



MEMORANDUM

Date: June 21, 2012
To: 65-22723
From: Michele Edl
Re: Beneficial use exam/meeting

I met with the following USBR personnel at their Curtis Road office in Boise, on June 21, 2012.

Vicki Hoffman, Supervisory General Engineer, Operation and Maintenance, Middle Snake Field Office, MSFO-3100

Gail McGarry, Program Manager, Water Rights & Acquisitions, PN Region Office, PN-3100

Ernie Bachman, Mechanical Engineer, Operation and Maintenance, Middle Snake Field Office, MSFO-3108

I had determined that a field exam to confirm this beneficial use was probably unnecessary. The purpose of the meeting was to resolve permit condition # 3 and to discuss some of the other elements of the water use permitted by 65-22723.

Mr. Ernie Bachman provided the attached documents to me during the meeting.
The flow rate measurement and calculation meet the requirement of the permit.
The photos show the place-of-use in its context at the dam.

T0: Files

FROM: Ernie Bachman

DATE: 02/08/11

Subject: Deadwood Hydro Generator Flow Measurement

File Name: DED Hydro Generator Flow Measurement.08-10-10

Flow Measurement, August 10, 2010. On this day, which coincided with the 2010 PFR exam, Derrick Eisenbeis and I measured the hydro generator flow, using our Accusonic Model 787 Portable Clamp-on Transit-time Flowmeter, strapped directly to the 10-inch penstock. We measured 2.25 to 2.3 cfs under the current load conditions, approximately 20 KW. The flow probably varied because of the butterfly control valve, which responds to changing load conditions. The flow could be expected to go a little higher under the heaviest loading.

$$P = 0.0846 (5317.14\text{ft} - 5200.43\text{ft})(2.3\text{cfs})(\text{Efficiency}) = 20 \text{ KW}$$

$P = 0.0846 H \cdot Q$

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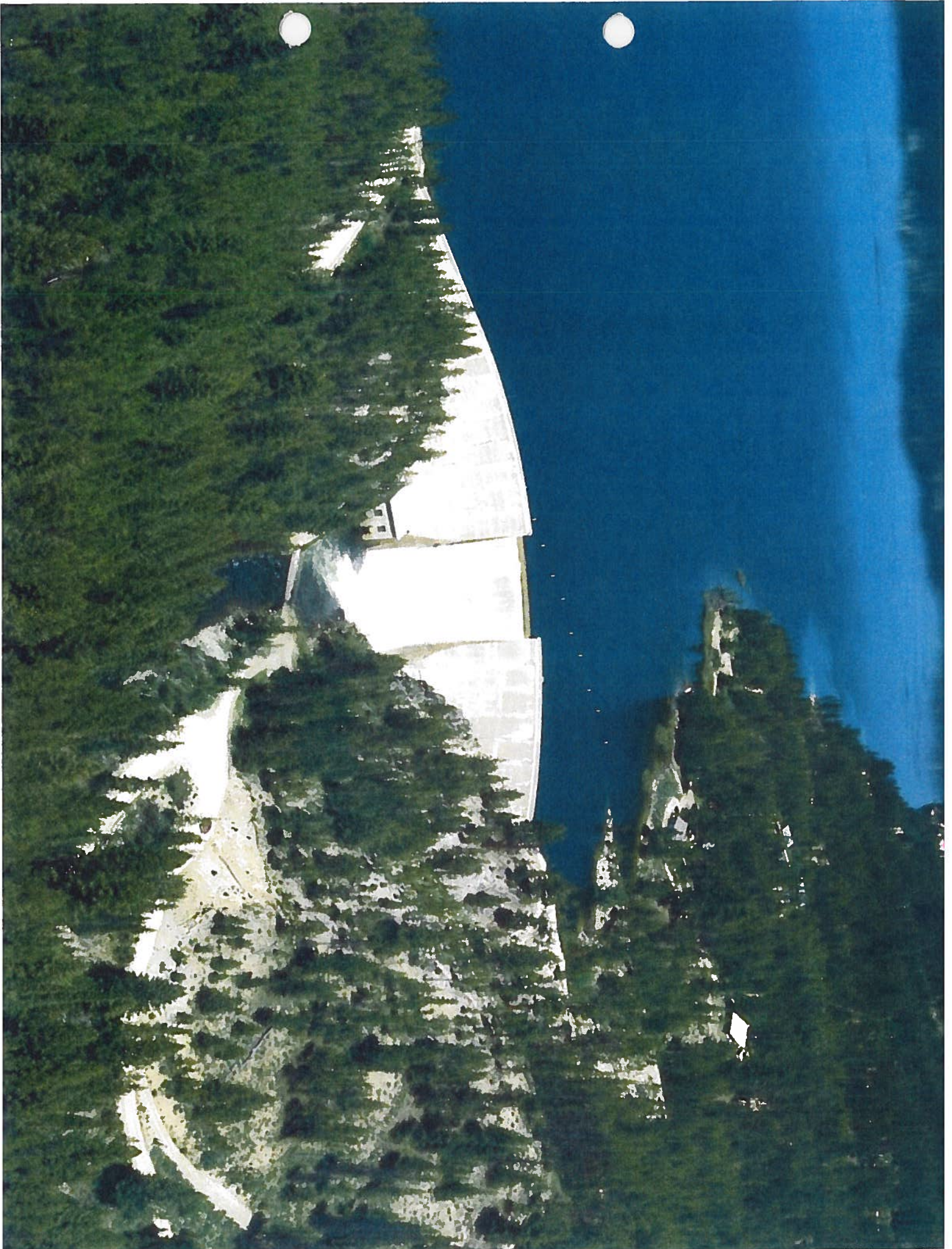
Solving for Efficiency: $E = 20\text{KW} / (0.0846 \times 116.7\text{ft} \times 2.3 \text{ cfs}) = 88\%$

At low elevation of 5309, normally in August each year calculate the flow needed for 30 KW:

$$\text{Flow: } Q = 30\text{kW} / [0.0846 \times (5309 - 5200.43) \times 88\%] = 3.71 \text{ cfs}$$

Recommend that we maintain a water right of at least 3.75 cfs.









**Outlet Works Gate
House. The
Hydrogenerator is inside
this building.**

Right Outlet Gate

Left Outlet Gate

**Hydro generator
output pipe and
stilling box.**

