MEHUGHOBROMLEY ATTORNEYS AT LAW, PLLC

cmchugh@mchughbromley.com 208-287-0991

380 S. 4th St., Ste. 103 Boise, ID 83702

June 16, 2020

Idaho Department of Water Resources Michelle Edl PO Box 83720 Boise, ID 83720-0098

RE: Licensing Information for Permit No. 84-7171

Dear Ms. Edl:

I am writing this letter on behalf of Ford Hydro Ltd Partnership (shall be referred to as "Ford Hydro" and including its predecessors) and its Permit No. 84-7171. I am providing additional information to support the licensing of this permit in the amount of 60 cfs.

Enclosed herewith is a **Declaration of Mr. Charles Cuddy and an attached Exhibit A that shows that on or about April 23, 1988, 60 cfs was used to generate power under the permit.** And the project generated 26,589 kwh on that date. The date and recollection is supported by a report dated June 2, 1988, attached as Exhibit A from Washington Water Power that contains a contemporaneous recording of Mr. Cuddy's numbers in 1988 because the WWP electric meter recording device malfunctioned and they relied on Mr. Cuddy's report. It is important to note that while these are called "estimates" Mr. Cuddy's records were generated from the hourly generated log data stored in the powerhouse PLC memory and thus are (and were) not hypothetical numbers.

In addition, Mr. Cuddy was there an observed flows going through the system and estimates the amount of flow to be 60 cfs. Although 26,589 kwh daily generation equates to 1107 kw generation output, due to typical Jim Ford Creek daily streamflow fluctuations the project was able to utilize maximum permitted flows of 60 cfs in the afternoon of April 23, 1988 with corresponding reduced flows earlier in the day and later that same night. This day stands out to Mr. Cuddy as the rest of his affidavit indicates because the next day the penstock ruptured.

As you are aware, due to the topography of the Jim Ford Creek drainage comprised substantially of farmed rolling hills with minimal forest cover, Jim Ford Creek typically experiences significant variation in stream flow over a 24-hour period, and especially during spring ice breakup which typically occurs in March through April. Peak flows occur in that March to May timeframe each year. While limiting the volume may be warranted to 60 cfs x 90 days with additional volume at reduced rates for the remainder of the year, keeping the maximum rate at 60 cfs is critical to allow power generation as it was developed in the late 1980s and still used today.

Further support for the 60 cfs rate is also found in **Exhibits B and C**. Exhibit B was an April, 24, 1989 collaborative effort between Ford Hydro and state agencies, including IDWR, to come up with a "work plan" to ensure that the pipes for the project were adequate and would not fail. Exhibit C is a

follow-up letter from the Department of lands along with a report dated February 14, 1990 from Mr. Ross and consulting engineer that shows that on February 13, 1990 (there was a typo in the date) that a surge test was performed with all three turbines running because there was adequate water in the creek to support a full level of power production, which would be the system capacity of 60 cfs.

I spoke with David Tuthill to confirm that the procedures for licensing hydro-power rights has changed over time within the Idaho Department of Water Resources (IDWR) and measuring hydropower rights was not always easy or required. At the time Permit No. 84-7171 was issued in April 30, 1986 it contained certain stipulations on the "Conditions For Approval of Permit No. 84-7171". Condition g required that the "The permit holder shall either install a measuring device or a flow measurement port or provide a certified measurement or computation of flow based upon system design to be prepared by a professional system engineer". (emphasis added). This condition was met when Ford Hydro submitted its Proof of Beneficial Use on March 30, 1990, through a letter dated March 29, 1990 and attaching the form, its fee of \$600 and "a certified computation of flow based upon system designed prepared by a professional system engineer." This met the condition and it too supports the 60 cfs rate.

While the next step is normally a field exam to verify the proof as submitted, when 30 years has passed, it is difficult to recreate the history. However, as you observed when you went out this year, you can see that the system capacity and design supports a 60 cfs diversion rate. Further, because this is a hydropower right, it is completely subordinated and non-consumptive. Thus, it is not treated like other consumptive use rights or water rights that are not subordinated. While measured flow at the time of the Beneficial Field Report done on March 5, 1998 would be ideal, the Report is apparently missing from the file. Thus, it seems reasonable for IDWR to give Mr. Cuddy's sworn statement and the 1988 values as proof of what was timely developed under the permit.

Concerning the apparent confusion regarding ownership of the point-of-diversion for water right 84-7171, Ford Hydro has coordinated with Clearwater County to update their records to reflect the court decision previously shared with IDWR. An updated property map is attached as Exhibit D wherein Clearwater County merged the real estate underlying the point of diversion with the existing two-acre parcel containing the shop building adjacent to the diversion structure which is owned by Ford Hydro. As there are numerous properties affected by the court order the process is not yet finalized, nonetheless Ford Hydro already possessed an easement on the same property. We can take care of this discrepancy with a permit amendment at the time of licensing as is routinely done in accordance with IDWR guidelines and practice.

If you have any other questions regarding this matter, please let me know and thank you for your time and attention.

Very Truly Yours, Candice M Hugh

Candice M. McHugh

Enclosures

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF PERMIT NO. 84-7171 IN THE NAME OF FORD HYDRO LIMITED PARTNERSHIP

DECLARATION OF CHARLES CUDDY

Charles (Chuck) Cuddy under penalty of perjury states as follows:

1. I am over the age of eighteen and state the following based upon my own personal knowledge.

- I was the Project Manager for Ford Hydro Limited Partnership from commencement of construction in early 1987 through 1990. I am a former member of the Idaho State Water Board.
- On December 31, 1987, the first power was generated using temporary penstocks for testing purposes.
- 4. In the late winter, early spring of 1988, a High Pressure penstock was installed.
- 5. I observed the peak electrical production occurred on April 23, 1988 and shortly thereafter produced a daily estimate of the kWh, the peak being 26,589. A true and correct copy of that estimate is attached hereto as Exhibit A. I estimate the amount of water used at peak production was 60 cfs. During the winter through spring daily stream flows in Fords Creek fluctuate significantly. Flows peak in afternoon and slowly drop off throughout the night due to cold, then begin increasing with daylight due to

warmer temperatures. This is a daily cycle and resulting flow fluctuation significantly affecting hourly generation.

- 6. A penstock rupture occurred on April 24, 1988 due to a defective steel penstock section.
- 7. Penstock replacement and repair approvals were obtained on May 3, 1989.
- Approval to resume full operation using all three water turbines was received February 21, 1990.

9. I certify under penalty of perjury pursuant to the law of the State of Idaho that the foregoing is true and correct.

DATED this 9th day of June, 2020.

Charles Cuddy

Exhibit A

The Washington Water Power Company Interoffice Memorandum POWER SUPPLY

To:	Susan Broughton
	Pat Winter

Date: June 2, 1988

From: Gary W. Lawson

Subject: Jim Ford Creek Metering

The purpose of this memo is to calculate generation amounts for the Jim Ford Creek Hydroelectric Project ("Project"). It is my understanding that the meter recording device has malfunctioned, and as such, we do not have hourly printouts of the generation at the project. The only information we currently have is a printout of the the generation between December 31, 1987 and January 5, 1988. We also have visual readings taken on April 25, 1988 and on May 26, 1988.

The only generation at the Project in December and January occurred on December 31, 1987, and on January 4, 1988. These amounts appear on the magnetic tape dump covering this period. The tape dump shows:

December Generation

235 pulses x 0.63 kWh/pulse = 148 kWh

January Generation

503 pulses x 0.63 kWh/pulse = 317 kWh

Generation for both February and March is zero. The Project was down in order to install the permanent penstocks. The Project began generation again in April. On April 15, 1988, the official contract Operation Date occurred.

A visual reading was taken on April 25, 1988 which showed that there had been generation of 165.375 kWh (meter reading of 105 times meter multiplier of 1575 kWh) since the installation of the meter. Subtracting out for the generation in December through March, total April generation is:

ay 20, 1988 age 2

Total Generation to April 25, 1988	165,375 kWh
December Generation	-148 kWh
January Generation	-317 kWh
February Generation	0 kWh
March Generation	0 kWh
April Generation to April 25, 1988	164,910 kWh

To help with the determination of the generation in April which occurred prior to the Operation Date. Charles Cuddy put together a daily estimate of generation in April based upon the Project operating logs. The following is a table showing the generation estimate by Mr. Cuddy and the result of prorating that estimate against the 164.910 that we know was generated in April up through the meter read date on April 25, 1988. A penstock rupture on April 24, 1988 caused the Project to terminate generation on a forced outage. The Project produced no generation for the remainder of April and did not produce any generation in May.

Calculation	of Daily	Generation
Splits	for April	, 1988

Date	Estimated Gener. FromGe Station Log 10 (kWh)	Prorated neration to 84.910 kWhs (kWh)	Pre and Post Operation Date Energy (kWh)
4/1/88	0	0	
4/2/88	õ	ŏ	
4/3/88	ō	ŏ	
4/4/88	õ	' Õ	
4/5/88	4,726	3783	
4/6/88	13.087	10477	
4/7/88	3,310	2650	
4/8/88	5,425	4343	
4/9/88	0	0	:
4/10/88	5,931	4748	
4/11/88	26,491	21207	
4/12/88	0	0	
4/13/88	2,192	1755	
4/14/88	3,735	2990	51,954
4/15/88	14,659	11735	
÷¥4/16/88	17,333	13876	· ·
4/17/88	9,792	7839	:
4/18/88	4,186	3351	.•
4/19/88	12,622	10105	•
4/20/88	5,829	4666	
4/21/88	14.169	11343	•
4/22/88	26,199	20974	
4/23/88	26,589	21286	•
4/24/88	9.720	7781	
4/25/88	0	0	
4/26/88	· 0	Ó	
4/27/88	· õ	ŏ	
4/28/88	ŏ	ŏ	
4/29/88	ŏ	ŏ	
-4/30/88	ō	ō	112.956
Total	205,995	164,910	164,910

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oughton and Winter May 20, 1988 Page 3

Administrative Fee

Please note that Section 12(d) of the Power Sales Agreement between Water Power and Ford Hydro Limited Partnership calls for an administrative fee of 5% of the monthly payment amount up to a maximum of \$800.00 per month. As such, I have calculated the net payments to include a deduction for this administrative fee.

Summary Of Payments

The following is a summary of the generation amounts and payments that should be made to Ford Hydro Limited Partnership for the generation at the Jim Ford Creek Project since it initial generation in December 1987:

December, 1987

Nonfirm Energy Payment	
Pre Operation Date Energy	148 kWh
Nonfirm Energy Cost	1.4 ¢/kWh
Total Payment	\$2.07
Less Administrative Fee	(\$0.10)
Net Payment	\$1.97

January, 1988

Nonfirm Energy Payment	
Pre Operation Date Energy	317 kWh
Nonfirm Energy Cost	1.7 ¢/kWh
Total Payment	\$5.39
Less Administrative Fee	(\$0.27)
Net Payment	\$5.12

February, 1988

Nonfirm Energy Payment		
Pre Operation Date Energy	Q.	kWh
Nonfirm Energy Cost	1.6	•/kWh
Total Payment	\$0.00	R,
Less Administrative Fee	\$0.00	
Net Payment	\$0.00	

roughton and Winter May 20, 1988 Page 4

March, 1988

Nonfirm Energy Payment	
Pre Operation Date Energy	0 kWh
Nonfirm Energy Cost	1.5 ¢/kWh
Total Payment	\$0.00
Less Administrative Fee	\$0.00
Net Payment	\$0.00

April, 1988

Nonfirm Energy Payment			
Pre Operation Date Energy		51,954	kWh
Nonfirm Energy Cost		1.4	¢/kWh
		\$727.35	
Firm Energy Payment			
Post Operation Date Energy		112,956	kWh
Firm Energy Fixed Cost	3.6		
Firm Energy Variable Cost	0.7		
Total Firm Rate		4.3	¢/kWh
Firm Energy Payment		\$4,857.13	
Total Payment		\$5,584.48	
Less Administrative Fee		(\$279.22))
Net Payment	۰۳	\$5,305.26	

May, 1988

Firm Energy Payment			
Post Operation Date Energy		0	kWh
Firm Energy Fixed Cost	3.6		
Firm Energy Variable Cost	0.7		
Total Firm Rate		4.3	¢/kWh
Total Payment		\$0.00	
Less Administrative Fee		\$0.00	
Net Payment		\$0.00	

F003536

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BOARD OF LAND COMMISSIONERS CECIL D. ANDRUS

Governo

PETE T. CENARRUSA Secretary of State JIM JONES Attorney General JOE R. WILLIAMS State Auditor

JERRY L. EVANS Sup't of Public Instruction

Exhibit B

IDAHO DEPARTMENT OF LANDS



STANLEY F. HAMILTON DIRECTOR

May 3, 1989

STATEHOUSE, BOISE, IDAHO 83720

Mr. Archie Ford Ford Hydro Limited Partnership 242 Middlefield Rd. Bellingham, WA 98225

RE: Proposed Work Plan -- Jim Ford Creek Hydro Project

Dear Mr. Ford:

Reference the proposed work plan contained in the meeting report prepared by Bob King, Ott Engineering, Inc. The meeting report documenting the major items discussed at our meeting in Boise on April 24, 1989, was forwarded to my office by telecopier on April 27, 1989.

You may consider this letter as approval of the work plan on behalf of the state.

I emphasize that a state representative must be present during execution of items 3 and 5. Please coordinate with Luke Aldrich in advance as to the scheduling of these items.

Sincerely,

STANLEY F. HAMILTON Director

SFH/pks

cc: Verl King Luke Aldrich Jay Biladeau Fred Kisabeth

OTT OTT ENGINEERS

MEETING REPORT

PROJECT	Jim Ford Creek Hydroelectric	JOB	NO.	<u>S110</u> 2	2-01.05
LOCATION	Boise, Idaho - State Offices	DAT	Ξ	04 / 24	/89
ATTENDEES	Fred Kisabeth, Asst. Director-IDL; Jay Biladeau, Land Bureau Chief-IDL;	ВY	Robe	rt D. Kin	<u>g. P.E.</u>
	Verl G. King; IDWR; Arch Ford, Ford Hydro; Bob King, Ott Engineers; Chuck C	uddy,	Westf	ord Resc	ources;
	John M. Hillock, OXESS; Ralph Swinehart, OXESS, Wallowa Mtn, Eng; Steve Sch	uster, l	daho	AG/Lanc	<u>is: Joe</u>
	Elchert, C/W Area - IDL; Stan Hamilton, Director-IDL; Luke Aldrich, IDL (Orofino)				
SUBJECT	Project Status, State Concerns, and Remediation Workplan				

NOTES:

The Meeting began at 1:30 pm. The following major items were discussed:

- Arch Ford (Ford Hydro Limited Partnership) opened the meeting by thanking the State of Idaho Department of Land (IDL) and Department of Water Resources (IDWR) for convening the meeting. The purpose of the meeting was to identify outstanding IDL and IDWR concerns regarding past pipeline failures at the Jim Ford Creek Hydroelectric Project located in Weippe, Idaho, and to agree to a plan of action for remediation.
- Bob King (Ott Engineering, Inc.) then described:
 - Ott's past involvement with the project as independent review engineers.
 - A chronology and description of major events, including pipe ruptures, for the project.
 - A synopsis of issues still outstanding (OTT's opinion) on the project.
- The floor was then opened up to the State to ask questions, state opinions, and identify any additional or different concerns the State has at this time. On conclusion of this discussion, the following joint list of concerns (IDL, IDWR, and OTT) were identified and agreed to. These concerns are presented along with a proposed plan of action for each.

1. SLOPE STABILITY

A geologist will look at land forms along the entire pipeline alignment. If potential areas of instability can be identified, they will be noted.

2. SURFACE DRAINAGE

The entire penstock alignment will be examined to identify any drainage courses which could cause saturation of the penstock trench or adjacent soils.

3. CONSTRUCTION QUALITY AND TRENCH SEEPAGE

Random observations of pipeline bedding, cover, and pipe condition will be made along the entire buried pipeline route. Investigations will be more intensive in the steep section of CMP and in particular at the upstream end of the recent slope failure (slump) location (approximately one test hole per 100 feet for 500 feet upstream of the most recent failure). Test holes in the upper reach of CMP will be located at approximately one per 500 feet, or at an adjacent desirable location.

ATTATCHMENT A

The need for pipe trench drainage along the existing buried pipeline will be evaluated in light of observations made in items one, two, and three.

4. DESIGN DOCUMENTS

An independent engineer will develop design drawings for the section of pipe requiring repair. The drawings will describe in detail: the proposed drainage system, including the length and discharge point(s); the proposed repairs; and any other modifications determined to be needed.

5. TESTING

Once the project is back on-line, two additional tests will be conducted. These are:

- a. Measurement of the actual pressure rise in the CMP caused by two and three unit load rejection.
- b. Observation of the two installed automatic intake valve closure systems under simulated emergencies (pipe failures)

Only one approximately 20-foot piece of CMP is proposed for replacement at this time. This is the failed section immediately upstream of the CMP to steel wall pipe transition. The CMP (for a distance of 300 feet upstream of the transition) will be visually internally inspected for signs of distress or leaks prior to return to service. FHLP agreed to replace the CMP in the steep reach with one quarter-inch thick steel wall pipe (approximately 542 feet in length) if another CMP failure occurred in this reach (not earth movement failure). This was acceptable to the state. The State of Idaho agreed to adhere to the independent engineers recommendations for repairs. A State of Idaho representative will be present during execution of items 3 and 5.

FHLP was directed to write a letter describing the meeting and the proposed work plan to the State, and FAX it direct to Stan Hamilton (hard copy to follow). The State will in turn, FAX an approval of the workplan to FHLP, hard copy to follow. This Meeting Report is the proposed workplan.

The meeting concluded at 3:30 pm.

Exhibit C

CLEARWATER AREA OFFICE

10230 Highway 12 Orofino, Idaho 83544 CC RAN TAT EB MW

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IDAHO DEPARTMENT OF LANDS

STANLEY F. HAMILTON DIRECTOR

February 21, 1990

Ford Hydro Limited Partnership c/o Merrimack Valley Energy, Inc. 114 State Street, Fifth Floor Boston, MA 02109

ATTN: Harry Wolfe

Dear Mr. Wolfe:

The surge testing with all three units on line has been completed (reference Mr. Ross's letter of February 14, 1990. Upon receipt of a letter from Ott Engineering confirming the adequacy of the test data this office will be able to grant authorization for full production.

We look forward to completion of the project. If you have any questions, please contact us.

Sincerely,

Alvin Carr Lands & Range Specialist

AEC:leb

cc: Fred Kisabeth Jay Biladeau



ROBERT W. ROSS Consulting Engineer

8969 KIOWA ST. BOISE, ID 83709 PHONE (208) 362-2025



Feb 14, 1990

Mr. Harry Wolf 114 State St. 5th Floor Boston, MA 02109

RE: Final Surge Tests - Ford Hydro

Dear Mr. Wolf,

On Feb 13, 1989 surge tests which included all three units was performed on the Ford Hydro plant. Mr. Alvin Carr from the Idaho Department of Lands was on site assisted in the surge testing. The difference between these tests and previous surge tests performed in December 1989 is that there was sufficient water to support continuous operation of all three units. Between tests the flow was allowed to stabilize for several minutes. Pressure readings were taken both at the penstock pressure gage in the powerhouse and at a pressure gage near the transition section that had previously failed. Static pressure with no units running is 18 PSI. Steady state pressure is the pressure with specified combination of units running prior to load rejection. (The reason that the steady state pressure went down as more units were put on line is increased flow caused more upstream penstock pressure loss.) Max surge pressure occurred about one minute after shutdown was initiated and occurred for about 10 seconds. Pressure rise above static which is pressure rise due to surge is calculated as the maximum pressure minus the static pressure. Powerhouse pressure readings are given as reference to previous tests. The pressure reading at the pipe transition should be considered the accurate and indicative of conditions in the areas of concern. Below are the results of the tests.

Pressure Gage at Pipe Transition Pressure Gage in Powerhouse

Units on Line	Steady State	Max Surge Pressure	Pressure Rise Over Static	Steady State	Max Surge Pressure	Pressure Rise Over Static
1	18	22	4	205	210	5
1,2	12	26	8	200	215	10
1,2,3	5	26	8	192	218	13

Sincerely,

Robert W. Ross

Robert W. Ross

Exhibit D







Google Earth

