

March 30, 2007

Philis J. Posey, Acting Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Hells Canyon Project No. 1971-079, Response to Request for Additional Information

Dear Ms. Posey:

Included with this cover letter for electronic filing with the Commission is Idaho Power Company's (IPC) response to additional information requested by Commission staff.

By letter dated February 23, 2007, Timothy Welch requested additional information regarding IPC's operations of the Hells Canyon Complex. The additional information needed includes the economic cost of implementing a seasonal, 4-inch per hour ramp rate restriction below Hells Canyon Dam. As requested, the analysis is consistent with previously filed AIR OP-1, scenarios 7-9, except for the inclusion of the specified 4-inch per hour ramp rate restriction, and is provided in a format consistent with tables 6-11 of AIR OP-1(a). Please note that a line has been added to the tables to account for market capacity purchases as explained in the response to the AIR.

Please contact me with any questions regarding this filing.

Best regards,



Craig Jones
Hells Canyon Relicensing Project Manager
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CAJ/da
Enclosures
cc: Service List
Alan Mitchnick

**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

Idaho Power Company)	Hells Canyon Hydroelectric Project
_____)	Project No. 1971
)	

CERTIFICATE OF SERVICE

I hereby certify that in accordance with the Commission's Rules of Practice and Procedure, I have served the foregoing document upon each person designated on the official service list compiled by the Federal Energy Regulatory Commission in the above-captioned proceeding.

Dated this 30th day of March, 2007.



Craig A. Jones
Idaho Power Company
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Boise, Idaho 83702
(208) 388-2934



**Idaho Power Company's
Response to February 23,
2007 HCC Additional
Information Request**

**Hells Canyon Complex
Project Name
FERC No. 1971**

March 2007
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Schedule A**Additional Information request**

Our July 2006, draft environmental impact statement (EIS) included an analysis of several recommended operational measures, most notably ramping rates and flow augmentation, designed to protect Snake River salmonids. However, the power and associated economic impact estimates associated with two of these measures (4-inch per hour ramp rates and a 237-kaf flow augmentation release) were extrapolated based on your information provided in response to our May 4, 2004, additional information request (AIR) OP-1. Review of the comments on the draft EIS suggests that direct operational modeling of these measures would be more appropriate. Therefore, please provide power and economic impact estimates consistent with those you provided in response to AIR OP-1a for the following operational scenarios:

1. A seasonal (March 15 through June 15) 4-inch per hour ramp rate restriction, with 1 foot per hour for the remainder of the year. Ramp rate compliance would be modeled at Johnson Bar. (Note that any license issued could require ramp rate compliance to be measured at a location closer to Hells Canyon dam, but for purposes of this analysis we are assuming that any such relocation of compliance measurement would involve a translation of Johnson Bar compliance levels to the new location without impact on project operation.)

2. A 237-kaf release of flow augmentation water from Brownlee reservoir by refilling to elevation 2077 feet msl by June 20, commencing augmentation on June 21 with target reservoir elevations set to 2066 feet msl on July 15 and 2059 feet msl on July 31, with no refill to occur before August 31.

3. An operational scenario that combines the foregoing seasonal ramp rate and flow augmentation scenarios.

All model runs should be consistent with the AIR OP-1 "Proposed Operations" scenario, except for the specific measure or measures being evaluated. Results should be based on the 5 representative years used in OP-1. For each modeled scenario, please provide a summary of the modeled constraints in a format consistent with Tables 6 through 9 of OP-1a, and provide the results for capacity replacement construction costs of both \$73.70/kw/yr and \$114/kw/yr and other economic effects in a format consistent with Tables 10 and 11 of OP-1a.

IDAHO POWER COMPANY'S RESPONSE TO THE ADDITIONAL INFORMATION REQUEST

Below are the tabulated results for the above AIR. In presenting the results, there are a couple of points that need to be highlighted to fully understand the economic impact of the scenarios.

1) For OP-1 Scenario 7 (4-inch per hour ramp rate at Johnson Bar, March 15 through June 15), it is assumed that while this operation does reduce peaking capacity IPC would likely not build replacement capacity to meet system load requirements. During the time of year that the ramp rate would be in effect, IPC likely would purchase peaking capacity from the market, primarily in the June 1 through June 15 period. However, transmission capacity may not be available on a dependable basis at this time of year.

Based on a modeled average Hells Canyon outflow of 11,250 cfs for the June 1 through June 15 period, a 4-inch per hour ramp rate, compared to the existing 1-foot per hour ramp rate, would reduce the peaking capacity of the Hells Canyon Plant by 113 MW. If IPC could not import the lost capacity because of transmission or other market constraints and were required to build replacement capacity for the June 1 through June 15 period, the annual cost of the additional capacity would be \$13.8 million (113 MW at \$114/kW/yr).

Table 1. Constraints for OP-1 Scenario 7, Scenario 8, and Scenario 9 for the Brownlee Project, located within the HCC.

Brownlee Project	Constraints		
	OP-1 Scenario 7	OP-1 Scenario 8	OP-1 Scenario 9
Maximum reservoir elevation	2,077 ft msl	2,077 ft msl	2,077 ft msl
Minimum reservoir elevation	1,976 ft msl	1,976 ft msl	1,976 ft msl
Flood-control requirements			
Brownlee Reservoir official target elevations specified for February 28, March 31, April 15, and April 30	ACOE flood-control rule curve requirements ^a	ACOE flood-control rule curve requirements ^a	ACOE flood-control rule curve requirements ^a
Daily reservoir-level fluctuation ^b			
January 1 through May 20	3 ft	3 ft	3 ft
May 21 through June 21 for resident fish spawning	1 ft	1 ft	1 ft
June 22 through December 31	3 ft	3 ft	3 ft
Reservoir target elevation			
June 7	2,069 ft msl or higher ^c	2,069 ft msl or higher ^c	2,069 ft msl or higher ^c
June 21	2,075 ft msl ^d	2,077 ft msl ^d	2,077 ft msl ^d
July 15	2,075 ft msl ^d	2,066 ft msl ^h	2,066 ft msl ^h
July 31	2,075 ft msl ^d	2,059 ft msl ^h	2,059 ft msl ^h
August 31 ^e			
High water year	2,059 ft msl	2,059 ft msl	2,059 ft msl
Medium water year	2,069 ft msl	2,059 ft msl	2,059 ft msl
Low water year	2,072 ft msl	2,059 ft msl	2,059 ft msl
October 21 ^f	2,040 ft msl or higher	2,040 ft msl or higher	2,040 ft msl or higher
December 11 through 31 ^g	2,075 ft msl	2,075 ft msl	2,075 ft msl

^a For modeling purposes, reservoir target elevations are calculated in the model using the 1998 modified rule curve procedure and are based on observed inflows (not monthly forecasts). Flood-control requirements are not modeled past the last April 30 target date.

^b Dates specified are for modeling purposes only and may vary under actual operations.

^c The elevation of 2,069 ft msl or higher was set as a target in the model for June 7 for resident fish spawning requirements.

^d A full reservoir during this period helps IPC meet peak summer load demands. The dates specified are for modeling purposes only and would vary as a function of IPC's system needs and water conditions.

^e This target was only specified in the model for this date as a means of modeling power needs of the system by drafting Brownlee Reservoir. The specified target was also a function of water year type except for Scenario's 8 and 9.

^f Reservoir elevation for modeling purposes was calculated as a function of the specified fall Chinook flow for water year type for Hells Canyon Project discharge (see Table 6). This calculation resulted in reservoir elevations typically 2,040 ft msl or higher, except under extreme high-water conditions for the model runs.

^g In the late fall, the reservoir is operated to accommodate the fall Chinook program, and in early December, IPC attempts to have a full reservoir, typically around 2,075 ft msl, to help meet peak winter load conditions. December 11 was specified for modeling purposes only and is a function of inflow and system or load needs during this period.

^h Brownlee flow augmentation contribution of 237,000 acre-feet.

Table 2. Constraints for modeled OP-1 Scenario 7, Scenario 8 and Scenario 9 for the Hells Canyon Project, located within the HCC.

Hells Canyon Project	Constraints		
	OP-1 Scenario 7	OP-1 Scenario 8	OP-1 Scenario 9
Maximum reservoir elevation	1,688 ft msl	1,688 ft msl	1,688 ft msl
Minimum reservoir elevation	1,683 ft msl ^b	1,683 ft msl ^b	1,683 ft msl ^b
Daily reservoir-level fluctuation limit (January 1 through December 31)	5 ft	5 ft	5 ft
Ramp-rate restriction			
Ramp-rate	4 inches per hour (Mar 15 – June 15)	1 foot per hour	4 inches per hour (Mar 15 – June 15)
Compliance ramp-rate curve ^d	Johnson Bar	Johnson Bar	Johnson Bar
Daily limit between minimum and maximum flows			
December 12 through May 31	none	none	none
June 1 through September 30	10,000 cfs ^e	10,000 cfs ^e	10,000 cfs ^e
October 1 to October 20	none	none	none
October 21 through December 11 ^f	no load following	no load following	no load following
Minimum instantaneous flows			
December 12 through May 31 ^g			
Low	8,500 cfs	8,500 cfs	8,500 cfs
Medium	10,500 cfs	10,500 cfs	10,500 cfs
High	12,000 cfs	12,000 cfs	12,000 cfs
June 1 through October 20			
Low	6,500 cfs ^h	6,500 cfs ^h	6,500 cfs ^h
Medium	6,500 cfs ^h	6,500 cfs ^h	6,500 cfs ^h
High	6,500 cfs ^h	6,500 cfs ^h	6,500 cfs ^h
October 21 through December 11 ^f			
Low	9,000 cfs	9,000 cfs	9,000 cfs
Medium	11,500 cfs	11,500 cfs	11,500 cfs
High	13,000 cfs	13,000 cfs	13,000 cfs

Footnotes were adjusted from original table resulting in letters out of sequence.

^b The typical operating limit for modeling purposes was 5 ft.

^d Compliance was modeled at either the Johnson Bar gauge, located approximately 17.6 miles downstream of Hells Canyon Dam.

^e A limit of 10,000 cfs was modeled during this time frame to represent typical operations. Under atypical conditions, 16,000 cfs would be used.

^f For modeling purposes only, flows under the fall Chinook program began October 21 and ended December 11.

^g Releases under the fall Chinook program are reduced in the model and assume that the most critical shallow redd is still protected under load-following conditions below the HCC. The December 12 date was specified for modeling purposes only, since the actual date that fall Chinook spawning is completed can vary.

^h Minimum flow modeled was 6,500 cfs or project inflow during this period to avoid drafting Brownlee Reservoir.

HCC AIR OP1 ANALYSIS (CAPACITY REPLACEMENT CONSTRUCTION COST = \$114.00/kW/yr)

	Proposed Ops	OP-1 Scenario 7 Ramp Rate 4*/hr March 15- June 15 at Johnson Bar With 113MW capacity loss - Market Purchase	OP-1 Scenario 7 Ramp Rate 4*/hr March 15- June 15 at Johnson Bar With 113MW capacity loss - Construct Replacement	OP-1 Scenario 8 Flow Augmentation 237 kaf June21 - August 31	OP-1 Scenario 9 Scenarios 7 and 8 Combined Market Purchase	OP-1 Scenario 9 Scenarios 7 and 8 Combined Construct Replacement
Energy						
Total Average Energy (MWh)	6,562,244	6,563,259	6,563,259	6,548,103	6,549,344	6,549,344
Total Average Energy Difference (MWh)		1,015	1,015	(14,142)	(12,901)	(12,901)
Value						
Total Value (\$1,000)	\$ 351,547	\$ 351,307	\$ 351,307	\$ 347,249	\$ 347,059	\$ 347,059
Total Value Difference (\$1,000)		\$ (76)	\$ (76)	\$ (2,411)	\$ (2,459)	\$ (2,459)
Transmission Cost (\$1,000)		\$ (163)	\$ (163)	\$ (1,886)	\$ (2,028)	\$ (2,028)
Total Value (\$1,000)		\$ (240)	\$ (240)	\$ (4,297)	\$ (4,487)	\$ (4,487)
Capacity						
Brownlee project (MW)	728	728	728	701	701	701
Oxbow project (MW)	220	220	220	220	220	220
Hells Canyon project (MW)	330	217	217	339	199	199
Scenario Impact						
Total Market Purchase (MW)		(113)			(113)	
Market Purchase Super Peak (\$1,000)	\$	(1,150)		\$	(1,150)	
Total Capacity Construction (MW)			(113)	(18)	(18)	(131)
Annualized Capacity Capital (\$1,000)		\$	(12,882)	(2,061)	(2,061)	(14,934)
Total Capacity (\$1,000)		\$ (1,150)	\$ (12,882)	\$ (2,061)	\$ (3,211)	\$ (14,934)
Ancillary Services						
Total Reserves Construction (MW)			(8)	(1)	(1)	(9)
Annualized Reserves Capital (\$1,000)		\$	(902)	(144)	(144)	(1,026)
Annual Reserves (\$1,000)	\$	(331)	(331)	(331)	(331)	(331)
Total Reserves (\$1,000)	\$	(331)	(1,232)	(475)	(475)	(1,376)
Physical Project Modifications						
Total Construction (\$1,000)	\$	(298)	(298)	\$	(298)	(298)
Annual O & M (\$1,000)	\$	(89)	(89)	\$	(89)	(89)
Total Capital Construction Cost (\$1,000)	\$	(387)	(387)	-	(387)	(387)
Lost Flexibility						
Total Value of Lost Flexibility (\$1,000)	\$	-	-	(2,200)	(2,200)	(2,200)
TOTAL SCENARIO ANNUALIZED IMPACT (\$1,000):	\$	(2,107)	(14,741)	(9,034)	(10,761)	(23,384)

1. Average annual energy for 5 water year types
 2. Reserves assumed to be 7% of capacity built

HCC AIR OP1 ANALYSIS (CAPACITY REPLACEMENT CONSTRUCTION COST = \$73.70/kW/yr)

	Proposed Ops	OP-1 Scenario 7 Ramp Rate 47/hr March 15- June 15 at Johnson Bar With 113MW capacity loss- Market Purchase	OP-1 Scenario 7 Ramp Rate 47/hr March 15- June 15 at Johnson Bar With 113MW capacity loss- Construct Replacement	OP-1 Scenario 8 Flow Augmentation 237 kaf June21 - August 31	OP-1 Scenario 9 Scenarios 7 and 8 Combined Market Purchase	OP-1 Scenario 9 Scenarios 7 and 8 Combined Construct Replacement
Energy						
Total Average Energy (MWh)	6,562,244	6,563,259	6,563,259	6,548,103	6,549,344	6,549,344
Total Average Energy Difference (MWh)		1,015	1,015	(14,142)	(12,901)	(12,901)
Value						
Total Value (\$1,000)	\$ 351,547	\$ 351,307	\$ 351,307	\$ 347,249	\$ 347,059	\$ 347,059
Total Value Difference (\$1,000)		\$ (76)	\$ (76)	\$ (2,411)	\$ (2,459)	\$ (2,459)
Transmission Cost (\$1,000)		\$ (163)	\$ (163)	\$ (1,886)	\$ (2,028)	\$ (2,028)
Total Value (\$1,000)		\$ (240)	\$ (240)	\$ (4,297)	\$ (4,487)	\$ (4,487)
Capacity						
Brownlee project (MW)	728	728	728	701	701	701
Oxbow project (MW)	220	220	220	220	220	220
Hells Canyon project (MW)	330	217	217	339	217	217
Scenario Impact						
Total Market Purchase (MW)		(113)			(113)	
Market Purchase Super Peak (\$1,000)	\$	(1,150)		\$	(1,150)	
Total Capacity Construction (MW)			(113)	(18)	(18)	(131)
Annualized Capacity Capital (\$1,000)		\$	(8,328)	(1,333)	(1,333)	(9,655)
Total Capacity (\$1,000)	\$	(1,150)	(8,328)	(1,333)	(1,333)	(9,655)
Ancillary Services						
Total Reserves Construction (MW)			(8)	(1)	(1)	(9)
Annualized Reserves Capital (\$1,000)		\$	(583)	(93)	(93)	(676)
Annual Reserves (\$1,000)	\$	(331)	(331)	(331)	(331)	(331)
Total Reserves (\$1,000)	\$	(331)	(914)	(424)	(424)	(1,006)
Physical Project Modifications						
Total Construction (\$1,000)	\$	(298)	(298)	\$	(298)	(298)
Annual O & M (\$1,000)	\$	(89)	(89)	\$	(89)	(89)
Total Capital Construction Cost (\$1,000)	\$	(387)	(387)	-	(387)	(387)
Lost Flexibility						
Total Value of Lost Flexibility (\$1,000)	\$	-	-	(2,200)	(2,200)	(2,200)
TOTAL SCENARIO ANNUALIZED IMPACT (\$1,000):	\$	(2,107)	(9,868)	(8,254)	(8,831)	(17,736)

1. Average annual energy for 5 water year types
 2. Reserves assumed to be 7% of capacity built