

Marshall, Aaron

From: Jones, Craig [CJones@idahopower.com]
Sent: Friday, April 10, 2009 9:43 AM
To: Marshall, Aaron
Cc: Wardle, Lewis; Bowling, Jon
Subject: RE: Swan Falls Records Request

Dear Mr. Marshall:

Lewis Wardle (388-2964) is now handling the relicensing process for Swan Falls. I am forwarding your request for information on to him, as well as to Jon Bowling, who works closely with our water rights.

Best regards,

Craig

From: Marshall, Aaron [mailto:Aaron.Marshall@idwr.idaho.gov]
Sent: Friday, April 10, 2009 9:03 AM
To: Jones, Craig
Subject: Swan Falls Records Request

Mr. Jones,

I am preparing the water right license for permit 02-7379, which authorizes 6,550 cfs of water for power generation at Swan Falls Dam. An aspect of the water right I cannot confirm at this point is the annual volume of water beneficially used under the permit prior to IDWR's receipt of the proof of beneficial use statement. The period of time we need to consider is 03/09/1994, the date when IDWR received a request for extension of time to file proof of beneficial use, to 04/01/1996, the date when IDWR received proof of beneficial use.

In licensing water right 03-7018 for Brownlee Dam, Idaho Power provided hourly data for one year including power generation, headwater elevation, tailwater elevation, gross head, and the k-factor. This allowed me to calculate the daily average discharge for the period and determine the annual volume of water used. I would like to follow a similar method to determine the annual volume of water beneficially used under permit 02-7379 for Swan Falls Dam.

Please provide information showing the amount of water beneficially used for power generation at Swan Falls Dam from 03/09/1994 to 04/01/1996 within 30 days or I will evaluate the annual volume in another manner and move forward in preparing the license. Please contact me as soon as possible if you have any questions.

Respectfully,
Aaron Marshall
Senior Water Resource Agent
Idaho Department of Water Resources
P.O. Box 83720
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02-7379 SWAN FALLS

- Tim Brewer Affidavit, 04/01/1986
hydraulic capacity of turbines = ^{at least} 20,400
- App for Permit, received 03/31/1982
6,550 cfs

authorized
development
period =
1/10/1989
04/01/1996

- Order approving permit, 04/10/1989
6,550 cfs, subject to agreement and contract of 10/25/1984
- Proof due 04/01/1994 ^{attachment, "The entire project is expected to be completed by December, 1994."} ^{power production} Commercial operation schedule:
Request for ext. of time, received 03/09/1994, Unit #1 $\cong$ 03/09/1994 Unit #2 $\cong$ 05/15/1994
- Approved, proof due April 1, 1996
- Proof received April 1, 1996, fee \$600, OK
- Field Exam, 03/09/1998, new power plant operational in Spring 1994

Recommendation: 6,550 cfs, Power capacity $\cong$ 25.0 MW (rated for 2 turbines)
FERC No. 503-000, 2 turbines - each rated @ 12.5 MW & 7350 cfs for 22.5 ft head
Hill Diagrams show max power output @ 15.4 MW & 16,400 cfs for 25.6 ft head

- Swan Falls Power Rights - Director's Reports

IPC	02-100 : 2,150 cfs, 01/01 - 12/31	2150
IPC *	02-2032 A : 150 cfs, 11/01 - 03/31	+ 2950
ID *	02-2032 B : 2,950 cfs, 04/01 - 10/31 and 2,800 cfs, 11/01 - 03/31	+ 1840
IPC	02-4000 A : 1,840 cfs, 11/01 - 03/31 and 1,750 cfs, 04/01 - 03/31 10/31	+ 1460
ID	02-4000 B : 90 cfs, 04/01 - 10/31	→ 8,400 cfs
IPC	02-4001 A : 1,460 cfs, 11/01 - 03/31	+ 6550 cfs
	02-4001 B : 1,460 cfs, 04/01 - 10/31	→ 14,950 cfs

Snake River near Murphy, USGS # 13172500

Aaron Marshall's
Review Notes

* 02-2032 was licensed for 4,000 cfs but recommended for a total of 2,950 cfs

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Annual Volume (cfs)

1989 = 142,010

1990 = 19,860

1991 = 27,030

1992 = 2,650

1993 = 273,110

1994 = 107,300

calendar
year
max

* 1995 = 471,960 → 936,119 AF

1996 = 1,131,070 → 2,243,443 AF

365-day
max

* April 1, 1995 - March 31, 1996 = 1,853,692 AF ~ 1,850,000 AF

Max total possible → $6,550 \text{ cfs} \times 365 \text{ days} \times 1.98347 = 4,741,980.9 \text{ AF}$

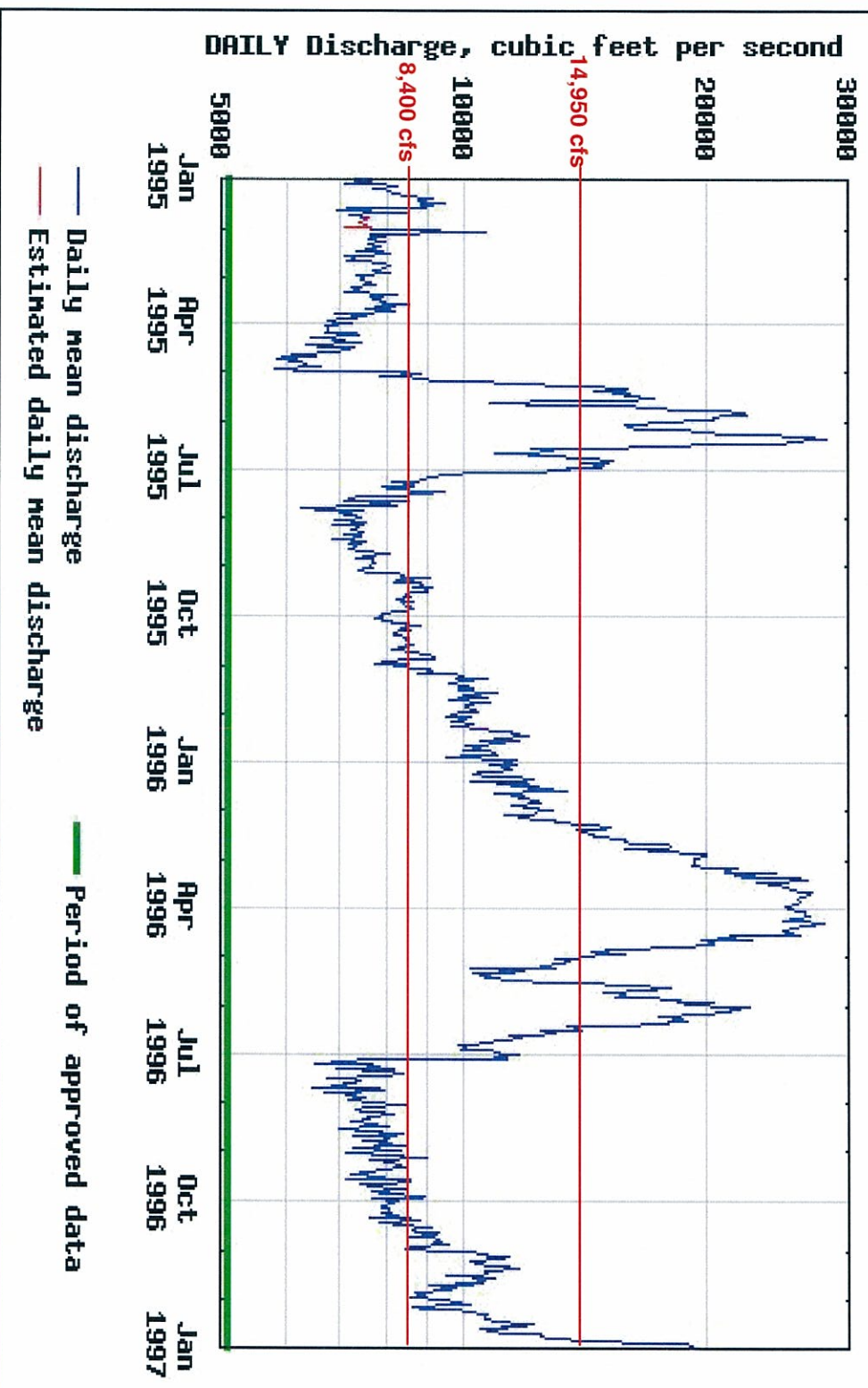
POD: T02S R01E Sec. 18 SE $\frac{1}{4}$ SE $\frac{1}{4}$ - Govt Lot 11

POU: T02S R01E Sec. 18 SE $\frac{1}{4}$ SE $\frac{1}{4}$ Govt Lot 11

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USGS 13172500 SNAKE RIVER NR MURPHY ID



Licensing Review Memo Attachment 1

Graph illustrating flows at the Snake River near Murphy gaging station from 1995 – 1996 when the new power plant at Swan Falls Dam was fully operational. The 8,400 cfs line represents the total of existing power generation rights at Swan Falls Dam and the 14,950 cfs line represents the additional 6,550 cfs authorized by permit 02-7379.