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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



April 21, 2008

## **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. 08-13**

### **CURRENT RESERVOIR CONDITIONS:**

Elevation: 3609.88; Storage: 802,464 acre-feet; River Release: 1,900 cfs; Inflow: 1,770 cfs;

### **GENERAL COMMENTS:**

Streamflows into Bighorn Lake are increasing moderately, equaling the total release out of Bighorn Lake. At this time, the rate of decline in Bighorn Lake has slowed. In response, the following operation changes are required at Yellowtail Dam, Powerplant, and Afterbay and **Water Release Order BHR No. 08-12** is hereby revised as follows.

**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.

### **TURBINE RELEASES:**

#### **At 1700 hour on Monday, April 21, 2008:**

*Increase average daily turbine release to 1,830 cfs ( $\approx$  1,095 MW-Hrs/day using 40.1 cfs/mw).*

#### **At 1600 hour on Wednesday, April 23, 2008:**

*Increase average daily turbine release to 1,880 cfs ( $\approx$  1,125 MW-Hrs/day using 40.1 cfs/mw).*

#### **At 0900 hour on Thursday, April 24, 2008:**

*Increase average daily turbine release to 1,930 cfs ( $\approx$  1,155 MW-Hrs/day using 40.1 cfs/mw).*

#### **At 1600 hour on Thursday, April 24, 2008:**

*Increase average daily turbine release to 1,980 cfs ( $\approx$  1,185 MW-Hrs/day using 40.1 cfs/mw).*

#### **At 0900 hour on Friday, April 25, 2008:**

*Increase average daily turbine release to 2,030 cfs ( $\approx$  1,215 MW-Hrs/day using 40.1 cfs/mw).*

**AFTERBAY RELEASE AND OPERATION:**

**At 1700 hour on Monday, April 21, 2008:**

*Maintain diversions to the Bighorn Canal at 0 cfs (gage height = 68.50 with 0.0 shift).  
Increase river release to 1,900 cfs (gage height = 59.54 with a shift of -0.05).  
Increase total release from the Afterbay to 1,900 cfs.*

**At 1600 hour on Wednesday, April 23, 2008:**

*Increase diversions to the Bighorn Canal to 50 cfs (gage height = 70.33 with 0.0 shift).  
Maintain river release at 1,900 cfs (gage height = 59.54 with a shift of -0.05).  
Increase total release from the Afterbay to 1,950 cfs.*

**At 0900 hour on Thursday, April 24, 2008:**

*Increase diversions to the Bighorn Canal to 100 cfs (gage height = 71.11 with 0.0 shift).  
Maintain river release at 1,900 cfs (gage height = 59.54 with a shift of -0.05).  
Increase total release from the Afterbay to 2,000 cfs.*

**At 1600 hour on Thursday, April 24, 2008:**

*Increase diversions to the Bighorn Canal to 150 cfs (gage height = 71.71 with 0.0 shift).  
Maintain river release at 1,900 cfs (gage height = 59.54 with a shift of -0.05).  
Increase total release from the Afterbay to 2,050 cfs.*

**At 0900 hour on Friday, April 25, 2008:**

*Increase diversions to the Bighorn Canal to 200 cfs (gage height = 72.21 with 0.0 shift).  
Maintain river release at 1,900 cfs (gage height = 59.54 with a shift of -0.05).  
Increase total release from the Afterbay to 2,100 cfs.*

/S/ Tim H. Felchle