

**ALASKA POWER COMPANY**  
**P.O. Box 3222, 193 Otto Street**  
**Port Townsend, WA 98368**  
**Tel. (360) 385-1733; Fax (360) 385-7538**

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November 11, 2005

Fred Ayer  
Executive Director  
Low Impact Hydropower Institute  
34 Providence Street  
Portland, ME 04103

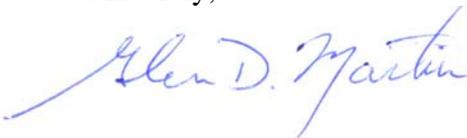
Re: Pre-Application Review for Low Impact Hydropower Certification

Dear Mr. Ayer:

Enclosed for your review is the Low Impact Hydropower Questionnaire. Included with the questionnaire is a project description, a copy of the 5-year grayling survey plan, the ADF&G letter approving the grayling survey plan, a letter from DEC waiving the 401 Certification, the license issued by FERC, and a contact list. To look at our website, go to [www.aptalaska.com](http://www.aptalaska.com). You can look at annual reports on the website also.

Please call me at your convenience after you have looked over the assembled information to discuss our developing an application for your certification program. Please contact me at (360) 385-1733 x122. I will be out of the office from November 15 through November 21.

Sincerely,



Glen D. Martin  
Project Manager

# LOW IMPACT HYDROPOWER INSTITUTE

34 Providence Street

Portland, ME 04103

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[www.lowimpacthydro.org](http://www.lowimpacthydro.org)

## LOW IMPACT HYDROPOWER QUESTIONNAIRE

[Excerpted from Part VI, Section E of the Low Impact Hydropower Certification Program. Words in italics are defined in Part VI, Section C, and line-by-line instructions are available in Section D of the program, available on-line in PDF format at <http://www.lowimpacthydro.org>.

### E. LOW IMPACT HYDROPOWER QUESTIONNAIRE

<b>Background Information</b>	
1) Name of the <i>Facility</i> .	Goat Lake Hydro
2) Applicant's name, contact information and relationship to the Facility. If the Applicant is not the Facility owner/operator, also provide the name and contact information for the Facility owner and operator.	Alaska Power & Telephone Company 193 Otto Street P.O. Box 3222 Port Townsend, WA 98368
3) Location of Facility by river and state.	Goat Lake, 7 miles north of Skagway, AK
4) Installed capacity.	4.0 MW
5) Average annual generation.	12,701,000 KWH
6) Regulatory status.	FERC License No. P-11077; Licensed 1996
7) Reservoir volume and surface area measured at the high water mark in an average water	5,460 Acre Feet; 204 Surface Acres

year.	
8) Area occupied by non-reservoir facilities (e.g., dam, penstocks, powerhouse).	25.18
9) Number of acres inundated by the Facility.	204 Surface Acres; Reservoir is an alpine lake
10) Number of acres contained in a 200-foot zone extending around entire impoundment.	92 Acres
11) Please attach a list of contacts in the relevant Resource Agencies and in non-governmental organizations that have been involved in Recommending conditions for your Facility.	See attachment
12) Please attach a description of the Facility, its mode of operation (i.e., peaking/run of river) and a map of the Facility.	See attachment
<p><b>Questions for For “New” Facilities Only:</b></p> <p>If the Facility you are applying for is “new” i.e., an existing dam that added or increased power generation capacity after August of 1998 please answer the following questions to determine eligibility for the program</p>	
13) When was the dam associated with the Facility completed?	
14) When did the added or increased generation first generate electricity? If the added or increased generation is not yet operational, please answer question 18 as well.	
15) Did the added or increased power generation capacity require or include any new dam or other diversion structure?	
16) Did the added or increased capacity include or require a change in water flow through the facility that worsened conditions for fish, wildlife, or water quality, (for example, did operations change from run-of-river to peaking)?	

<p>17 (a) Was the existing dam recommended for removal or decommissioning by resource agencies, or recommended for removal or decommissioning by a broad representation of interested persons and organizations in the local and/or regional community prior to the added or increased capacity?</p> <p>(b) If you answered “yes” to question 17(a), the Facility is not eligible for certification, unless you can show that the added or increased capacity resulted in specific measures to improve fish, wildlife, or water quality protection at the existing dam. If such measures were a result, please explain.</p>		
<p>18 (a) If the increased or added generation is not yet operational, has the increased or added generation received regulatory authorization (e.g., approval by the Federal Energy Regulatory Commission)? If not, the facility is not eligible for consideration; and</p> <p>(b) Are there any pending appeals or litigation regarding that authorization? If so, the facility is not eligible for consideration.</p>		
<b>A. Flows</b>	<b>PASS</b>	<b>FAIL</b>
<p>1) Is the Facility in <i>Compliance</i> with <i>Resource Agency Recommendations</i> issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches?</p>	<p>YES = Pass, Go to B  <del>N/A = Go to A2</del>  Flows are only released for scenic value in the bypass reach, not for fish</p>	<p>NO = Fail</p>
<p>2) If there is no flow condition recommended by any Resource Agency for the Facility, or if the recommendation was issued prior to January 1, 1987, is the Facility in Compliance with a flow release schedule, both below the tailrace and in all bypassed reaches, that at a minimum meets Aquatic Base Flow standards or “good” habitat flow standards calculated using the Montana-Tennant method?</p>	<p>YES = Pass, go to B  NO = Go to A3</p>	
<p>3) If the Facility is unable to meet the flow standards in A.2., has the Applicant demonstrated, and obtained a letter from the relevant Resource Agency confirming that demonstration, that the flow conditions at the Facility are appropriately</p>	<p>YES = Pass, go to B</p>	<p>NO = Fail</p>

protective of fish, wildlife, and water quality?		
<b>B. Water Quality</b>	PASS	FAIL
1) Is the Facility either:  a) In Compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the Facility after December 31, 1986? Or  b) In Compliance with the quantitative water quality standards established by the state that support designated uses pursuant to the federal Clean Water Act in the Facility area and in the downstream reach?	YES = Go to B2  Yes, 401 Certification attached	NO = Fail
2) Is the Facility area or the downstream reach currently identified by the state as not meeting water quality standards (including narrative and numeric criteria and designated uses) pursuant to Section 303(d) of the Clean Water Act?	<del>YES = Go to B3</del> NO = Pass          No	
3) If the answer to question B.2 is yes, has there been a determination that the Facility is not a cause of that violation?	YES = Pass	NO = Fail
<b>C. Fish Passage and Protection</b>	PASS	FAIL
1) Is the Facility in Compliance with <i>Mandatory Fish Passage Prescriptions</i> for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?	<del>YES = Go to C5</del> N/A N/A = Go to C2	NO = Fail
2) Are there historic records of anadromous and/or catadromous fish movement through the Facility area, but anadromous and/or catadromous fish do not presently move through the Facility area (e.g., because passage is blocked at a downstream dam or the fish run is extinct)?  a) If the fish are extinct or extirpated from the Facility area or downstream reach, has the Applicant demonstrated that the extinction or extirpation was not due in whole or part to the Facility?	<del>YES = Go to C2a</del> NO = Go to C3  No  YES = Go to C2b N/A = Go to C2b	NO = Fail

<p>b) If a Resource Agency Recommended adoption of upstream and/or downstream fish passage measures at a specific future date, or when a triggering event occurs (such as completion of passage through a downstream obstruction or the completion of a specified process), has the Facility owner/operator made a legally enforceable commitment to provide such passage?</p>	<p>YES = Go to C5 N/A = Go to C3</p>	<p>NO = Fail</p>
<p>3) If, since December 31, 1986:</p> <p>a) Resource Agencies have had the opportunity to issue, and considered issuing, a Mandatory Fish Passage Prescription for upstream and/or downstream passage of anadromous or catadromous fish (including delayed installation as described in C2a above), and</p> <p>b) The Resource Agencies declined to issue a Mandatory Fish Passage Prescription,</p> <p>c) Was a reason for the Resource Agencies' declining to issue a Mandatory Fish Passage Prescription one of the following: (1) the technological infeasibility of passage, (2) the absence of habitat upstream of the Facility due at least in part to inundation by the Facility impoundment, or (3) the anadromous or catadromous fish are no longer present in the Facility area and/or downstream reach due in whole or part to the presence of the Facility?</p>	<p><del>NO = Go to C5</del> N/A = Go to C4</p> <p>N/A; None was issued because there are no fish in the Skagway River except several miles below the project tailrace below an anadromous barrier</p>	<p>YES = Fail</p>
<p>4) If C3 was not applicable:</p> <p>a) Are upstream and downstream fish passage survival rates for anadromous and catadromous fish at the dam each documented at greater than 95% over 80% of the run using a generally accepted monitoring methodology? Or</p> <p>b) If the Facility is unable to meet the fish passage standards in 4.a., has the Applicant demonstrated, and obtained a letter from the US Fish and Wildlife Service or National Marine Fisheries Service confirming that demonstration, that the upstream and downstream fish passage measures (if any) at the Facility are appropriately protective of the fishery resource?</p>	<p><del>YES = Go to C5</del></p> <p>N/A; as in C3, no fish are in portion of river project discharges into because of an anadromous barrier well below the project</p>	<p>NO = Fail</p>

5) Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of <i>Riverine</i> fish?	<del>YES = Go to C6</del> N/A = Go to C6      N/A	NO = Fail
6) Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?	<del>YES = Pass, go to D</del> N/A = Pass, go to D      N/A	NO = Fail
<b>D. Watershed Protection</b>	PASS	FAIL
1) Is there a buffer zone dedicated for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low-impact recreation) extending 200 feet from the high water mark in an average water year around 50 - 100% of the impoundment, and for all of the undeveloped shoreline	YES = Pass, go to E and receive 3 extra years of certification	NO = go to D2 No; project is within USFS lands and is remote
2) Has the facility owner/operator established an approved watershed enhancement fund that: 1) could achieve within the project's watershed the ecological and recreational equivalent of land protection in D.1., and 2) has the agreement of appropriate stakeholders and state and federal resource agencies?	YES = Pass, go to E and receive 3 extra years of certification	NO = go to D3  No
3) Has the facility owner/operator established through a settlement agreement with appropriate stakeholders and that has state and federal resource agencies agreement an appropriate shoreland buffer or equivalent watershed land protection plan for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low impact recreation)	YES = Pass, go to E	NO = go to D4  No
4) Is the facility in compliance with both state and federal resource agencies recommendations in a license approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the project.	YES = Pass, go to E No shoreline management plan recommended	No = Fail
<b>E. Threatened and Endangered Species Protection</b>	PASS	FAIL
1) Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?	<del>YES = Go to E2</del> NO = Pass, go to F      No	
2) If a recovery plan has been adopted for the threatened or endangered species pursuant to Section 4(f) of the Endangered Species Act or similar state provision,	YES = Go to E3	NO = Fail

is the Facility in Compliance with all recommendations in the plan relevant to the Facility?	N/A = Go to E3	
3) If the Facility has received authority to incidentally <i>Take</i> a listed species through: (i) Having a relevant agency complete consultation pursuant to ESA Section 7 resulting in a biological opinion, a habitat recovery plan, and/or (if needed) an incidental Take statement; (ii) Obtaining an incidental Take permit pursuant to ESA Section 10; or (iii) For species listed by a state and not by the federal government, obtaining authority pursuant to similar state procedures; is the Facility in Compliance with conditions pursuant to that authority?	YES = Go to E4 N/A = Go to E5	NO = Fail
4) If a biological opinion applicable to the Facility for the threatened or endangered species has been issued, can the Applicant demonstrate that:  a) The biological opinion was accompanied by a FERC license or exemption or a habitat conservation plan? Or  b) The biological opinion was issued pursuant to or consistent with a recovery plan for the endangered or threatened species? Or  c) There is no recovery plan for the threatened or endangered species under active development by the relevant Resource Agency? Or  d) The recovery plan under active development will have no material effect on the Facility's operations?	YES = Pass, go to F	NO = Fail
5) If E.2. and E.3. are not applicable, has the Applicant demonstrated that the Facility and Facility operations do not negatively affect listed species?	YES = Pass, go to F	NO = Fail
<b>F. Cultural Resource Protection</b>	PASS	FAIL
1) If FERC-regulated, is the Facility in Compliance with all requirements regarding Cultural Resource protection, mitigation or enhancement included in the FERC license or exemption?	YES = Pass, go to G <del>N/A = Go to F2</del> Yes	NO = Fail

2) If not FERC-regulated, does the Facility owner/operator have in place (and is in Compliance with) a plan for the protection, mitigation or enhancement of impacts to Cultural Resources approved by the relevant state or federal agency or <i>Native American Tribe</i> , or a letter from a senior officer of the relevant agency or Tribe that no plan is needed because Cultural Resources are not negatively affected by the Facility?	YES = Pass, go to G	NO = Fail
<b>G. Recreation</b>	PASS	FAIL
1) If FERC-regulated, is the Facility in Compliance with the recreational access, accommodation (including recreational flow releases) and facilities conditions in its FERC license or exemption?	YES = Go to G3 <del>N/A = Go to G2</del> Yes	NO = Fail
2) If not FERC-regulated, does the Facility provide recreational access, accommodation (including recreational flow releases) and facilities, as Recommended by Resource Agencies or other agencies responsible for recreation?	YES = Go to G3	NO = Fail
3) Does the Facility allow access to the reservoir and downstream reaches without fees or charges?	YES = Pass, go to H    Yes	NO = Fail
<b>H. Facilities Recommended for Removal</b>	PASS	FAIL
1) Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?	NO = Pass, Facility is Low Impact No	YES = Fail

## PROJECT DESCRIPTION

### LOCATION

The Goat Lake Hydroelectric Project is located approximately 6.5 miles northeast of Skagway, Alaska. The lake is situated in a perched cirque valley at El 2925. The lake lies east and south of the Skagway River. The drainage basin for Goat Lake and Pitchfork Falls Creek includes 4.2 square-miles. The lake is fed by a glacier at its south end. The glacier covers about 1.7 square miles, contributing approximately 80-85% of its runoff to the lake. The glacier terminates near the south end of the lake in a coarse rubble moraine, consisting principally of large angular granitic blocks. The lake outlet, located about 300 feet north of the end of the moraine, flows through a bedrock notch and contributes the major portion of the water flow in Pitchfork Falls. After the falls this same water then joins the Skagway River.

### PROJECT DESCRIPTION

The Goat Lake Hydroelectric Project is a storage project with a 4.0 MW capacity that is usually block loaded, but sometimes operated as load following and started operations in December 1997. The lake is used as a reservoir without any dam. The lake continues to have an uncontrolled spillway using the original outlet. A siphon intake extends into the lake a horizontal distance of 369-feet to obtain 185-feet of submergence, or an elevation of 2740, potentially drawing the lake down to the approximate elevation 2885 at peak use, during the winter. The intake, consisting of a v-shaped wedgewire screen assembly, is connected to the siphon pump by a 30-inch-diameter high density polyethylene chloride (HDPE) penstock which changes to a 28-inch-diameter steel penstock approximately 82-feet before the siphon house. The siphon pump connects with a valve house via a 704-foot-long, 30-inch-diameter HDPE penstock. A catchbasin located at approximately 2,885-feet above mean sea level (msl) catches runoff from the glacier moraine that bypasses the lake. The catchbasin is connected to a pumpback house via an 18-inch-diameter HDPE penstock. The pumpback house draws water from the catchbasin and pumps the water back to the lake via a 16-inch-diameter, 640-foot-long HDPE penstock by using four pumps of various horsepower (HP). The valve house also has a 16-inch bypass flow pipe for when additional water is needed in Pitchfork Falls Creek at certain times of the year. A minimum of 8.5 cfs (recently amended from 13 cfs) is required for visual concerns from May 15 – September 30 for 12 hours each day. This is operated via a SCADA system that measures flows and releases or stops releases when required. The valve house also has a 28-inch-diameter HDPE penstock to approximately the 2,610 foot elevation where the penstock transitions to a 24-inch-diameter steel pipe to the powerhouse. At the 990-foot elevation the penstock crosses under the historic White Pass & Yukon Route Railroad (WP&YR-RR) via an approximately 40-foot-long pipe conduit. At the 777-foot elevation the penstock passes through a 48-inch-diameter pipe conduit over the Skagway River, to the west bank, to the powerhouse, at 769-feet above msl.

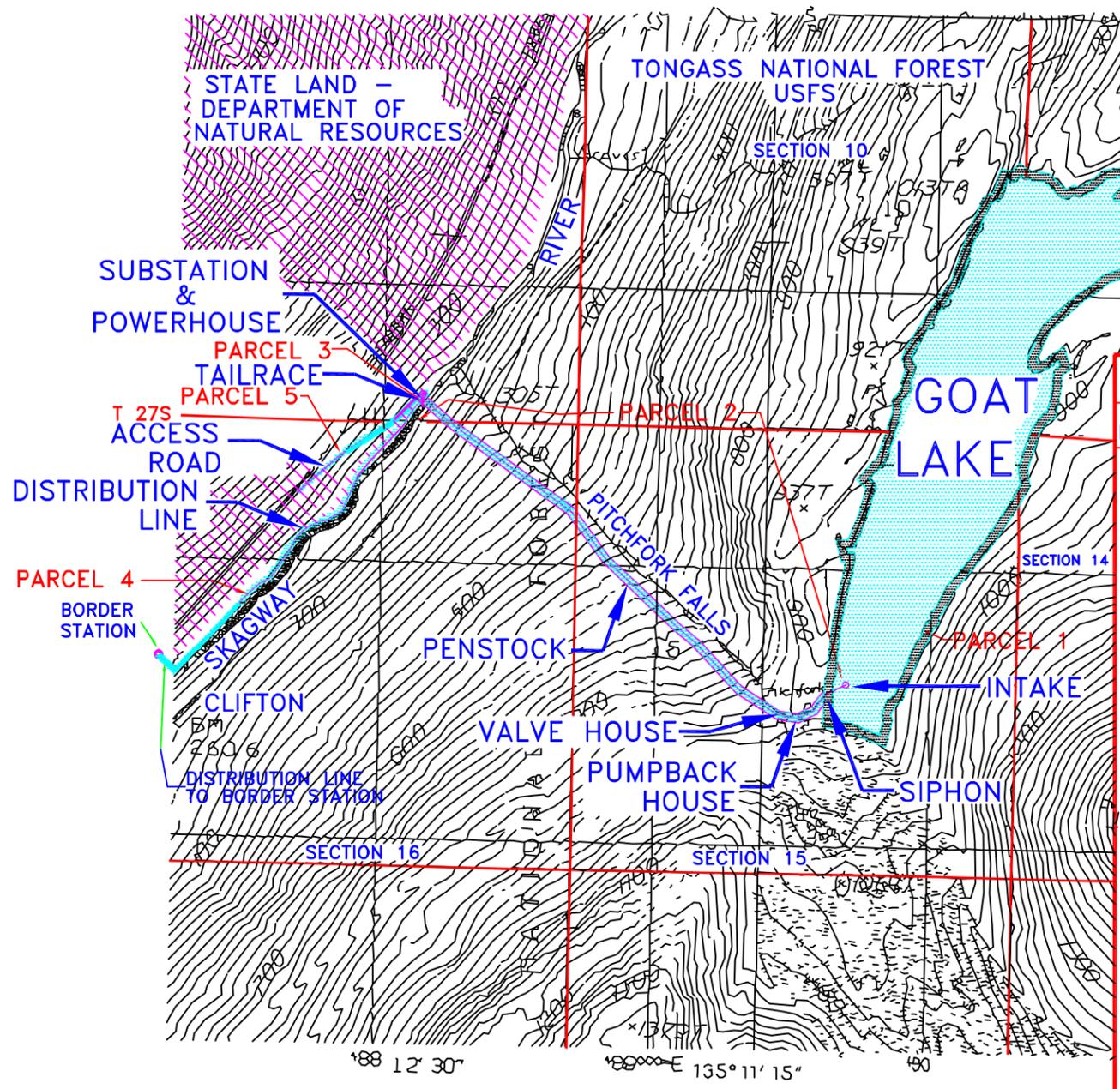
The powerhouse contains one horizontal shaft Pelton turbine and associated 4.0 MW synchronous generator for a total installed capacity of 4.0 MW. A tailrace transports the turbine discharge approximately 70 feet to the Skagway River. A small substation is located adjacent to the powerhouse. A pole mounted 34.5 kV transmission line begins at the substation and parallels the Skagway River, following the west side for approximately 4,538 feet to a point across from Clifton and ascends to the distribution line from Skagway serving the U.S. Custom's Border Station on the Klondike Highway.

## ENVIRONMENT

The lake was stocked with grayling in 1994 by the Alaska Department of Fish & Game, the same year we filed a license application to the Federal Energy Regulatory Commission. After conducting a population and habitat survey in 2001 we are currently monitoring the graylings access to their spawning stream to determine if the lake drawdown exposes any barriers to their movement into the stream to spawn. This (2005) is the third year of the five year study. To this point grayling have been observed in the spawning stream every year, indicating there is not a barrier to their movement when the lake is drawn down. Anadromous fish do not get closer than several miles downstream of the project tailrace due to a barrier falls in the Skagway River. The penstock offers adequate measures to allow wildlife to move over or under it along its length. No species were considered to be impacted by the construction and operation of this project.

**TABLE 2  
SUMMARY OF PROJECT FEATURES**

Name of Project	Goat Lake Hydroelectric Project, FERC Project No. 11077	
Project Location	Sections 10, 11, 14, 15, and 16; T27S, R60E, CRM. 6.5 miles Northeast of Skagway, Alaska; located in Southeast Alaska. Approximate latitude 59 degrees, 32' and longitude 135 degrees 11'.	
Intake	Submerged wedge wire screen at elevation 2740.	
Reservoir	Name:	Goat Lake
	Surface Elevation:	2925 (elevation as referenced in Commission correspondence of March 28, 1997)
	Surface Area:	204 Acres
	Storage Capacity:	
	Net:	5460 Acre Feet
	Operation:	The net storage will be utilized by siphoning the reservoir down 40 feet to a minimum elevation of 2885.
Siphon	418-foot-long, 30-inch-diameter HDPE penstock and 82-foot-long, 28-inch-diameter Steel penstock with a vacuum pump assembly.	
Catchbasin	8-foot-high by 37-foot-long concrete retaining wall at approximate elevation 2885; impounds 0.014 acre-feet of water.	
Pumpback House	Pump assembly to pump moraine flows back to the lake for regulated storage. 8-foot by 40-foot building will house four pumps of various horsepower. A 640-foot-long by 16-inch-diameter HDPE pipe extends from the pump house to Goat Lake.	
Valve House	8-foot by 20-foot valve house connected with the siphon via a 30-inch-diameter HDPE penstock.	
Penstock	Total Length:	6578 feet
	Diameter and Type:	30-inch HDPE for 704 feet 28-inch HDPE for 959 feet 24-inch Steel for 4,915 feet
Powerhouse	Size:	36-foot by 48-foot by 24 feet high
	Number of Units:	One
	Type of Turbine:	Horizontal Twin-Jet Pelton
	Turbine Rating:	6000 HP
	Flow:	32 cfs
	Head:	
	Gross:	2149
	Friction Loss: 94	Net: 2055
	Power:	6000 HP
	Generator Rating:	4 Megawatts
	Voltage:	4.16 kV
Distribution Line	Voltage:	34.5 kV
	Length:	4,538 feet
	Type:	Overhead on wooden poles
Access	Road from Klondike Highway to the powerhouse	
	Length:	2,990 feet
	Width:	30 feet
Average Annual Energy Production	12,701,000 KWH	



ALL SECTIONS WITHIN T 27S, R. 60E, CRM, ALASKA.

**LEGEND:**

- PROJECT BOUNDARY
- STATE LAND-DNR

ALL OTHER LANDS ARE MANAGED BY THE U.S. FOREST SERVICE

PROJECT BOUNDARIES				
PARCEL	DESCRIPTION	OWNERSHIP	LEGAL DESCRIPTION	APPROXIMATE ACREAGE WITHIN BOUNDARY
1	GOAT LAKE	USFS	AN AREA ENCOMPASSING GOAT LAKE AND EXTENDING 100 FEET BEYOND THE EDGE OF THE WATER LOCATED WITHIN AND/OR ACROSS: SEC. 10,11,14, AND 15, T. 27S, R. 60E, CRM.	USFS = 250 Acres
2	HEADWORKS/ INTAKE SIPHON VALVE VAULT PUMP HOUSE PENSTOCK	USFS	A RIGHT-OF-WAY 50 FEET FROM EACH SIDE OF THE CENTERLINE OF THE PROJECT AS EXISTING, CONSTRUCTED, OR RELOCATED, OR REPLACED, LOCATED WITHIN AND/OR ACROSS: SEC. 15, AND 16, T. 27S, R. 60E, CRM.	USFS = 19.6 Acres
3	POWERHOUSE SUBSTATION TAILRACE	ADNR	A SQUARE PARCEL OF LAND 100 FT. BY 170 FT. LOCATED WITHIN, SEC. 9 & 16, T. 27S, R. 60E, CRM.	ADNR = 0.23 Acres
4	DISTRIBUTION LINE	ADNR	A RIGHT-OF-WAY 15 FEET FROM EACH SIDE OF THE CENTERLINE OF THE PROJECT AS EXISTING, CONSTRUCTED, OR RELOCATED, OR REPLACED, LOCATED WITHIN AND/OR ACROSS: SEC. 9 & 16, T. 27S, R. 60E, CRM.	ADNR = 2.6 Acres
5	ACCESS ROAD	ADNR	A RIGHT-OF-WAY 30 FEET FROM EACH SIDE OF THE CENTERLINE OF THE PROJECT AS EXISTING, CONSTRUCTED, OR RELOCATED, OR REPLACED, LOCATED WITHIN AND/OR ACROSS: SEC. 9 & 16, T. 27S, R. 60E, CRM.	ADNR = 2.75 Acres
<b>APPROXIMATE TOTAL ACREAGE</b>				USFS = 270 Acres ADNR = 5.6 Acres

CERTIFICATION:  
THIS DRAWING IS PART OF THE AS-BUILT  
DRAWINGS SUBMITTED BY THE UNDERSIGNED  
THIS DAY OF 19

REV	DESCRIPTION	AUTH	REV BY	DATE
3	REVISED AS-BUILT	VJN		08/24/98
2	REVISION	VJN		11/19/96
1	REVISION	VJN		09/20/94
0	ORIGINAL ISSUE	VJN		05/18/94

GOAT LAKE HYDRO, INC.

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EXHIBIT G-2: FACILITY LOCATION AND PROJECT BOUNDARY

ENGINEER	VJN	DESCRIPTION	FACILITY LOCATION AND PROJECT BOUNDARY	JOB DWG. NO.	G2
DRAWN	GM	PROJECT	GOAT LAKE HYDRO PROJECT	FILE NO.	11077-2
CHECKED			FERC PROJECT NO. 11077		
RECORDED	05/18/94				
SCALE	AS NOTED				

## **FINAL GOAT LAKE HYDRO PROJECT 5-YEAR GRAYLING MONITORING PLAN**

### Article 409

The licensee shall file with the Commission, for approval, a plan to monitor the lake elevations, inlet stream temperatures, and grayling recruitment for the first 5 years of operation at the authorized 40-foot drawdown (elevation 2, 885 feet mean sea level). The purpose of the plan is to determine if fish passage measures are necessary for providing access for grayling to the inlet stream to Goat Lake.

### Plan

- Monitoring of lake elevation is continuously recorded throughout a 24 hour period, 365 days per year.
- A temperature gauge will be installed in the inlet stream, above the normal lake elevation, each spring (May-June) after ice is off of the stream.
- Starting in late June, observations of grayling in the inlet stream, above high water (a full lake), will be made. Once one fish is observed in the inlet stream above high water, observations may cease as the purpose of the monitoring is to determine if they are making it to the inlet stream, or not. Some form of record, i.e. photography or video, will be used to document that a fish has reached the inlet stream spawning area. Observations will also be made to see if any obstructions have developed, or potentially developed, in the inlet stream alluvial channel.
- By October 1, each year of the 5-year monitoring program, a report of the lake elevation correlated with inlet stream temperature and fish observation will be made to USF&WS, USFS, and ADF&G for a 45 day review.
- By the end of each year, of the 5-year monitoring program, the results of the monitoring with agency comments and recommendations will be submitted to the Commission.
- If logistical problems, such as weather or scheduling, prevent the licensee from observing grayling in the inlet stream, the lake will be sampled for young-of-the-year the following spring.
- If fish are not observed on any given year despite field trips to conduct the survey, or if fish passage barriers are observed along with no observations of fish, the licensee shall file with the Commission a fish passage restoration plan developed in consultation with the agencies listed above. This plan shall be filed with the Commission, for approval, within 1 year from when the fish migration problem is identified. Documentation of agency consultation, including recommendations and specific descriptions of how the agencies' comments are accommodated by the plan will be included with the plan.

# STATE OF ALASKA

## DEPARTMENT OF FISH AND GAME

### HABITAT AND RESTORATION DIVISION SOUTHEAST REGIONAL OFFICE

**FRANK H. MURKOWSKI, GOVERNOR**

802 3<sup>rd</sup> street  
P.O. Box 240020  
Douglas Alaska 99824-0020  
Phone 907-465-4289  
Fax 907-465-4215

April 8, 2003

Mr. Glen D. Martin  
Goat Lake Hydro, Inc.  
P.O. Box 222  
191 Otto Street  
Port Townsend, WA 98368

Dear Mr. Martin:

Re: Goat Lake Hydroelectric Project, FERC Project No. 11077

The Alaska Department of Fish and Game (ADF&G) has reviewed Goat Lake Hydro, Inc.'s (GLHI) March 10, 2003, proposed 5-year grayling monitoring plan. This plan was required pursuant to a February 7, 2003, amendment to the Federal Energy Regulatory Commission (FERC) license for the project (FERC No. 11077). The license amendment allows GLHI to fluctuate Goat Lake stage between elevations 2,925 feet and 2,885 feet mean sea level, a 10-foot greater lake drawdown than previously permitted. We offer the following comments on the draft plan.

Except for the following condition, the proposed plan is consistent with FERC's February 7, 2003, license amendment and conditions recommended by ADF&G, which are contained in the January 24, 2003, supplemental clarification to the final Alaska Coastal Management Program consistency determination.

"If logistical problems, such as weather or scheduling, prevent the licensee from observing grayling in the inlet stream, the lake will be sampled for young-of-the-year fish the following spring."

We recommend that this condition and contingency procedures for its implementation be included in the Goat Lake monitoring plan. Additionally, please provide copies of the annual reports to the Northern Southeast Area Sport Fish Biologist.

Mr. Glenn Martin  
April 8, 2003

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Goat I Hydroelectric Project  
FERC No. 11077

Randy Ericksen  
Alaska Department of Fish and Game  
Division of Sport Fish  
Mile 1 Haines Highway  
P.O. Box 330  
Haines, Alaska 99827-0330

If you have questions please call Kevin Brownlee (907-465-4276) or the Area Sport Fish Biologist in Haines, Randy Ericksen at 907-766-3638.

Sincerely,



Clayton Hawkes  
Hydro-Project Review Coordinator

cc: B. Hanson, H&R-Douglas \*  
R. Holmes, SF-Douglas \*  
C. Estes, SF-RTS-Anchorage \*  
B. Kirkpatrick, H&R-Douglas \*  
J. Klein, SF-RTS-Anchorage \*  
K. Brownlee, SF-RTS-Douglas \*  
R. Ericksen, SF-Haines \*  
L. Marshall, DGC \*  
J. Dunker, DNR \*  
Secretary Salas, FERC-Washington, D.C.  
M. Henry, FERC Portland  
D. Martin, USFS-Juneau \*  
S. Brockmann, USFWS-Juneau  
R. Enriquez, USFWS-Juneau  
S. Selmer, AP&T

\* e-mail

**DEPT. OF ENVIRONMENTAL CONSERVATION**

SOUTHEAST REGIONAL OFFICE  
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JUNEAU, AK 99801

PH: (907) 465-5350  
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October 3, 1994

CERTIFIED MAIL #P-301 379 842  
RETURN RECEIPT REQUESTED

Mr. Glenn Martin  
Alaska Power & Telephone Co.  
P.O. Box 222  
Port Townsend, WA 98358

Re: GOAT LAKE HYDROELECTRIC PROJECT  
FERC #11077 Near SKAGWAY, ALASKA

Dear Mr. Martin:

The Department of Environmental Conservation reviewed your request on September 6, 1994, for a waiver of the Water Quality Certification under Section 401 (a)(1) of the Federal Water Pollution Control Act.

This letter is notification to you that the 401 certification of the Goat Lake Hydroelectric project is waived.

Sincerely,



Ron Flinn  
Program Manager

cc: Elizaveta Shadura, ADNR, Juneau  
Susan Cantor, EPA, Anchorage  
Lorraine Marshall, ADGC, Juneau  
Lana Shea, ADF&G, Juneau  
Joan Hughes, ADEC/SERO  
Lois Cashell, FERC, Wash., D.C.  
Dean Stromwell, Office of Hydro-  
power Licensing, Wash., D.C.

Steven Pennoyer, NMFS  
Nevin Holmberg, USF&WS  
Andy Pekovich, ADNR  
ADEC/Juneau District Office  
U.S. Forest Service, Juneau  
Hector Perez, FERC, Wash., D.C.  
(Fax #202-219-0125)

UNITED STATES OF AMERICA 101 FERC ¶ 62,030  
FEDERAL ENERGY REGULATORY COMMISSION

Alaska Power and Telephone Company

Project No. 11588

ORDER ISSUING ORIGINAL LICENSE  
(Major Project)  
(October 15, 2002)

1. On October 29, 1999, Alaska Power and Telephone Company (AP&T) filed, pursuant to Part 1 of the Federal Power Act (FPA),<sup>1</sup> an application for a major original license with the Federal Energy Regulatory Commission (Commission) to construct, operate, and maintain a 3-megawatt (MW) Otter Creek Hydroelectric Project (project). The proposed project would be located on Kasidaya Creek, at Taiya Inlet, 3 miles south of the City of Skagway, and 12 miles northeast of the City of Haines, Alaska. The proposed project would occupy approximately 6 acres of land within the Tongass National Forest, administered by the U.S. Forest Service (FS).<sup>2</sup>

BACKGROUND

2. On October 29, 1999, the Commission issued a public notice accepting the application for filing and soliciting interventions and protests. Timely motions to intervene were filed by the National Marine Fisheries Service (NMFS), the Alaska Department of Fish and Game (ADF&G), and the United States Department of the Interior's, Fish and Wildlife Service (FWS). No party opposes licensing this project.

3. On December 17, 1999, the Commission issued a public notice requesting final terms and conditions, recommendations, and prescriptions. The notice set February 15, 2000, as the deadline for filing comments and conditions. The NMFS, U.S. Army Corp of Engineers (Corp), FWS, and FS all filed timely responses. The FS's response included preliminary 4(e) conditions with reserved authority to file final 4 (e) conditions within 90 days of publication of the final environmental assessment (EA). No other entity filed comments or recommendations.

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<sup>1</sup>16 U.S.C. §§ 791a-825r.

<sup>2</sup>Section 4(e) of the FPA, 16 U.S.C. §§ 797(e), requires the project to be licensed.

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4. On December 26, 2001, Commission staff issued a draft EA that evaluated the potential impacts of the project. Comments on the draft EA primarily concerned the potential effects of operation of the proposed project on geology and soils, aquatic resources, terrestrial resources, threatened and endangered species, aesthetic resources, cultural resources, recreation resources, and socioeconomic resources.<sup>3</sup> Commission staff considered these comments in preparing the final EA, which was issued on May 22, 2002, and is incorporated by reference in this license. In the final EA, staff recommends that the project be licensed as proposed with certain additional enhancement measures, and finds that licensing the project would not constitute a major federal action significantly affecting the quality of the human environment.

5. All comments and information filed by the agencies and interested parties have been fully considered and addressed in this order in determining whether, and under what conditions, to issue this license.

#### PROJECT DESCRIPTION

6. The proposed project consists of: (1) an 80-foot-long, 10-foot-high impoundment structure that would have a surface area of approximately 0.18 acre and impound approximately 0.92 acre-feet; (2) an intake structure with an orifice that would continuously release 5 cubic feet per second (cfs); (3) a 3,700-foot-long, 40-inch-diameter penstock; (4) a 36-foot-wide, 45-foot-long, 25-foot-high metal powerhouse, with a 3.0 MW Turgo turbine; (5) a 200-foot-long, 100-foot-wide staging area around the powerhouse; (6) a 75-foot-long tailrace; (7) a pad-mounted step-up transformer adjacent to the powerhouse; (8) a 200-foot-long underground cable; (9) 3 helicopter pads for project access during and after construction; (10) an 115-foot-long, 150-foot-wide jetty; and (11) other appurtenant facilities.

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<sup>3</sup>Comments on the draft EA were filed by the FS, FWS, ADF&G, and AP&T.

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7. The proposed run-of-river<sup>4</sup> project, would be used to supply seasonal electrical energy, thereby firming up and supplementing other power sources (Goat Lake Project No. 11077 and Dewey Lakes Project No. 1051), while diesel generators at Skagway and Haines would be maintained as a backup system.

#### APPLICANT'S PLANS AND CAPABILITIES

8. In accordance with Sections 10 and 15 of the Federal Power Act (FPA), staff evaluated AP&T's proposal for these areas: (A) need for power; and (B) dam safety. I accept staff's conclusion in each of these areas.

##### A. Need for power

9. The project would be located in the service area of AP&T and its subsidiaries Goat Lake Hydro, Inc. (GLH) and Haines Light and Power Company (HLP), which provide electricity to Skagway and Haines, Alaska, respectively. AP&T would use the proposed project power to offload existing diesel fuel generators required to meet the electricity loads of the communities it serves. Currently, Skagway has a total annual load of approximately 9,860 megawatt-hours (MWh) and Haines has an annual load of approximately 11,859 MWh. Diesel generators at both Skagway and Haines currently provide backup power to AP&T's other hydropower generation resources.

10. The annual electricity loads for Skagway and Haines are projected to more than double by the year 2046 to 20,674 MWh and 25,834 MWh, respectively. If another hydroelectric project is not added to this power grid between the present and 2046, it is estimated that approximately 43,758,840 gallons of diesel fuel would be needed to serve these two communities.

11. The project would displace diesel-fueled electric generation, conserving non-renewable fossil fuels and reducing the emission of noxious byproducts caused by

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<sup>4</sup>Run-of-river is defined as operation of the project by the licensee such that the licensee at all times acts to minimize the fluctuation of the impoundment surface elevation by maintaining a discharge from the project so that, at any point in time, flows, as measured immediately downstream from the project tailrace together with flows as measured immediately downstream of the project dam approximate the sum of inflows to the project impoundment (Article 411).

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combustion of fossil fuels. Displacing fossil fuels would also reduce production of “greenhouse” gases and reduce the risk of oil spills associated with the handling and storage of these fuels.

#### B. Dam Safety

12. We classify the project as having a low hazard potential, based on the Commission's dam safety criteria and the following project-specific features: (1) the diversion dam would have a height of 10 feet and impoundment volume of 0.92 acre-feet; (2) the project would occupy undeveloped land; (3) there are no developed recreational facilities near the project; and (4) failure of the dam or penstock would not appear to pose a risk to life or property. Because of the low hazard potential, the project would not be subject to Part 12, Subpart D of the Commission's regulations.

#### WATER QUALITY CERTIFICATION

13. Under Section 401(a)(1) of the Clean Water Act (CWA),<sup>5</sup> the Commission may not issue a license for a hydroelectric project unless the certifying agency either has issued a water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed 1 year. Section 401(d) of the CWA provides that the State certification shall become a condition on any Federal license or permit that is issued.<sup>6</sup>

14. The Alaska Department of Environmental Conservation (ADEC) received AP&T's application for water quality certification on July 22, 1997. Because the ADEC did not act on the request within 1 year from the date of receipt, the water quality certification is deemed to be waived under section 4.38(f)(7)(ii) of the Commission's regulations.

#### COASTAL ZONE MANAGEMENT PROGRAM

15. Under Section 307 (c)(3)(A), of the Coastal Zone Management Act (CZMA),<sup>7</sup> the Commission cannot issue a license for a project within or affecting a state's coastal zone

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<sup>5</sup>33 U.S.C. § 3341(a)(1).

<sup>6</sup>33 U.S.C. § 3341(d).

<sup>7</sup>16 U.S.C. § 1456(3)(A).

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unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA Program. In Alaska, the Division of Governmental Coordination (ADGC) coordinates the state's consistency review under the CZMA. State review commences on receipt of a consistency certification which is submitted by the applicant.

16. On September 23, 2002, ADGC filed a Commissioner-level final determination that the Otter Creek Project as proposed by AP&T is consistent with the Alaska CZMA Program, with the following stipulations which are requirements of the state.

17. This license includes conditions that are consistent with the following ADGC stipulations: no in-water pile driving, sheet pile driving, or filling shall occur between April 1 to June 15 (Article 403); minimizing turbidity and suspended sediments through water quality monitoring (Article 406, Condition 16 Appendix A); maintaining a continuous and sufficient instream flow and stage at the entrance pool in Kasidaya Creek (Article 401, Condition 10 Appendix A); calibrating a fixed flow release orifice (Article 401, Condition 10 Appendix A); notifying ADF&G within 12 hours of beginning any non-compliance event (Article 404, Condition 11 Appendix A); designing and operating the project to maintain lower Kasidaya Creek's sediment and large wood supply volumes and rates (consistent with final design approval in Article 401 and Condition 2 Appendix A); treating condensate and leakage from turbines and other equipment in the powerhouse before being discharged (Article 409); developing an erosion and sediment control plan (Article 406, Condition 16 Appendix A); providing measures to avoid, minimize, and/or mitigate impacts to aquatic resources that could be affected by jetty construction (Article 403); avoiding mountain goat habitat (Article 407, Condition 12 Appendix A); minimizing potential impacts associated with the handling of hazardous substances (Article 401, Condition 18 Appendix A); keeping construction sites clean of refuse from bears (Article 407, Condition 12 Appendix A); and allowing agency representatives to have free and unrestricted access to and within project lands (Article 410).

18. Staff did not recommend ADGC's condition that AP&T notify ADF&G prior to diverting the flow (both the initial diversion and the return to original channel), however, Article 401 requires AP&T to consult with resource agencies in developing final plans prior to construction, and nothing in this license precludes AP&T from abiding by this CZMA condition.

## SECTION 18 FISHWAY PRESCRIPTIONS

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19. Section 18 of the FPA states that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as the Secretaries of Commerce (Commerce) and the Interior (Interior) may prescribe.

20. On January 20, 2000, the NMFS requested reservation of authority to prescribe fishways for the project.

21. On February 13, 2002, Interior filed two Section 18 fishway prescriptions for the project:

- (1) Licensee shall maintain a minimum instream flow of 5 cfs or natural streamflow (whichever is less) at the mouth of Kasidaya Creek, to facilitate the passage of anadromous Dolly Varden char to habitat in the lower reach of the creek. The bypass outlet structure shall be monitored and maintained as necessary to ensure continuous, adequate flows in the reach used by char; and
- (2) The Secretary of the Interior, as delegated to Fish and Wildlife Service, hereby reserves authority to modify these prescriptions or prescribe additional construction, operation, maintenance or evaluation of fishways, as deemed necessary, including measures to further evaluate the need for fishways, and to determine, ensure, or improve the effectiveness of fishways. This reservation includes authority to prescribe additional fishways for any fish species to be managed, enhanced, protected, or restored in the basin during the term of the license.

22. By notice issued December 17, 1999, the Commission established a deadline date for the filing of interventions, protests, comments, recommendations, terms and conditions, and prescriptions as 60 days from the issuance date of the notice or February 15, 2000. Because Interior's prescriptions were filed late, I consider them under Section 10(a)(1) of the FPA.

23. Forest Service Section 4(e) Condition No. 10 (Appendix A) requires the maintenance of a minimum flow at the mouth of Kasidaya Creek downstream of the project consistent with Interior's minimum flow prescription.<sup>8</sup> Consistent with Interior's prescription for the monitoring and maintenance of the bypass outlet structure, Article

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<sup>8</sup>FEA at Section V.2.b Minimum Flow.

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404 requires the licensee to file an Operational Compliance Monitoring Plan that includes provisions to monitor for compliance of the minimum flow requirement.

24. The Commission recognizes that future fish passage needs cannot always be determined at the time of project licensing. The Commission's practice has been to include a license article that reserves the Secretary of the Interior's and Commerce's authority to prescribe fishways when so requested. Therefore, consistent with Commission practice, Article 408 of this license reserves the Commission's authority to require the licensee to construct, operate, and maintain such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce under Section 18 of the FPA.

#### ESSENTIAL FISH HABITAT

25. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act<sup>9</sup> requires federal agencies to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. Under Section 305(b)(4)(B) of the Act,<sup>10</sup> an agency must, within 30 days after receiving recommended measures from NMFS or a Regional Fishery Management Council, describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's activity on the EFH.<sup>11</sup>

26. On January 17, 2002, NMFS published a final rule in the Federal Register that outlines procedures for implementing the EFH provisions of the Magnuson-Stevens

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<sup>9</sup>16 U.S.C. § 1855(b)(2).

<sup>10</sup>16 U.S.C. § 1855(b)(4)(A).

<sup>11</sup>The measures recommended by the Secretary of Commerce are advisory, not prescriptive. However, if the federal agency does not agree with the recommendations of the Secretary of Commerce, the agency must explain its reasons for not following the recommendations.

Act.<sup>12</sup> The final rule strongly encourages incorporation of EFH consultation into existing consultative processes (e.g., NEPA) as a mechanism for satisfying EFH consulting requirements.

27. The Otter Creek Project area includes habitats that have been designated as EFH for various life-history stages of Pacific cod, yellowfin sole, arrowtooth flounder, bottom-dwelling shelf rockfish, sculpin, Dolly Varden char, and Pacific salmon. By letter dated January 4, 2002, Commission staff informed NMFS of staff's conclusion that licensing the project, with staff's recommended measures, may adversely affect EFH. With the same letter, Commission staff initiated EFH consultation with the NMFS. By letter dated August 14, 2002, NMFS proposed that the following EFH conservation measures be included as license conditions:

- (1) confine construction activities to the proposed site and avoid all disturbance of other areas within the intertidal and subtidal zones;
- (2) minimize deposition of road fill material within the intertidal area to the maximum extent by placing the road above mean high tide level;
- (3) match the size of fill material used in jetty construction to the size of particles (boulder, cobble, and sand) occurring in the intertidal and subtidal areas (to the extent practicable);
- (4) orient the powerhouse outfall so that intertidal scouring and erosion is minimized;
- (5) do not conduct in-water pile driving, sheet pile driving, and intertidal and subtidal fill during the period of April 1 through June 15 to protect outmigrating and rearing salmonid fishes and conduct in-water construction activities only during monthly low tides;
- (6) use a sediment pond or sediment filter bags during impoundment construction to prevent fine sediments generated from blasting from being transported downstream;

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<sup>12</sup>67 Fed. Reg. 2,343-83.

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- (7) use silt control curtains around the in-water jetty construction zone to prevent suspended sediments from settling and burying or smothering sessile marine organisms or harming migrating and rearing salmonid fishes; and
- (8) do not paint or otherwise surface treat any wooden surface of the structure that comes into contact with water with creosote or a preservative that contains pentachlorophenol.

28. NMFS conservation recommendations are included in this license as part of the Jetty and Powerhouse Construction Plan specified in Article 403 and the Erosion and Sediment Control Plan in Article 406.

#### SECTION 4(e) FINDINGS AND CONDITIONS

29. The proposed project would occupy lands of the Tongass National Forest, which is under the supervision of the FS. Section 4(e) of the FPA<sup>13</sup> states the Commission may issue a license only after a finding that the license will not interfere or be inconsistent with the purpose for which the reservation was created or acquired. Section 3(2) of the FPA<sup>14</sup> defines reservation as including national forests. There is no evidence or allegation in this proceeding to indicate that the licensing of the project will interfere with the purposes of the Tongass National Forest within which the project is located. I therefore find that this license will not interfere or be inconsistent with the purposes for which the reservation was created.

30. Section 4(e) also requires that Commission licenses for projects located within reservations of the United States must include all conditions that the Secretary of the department under whose supervision the reservation falls shall deem necessary for the adequate protection and utilization of such reservation. The project is located within the Tongass National Forest, which is under the FS's supervision. Thus, the FS may submit mandatory conditions pursuant to section 4(e).

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<sup>13</sup>16 U.S.C. § 797(e).

<sup>14</sup>16 U.S.C. § 796(2).

Section 4.34(b) of the Commission's regulations<sup>15</sup> states, in pertinent part:

[A]ll comments (including mandatory and recommended terms and conditions or prescriptions) on an application for . . . license must be filed with the Commission no later than 60 days after issuance by the Commission of public notice requesting final terms and conditions, recommendations, and prescriptions.

31. Section 4.34(b)(1)(I) provides that if ongoing agency proceedings to determine mandatory license conditions under, *inter alia*, section 4(e) will not be completed by the deadline, the agency must submit by the deadline preliminary conditions and a schedule showing the status of the agency proceedings and when final conditions are expected to be submitted. If these requirements are met, and if the final conditions are filed in accordance with the submitted schedule, the section 4(e) conditions will be considered timely.

32. On December 17, 1999, the Commission issued a public notice requesting final terms and conditions, recommendations, and prescriptions. The notice set February 15, 2000, as the deadline for filing of comments and any mandatory terms and conditions or prescriptions for the project. On February 14, 2000, the FS filed preliminary 4(e) conditions and stated that they would file final 4(e) conditions within 90 days of issuance of the final EA.

33. On May 21, 2002, the Commission issued the final EA. The FS filed final terms and conditions on August 20, 2002. The final terms and conditions are set forth in Appendix A of this order and incorporated into this license and summarized below.

34. The FS's 4(e) conditions require AP&T to: (1) obtain a FS special-use authorization for the occupancy and use of National Forest System lands; (2) obtain prior written approval of the FS for all final design plans for project components which the FS deems as affecting or potentially affecting National Forest System lands and resources; (3) obtain written approval of the FS prior to making any changes in the location of any project facilities or in the uses of project lands and waters that may affect National Forest System lands or resources; (4) consult with the FS 60 days preceding the anniversary of this license with regard to measures needed to ensure protection and utilization of the National Forest System lands and resources affected by the project; (5) prior to any

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<sup>15</sup>18 C.F.R. § 4.35(b).

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surrender of this license restore National Forest System lands to a condition satisfactory to the FS; (6) not commence implementation of ground-disturbing activities authorized by this license on National Forest System lands until the completion of any FS administrative appeals; (7) review the license to ensure that the project is in compliance if the Tongass Land and Resource Management Plan is revised or amended; (8) provide a qualified environmental compliance monitor to oversee the project during major construction activities (e.g. vegetative, land disturbing or spoil producing activities); (9) [deleted by FS]; (10) design a structure that shall incorporate a fixed orifice to bypass the required instream flow; (11) install and maintain water measurement equipment that accurately measures the stream flow for the period of the license at the point of water diversion; (12) develop a Wildlife Mitigation Plan; (13) develop a heritage resources protection plan if any unidentified archeological or historic sites are discovered; (14) develop and implement a Recreation Management and Monitoring Plan; (15) develop and implement a Scenery Management and Monitoring Plan; (16) develop and implement an Erosion Control Plan; (17) develop a Solid Waste and Waste Water Plan;<sup>16</sup> (18) develop a Hazardous Substances Plan; and (19) develop a Spoil Disposal Plan.

#### RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES AND 10 (J) PROCESS

35. Section 10(j) of the FPA<sup>17</sup> requires the Commission, when issuing a license, to include license conditions based upon recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,<sup>18</sup> to "adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife (including related spawning grounds and habitat)" affected by the project. If the Commission believes that any such recommendation may be inconsistent with the purpose and requirements of Part I of the FPA, or other applicable law, Section 10(j)(2) of the FPA<sup>19</sup> requires the Commission and the agencies to attempt to resolve such inconsistencies, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies. If the Commission still does not adopt a

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<sup>16</sup>Article 401 requires AP&T to file a plan with the Commission after consultation with the agencies consistent with Condition No. 17.

<sup>17</sup>16 U.S.C. § 803(j)(1).

<sup>18</sup>16 U.S.C. § § 661 *et seq.*

<sup>19</sup>16 U.S.C. § 803(j)(2).

recommendation, it must explain how the recommendation is inconsistent with Part I of the FPA or other applicable law and how the conditions imposed by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources.

36. NMFS, FWS, and ADF&G filed numerous recommendations pursuant to Section 10(j). This license contains conditions consistent with recommendations for: (1) maintenance of a minimum flow (Condition 10, Appendix A); (2) environmental compliance monitoring during project construction utilizing an environmental compliance monitor (Article 402); (3) development and implementation of a jetty and powerhouse construction plan (Article 403); (4) operational compliance monitoring, including notifying the fish and wildlife agencies within 12 hours after becoming aware of any event of noncompliance with the minimum flow (Article 404); (5) fish monitoring for 3 years after the start of project operation (Article 405); (6) turbidity monitoring during project construction and erosion and sediment control (Article 406 and Condition 16, Appendix A); (7) development and implementation of a solid waste and wastewater treatment and disposal plan (Article 406 and Condition 17, Appendix A); (8) development and implementation of a hazardous substances plan (Condition 18, Appendix A); (9) minimizing disturbances to mountain goats from air traffic (Article 407 and Condition 12, Appendix A); (10) development and implementation of a bear safety plan (Article 407 and Condition 12, Appendix A); (11) measures to control hunting, trapping, and fishing during project construction and operation (Article 407); and (12) maintaining at least 100 yards between boats and whales and other marine mammals (Article 407).

37. Commission staff made an initial determination that some of the recommendations of ADF&G, NMFS, and FWS were inconsistent with the substantial evidence standard of Section 313(b) and the comprehensive planning and public interest standards of Sections 4(e) and 10(a) of the FPA.<sup>20</sup> By letters dated January 4, 2002, Commission staff advised ADF&G, NMFS, and FWS of its preliminary determinations and attempted to resolve the apparent inconsistencies. ADF&G's response by letter filed February 14, 2002, resolved the apparent inconsistencies between ADF&G's recommendations and the FPA. Neither FWS or NMFS responded to Commission staff's letters.<sup>21</sup> We interpret the

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<sup>20</sup>16 U.S.C. § 803(j)(2).

<sup>21</sup>By letter dated February 8, 2002, FWS responded to Commission staff's draft environmental assessment for the project, but provided no response nor made any  
(continued...)

lack of a response by FWS and NMFS to be concurrence with staff's Section 10(j) determinations, and therefore, that the inconsistencies between the recommendations of FWS and NMFS and the FPA are now resolved.<sup>22</sup>

### THREATENED AND ENDANGERED SPECIES

38. Section 7(a) of the Endangered Species Act of 1973 (ESA)<sup>23</sup> requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat. In the EA, staff concluded that project construction and operation would not affect the endangered Snake River sockeye salmon, threatened Snake River spring/summer chinook salmon, threatened Snake River fall chinook salmon, endangered humpback whale, or the threatened (eastern population) Steller sea-lion.<sup>24</sup> As a precautionary measure, staff did recommend that the licensee instruct its boat operators, during construction and operation, to maintain 100 yards

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<sup>21</sup>(...continued)

reference to staff's January 4, 2002, Section 10(j) letter.

<sup>22</sup>In their letters dated January 4, 2002, Commission staff determined that both FWS's and NMFS's recommendation for Dolly Varden char presence/absence surveys to be conducted seasonally during project construction may be inconsistent with the substantial evidence standard of Section 313(b) and the comprehensive planning and public interest standards of Sections 4(e) and 10(a), because the agencies did not provide justification to support how the surveys would be used to protect aquatic resources during project construction. Staff indicated that in order to protect aquatic resources during project construction, staff is recommending that AP&T: (1) develop and implement an erosion and sediment control plan; (2) monitor stream turbidity during project construction; (3) if stream turbidity downstream of the construction area would measure greater than 25 NTU higher than values upstream of the construction area, cease construction and locate and correct the problem; (4) develop and implement a fuel and hazardous substances spill plan; and (5) provide for a qualified Environmental Compliance Monitor to oversee construction activities. These measures are included in this license in Articles 401; 402; and 406 and Appendix A, Conditions Nos. 8; 16; and 18.

<sup>23</sup>16 U.S.C. § 1536(a).

<sup>24</sup> See Section IV.4 of the FEA, p 54-55.

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between whales and other marine mammals where feasible and practical to minimize potential disturbance to these animals. Article 407 requires the licensee to include this stipulation in the wildlife mitigation and monitoring plan that is to be developed in accordance with FS condition 12. No further consultation pursuant to the Endangered Species Act of 1973 is needed.

## OTHER ISSUES

### A. Administrative Conditions

39. The Commission collects annual charges from licensees for the administration of the FPA, and to reimburse the United States for the occupancy and use of any federal lands. Article 201 provides for the collection of such funds.

40. Article 202 requires AP&T to establish and maintain an amortization reserve account after the project has been operating under license for 20 years.

41. Article 203 requires AP&T to follow appropriate federal, state, and local statutes and regulations when clearing and disposing of unnecessary materials.

42. The Commission requires licensees to file sets of approved project drawings on microfilm. Article 204 provides for the filing of these drawings.

43. Article 305 requires Alaska Power and Telephone Company to file revised drawings of project features as-built.

44. Article 306 requires Alaska Power and Telephone Company to reimburse the owner of a storage reservoir or other headwater improvement project that directly benefits the licensee's project. The benefits will be assessed in accordance with Subpart B of the Commission's regulations.

### B. Start and Completion of Construction

45. Article 301 requires AP&T to start project construction within 2 years of the date of the license and complete construction within 5 years of issuance of this license.

### C. Project Financing Plan

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46. Article 302 requires AP&T to file a project financing plan to show that the necessary funds have been committed to construct the project.

D. Review of Final Plans and Specifications

47. Article 303 requires AP&T to provide the Commission and its Portland Regional director with final contract drawings and specifications--together with a supporting design report consistent with the Commission's engineering guidelines--at least 60 days before the start of project construction.

E. Review of Contractor-Designed Cofferdams and Deep Excavation

48. Article 304 requires AP&T to (1) review and approve contractor-designed cofferdams and deep excavations, and (2) provide copies of the approved cofferdam construction drawings and specifications to both the Commission and its Portland Regional director.

F. Consultation for Resource Plans

49. In Appendix A there are certain conditions: approval of final design; changes after initial construction; heritage resource protection; recreation management and monitoring plan; scenery management and monitoring plan; solid waste and wastewater plan; hazardous substances plan; and spoil disposal plan that require AP&T to file plans with the Commission after the plans have been approved by the FS; however, the conditions do not provide for consultation with other agencies during plan development. Therefore, Article 401 requires AP&T to consult with other agencies during plan development prior to filing the plans with the Commission for approval.

G. Use and Occupancy of Project Lands and Waters

50. Requiring a license to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 412 allows AP&T to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purpose of protecting and enhancing the scenic, recreational, and environmental values of the project.

STATE AND FEDERAL COMPREHENSIVE PLANS

51. Section 10(a)(2)(A) of the FPA<sup>25</sup> requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, and conserving waterways affected by the project.<sup>26</sup> Accordingly, federal and state agencies have filed 22 comprehensive plans for Alaska. Of these, we identified and reviewed two plans relevant to this project.<sup>27</sup> We concluded that, with the inclusion of our recommended environmental measures, the proposed project would not conflict with any of these plans.

#### COMPREHENSIVE DEVELOPMENT

52. Sections 4(e) and 10(a)(1) of the FPA<sup>28</sup> require the Commission, in acting on applications for license, to give equal consideration to all the power and development purposes and to the purposes of energy conservation; the protection, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

53. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in Mead Corporation, Publishing Paper Division,<sup>29</sup> the Commission employs an analysis that uses current costs to compare the costs of the project and likely alternative power with no forecasts concerning potential future

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<sup>25</sup>16 U.S.C. § 803(a)(2)(A).

<sup>26</sup>Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2001).

<sup>27</sup>Forest Service. 1991. Tongass National Forest proposed revised land and resource management plan. Department of Agriculture, Ketchikan, Alaska. August 1991. 511 pp. and appendices.

Forest Service. 1997. Tongass National Forest Land and Resource Management Plan. Department of Agriculture, Ketchikan, Alaska. May 1997. 275 pp. and appendices.

<sup>28</sup>16 U.S.C. §§ 797(e) and 803(a)(1).

<sup>29</sup> See 72 FERC ¶ 61,027 (1995).

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inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefit and the costs of a project, and reasonable alternatives to the project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

54. As proposed by AP&T, including the FS's 4(e) requirements, and the staff's detailed monitoring plans, the proposed project would generate an average of 10,471 MWh of electricity annually over the 30-year period of our analysis, at an annual cost of about \$919,000/year (88 mills/kWh). Based on the record in this proceeding, and for the reasons discussed herein, I conclude that the proposed project with our additional protection, mitigation, and enhancement measures will be best adapted to the comprehensive development of the Kasidaya Creek Basin for beneficial public uses.

#### LICENSE TERM

55. Section 6 of the FPA<sup>30</sup> states that licenses under Part I of the FPA shall be issued for a period not to exceed 50 years. The Commission's policy establishes 30-year terms for those projects that propose little or no redevelopment, new construction, new capacity, or enhancement; 40-year terms for those projects that propose a moderate amount of redevelopment, new construction, new capacity or enhancement; and 50-year terms for those projects that propose extensive redevelopment, new construction, new capacity or enhancement. Because the Otter Creek Project involves an original license with substantial new construction, the license is issued for a period of 50 years.

#### SUMMARY OF FINDINGS

56. The final EA contains background information, analysis of impacts, support for related license articles, and the basis for a finding that licensing the project would not constitute a major federal action significantly affecting the quality of the human environment. The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if operated and maintained in accordance with the requirements of this license.

57. Based upon a review of the agency and public comments filed on the project, and the staff's independent analysis pursuant to Sections 4(e), 10(a)(1), and 10(a)(2) of the

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<sup>30</sup>16 U.S.C. § 799.

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FPA, I conclude that issuing a license for the Otter Creek Hydroelectric Project, with the required environmental measures and other special license conditions, will be best adapted to the comprehensive development of Otter Creek for beneficial public uses.

The Director orders:

(A) This license is issued to Alaska Power and Telephone Company (licensee), for a period of 50 years, effective the first day of the month in which this order is issued, to construct, operate, and maintain the Otter Creek Hydroelectric Project ( No. 11588). This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interest in those lands, enclosed by the project boundary shown by Exhibit G, filed October 29, 1999:

<u>Exhibit G Drawing</u>	<u>FERC Drawing No.</u>	<u>Description</u>
Sheet G-1	11588-1	Land status
Sheet G-2	11588-2	Facility location and project boundary

(2) The proposed project works consisting of : (1) an 80-foot-long, 10-foot-high impoundment structure that would have a surface area of approximately 0.18 acre and impound approximately 0.92 acre-feet; (2) an intake structure with an orifice that would continuously release 5 cubic feet per second (cfs); (3) a 3,700-foot-long, 40-inch-diameter penstock; (4) a 36-foot-wide, 45-foot-long, 25-foot-high metal powerhouse, with a 3.0 MW Turgo turbine; (5) a 200-foot-long, 100-foot-wide staging area around the powerhouse; (6) a 75-foot-long tailrace; (7) a pad-mounted step-up transformer adjacent to the powerhouse; (8) a 200-foot-long underground cable; (9) 3 helicopter pads for project access during and after construction; (10) an 115-foot-long, 150-foot-wide jetty; and (11) other appurtenant facilities .

The project works generally described above are more specifically described in Exhibit A (table A-1 and pages A-1 through A-4) and Exhibit F (F-1 through F-5) of the license application filed October 29, 1999, the response to additional information filed February 16, 2001, and the revised project features filed on February 26, 2001.

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<u>Exhibit F Drawing</u>	<u>FERC Drawing No.</u>	<u>Description</u>
Sheet F-1	11588-1	Site Plan and Project Location
Sheet F-2	11588-2	Penstock Plan and Profile
Sheet F-3	11588-3	Impoundment Structure Plan and Section Views
Sheet F-4	11588-4	Powerhouse Site Plan
Sheet F-4.1	11588-5	Powerhouse Plan and Section Views
Sheet F-4.2	11588-6	Jetty Plan and Profile
Sheet F-5	11588-7	Single Line Diagram

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project, all portable property that may be employed in connection with the project, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) Those sections of Exhibits A and F described above are approved and made part of the license. Exhibit G is approved only insofar as it shows the general project location.

(D) This license is subject to the conditions submitted by the U.S. Department of Agriculture, Forest Service, under Section 4(e) of the FPA, as those conditions are set forth in Appendix A to this order. The Commission reserves the right to amend this license as appropriate in light of the Forest Service's ultimate disposition of any appeals of, or modifications to, the mandatory Section 4(e) conditions that might arise.

(E) This license is subject to the articles set forth in Form L-02 (October 1975), entitled "TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED MAJOR PROJECT AFFECTING LANDS OF THE UNITED STATES," and the following additional articles.

Article 201. The licensee shall pay the United States an annual charge, effective as of the date of commencement of project construction, for the purpose of:

(A) Reimbursing the United States for the cost of administering Part I of the Federal Power Act, as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 3,000 kilowatts.

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(B) The licensee shall pay the United States an annual charge, effective the first day of the month in which this license is issued for the purpose of recompensing the United States for the use, occupancy, and enjoyment of the 6.0 acres of lands, other than transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time.

Article 202. Pursuant to Section 10(d) of the Federal Power Act, after the first 20 years of operation of the project under license, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, accumulated after the first 20 years of operation under the license, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year after the first 20 years of operation under the license, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly included in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10 year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 203. The licensee shall clear and keep clear to an adequate width all lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which result from construction, maintenance, operation, or alteration of the project works. All clearing of lands and disposal of unnecessary material shall be done with due diligence to the satisfaction of the authorized representative of the Commission and in accordance with appropriate federal, state, and local statutes and regulations.

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Article 204. Within 45 days of the issuance of the license, the licensee shall file four complete original sets of aperture cards of the approved drawings. The drawings must be reproduced on silver or gelatin 35 mm microfilm. All microfilm must be mounted on type D (3¼" x 7-3/8") aperture cards.

Prior to microfilming, the FERC Drawing Number (11588-1 through 11588-7) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number must be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (e.g., F-1, G-1, etc.), Drawing Title, and date of issuance of this license must be typed on the upper left corner of each aperture card.

Two complete original sets of aperture cards must be filed with the Secretary of the Commission, ATTN: OEP/Division of Hydropower Administration and Compliance. The third complete set of aperture cards shall be filed with the Commission's Portland Regional Office, and the fourth complete set of aperture cards shall be filed with the Bureau of Land Management Office at the following address:

Bureau of Land Management  
Division of Lands and Renewable Resources (AK-932)  
222 W 7TH AVE #13  
ANCHORAGE AK 99513-7599

Article 301. The licensee shall commence construction of the project works within 2 years from the issuance date of the license and shall complete construction of the project within 5 years from the date of the license.

Article 302. At least six months before the start of project construction, the licensee shall file with the Commission, for approval, three copies of a project financing plan. The plan must show that the licensee has acquired the funds, or commitment for funds, necessary to construct the project in accordance with this license. The licensee shall not start any project construction, land-clearing, or land-disturbing activities that are inseparably associated with the project (other than those required for subsurface site exploration) before the project financing plan is approved.

Article 303. The licensee shall, at least 60 days prior to the start of construction, submit one copy to the Commission's Portland Regional Director and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the final contract drawings and specifications along with an

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accompanying supporting design report for pertinent features of the project, such as water retention structures, all necessary transmission facilities, powerhouse, and water conveyance structures. The supporting design report should be consistent with the Commission's Engineering Guidelines. The Commission may require changes in the plans and specifications to assure a safe and adequate project. If the licensee plans substantial changes to location, size, type, or purpose of the water retention structures, all necessary transmission facilities, powerhouse, or water conveyance structures, the plans and specifications must be accompanied by revised Exhibit F and G drawings, as necessary.

Article 304. Before starting construction, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations, and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdam, the licensee shall submit one copy to the Commission's Portland Regional Director and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 305. Within six months after completing construction, the licensee shall file, for Commission approval, revised Exhibits A, F, and G to describe the project as-built. The licensee shall submit six copies to the Commission, one copy to the Commission's Portland Regional Director, and one to the Director, Office of Energy Projects.

Article 306. If the licensee's project is directly benefitted by the construction work of another licensee, a permittee, or of the United States of a storage reservoir or other headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed. The benefits will be assessed in accordance with Subpart B of the Commission's regulations.

Article 401.

- (a) Requirement to Consult on the Development of Plans for Environmental Protection Measures

Certain conditions found in Appendix A require the licensee to file plans with the Commission after the plans have been approved by the U.S. Forest Service (Forest Service). The conditions do not provide for consultation with the Alaska Department of

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Fish and Game (ADF&G), U.S. Fish and Wildlife Service (FWS), or National Marine Fisheries Service (NMFS) during plan development. The plans listed below shall be filed for Commission approval on the due date specified.

<b>U.S. Dept. of Agricultural Forest Service 4(e) Condition</b>	<b>Plan Name</b>	<b>Due Date</b>
2	Approval of Final Design	6 months prior to land-disturbing activities
3	Changes after Initial Construction	60-days prior to initiating any changes
13	Heritage Resource Protection	Upon discovery of unidentified archeological or historic sites during construction or project operation
14	Recreation Management and Monitoring Plan	Within 1 year of license issuance and 90 days prior to land-disturbing activities
15	Scenery Management and Monitoring Plan	Within 1 year of license issuance and 90 days prior to land-disturbing activities
17	Solid Waste and Wastewater Plan	Within 1 year of license issuance and at least 90 days prior to any ground-disturbing activity
18	Hazardous Substances Plan	Within 1 year of license issuance and at least 90 days prior to any ground-disturbing activity
19	Spoil Disposal Plan	Within 1 year of license issuance and at least 90 days prior to any ground-disturbing activity

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In addition to consultation with the Forest Service, the licensee shall prepare the above plans after consultation with ADF&G, FWS, and NMFS. The licensee shall include with the plans documentation of consultation, copies of comments and recommendations on the completed plans after the plans have been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plans. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plans with the Commission. If the licensee does not adopt a recommendation, the filings shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to make changes to any plan submitted. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plans are approved. Upon Commission approval, the plans become a requirement of the license, and the licensee shall implement the plans, including any changes required by the Commission.

(b) Requirement to Consult and File Pool Elevation Data and Proposed Orifice Size for Commission Approval

Condition 10 of Appendix A requires the licensee to submit the licensee's proposed orifice size and pool elevation data to the Forest Service for approval within 30 days of the winter shutdown of the first season of operation. The proposed orifice size and pool elevation data shall also be filed at the same time with the Commission for its approval. The licensee shall include with the filing documentation of consultation with ADF&G, FWS, NMFS, and Forest Service on the proposed orifice size and pool elevation data, copies of comments and recommendations on the proposed orifice size and pool elevation data after the information has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated in the development of the proposed orifice size. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the proposed orifice size and pool elevation data with the Commission. If the licensee does not adopt a recommendation, the filings with the Commission shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the final orifice size. Upon Commission approval, the final orifice size, including any changes required by the Commission, becomes a condition of the license. The final orifice size may not be established until authorized by the Commission.

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## (c) Requirement to File Amendment Applications

Certain conditions in Appendix A contemplate unspecified long-term changes to project operations or facilities during the term of the license for the purpose of mitigating environmental impacts. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend this license. The conditions are listed below.

Condition No.	Modification
4	Unspecified changes to the project and/or operations
10	Changes to the orifice size and/or minimum flow release in the event that the stream channel morphology changes across the tidelands causing the channel to become impassable to fish
11	Changes in water measurement and reporting procedures

Article 402. At least six months before the start of any land-clearing or land disturbing activities, the licensee shall file with the Commission, for approval, an Environmental Compliance Monitoring Plan (ECMP) to ensure that project construction adheres to the conditions of this license. Items to be monitored for compliance during project construction shall be as specified by Condition 8 of Appendix A and shall include implementation of a Commission-approved Jetty and Powerhouse Construction Plan (Article 403). The ECMP shall be developed in coordination with the Commission's Construction Quality Control Inspection Program.

At a minimum, the plan shall include: (1) provisions to employ a qualified environmental compliance monitor to be on-site during construction with authority to: (a) ensure strict compliance with the conditions of this license, (b) cease work and change orders in the field, as deemed necessary, and (c) make pertinent and necessary field notes on monitoring compliance by the licensee; (2) the position description of the compliance monitor, including qualifications, duties, and responsibilities; (3) provisions to hold a meeting between the licensee and the U.S. Forest Service (Forest Service), National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), and Alaska Department of Fish and Game (ADF&G) once annually for each year of

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compliance monitoring to: (a) review and evaluate the results of all compliance monitoring activities and reports, (b) make necessary adjustments of compliance monitoring to meet resource needs, and (c) decide on continuation of compliance monitoring; and (4) a provision to file with the Commission by December 31 of each year of compliance monitoring, a report that summarizes the past year's compliance monitoring activities and any planned future monitoring activities.

The licensee shall prepare the plan after consultation with the Forest Service, NMFS, FWS, and ADF&G. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 403. At least six months before the start of any land-clearing or land-disturbing activities, the licensee shall file with the Commission, for approval, a Jetty and Powerhouse Construction Plan to avoid, minimize, and/or mitigate adverse effects on aquatic resources and Essential Fish Habitat during jetty and powerhouse construction and project operation.

At a minimum, the plan shall include:

- (1) detailed design drawings of the powerhouse outfall, including a provision to orient the powerhouse outfall to minimize scouring and erosion in the intertidal zone of Taiya Inlet;
- (2) a provision to confine construction activities to the jetty and powerhouse sites and not disturb other areas within the intertidal and subtidal zones of Taiya Inlet;
- (3) a provision to minimize the deposition of road fill material in the intertidal zone as much as possible by placing the road above mean high tide level;

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- (4) a provision to utilize fill material for the jetty that would be similar in size to the primary particles of the intertidal and subtidal areas to the extent practicable;
- (5) a provision to not conduct in-water pile driving, sheet pile driving, or intertidal and subtidal filling from December 15 to June 15;
- (6) a provision to conduct in-water construction only during monthly low tides;
- (7) a provision to not paint or otherwise surface treat any wooden surface of the structures that come into contact with water with creosote or a preservative that contains pentachlorophenol and apply preservatives by pressure injection only;
- (8) a provision to use silt control curtains around the in-water jetty construction zone to prevent suspended sediments from settling and burying or smothering sessile marine organisms or harming migrating and rearing salmonid fishes; and
- (9) an implementation schedule.

The licensee shall prepare the plan after consultation with the U.S. Forest Service, National Marine Fisheries Service, U.S. Fish and Wildlife Service, and Alaska Department of Fish and Game. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information.

The Commission reserves the right to require changes to the plan and drawings. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 404. At least six months before the start of any land-clearing or land disturbing activities, the licensee shall file with the Commission, for approval, an

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Operational Compliance Monitoring Plan. The plan shall incorporate the provisions specified by Condition 11 of Appendix A.

The plan shall also include, but not be limited to:

- (1) a provision to monitor compliance with the run-of-river requirement specified in Article 411.
- (2) a provision to notify the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), Alaska Department of Fish and Game (ADF&G), U.S. Forest Service (Forest Service), and the Commission within 12 hours after becoming aware of any event of noncompliance with the minimum flow required by Condition 10 of the Appendix, but no later than 10 days after the beginning of any such noncompliance event;
- (3) a provision to provide all flow monitoring data and the analyses used to calculate the flows (e.g. rating curves) to ADF&G monthly for the first year of operation and annually thereafter;
- (4) a provision to maintain a log of project operation; and
- (5) an implementation schedule.

The licensee shall prepare the plan after consultation with the U.S. Geological Survey, NMFS, FWS, Forest Service, and ADF&G. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the licensee is notified that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 405. At least six months before the start of any land-clearing or land disturbing activities, the licensee shall file with the Commission, for approval, a Fish Monitoring Plan to monitor Dolly Varden char use of the mouth of Kasidaya Creek for a period of 3 years following the commencement of project operation.

The plan shall include, but not be limited to:

- (1) a provision to conduct surveys of Dolly Varden char use of the mouth of Kasidaya Creek for each monitoring year;
- (2) a provision to analyze the monitoring results to determine the effectiveness of the minimum flow requirement specified in Condition 10 of Appendix A at allowing Dolly Varden char access to the mouth of Kasidaya Creek;
- (3) a provision to provide an annual monitoring report to the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), U.S. Forest Service (Forest Service), and Alaska Department of Fish and Game (ADF&G) by December 31 of each monitoring year;
- (4) a provision to conduct an annual meeting with the agencies within 30 days of providing the agencies with the monitoring report to discuss the monitoring results;
- (5) a provision to file with the Commission, an annual report of the monitoring results, meeting summary, agency comments on the meeting summary; including any proposal to address any study findings no later than the following March 31 after each monitoring year.

The licensee shall prepare the plan after consultation with the NMFS, FWS, Forest Service, and ADF&G. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the licensee is notified that the plan is approved. Upon

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Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

If the results of the monitoring indicate that changes in project structures or operations, including alternative flow releases, are necessary to protect fish resources, the Commission may direct the licensee to modify project structures or operations.

Article 406. Within one year of license issuance or at least 90 days prior to any ground-disturbing activity, whichever comes first, the licensee shall file with the Commission, for approval, a final erosion and sediment control plan (ESCP) in accordance with Condition 16 in Appendix A that shall include the following provisions:

(1) the final ESCP shall be based on site specific conditions and shall include (a) descriptions of actual site conditions, (b) detailed descriptions of final preventive measures, (c) detailed descriptions, design drawings, and topographic locations of final control measures, including rip-rap placement, stream set back and stabilization of spoil material, and class of rock to be used, (d) detailed descriptions and locations of actual Best Management Practices ( BMP's) to be used, (e) a specific implementation schedule; and (f) provisions for an erosion control monitor;

(2) a provision to use a sediment pond or sediment filter bags during impoundment construction to prevent fine sediments generated from blasting from being transported downstream; and

(3) the final ESCP shall include a revegetation plan consistent with the provisions of U.S. Forest Service Condition 12 that includes a complete prescription for revegetating all disturbed areas including: (a) locations of treatment areas, (b) plant species and methods to be used, (c) planting densities, (d) fertilizer formulations, (e) seed test results, (f) application rates, (g) locations and density of any willow plantings, and (h) a specific implementation schedule.

The licensee shall prepare the plan after consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and the Alaska Department of Fish and Game. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the

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plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the licensee is notified that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 407. Within one year of license issuance or at least 90 days prior to any ground-disturbing activity, whichever comes first, the licensee shall file with the Commission, for approval, a wildlife mitigation and monitoring plan in accordance with Condition 12 in Appendix A that shall include the following provisions:

- (1) To the extent practicable for a safe landing, air traffic associated with the project shall approach the diversion site from the west and avoid mountain goat habitat east of the diversion from May 15 to July 15 during the time when kidding generally occurs. If goats are observed, a 1,500-foot vertical or horizontal clearance shall be maintained to minimize disturbance to mountain goats.
- (2) To the extent feasible and practical, the licensee shall instruct its boat operators, during construction and operation, to maintain 100 yards between whales and other marine mammals to minimize potential disturbance to these animals.
- (3) To minimize possible conflicts between bears and humans in the project area during project construction and operation, the licensee shall prepare and implement a bear safety plan that includes: (a) instructions for operating practices when in bear country that minimize possible conflict; (b) instructions to minimize encounters and avoid areas often used by bears, if possible; (c) instructions for keeping construction sites and refuse areas clean; (d) installing bear-proof garbage receptacles and other measures to prevent bears from obtaining food or garbage; and (e) procedures to deal with problem bears.
- (4) To prevent over-exploitation of fish and wildlife resources, the licensee shall develop measures to control hunting, trapping, and fishing within the project boundary by the construction workforce and describe how

prohibitions of hunting, trapping and fishing would be implemented and enforced.

The licensee shall prepare the plan after consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and the Alaska Department of Fish and Game. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the licensee is notified that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 408. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of, such fishways as may be prescribed by the Secretary of Commerce or the Secretary of the Interior under Section 18 of the FPA.

Article 409. The Solid Waste and Wastewater Plan required by Condition 17 in Appendix A shall include the provision that condensate and leakage from the turbines and other equipment in the powerhouse be treated to remove oil and other contaminants before being discharged.

Article 410. The licensee shall allow representatives of the National Marine Fisheries Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and Alaska Department of Fish and Game, who show proper credentials, free and unrestricted access to, through, and across project lands and project works, in the performance of their official duties, after appropriate advance notification is made.

Article 411. The licensee shall operate the project in a run-of-river mode for the protection of aquatic resources in Kasidaya Creek. The licensee shall at all times act to minimize the fluctuation of the impoundment surface elevation by maintaining a discharge from the project so that, at any point in time, flows, as measured immediately downstream from the project tailrace together with flows as measured immediately

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downstream of the project dam approximate the sum of inflows to the project impoundment.

Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, and National Marine Fisheries Service. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident

Article 412. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are

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maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or

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approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved exhibit R or approved report on recreational resources of an exhibit E; or, if the project does not have an approved exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

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(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the license under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(F) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order is issued under authority delegated to the Director and is final unless a request for a rehearing by the Commission is filed within 30 days from its issuance, as provided in Section 313(a) of the Federal Power Act. The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing of this order shall constitute acceptance of the license.

J. Mark Robinson  
Director  
Office of Energy Projects

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## **APPENDIX A**

### **Otter Creek Hydroelectric Project**

**Project No. 11588-001**

**U.S.D.A. Forest Service  
Region 10**

### **Final Terms and Conditions**

#### **General**

License articles contained in the Federal Energy Regulatory Commission's (Commission) Standard Form L-2 issued by Order No. 540, dated October 31, 1975, cover those general requirements that the Secretary of Agriculture, acting by and through the Forest Service, considers necessary for adequate protection and utilization of the land and related resources of the Tongass National Forest. Under authority of section 4(e) of the Federal Power Act (16 U.S.C. 797(e)), the following terms and conditions are deemed necessary for adequate protection and utilization of Tongass National Forest lands and resources. These terms and conditions are based on those resources and management requirements enumerated in the Organic Administration Act of 1897 (30 Stat. 11), the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215), the National Forest Management Act of 1976 (90 Stat. 2949), and any other law specifically establishing a unit of the National Forest System or prescribing the management thereof (such as the Wilderness Act or the Wild and Scenic Rivers Act), as such laws may be amended from time to time, and as implemented by regulations and approved Land and Resource Management Plans prepared in accordance with the National Forest Management Act. Therefore, pursuant to section 4(e) of the Federal Power Act, the following conditions covering specific requirements for protection and utilization of National Forest System lands shall also be included in any license amendment issued.

#### **Condition No. 1 - Requirement to Obtain a Forest Service Special-Use Authorization**

The Licensee shall obtain a special-use authorization from the Forest Service for the occupancy and use of National Forest System lands. The licensee shall obtain the executed authorization before beginning ground-disturbing activities on National Forest System lands or within one year of license issuance if no construction or reconstruction was proposed in the application for license.

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The Licensee may commence ground-disturbing activities authorized by the License and special-use authorization no sooner than 60 days following the date the licensee files the Forest Service special-use authorization with the Commission, unless the Commission prescribes a different commencement schedule.

In the event there is a conflict between any provisions of the license and Forest Service special-use authorization, the special-use authorization shall prevail to the extent that the Forest Service, in consultation with the Commission, deems necessary to protect and utilize National Forest System resources.

### **Condition No. 2 - Forest Service Approval of Final Design**

Prior to undertaking activities on National Forest System lands, the Licensee shall obtain written approval from the Forest Service for all final design plans for project components that the Forest Service deems as affecting or potentially affecting National Forest System lands and resources. As part of such prior written approval, the Forest Service may require adjustments in final design plans and facility locations to preclude or mitigate impacts and to assure that the project is compatible with on-the-ground conditions. Should the Forest Service, the Commission, or the Licensee determine that necessary changes are a substantial change, the Licensee shall follow the procedures of Article 2 of the license. Any changes to the license made for any reason pursuant to Article 2 or Article 3 shall be made subject to any new terms and conditions the Secretary of Agriculture may make pursuant to section 4(e) of the Federal Power Act.

### **Condition No. 3 - Approval of Changes After Initial Construction**

Notwithstanding any license authorization to make changes to the project, the Licensee shall obtain written approval from the Forest Service prior to making any changes in any constructed project features or facilities, or in the uses of project lands and waters the Forest Service deems as affecting or potentially affecting National Forest System lands and resources. Following receipt of such approval from the Forest Service, and a minimum of 60 days prior to initiating any such changes, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the Forest Service for such changes. The Licensee shall file an exact copy of this report with the Forest Service at the same time it is filed with the Commission. This article does not relieve the Licensee from the requirement for license amendment or other requirements of Article 2 or Article 3 of this license. Any changes to the license made for any reason pursuant to Article 2 or Article 3 shall be made subject

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to any new terms and conditions the Secretary of Agriculture may make pursuant to section 4(e) of the Federal Power Act.

#### **Condition No. 4 - Consultation**

Each year during the 60 days preceding the anniversary of this license, or as arranged with the Forest Service, the Licensee shall consult with the Forest Service with regard to measures needed to ensure protection and utilization of the National Forest System lands and resources affected by the project. Within 60 days following such consultation, the Licensee shall file with the Commission evidence of the consultation with any recommendations made by the Forest Service. The Forest Service reserves the right, after notice and opportunity for comment and administrative review, to require changes in the project and its operation through revision of the 4(e) conditions that require measures necessary to accomplish protection and utilization of National Forest lands and resources.

#### **Condition No. 5 - Surrender of License or Transfer of Ownership**

Prior to any surrender of this license, the Licensee shall restore National Forest System lands to a condition satisfactory to the Forest Service. At least one year in advance of the proposed application for license surrender, the Licensee shall file with the Commission a restoration plan approved by the Forest Service. The restoration plan shall identify improvements to be removed, restoration measures, and time frames for implementation and estimated restoration costs. In addition, the Licensee shall pay for an independent audit to assist the Forest Service in determining whether the Licensee has the financial ability to fund the surrender and restoration work specified in the plan.

As a condition of any transfer of the license or sale of the project, the Licensee shall guarantee or assure, in a manner satisfactory to the Forest Service, that the Licensee or transferee will provide for the costs of surrender and restoration.

#### **Condition No. 6 - Implementation and Modification of Forest Service Conditions**

The Licensee shall not commence implementation of ground-disturbing activities authorized by this license on National Forest System lands until the completion of any Forest Service administrative appeal filed under 36 CFR Part 215 regarding terms and conditions issued by the Forest Service under Section 4(e) of the Federal Power Act providing appeal rights of Forest Service 4(e) conditions. If the Forest Service modifies its 4(e) conditions as a result of the administrative appeals process, the Commission may,

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after notice and opportunity for hearing, require changes in the project and its operation based on Forest Service modifications.

### **Condition No. 7 - Forest Land Management Plans**

The Tongass Land and Resource Management Plan was approved in May 1997. It is normal for Forest Plans to be revised, amended or updated approximately every 10 to 15 years. Upon completion of a major Forest Plan amendment, or revision, all facilities authorized under this license will be reviewed and a determination made on whether or not they remain in compliance with the Tongass Land and Resource Management Plan, to the extent that any new Land Use Designation or Forest-wide standards and guidelines would affect on going operations.

### **Condition No. 8 - Environmental Compliance Monitor**

Several important watershed and visual issues will need monitoring during the construction phase of the project especially since the Otter Creek project is in a remote location. To ensure adherence to license conditions, mitigative measures, and other environmental aspects of project construction, the Forest Service will require the licensee to provide a qualified environmental compliance monitor to oversee the project during major construction activities (e.g. vegetative or land disturbing, or spoil producing activities). Items to be monitored include those stated in:

- X Instream Flow Requirement
- X Guaranteed Priority Flow Bypass Device
- X Wildlife Mitigation and Monitoring Plan
- X Heritage Resource Protection
- X Scenery Management and Monitoring Plan
- X Erosion Control Plan
- X Solid Waste and Waste Water Plan

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X Hazardous Substances Plan

X Spoil Disposal Plan

The compliance monitor would be a liaison between the Forest Service and Licensee. The compliance monitor should have the authority to stop work or issue change orders in the field should conditions so warrant. The compliance monitor should be either a third party contractor independent of the licensee or an agency person funded through a collection agreement, subject to approval for both the Licensee and the USFS. Once major construction activities are complete then the compliance monitor will no longer be needed. The Forest Service will require that an agency representative be present during the following activities: a) flagging any areas or routes that will undergo land disturbing activities; b) approval of those flagged areas by the FS; c) clearing and blasting for the powerhouse.

#### **Condition No. 9 - Deleted**

#### **Condition No. 10 - Instream Flow Requirement**

During construction and operation of the facilities authorized by this license, the licensee shall maintain a continuous, instream flow and water surface elevation at the "entrance pool" in Kasidaya Creek. This flow will insure adequate depth of water in the lowest reach of the stream to provide pool habitat, and will provide adequate depth of flow in the stream reach across the tidelands to allow access to upstream pools.

The design of the diversion structure shall incorporate a fixed orifice to bypass the required instream flow. Priority of water flow to the bypass shall be guaranteed by the design of the structure, by constructing the bypass pipe at the lower elevation than the penstock intake. Measurement of the flow shall be in terms of water surface elevation at the entrance pool at the mouth of the stream. The orifice will be sized to allow the surface elevation of water in this pool to be maintained at the mark made by AP&T with the agreement of the Forest Service and ADF&G on the entrance pool boulder on March 21, 2000.

When the natural stream discharge above the diversion drops below the required bypass amount, the licensee will not be responsible for maintaining the instream flow or the water surface elevation.

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The final orifice discharge will be determined during the first season of operation. The Licensee will install various sized orifice gates at the diversion structure and monitor the stream gage elevation in the entrance pool that corresponds to each orifice size. The final orifice discharge should result in the water elevation in the entrance pool to not drop below the mark on the entrance pool boulder. The Licensee shall present its proposed orifice size and pool elevation data to the Forest Service for approval within 30 days of the winter shut down of the operation. Once the size of the orifice has been established, it will remain for the life of the license.

In the event that changes in the morphology of the stream channel across the tidelands reduce the depth of flow, making it impassable to fish, the licensee will participate in a process with the resource agencies to analyze and correct the situation.

#### **Condition No. 11 - Guaranteed Priority Flow Bypass Device**

The licensee shall install and maintain water measurement equipment that accurately measure the stream flow for the period of the license at the point of water diversion, except during freezing conditions. Monitoring will record the quantity of water diverted through the penstock intake, and the quantity passing over the spillway.

To monitor the effectiveness of the trash rack in keeping the bypass open, a water depth sensor will be placed immediately upstream of the orifice, but below the trash rack. This information will be used to monitor the effectiveness of the bypass design in maintaining downstream habitat.

The water measurement mechanisms shall be shown on as-built drawings filed with the Commission. The licensee shall submit the flow records, and description of any problems with the monitoring equipment to the Forest Service annually by December 31st. The procedures required by this Condition may be amended based on needs identified by the Forest Service, following an annual discussion with the applicant.

#### **Condition No. 12 - Wildlife Mitigation and Monitoring Plan**

Within 1 year following the date of issuance of this license and at least 90 days prior to any ground-disturbing activity, the Licensee shall file with the Commission a Wildlife Mitigation and Monitoring Plan that is approved by the Forest Service. Any comments of the Alaska Department of Fish and Game, or the US Fish and Wildlife Service shall be filed with the plan.

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This plan must identify requirements for construction and mitigation measures to meet Forest Service wildlife habitat objectives and standards in the Tongass Land and Resource Management Plan. The plan must address:

- X How the project minimizes the footprint and avoids blocking movements of wildlife species.
- X Construction and helicopter use related impacts to wildlife (emphasis on Mt. Goats) would be minimized or mitigated.
- X Impacts to area vegetation.
- X Human/bear conflict avoidance.

The plan also must include dates for accomplishing these objectives and standards and must identify needs for and timing of any additional studies called for in the license. The plan will describe wildlife access routes over or under the penstock, helicopter flight routes, and measures used to secure food and refuse from bears. Document access points where both large and small mammals may cross the penstock at intervals of approximately 100 meters or less along its length. These "access points" could be gaps where the penstock's lower surface is at least 2 feet off the ground, or areas where a berm forms a bridge to the upper surface of the pipe.

(Revised)

### **Condition No. 13 - Heritage Resource Protection**

The Licensee shall not initiate any work other than that specifically authorized in this license, before (1) consulting with the Forest Service, the State Historic Preservation Officer (SHPO), and the Chilkoot Indian Association, (2) conducting a cultural resource survey of these areas, and (3) filing a Forest Service approved Cultural Resource Management Plan to avoid or mitigate impacts to any archaeological, cultural, or historic sites, if encountered during the project implementation or cultural resource survey. The survey and Cultural Resource Management plan shall be prepared by a qualified cultural resource management specialist and be developed in consultation with the Forest Service, with SHPO concurrence.

No significant cultural resources were located within the project construction area at the time of the archaeological surveys. If the Licensee discovers any previously unidentified cultural resources during the course of the construction or project work, or other facilities at the project, the Forest Service archaeologist will be notified

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immediately. The Licensee shall immediately stop all land clearing, land disturbing or spoil producing activities in the vicinity of the cultural sites.

If cultural resources are encountered during project implementation, the Forest Service shall develop a Memorandum of Understanding (MOU) in consultation SHPO and the Chilkoot Indian Association to mitigate any adverse effects to cultural resources. The MOU will be based on the Licensee developed Cultural Resource Management Plan, and will include plans to mitigate adverse effects to cultural resources. The Licensee shall file for Commission approval of the Cultural Resource Management Plan. Signatories on the MOU will be the Forest Service and the Licensee.

The MOU and Cultural Resource Management Plan shall list procedures to document any discoveries in a report that shall contain the following:

- X Documentation of each site discovered
- X An evaluation of National Register eligibility of each site discovered
- X A description of the potential effect on each discovered site
- X Proposed measures for avoiding or mitigating the effects to each site
- X Documentation of the consultation with all interested parties
- X A schedule for mitigating effects and conducting additional studies

The Environmental Compliance Monitor shall be familiar with site recognition. Training will be made available to the ECM for recognition, site inspection and protection as is necessary.

The Licensee shall not begin land clearing, land disturbing, or spoil producing activities, other than those specifically authorized in this license, or resume activities in the vicinity of a site discovered during construction, until receiving Forest Service approval that the requirements of this article have been fulfilled.

#### **Condition No. 14 – Recreation Management and Monitoring Plan**

Within 1 year following the date of issuance of this license and at least 90 days prior to any ground-disturbing activity, the Licensee shall file with the Commission a

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Recreation Management and Monitoring Plan that is approved by the Forest Service. The Plan shall include measures to accommodate project-induced recreation. The plan shall address recreation use at the Otter Creek Hydroelectric Project area, and maintenance and upkeep of the Sturgill's Landing Picnic Area.

The plan will address monthly routine maintenance tasks, such as litter removal and outhouse cleaning, that will be completed at Sturgill's Landing during the season starting May 1 through September 15, annually. In addition to monthly routine maintenance, facilities shall be repaired as needed. Repairs shall be done in accordance with Forest Service specifications and approval. Examples of repairs include but are not limited to replacing a broken bench, painting a picnic table, or repairing a grill.

The plan shall also provide a replacement schedule for Sturgill's Landing facilities depending on their present condition. A replacement schedule will be developed based on Forest Service standards to ensure facilities are safe, attractive and useful.

The plan shall address project-induced recreation at the Otter Creek Hydroelectric Project area. The plan shall include measures to prevent use of motorized vehicles and prevent resource damage due to increased use.

At the annual consultation meeting prescribed in *Condition No. 4 – Consultation*, the Licensee shall present maintenance needs and changes in recreation use at the project area and at Sturgill's Landing. If there appears to be substantial increases in recreation visitor use or need for additional facilities, (trails, dispersed camp spots, interpretive signs, etc.) then the licensee may be required to fund additional facilities in response to project induced recreation. AP&T will coordinate with the Forest Service to establish a method to determine when additional facilities are needed based on the Tongass Land and Resource Management Plan, the Recreation Opportunity Spectrum (ROS) and other Forest Service recreation management guidelines.

The Recreation Management & Monitoring Plan may be amended to ensure adequate management and protection of resources and at the discretion of the Forest Service.

### **Condition No. 15 - Scenery Management and Monitoring Plan**

Within one year of license issuance or 60-days prior to any ground-disturbing activity, the Licensee shall file with Commission a Scenery Management Plan that is approved by the Forest Service. The Plan shall include measures to preserve or enhance

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the visual character of the project consistent with the standards and guidelines of the Tongass Land and Resource Management Plan. At a minimum, the Plan shall address:

- X Powerhouse and associated facilities such as other buildings, security fences, clearings, parking and access, equipment storage, tailrace and communication equipment.
- X Diversion structures, and associated facilities such as access roads, power sources for sensing and monitoring equipment, and inlet controls.
- X Power transmission lines and corridors.
- X Penstocks, pipelines, ditches, and rock sources if needed.
- X Recreation or interpretive facilities.
- X Spoil placement and handling.

Mitigation Measures shall include, but are not limited to,

- X Surface treatments with colors that will be in harmony with the surrounding landscape.
- X Use of non-specular conductors for the transmission lines.
- X Maximize use of local native materials in designing facilities and landscaping.
- X Reshaping and revegetating disturbed areas to blend with surrounding visual characteristics.
- X Locating transmission facilities to minimize visual impacts.
- X Consideration of facility configurations and alignments, building materials, color, conservation of vegetation, landscaping, and screening.

Upon completion of construction, Licensee will photograph the approved facilities from the Marine Ferry travel route, to document scenery management mitigation measures approved in the Plan. Each summer for the first ten years of the license, from approximately the same location along the Marine Ferry travel route, the Licensee will

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photograph the approved facilities to document revegetation, and continued success of scenery management mitigation. Photos taken will be submitted to the Forest Service at the annual consultation meeting described in *Condition No. 4 - Consultation*.

### **Condition No. 16 - Erosion Control Plan**

Within 1 year following the date of issuance of this license and at least 90 days prior to any ground-disturbing activity, the Licensee shall file with the Commission an Erosion Control Plan that is approved by the Forest Service. The Plan shall include measures to control erosion, stream sedimentation, dust, and soil mass movement.

The monitoring section should include the following documentation for monitoring turbidity: method used, frequency of sampling, sampling locations, duration of measurements, equipment used and the quality assurance and quality control used to ensure accurate measurements are taken, and what will be done if exceedances of state water quality standards are noted.

Sampling shall start with the initiation of construction and continue for 60 days following the removal of temporary erosion control structures. The samples shall be taken daily in Kasidaya Creek, both upstream and downstream of all construction activities. This should include any discharge points for overland flow that crosses construction areas and discharge into Kasidaya Creek and any tributaries. Water samples should be analyzed for turbidity as soon as possible or daily. If turbidity 100 ft. downstream of construction area measures greater than the Alaska State Water Quality standards or 25 nephelometric turbidity units (NTU) higher than values obtained above the construction area, then related construction activities shall stop. Sediment sources then should be located and the appropriate BMPs implemented.

### **Condition No. 17 - Solid Waste and Waste Water Plan**

Within 1 year following the date of issuance of this license and at least 90 days prior to any ground-disturbing activity, the Licensee shall file with the Commission a Solid Waste and Waste Water Plan that is approved by the Forest Service. The Plan shall include measures for the treatment and disposal of solid waste and waste water generated during construction and operation of the project. At a minimum, the plan must address the estimated quantity of solid waste and waste water generated each day; the location of disposal sites and methods of treatment; implementation schedule; areas available for disposal of wastes; design of facilities; comparisons between on and off site disposal; and maintenance programs.

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### **Condition No. 18 - Hazardous Substances Plan**

During planning for and prior to any new construction or maintenance, the Licensee shall file with Commission, a Hazardous Substances Plan approved by the Forest Service for oil and hazardous substances storage and spill prevention and cleanup. At a minimum, the Licensee shall:

- X Outline the Licensee's procedures for reporting and responding to releases of hazardous substances, including names and phone numbers of all emergency response personnel and their assigned responsibilities,
- X Maintain in the project area, a cache of spill cleanup equipment suitable to contain any spill from the project,
- X Annually inform the Forest Service of the location of the spill cleanup equipment on National Forest System lands and of the location, type, and quantity of oil and hazardous substances stored in the project area; and,
- X Inform the Forest Service immediately of the nature, time, date, location, and action taken for any spill affecting National Forest System lands and Licensee adjoining fee title property.

### **Condition No. 19 - Spoil Disposal Plan**

Within 1 year following the date of issuance of this license and at least 90 days prior to any ground-disturbing activity, the Licensee shall file with the Commission a Spoil Disposal Plan that is approved by the Forest Service. The Plan shall include measures for the storage and/or disposal of excess construction/tunnel spoils and slide material. At a minimum, the plan must address contouring of any storage piles to conform to adjacent landforms and slopes, stabilization and rehabilitation of all spoil sites and borrow pits, and prevention of water contamination by leachate and runoff. The plan also must include an implementation schedule and maintenance program.

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GOAT LAKE HYDRO PROJECT  
FERC Project No. 11077

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Rev. 12/16/97

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