2]	1290.0	1290.0	n/a	1260.6	1241.0	1231.5	1259.3	1290.0	1290.0
BRN (ft)	2077.0	2048.4	n/a	2043.1	2040.7	2038.4	2072.8	2077.0	2077.0
DWR (ft) [2]	1535.8	1522.3	n/a	1524.7	1515.1	1514.4	1572.2	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 prior to onset of ICF 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									
ARDB	Apr-Aug									
DCDB	Apr-Aug									
LIB	Apr-Aug									
HGH	May-Sep									
KERM	Apr-Jul									
ALF	Apr-Jul									
GCL	Apr-Aug									
BRN	Apr-Jul									
DWR	Apr-Jul									
TDA	Apr-Aug									

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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Peter F. Brooks, P.E., D.WRE
Ch., Hydrologic Engineering and Power Branch