



# United States Department of the Interior

BUREAU OF RECLAMATION

Great Plains Region

Montana Area Office

P.O. Box 30137

Billings, Montana 59107-0137



IN REPLY REFER TO: MT-450

April 12, 2012

## FAXOGRAM: Water Order Change

To: Chief, Power Supply and Billing Division, WAPA, Watertown, South Dakota  
Attention: F-6001  
Chief, Power Dispatching Branch, WAPA, Loveland, Colorado  
Attention: J-4120  
Facilities Manager, Hardin, Montana  
Attention: MT-300: Tom Tauscher  
Project Manager, Mills, Wyoming  
Attention: WY-4000, WY-4100, WY-6400  
Assistant Superintendent, National Park Service, Lovell, Wyoming  
Attention: Valerie Newman

From: Reservoir and River Operations, Billings, Montana

Subject: **Yellowtail Water Release Order - BHR No. 12-26**

### CURRENT RESERVOIR CONDITIONS

Elevation: 3617.29 Storage: 809,911 acre-feet; River Release: 2,880 cfs; Inflow: 2,385 cfs;

### GENERAL COMMENTS:

The flushing flow for the Bighorn River has been completed. It has been noted from measurements conducted by the USGS during the flush, that algae growth is already impacting flows. After the flush concluded, the USGS reported a shift of -0.09. The BIA has also requested for diversions to begin into the Bighorn Canal to meet irrigation demands. Accordingly, the following operations are required at Yellowtail Dam, powerplant, and Afterbay Dam.

**NOTE: This is the time period when fish are more susceptible to high levels of nitrogen gas super-saturation. To provide a more desirable mixing flow of approximately 75% through the spillway gates and 25% through the sluice gates and thereby maintain the total gas super-saturation levels within safe limits, the minimum Afterbay elevation should be maintained at or above elevation 3183.5 whenever possible. This is a soft limit and may be deviated from during special or emergency operations required to meet energy demands. With contract work continuing on refurbishment of the Afterbay spillway radial gates, the Afterbay must also be maintained no higher than elevation 3186.**

### YELLOWTAIL TURBINE RELEASE:

**At 1500 hour on Thursday, April 12, 2012:**

*Maintain average daily turbine release at 2,810 cfs ( $\approx$  1,820 MW-Hrs/day using 37.0 cfs/mw).*

**At 1600 hour on Monday, April 16, 2012:**

*Decrease average daily turbine release to 2,530 cfs ( $\approx$  1,640 MW-Hrs/day using 37.0 cfs/mw).*

**At 1600 hour on Wednesday, April 18, 2012:**

*Increase average daily turbine release to 2,630 cfs ( $\approx$  1,705 MW-Hrs/day using 37.0 cfs/mw).*

**At 1600 hour on Thursday, April 19, 2012:**

*Increase average daily turbine release to 2,680 cfs ( $\approx$  1,740 MW-Hrs/day using 37.0 cfs/mw).*

### AFTERBAY RELEASE AND OPERATION:

**At 1500 hour on Thursday, April 12, 2012:**

*Maintain diversions to the Bighorn Canal at 0 cfs (gage height = 68.50 with 0.00 shift).*

*Maintain river release at 2,880 cfs (gage height = 60.39 with -0.09 shift).*

*Maintain total release from the Afterbay at 2,880 cfs.*

**At 1600 hour on Monday, April 16, 2012:**

*Increase diversions to the Bighorn Canal to 100 cfs (gage height = 71.10 with 0.00 shift).*

*Decrease river release to 2,500 cfs (gage height = 60.09 with -0.09 shift).*

*Decrease total release from the Afterbay at 2,600 cfs.*

**At 1600 hour on Wednesday, April 18, 2012:**

*Increase diversions to the Bighorn Canal to 200 cfs (gage height = 72.21 with 0.00 shift).*

*Maintain river release at 2,500 cfs (gage height = 60.09 with -0.09 shift).*

*Increase total release from the Afterbay to 2,700 cfs.*

**At 1600 hour on Thursday, April 19, 2012:**

*Increase diversions to the Bighorn Canal to 250 cfs (gage height = 72.66 with 0.00 shift).*

*Maintain river release at 2,500 cfs (gage height = 60.09 with -0.09 shift).*

*Increase total release from the Afterbay to 2,750 cfs.*

/S/ Tim H. Felchle