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# United States Department of the Interior

BUREAU OF RECLAMATION

Great Plains Region

Montana Area Office

P.O. Box 30137

Billings, Montana 59107-0137



August 20, 2009

## **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: Jim Staebler

From: Reservoir and River Operations, Billings, Montana

Subject: **Yellowtail Water Release Order - BHR No. 09-60**

### **CURRENT RESERVOIR CONDITIONS:**

Elevation: 3643.25; Storage: 1,112,872 acre-feet; River Release: 3,050 cfs; Inflow: 2,720 cfs;

### **GENERAL COMMENTS:**

Algae growth in the Bighorn River continues to increase. Power generation indicate releases to the Bighorn River are lower than anticipated. BIA has requested an increase in diversions to the Bighorn Canal. To continue evacuating storage from the exclusive flood pool as planned, the following operation change is required at Yellowtail Dam and Powerplant applying a new shift of -1.01 to the river gage height.

**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 to maintain the total gas super-saturation levels at safe limits, the minimum Afterbay elevation should be maintained at or above elevation 3183 whenever possible. This is only a soft limit and may be deviated from during special or emergency operations required to meet energy demands.**

### **YELLOWTAIL TURBINE RELEASE:**

**At 1400 hour on Thursday, August 20, 2009:**

*Maintain average daily turbine release to  $\approx 3,380$  cfs ( $\approx 2,450$  MW-Hrs/day using 33.8 cfs/mw).*

### **AFTERBAY RELEASE AND OPERATION:**

**At 1400 hour on Thursday, August 20, 2009:**

*Increase diversions to the Bighorn Canal to 400 cfs (gage height = 75.18 shift of -1.40).*

*Maintain river release at 3,050 cfs (gage height = 61.38 and apply a new shift of -0.95).*

*Increase total release from the Afterbay to 3,450 cfs.*

**At 1600 hour on Thursday, August 20, 2009:**

*Maintain diversions to the Bighorn Canal at 400 cfs (gage height = 75.18 shift of -1.40).*

*Maintain river release at 3,050 cfs (gage height = 61.44 and apply a new shift of -1.01).*

*Maintain total release from the Afterbay to 3,450 cfs.*

/S/ Tim H. Felchle