

BLACK BEAR LAKE HYDROELECTRIC PROJECT

NO. 10440

ATTACHMENT 'D'

D. Water Quality

Enclosed is a copy of the DEC 401 Certification for this Project. This Project does not impact dissolved oxygen levels because the water from the lake is not drawn from a deep enough elevation to significantly change oxygen content, and is often in the same thermocline as the surface of the lake during the summer. The water discharged from the tailrace also has 800-1000 feet to aerating before reaching the fish habitat. There are no on-going water quality monitoring required of this Project.

BLACK BEAR LAKE HYDROELECTRIC PROJECT

NO. 10440

DEC SECTION 401 CERTIFICATION

STATE OF ALASKA

WALTER J. HICKEL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

FOR YOUR RECORD & INFO

SOUTHEAST REGIONAL OFFICE
410 Willoughby Avenue, Suite 105
Juneau, AK 99801-1795

PHONE: (907) 465-5350
FAX: 465-5362

Post-It™ brand fax transmittal memo 7671 # of pages 5

To <i>VERN</i>	From <i>JOHN</i>
Co.	Co.
Dept.	Phone #
Fax #	Fax #

10 November 1992

NOV 20 1992

Mr. Robert Grimm, President
Alaska Power and Telephone Company
P.O. Box 222
Port Townsend, WA 98368

CERTIFIED MAIL RETURN
RECEIPT REQUESTED
#P-532 466 207

Re: FERC/Project No. 10440

AK920505-03J

In accordance with Section 401 of the Clean Water Act of 1977 and provisions of the Alaska Water Quality Standards, the Department of Environmental Conservation has issued the enclosed Certificate of Reasonable Assurance for the proposed Black Bear Lake hydroelectric project.

Department of Environmental Conservation regulations provide that any person who disagrees with this decision may request an adjudicatory hearing by filing a statement of issues under 18 AAC 15.200-310. The hearing request should be mailed or hand delivered to the Commissioner of the Alaska Department of Environmental Conservation, 410 Willoughby Avenue, Suite 105, Juneau, Alaska 99801-1795. Failure to submit a hearing request within thirty (30) days of receipt of this letter constitutes a waiver of your right to judicial review of this decision.

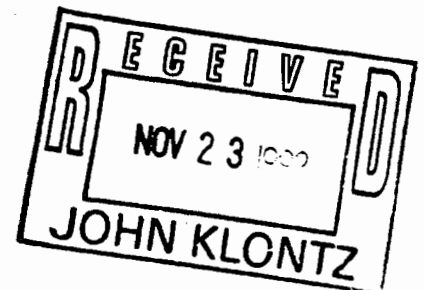
Sincerely,



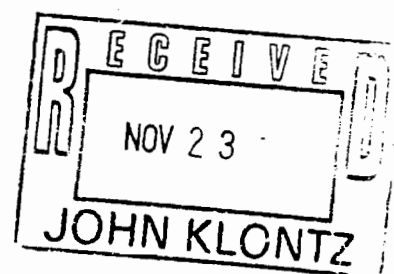
Dick Stokes
Regional Environmental Supervisor

Enclosure

cc: Joe Davis, FERC, Washington DC
Susan Cantor, EPA, Anchorage
Lorraine Marshall, ADGC, Juneau
Beth Kerttula, ADOL, Juneau
Jim Durst, ADF&G, Juneau
Steven Pennoyer, NMFS, Juneau
Nevin Holmberg, USFWS



ADEC, SERO, Juneau
ADEC, Ketchikan District Office
Elizaveta Shadura, ADNR, Juneau
Marilyn Westfall, City of Klawock
Jon Bolling, City of Craig
Bob Loescher, Sealaska Corp.
Corrine Garza, Klawock/Heenya Corporation



STATE OF ALASKA

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CERTIFICATE OF REASONABLE ASSURANCE

A Certificate of Reasonable Assurance, as required by Section 401 of the Clean Water Act, has been requested by the Alaska Power and Telephone Company, P.O. Box 222, Port Townsend, WA 98368 for the proposed hydroelectric project to generate renewable power for use on Prince of Wales Island replacing existing diesel powered electric generation facilities on the island. The project lies within several land management jurisdictions. Black Bear Lake, the intake, a small portion of penstock and part of the transmission line are on U.S. Forest Service lands. The lower portion of the penstock, powerhouse, access road, and majority of the transmission line are on lands owned by Sealaska Corporation. The remainder of the transmission line is on Klawock/Heenya Corporation and City of Klawock lands.

Black Bear Lake discharges through a notch cut in the bedrock rim at the lower end of the lake and drops 1,400 feet over a series of falls to form Black Bear Creek. These falls bar any upstream fish migration. At low flows, the creek infiltrates into the coarse alluvial deposits of Black Bear Creek valley at a point about .6 of a mile below the outlet of Black Bear Lake and at approximately 1,000 feet downstream, reemerges at several upwelling areas (Lake Fork). Other upwellings exist from natural springs (Spring Fork) which contribute to the flow of Black Bear Creek. Black Bear Lake supports a self-sustaining population of rainbow trout, and Black Bear Creek is cataloged as an anadromous fish stream. The provision of increased flows to Black Bear Creek during the summer low flow period will be a benefit from the project.

Project Description:

The project will utilize natural run-of-river flows into Black Bear Lake as well as the upper 15 feet of Black Bear Lake. The net storage capacity of the reservoir will be siphoned down 15 feet from elevation 1,687 to a minimum elevation of 1,672. A siphon intake will extend approximately 150 feet into Black Bear Lake from the shoreline near the lake outlet. Three helicopter landing areas (a total of 5 for the project), which will be cleared of trees, are anticipated in the vicinity of the intake.

The intake will convey water from the lake to a 30-inch penstock which will extend approximately a distance of 4,900 feet to the powerhouse in three sections: (1) The first section of the penstock (820 feet), which includes a siphon and flow bypass, will be buried or bermed over. Burial involves excavation 87 feet deep in muskeg organic soil. After the pipe exits the lake, the penstock raises slightly. A vacuum pump and valve will be located at the high point of the pipeline, at elevation 1,695, to prime the siphon to fill the penstock with water. A valve vault will be located 400 feet downstream of the vacuum pump, to allow controlled operation of the siphon. A bypass pipe will be located

upstream of the valve vault, to divert flow from the siphon intake to Black Bear Creek above the falls to ensure continued flows into the creek when the lake level is below the natural spillway crest. (2) The second section (1,930 feet) emerges below the valve vault and will be supported on concrete piers which will be founded in the near surface rock and saddles down gradual slopes and two steep rock cliffs. The pipe will be restrained to the piers and anchored by thrust blocks as required to resist thermal, gravitational, hydrostatic and dynamic forces. (3) The third section (2,150 feet) will be buried beginning at the lower steep slope area and connects to the powerhouse. At the time of project startup, a significant amount of water will spill from the lake; when the project reaches capacity, very little water will spill over the falls.

The powerhouse will be located adjacent to Black Bear Creek and will contain two turbines and synchronous generators for a total installed capacity of 4.5 MW. A tailrace channel will transport the turbine discharge 100 feet to a tailrace apron which will distribute the flow to the creek. The tailrace includes infiltration galleries, from which the inflow will aid in recharging subterranean water which resurfaces at the upwelling areas. A switchyard will be located adjacent to the powerhouse. A pole-mounted transmission line will begin at the switchyard and follow an existing logging road for a distance of five miles to the State highway and then turn southwest for about nine miles to the Klawock substation.

Access to the project will be by approximately four miles of improved existing logging roads from the State Highway and construction of a new road at the end of the existing northside Black Lake logging road to connect to the powerhouse site. During construction, the existing southside logging road will be used as additional site access. A temporary tram will be installed to transport material to the upper slope and intake area during construction. It will be partially dismantled after construction, with foundations and supports left in place for future maintenance.

In addition, the project description includes mitigation measures identified in the FERC application (pages E-18/19, E-49, E-65/67, and Appendix 6). The measures include monitoring for water quality and fish populations as well as practices to minimize impacts. Concerning water quality, the erosion and sediment control plan (ESCP), appendix 6, contains detailed site-specific measures for erosion and sedimentation as well as APT's adoption of general practices (standards and guidelines, best management practices) used by other government agencies, such as U.S. Environmental Protection Agency, U.S. Forest Service, and Alaska Department of Natural Resources forest practice guidelines. The mitigation measures address such things as drainage, settling ponds, straw bale barriers, silt fences, jute netting, revegetation, handling of soils, etc. APT proposes to perform water quality monitoring during and after construction, in the same manner as the pre-project program and at the previously sampled locations for comparison. Concerning fish, the mitigation measure address such things as culverts with sediment trap outlets, tailrace infiltration galleries, intake design, etc. In addition, APT states they will conduct monitoring of fish populations, and they will coordinate with DFG on the pre-

and post-project fish monitoring studies. All of the mitigation measures are part of the proposal and are included in considerations upon which the State has developed its decision.

The proposed activity is located approximately nine miles northeast of Klawock on Prince of Wales Island, Sections 12 and 13, R. 82 E., T. 73 S., and R. 83 E., T. 73 S., Copper River Meridian.

Public notice of the application for this certification has been made in accordance with 18 AAC 15.180.

Water Quality Certification is required for the proposed activity because the activity will be authorized by the Federal Energy Regulatory Commission, Project No.10440, and a discharge may result from the proposed activity.

Having reviewed the application and comments received in response to the public notice, the Alaska Department of Environmental Conservation certifies that there is reasonable assurance that the proposed activity, as well as any discharge which may result, is in compliance with the requirements of Section 401 of the Clean Water Act which includes the Alaska Water Quality Standards, 18 AAC 70, and the Standards of the Alaska Coastal Management Program, 6 AAC 80. The stipulations were developed during the interagency project review by the Departments of Environmental Conservation, Fish and Game and Natural Resources and coordinated according to 6 AAC 50. They are necessary to ensure the project is consistent with the standards of the Alaska Coastal Management Program 6 AAC 80.040-150.

1. Any significant impacts in water quality shall be immediately reported to DEC and DFG within 24 hours of discovery.
2. The fisheries and water quality monitoring activities and findings shall be continued both during construction and for at least five years following the completion of this project, and the findings shall be documented and reported to DFG and DEC on an annual basis. If after five years of project implementation, it appears there are still unresolved fisheries or water quality concerns, then monitoring shall continue. The monitoring program may end when it has been determined to the satisfaction of DFG and DEC that no correction action will be necessary as a result of this project.
3. The project shall be configured so as to not interfere with Alaska's ability to explore and develop the breccia mineralized areas at the project site.

11/10/92

Date



Dick Stokes

Regional Environmental Supervisor

BLACK BEAR LAKE HYDROELECTRIC PROJECT

NO. 10440

ATTACHMENT 'E'

E. Fish Passage and Protection

As described in the 2006 LIHI certification application, there are no fish passage issues at the Black Bear Lake Hydroelectric Project because fish do not go above the project due to submerged flow that up-wells below the project tailrace. Salmon do not spawn beyond a falls barrier approximately 800 feet below the project tailrace. There is no man-made barrier to fish movement up the creek. In addition, the habitat type is not good below the project tailrace because it is mostly high gradient with large cobble. Therefore, fish passage is not an issue as none reach the project tailrace.

Salmon escapement surveys were conducted for a number of years to see if the Project was impacting the salmonid habitat in Black Bear Creek, above Black Lake. In February 2005 the licensee received an order approving discontinuation of this monitoring from FERC after receiving approval from the resource agencies that the project was not impacting the sustainability of these populations.

BLACK BEAR LAKE HYDROELECTRIC PROJECT

NO. 10440

ATTACHMENT 'F'

F. Watershed Protection

Although there is no formal watershed protection plan, Project personnel discuss the project with the resource agencies annually. An annual meeting also takes place with the U.S. Forest Service. In this way the watershed is protected, both by having an annual meeting to discuss any issues and because of the Projects remote location, access is limited and development cannot take place without a Native corporations and U.S. Forest Service involvement. This provides a buffer from man and provides fish and wildlife habitat protection, maintains the aesthetics and has a minimum buffer of approximately 4 miles from development, other than the hydroelectric project.

BLACK BEAR LAKE HYDROELECTRIC PROJECT

NO. 10440

ATTACHMENT 'G'

G. Threatened and Endangered Species Protection

Enclosed is the part of the Final Environmental Assessment dealing with Threatened and Endangered Species. No federally proposed or listed threatened or endangered species are known to occur in the project area.

In addition, enclosed is a FERC order approving the annual monitoring plan for spotted frogs that were to be studied to see if any existed in the Project area, being a sensitive species to the FS. The order states, "*Because no spotted frogs were found in the project area, further protection plans and monitoring plans are not required at this time.*" The order also states, "*Both FWS and the FS had no comments or suggestions as a result of the study according to letters dated January 4, 1994 and February 4, 1994, respectively.*"

Also enclosed is a copy of the January 2000 license amendment that reduces the transmission line length to 4.5 miles. The reason for this is that the transmission line grid on the island grew and became more than just the Project transmission line as diesel generation facilities also use these lines to supply power to remote communities connected to this grid.

BLACK BEAR LAKE HYDROELECTRIC PROJECT

NO. 10440

**THREATENED & ENDANGERED SPECIES SECTION
OF FINAL ENVIRONMENTAL ASSESSMENT**

be found only in the steep 0.8-mile bypass reach. Dippers forage in and nest along swift mountain streams that are below timberline. Project operations would dewater the bypass reach more than 90 percent of the time, thereby eliminating the area as suitable dipper habitat. Because dippers are fairly common in mountainous areas and habitat is widely available elsewhere on the island, the overall impact of this habitat loss is insignificant.

Unavoidable Adverse Impacts: Project construction would clear 16.3 acres of existing wildlife habitat and project facilities would permanently occupy 5.8 acres. Project operations would eliminate up to 0.8 mile of habitat for the American dipper.

6. Threatened and Endangered Species

Affected Environment: No federally proposed or listed threatened or endangered species are known to occur in the project area (Gates 1992). However, three candidate species for listing may occur there: the northern goshawk (Accipiter gentilis), the marbled murrelet (Brachyrampus marmoratus), and the spotted frog (Rana pretiosa). DOI says its unlikely that the proposed project would have any significant impact on the two bird species, but says its unclear whether the project would affect the spotted frog. DOI recommends surveys of the project area and, if necessary, appropriate measures to minimize adverse impacts.

The spotted frog is a primarily aquatic species that inhabits cold permanent water [Federal Register 54(199):42529]. It breeds in the spring in peripheral areas along flowing streams, backwater areas of major rivers, springs, and wetlands. Its range extends from the islands of southeast Alaska to scattered locations in Utah and Nevada. The species may be declining in Idaho, Nevada, Oregon, Utah, and Washington, but its status in Alaska is unknown.

Environmental Impacts and Recommendations: Project operations could affect the spotted frog, if present in Black Bear Creek, by decreasing spring flows while refilling Black Bear Lake, which could reduce the amount of peripheral shallow water breeding habitat. It's unlikely that project operations would substantially reduce habitat availability because the areas that spotted frogs might use for breeding are found below the project tailrace where several beaver dams maintain water surface elevations. We recommend monitoring and protection of the beaver population under "Effects of improved access" in the wildlife resources section. If present, we expect that the project would have little or no impact to spotted frogs.

Because the spotted frog is a species of concern, however, we agree with DOI's recommendation to survey Black Bear Creek and, if necessary, formulate appropriate protection measures. This survey could coincide with the pre-construction beaver survey we recommend.

Unavoidable Adverse Impacts: None.

7. Recreation and Other Land and Water Uses

Affected Environment: Prince of Wales Island has few developed recreational facilities. The FS provides cabins, shelters, campgrounds, and small picnic areas at various locations on FS lands, and there are some private campgrounds and lodges. Major recreational activities in the project area are dispersed fishing, hunting, hiking, and sight-seeing.

The only developed recreation facility in the project area is a 12-foot by 12-foot FS cabin at the southeast end of Black Bear Lake. Access to the cabin is achieved by float plane or float helicopter; however some people have hiked the steep slopes up to Black Bear Lake^{2/}. FS requires a \$20 registration fee per night to use the cabin and provides a lightweight skiff at the cabin for use on the lake (Alaska Power and Telephone Co. 1991). Recreationists use the cabin for fishing, hunting, and hiking. Fishing for rainbow trout--the only game fish present in Black Bear Lake--is considered poor to good.

FS records show little use of the cabin. During the past few years, only about 10 groups a year reserved the cabin; the total number of person days^{3/} has declined steadily--130 in 1987, 72 in 1988, 64 in 1989 (Alaska Power and Telephone Co. 1991). Public access and use in the project area is limited by remoteness, private land ownership, and steep and rugged topography.

Environmental Impacts and Recommendations: The project could have a minor effect on recreationists using the FS cabin at Black Bear Lake: fluctuations in the lake level, resulting from the project operations, might require users to pull the skiff further up or down the beach. FS has required AP&T to provide a floating dock to assist skiff users in accessing the lake (condition No. 7). FS has additionally required AP&T to restrict lake drawdown from occurring between June 1 and September 15, the

^{2/} Personal communication: Barbra Stanley, Recreation and Land Staff, Craig Ranger District, Forest Service, Craig, Alaska, March 24, 1992.

^{3/} We define a person day as a one-day stay for one person.

BLACK BEAR LAKE HYDROELECTRIC PROJECT

NO. 10440

**ORDER APPROVING ANNUAL MONITORING PLAN
FOR SPOTTED FROGS**

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

Alaska Power & Telephone Co.

Project No. 10440-005
Alaska

ORDER APPROVING ANNUAL MONITORING PLAN FOR SPOTTED FROGS

(Issued March 16, 1994)

On February 16, 1994, Alaska Power & Telephone Co. (licensee) filed the results of a pre-construction survey for spotted frogs (Rana pretiosa), pursuant to Article 411 of the license for the Black Bear Lake Hydroelectric Project. Article 411 requires the licensee to file the results of a pre-construction survey as well as a protection plan and an annual monitoring plan with the Commission, along with the comments of the Alaska Department of Fish and Game, the U.S. Fish and Wildlife Service (FWS), and the U.S. Forest Service (FS).

In a pre-construction survey, no spotted frogs, tadpoles, or egg-masses were observed or heard. The study also indicated that, based on the best available literature, no spotted frogs have been observed on Prince of Wales Island.

Both FWS and the FS had no comments or suggestions as a result of the study according to letters dated January 4, 1994 and February 4, 1994, respectively.

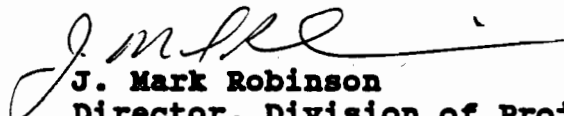
Because no spotted frogs were found in the project area, further protection plans and monitoring plans are not required at this time.

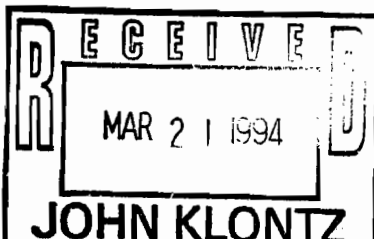
The licensee's pre-construction survey for spotted frogs satisfies the requirements of Article 411. Implementation of this plan will provide adequate protection of spotted frogs in the project area; this plan should be approved.

The Director orders:

(A) The pre-construction survey for spotted frogs filed on February 16, 1994, pursuant to Article 411, is approved.

(B) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 CFR § 385.713.


J. Mark Robinson
Director, Division of Project
Compliance and Administration



BLACK BEAR LAKE HYDROELECTRIC PROJECT

NO. 10440

**ORDER AMENDING LICENSE FOR TRANSMISSION
LINE LENGTH**

JANUARY 2000

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

BBL Hydro, Inc.

Project No. 10440-051

ORDER AMENDING LICENSE AND APPROVING AS-BUILT EXHIBIT G

(Order Issued January 11, 2000)

On March 12, 1999, BBL Hydro, Inc. (BBL Hydro), licensee for the Black Bear Lake Project, FERC No. 10440, filed as-built exhibit G drawings and an application to amend the license by proposing to remove the Big Salt Road portion of the transmission line from the project's license. The Black Bear Lake Project is located on Black Bear Lake, in the First Judicial District on Prince of Wales Island, Alaska.

BACKGROUND

In reviewing the as-built exhibits for the project submitted by BBL Hydro in 1995 and supplemented in 1996 and 1997, staff found that as-built exhibit G drawings do not correspond to those approved by the license¹ and show a different transmission line alignment that correspond to the State of Alaska's proposed realignment of Big Salt Road. Ordering paragraph (E) of a Commission's order approving As-Built exhibits², required BBL Hydro to file for Commission approval, revised exhibit G drawings showing the as-built conditions of the project, or an application to amend the license that includes exhibit G drawings showing any changes to the project boundary, site plan, and transmission line route that would result from the proposed re-alignment following the new state highway alignment.

BBL Hydro filed an application to amend the license on March 12, 1999, and a revised exhibit G-1, showing the facility location map with current ownership, and revised exhibit G-3 showing the transmission line route.

REVIEW

In its filing, BBL Hydro states the transmission line along the Big Salt Road shown in as-built exhibits G-3 and G-4 should be removed from the project's license

¹65 FERC ¶ 62,122 Order Issuing New License (Major), issued November 9, 1993, and 69 FERC ¶ 62,108 Order Amending License and Approving Revised Exhibits, issued November 4, 1994.

²82 FERC ¶ 62,080, issued February 8, 1998.

since it is a regional distribution line owned by Alaska Power Company. The line transmits power from various power plants along the route including BBL's Black Bear Lake Project. At Staff's request, on October 13, 1999, BBL Hydro filed a map showing the power generation sites that are currently interconnected with the Big Salt Road distribution line.

A public notice of BBL Hydro's proposal to remove the Big Salt Road portion of the transmission line from the license was issued on October 25, 1999. No comments were received. This order removes the Big Salt Road portion of the transmission line from the Black Bear Lake Project's license and changes the project's description accordingly.

Staff reviewed the revised exhibits G-1, G-3 filed along with the license amendment application on March 12, 1999, and revised exhibit G-2 submitted along with a letter dated December 7, 1999, and found them to be in conformance with the Commission's rules and regulations. Since exhibit G-4 only contains the transmission line, and that line is no longer part of the project, the exhibit can be eliminated from the license. This order approves the exhibit drawings and assigns drawing numbers as described in ordering paragraph (C).

The Director orders

(A) The application for amendment of license for the Black Bear Lake Project, FERC No. 10440, filed on March 12, 1999, is approved effective the issuance date of this order.

(B) The project's description in Ordering Paragraph (B)(2) is revised in part to read as follows:

(2) Project works consisting of(k) a 34.5 kV, 4.5 mile long transmission line from the powerhouse to the intersection with the Big Salt Road distribution line;...

(C) The exhibits G-1 and G-3 filed along with the amendment application on March 12, 1999, and exhibit G-2 filed along with December 7, 1999 letter, conform to the Commission's rules and regulations. The order approves the filed exhibit drawings and assigns drawing numbers as-shown below.

Exhibit	Assigned FERC Drawing No.	Title	Superseded Drawing No.
G-1	10440-57	Facility Location Map	10440-10
G-2	10440-58	Site Plan	10440-11
G-3	10440-59	Transmission Line Route	10440-12

(D) Exhibit G-4, FERC drawing No.10440-13 is eliminated from the license.

(E) Within 90 days of the date of issuance of this order, the licensee shall file four original sets of aperture cards of the approved drawing reproduced on silver or gelatin 35 mm microfilm. All microfilm should be mounted on Type D (3¼" x 7⅞") aperture cards.

Prior to microfilming, the FERC Drawing Numbers,(10440-57 thru 59), shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number should be typed in the upper right corner of each aperture card. Additionally, the Project Number, FERC exhibit G(1 thru 3), Drawing Title, and date of this order should be typed in the upper left corner of each aperture card. See Figure 1.

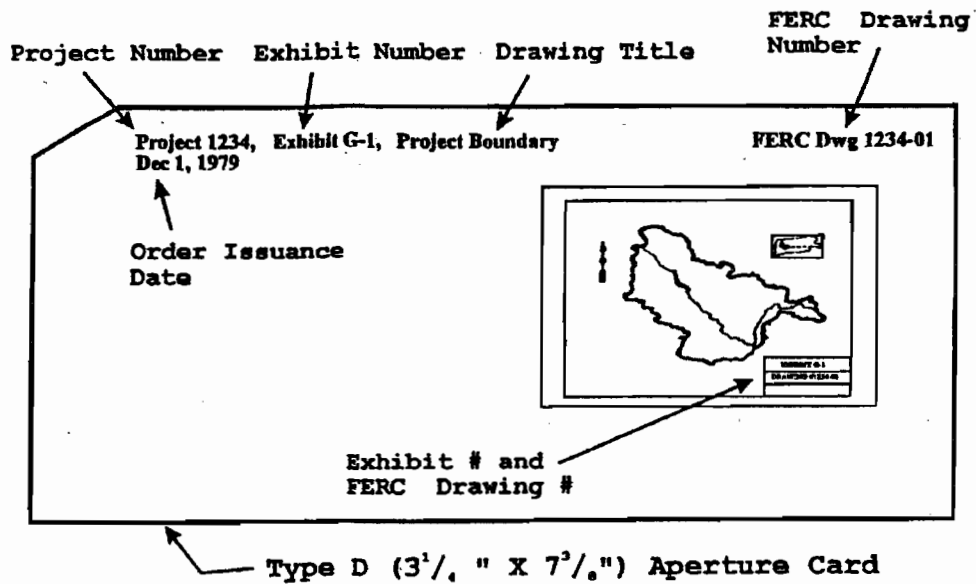


Figure 1. Sample Aperture Card Format

The original and one duplicate set of aperture cards should be filed with the Secretary of the Commission. One duplicate set of aperture cards should be filed with the Commission's Portland Regional Office. The remaining set of cards, should be filed with the Bureau of Land Management's Alaska State Office at the Following address:

State Director
Alaska State Office
Bureau of Land Management
222 W 7th Avenue #13
Anchorage, AK 99513-7599

(F) This order constitutes final agency action. Requests for rehearing by the commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. §385.713.

Hossein Ildari
Chief
Engineering Compliance Branch

BLACK BEAR LAKE HYDROELECTRIC PROJECT

NO. 10440

ATTACHMENT 'H'

H. Cultural Resource Protection

Nothing has changed from the original LIHI certification process for Cultural Resource Protection. No significant archaeological or historical sites were discovered either during the archaeological survey or during the pre-field literature search or during interviews held with several persons especially knowledgeable about area history. A cultural resource management plan would only have been developed if archaeological or historical sites were discovered during construction, though none were.