



IN REPLY REFER TO: MT-450

# United States Department of the Interior

BUREAU OF RECLAMATION

Great Plains Region

Montana Area Office

P.O. Box 30137

Billings, Montana 59107-0137



July 16, 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. 09-49**

### **CURRENT RESERVOIR CONDITIONS:**

Elevation: 3645.81; Storage: 1,149,263 acre-feet; River Release: 7,500 cfs; Inflow: 7,620 cfs;

### **GENERAL COMMENTS:**

As the high elevation snowmelt slowly declines, releases from Boysen and Buffalo Bill Reservoirs are being reduced. As a result, inflows into Bighorn Lake continue to decline. To slow and control the evacuation rate of storage in the exclusive flood pool, the following operation changes are required at Yellowtail Dam and Powerplant.

**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 1800 hour on Friday, July 17, 2009:**

*Maintain average daily turbine release at  $\approx 6,730$  cfs ( $\approx 6,000$  MW-Hrs/day using 26.9 cfs/mw).*

**At 0700 hour on Saturday, July 18, 2009:**

*Decrease average daily turbine release to  $\approx 5,730$  cfs ( $\approx 5,110$  MW-Hrs/day using 26.9 cfs/mw).*

**At 0700 hour on Sunday, July 19, 2009:**

*Decrease average daily turbine release to  $\approx 4,930$  cfs ( $\approx 4,400$  MW-Hrs/day using 26.9 cfs/mw).*

### **YELLOWTAIL EVACUATION OUTLET RELEASE:**

**At 1800 hour on Friday, July 17, 2009:**

*Decrease release through the evacuation outlet gate to  $\approx 0$  cfs.*

**At 0700 hour on Saturday, July 18, 2009:**

*Maintain release through the evacuation outlet gate at  $\approx 0$  cfs.*

**At 0700 hour on Sunday, July 19, 2009:**

*Maintain release through the evacuation outlet gate at  $\approx 0$  cfs.*

**YELLOWTAIL SPILLWAY GATE RELEASE:**

**At 1800 hour on Friday, July 17, 2009:**

*Maintain release through the spillway gates at  $\approx 0$  cfs.*

**At 0700 hour on Saturday, July 18, 2009:**

*Maintain release through the spillway gates at  $\approx 0$  cfs.*

**At 0700 hour on Sunday, July 19, 2009:**

*Maintain release through the spillway gates at  $\approx 0$  cfs.*

**AFTERBAY RELEASE AND OPERATION:**

**At 1800 hour on Friday, July 17, 2009:**

*Maintain diversions to the Bighorn Canal at 500 cfs (gage height = 74.66 with -0.22 shift).*

*Decrease river release to 6,300 cfs (gage height = 62.28 with 0.00 shift).*

*Decrease total release from the Afterbay to 6,800 cfs*

**At 0700 hour on Saturday, July 18, 2009:**

*Maintain diversions to the Bighorn Canal at 500 cfs (gage height = 74.66 with -0.22 shift).*

*Decrease river release to 5,300 cfs (gage height = 61.79 with 0.00 shift).*

*Decrease total release from the Afterbay to 5,800 cfs*

**At 0700 hour on Sunday, July 19, 2009:**

*Maintain diversions to the Bighorn Canal at 500 cfs (gage height = 74.66 with -0.22 shift).*

*Decrease river release to 4,500 cfs (gage height = 61.36 with 0.00 shift).*

*Decrease total release from the Afterbay to 5,000 cfs*

/S/ Tim H. Felchle