



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 2, 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. 09-45**

CURRENT RESERVOIR CONDITIONS:

Elevation: 3646.98; Storage: 1,166,540 acre-feet; River Release: 12,450 cfs; Inflow: 13,200 cfs;

GENERAL COMMENTS:

The BIA requested an increase in diversions to the Bighorn Canal. In response the following operation change is required at Yellowtail Dam and Powerplant. Releases to the Bighorn River will be decreased to near 12,400 cfs and maintained at rates necessary to maintain daily generation at Yellowtail powerplant near 250 MW-Hrs/day and the Afterbay level near elevation 3190.

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 1630 hour on Thursday, July 2, 2009:

Maintain average daily turbine release at $\approx 7,025$ cfs ($\approx 6,000$ MW-Hrs/day using 28.1 cfs/mw).

YELLOWTAIL EVACUATION OUTLET RELEASE:

At 1630 hour on Thursday, July 2, 2009:

Maintain release at ≈ 0 cfs through the evacuation outlet gate.

YELLOWTAIL SPILLWAY GATE RELEASE:

At 1630 hour on Thursday, July 2, 2009:

Maintain release at $\approx 5,755$ cfs through the spillway gates.

AFTERBAY RELEASE AND OPERATION:

At 1630 hour on Thursday, July 2, 2009:

Increase diversions to the Bighorn Canal to 450 cfs (gage height = 74.35 with -0.22 shift).

Decrease river release to 12,400 cfs (gage height = 64.58 with 0.00 shift).

Maintain total release from the Afterbay at near 12,850 cfs

NOTE: Vary river release at amounts required to maintain Afterbay level near elevation 3190 while maintaining generation at 250 MW-Hrs/day.

/S/ Tim H. Felchle