

120 FERC ¶ 62,148
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Chugach Electric Association

Project No. 2170-029

ORDER ON OFFER OF SETTLEMENT AND ISSUING NEW LICENSE

(Issued August 24, 2007)

1. On April 20, 2005, Chugach Electric Association (Chugach) filed an application for a new license pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),¹ to continue operation and maintenance of the 19.38-megawatt (MW) Cooper Lake Hydroelectric Project No. 2170 located on Cooper Lake, Cooper Creek, and Kenai Lake, near the community of Cooper Landing in south-central Alaska. The project occupies lands of the Chugach National Forest administered by the U.S. Forest Service (Forest Service).² Also, as explained below, the project occupies lands that were federal lands before being transferred to the State of Alaska. The United States, however, retained an interest in these lands.
2. On August 31, 2005, Chugach filed a comprehensive settlement agreement (Agreement) among Chugach, Forest Service, U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), National Park Service (Park Service), Alaska Department of Natural Resources (Alaska DNR), Alaska Department of Fish and Game (Alaska DFG), Kenaitze Indian Tribe, Alaska Center for the Environment, Fish For Cooper Creek Coalition, and Alaska Fly Fishers.
3. For the reasons discussed below, I am issuing a new 50-year license for the project.

¹ 16 U.S.C. §§ 797(e) and 808 (2000).

² The project is required to be licensed pursuant to section 23(b)(1) of the FPA, 16 U.S.C. § 817(1) (2000), because the project occupies lands of the United States.

BACKGROUND

4. The Commission issued a license for the Cooper Lake Hydroelectric Project on May 27, 1957.³ The existing license expired on April 30, 2007. The project is currently being operated pursuant to an annual license.

5. On April 20, 2005, Chugach filed an application for a new license for the project using the Commission's traditional licensing procedures. On February 28, 2006, a public notice accepting the license application was issued, setting May 1, 2006, as the deadline to file comments, protests, and motions to intervene, as well as terms, conditions, prescriptions, and recommendations. It also requested comments on the Agreement. Interventions were timely filed by Alaska DFG, U.S. Department of Agriculture, Alaska Center for the Environment, Fish for Cooper Creek Coalition, Alaska Fly Fishers, NMFS, and American Rivers.⁴

6. Commission staff issued an Environmental Assessment (EA) on November 17, 2006, that evaluated continued operation of the project and continued operation with proposed measures filed in the Agreement along with the conditions submitted by the Forest Service under section 4(e) of the FPA and staff's additional or modified measures. Comments on the EA were filed by FWS, NMFS, Chugach, Forest Service, and Alaska DFG. In general, the comments were editorial or meant to clarify the intent of the settlement agreement or staff recommendations regarding timing of actions to be taken after issuance of the new license. All motions to intervene, comments, and recommendations have been fully considered in determining whether, and under what conditions, to issue this license.

PROJECT DESCRIPTION AND OPERATION

A Project Description

7. The existing Cooper Lake Project consists of a 920-foot-long rock-and-fill dam that raises the elevation of Cooper Lake (a natural lake) to a licensed maximum operating level of 1,210 feet mean sea level (msl); Cooper Lake, with a surface area of 2,910 acres; an intake structure on the southeast shore of Cooper Lake; a 10,686-foot-long tunnel and penstock; a powerhouse located on the southwest shore of Kenai Lake containing two

³ *Chugach Electric Association, Inc.*, 17 FPC 759 (1957).

⁴The motions were timely and unopposed, and were therefore automatically granted by operation of 18 C.F.R. § 385.214(c)(1)(2007). None of the intervenors oppose the project.

turbine-generators, each rated at 9.69 MW; a 6.3-mile-long, 69-kilovolt (kV) transmission line extending from the powerhouse to the Quartz Creek substation; a step-up transformer at the Quartz Creek substation; and a 90.4-mile-long, 115-kV transmission line from the Quartz Creek substation to the Anchorage substation.

8. As explained below, the transmission line between the Quartz Creek and Anchorage substations is not the project's primary transmission line, and it is therefore not required to be licensed. It will however remain in the license until Chugach receives necessary authorization for the line's occupation of state and national forest lands.

B. Project Operation

9. The project is operated to maximize its value in an integrated generation network. In other words, it is used for peaking purposes and to meet base load or other system needs as electrical constraints change. Project operation is not guided by a rule curve, but by reservoir inflow, Chugach's customer demands, and project safety requirements. Chugach conservatively operates the project to prevent spill and overtopping of the dam by generally limiting the maximum reservoir level to 1,194 feet msl. The minimum reservoir level is generally maintained above 1,170 feet. Typically, Cooper Lake is drawn down from late fall until early spring, then rapidly refilled during the late spring and early summer snow melt. On average, the reservoir fluctuates about 15 feet throughout the year. Except for the seasonal drawdown, daily fluctuations in water surface elevation do not exceed one inch over 24 hours due to power withdrawals, and typically do not vary more than one to two feet within a month.

10. Project operations currently divert all flow from Cooper Lake through the tunnel/penstock to the project powerhouse, where it is discharged into Kenai Lake. The 4.8-mile-long Cooper Creek bypassed reach below the Cooper Lake dam receives no flow from Cooper Lake; there is no existing minimum flow requirement for Cooper Creek and no outlet structure to provide such flows. The project has an average annual generation of about 48,500 megawatt-hours (MWh) and an average outflow through the powerhouse of about 100 cubic feet per second (cfs) which is equivalent to 73,000 acre-feet/year. Powerhouse discharge ranges from 0 to 380 cfs into Kenai Lake, which is the source of the Kenai River.

11. To improve salmon and trout spawning habitat in Cooper Creek, Chugach proposes to divert flow from Stetson Creek directly into Cooper Lake and release up to 10,256 acre-feet of warmer water from Cooper Lake into Cooper Creek. Stetson Creek is the major tributary to Cooper Creek below the dam, providing on an average basis about 65 percent of the flow in Cooper Creek. To provide these flow releases, Chugach would construct a diversion structure with manual controls on Stetson Creek about 7,000 feet upstream of its confluence with Cooper Creek; construct an approximately 11,000-foot-long pipeline designed to carry up to 110 cfs (approximately 18,255 acre-feet per year)

from the Stetson Creek diversion structure to an outflow point in Cooper Lake; and construct a water bypass structure (with the ability to maintain a variable flow capacity of up to 30 cfs) through the existing project dam. The bypass structure would allow for the release of water from Cooper Lake into Cooper Creek from a manually controlled, screened diversion structure within Cooper Lake (about 600 feet from the crest of the dam) to an outflow energy dissipation structure downstream of the dam.

12. The 10,256 acre-feet of flow released to Cooper Creek would be released at a year-round minimum rate from 10 to 30 cfs, peaking at up to 30 cfs from June through October. To accommodate changes in water availability and environmental and biological conditions in Cooper Creek, specific releases from Cooper Lake would be defined annually by an Interagency Committee⁵ and are expected to range from 10 to 25 cfs depending on the month, as defined in the default flow release schedule included in the Agreement. If any portion of the 10,256 acre-feet is not released within a water year, Chugach would “bank” that volume for potential release in a future year at the direction of the Interagency Committee. In addition, half of any inflow diverted from Stetson Creek in excess of 18,255 acre-feet (defined as supplemental flow) would also be available for release into Cooper Creek in a future year, after taking into consideration any water-for-generation deficits. Water-for-generation deficits occur if, for any given year, actual flow from Stetson Creek is less than 18,255 acre-feet. The deficit accumulates and carries forward each year and deficits must be made up before any supplemental water (above 10,256 acre-feet) is released into Cooper Creek.

13. Chugach would continue to operate the project to maintain the Cooper Lake reservoir between 1,160 feet msl and the normal maximum operating level of 1,194 feet msl. However, the additional inflow from Stetson Creek is expected to provide an annual average of about 8,000 additional acre-feet of water to generate electricity. While the capacity of the plant would not increase, the total annual production would increase by an estimated 3,000 MWh.

C. Project Boundary

14. Under the current license, the project boundary encloses Cooper Lake at the 1,220-foot contour line; the dam, spillway, intake structure, and tunnel headworks on Cooper Lake; a 50-foot right-of-way (ROW) along the 10,686-foot-long tunnel and penstock from the intake on the southeast shore of Cooper Lake to the powerhouse on the southwest shore of Kenai Lake; the powerhouse and switchyard; an approximately 100-foot-wide ROW along the 6.3-mile-long, 69-kV transmission line; the Quartz Creek

⁵ The Interagency Committee would consist of representatives from Forest Service, FWS, NMFS, Alaska DNR, and Alaska DFG.

substation; and an approximately 100-foot-wide ROW along the 90.4-mile-long, 115-kV transmission line to the Anchorage substation.

15. Chugach proposes and has filed revised exhibit G drawings to include the following additional facilities in the new license: the Forest Service access road from the Forest Service Cooper Creek campground to Cooper Lake dam; the spur road to the powerhouse; the spur road to the project intake; the spur road to the tunnel headworks; and the spur road to the surge tank. These existing spur roads extend to project features from the Snug Harbor Road and are needed exclusively to maintain and operate the project, but are not currently in the project boundary. Chugach proposes to further modify the project boundary to include the Stetson Creek diversion, a pipeline to an outlet in Cooper Lake, and an access road that would parallel the pipeline (a total area of about 19 acres). The Cooper Lake boundary may also need to be expanded to include a new release structure at the existing dam, if final designs extend the structure past the current dam face.

16. The Forest Service manages lands on which Cooper Lake, Cooper Lake dam, the Stetson Creek facilities, and portions of the 90.4-mile-long transmission line are located.

SETTLEMENT AGREEMENT

17. By its terms, the Agreement resolves among the settling parties all issues associated with the Cooper Lake Project relicensing.

18. The Agreement consists of six sections and four appendices. Section 1 lists the parties to the Agreement, presents the purpose and effect of the Agreement, and provides definitions. Section 2 describes the general provisions of the Agreement, including its scope and structure, the licensees' and other parties' obligations under the Agreement, the term of the Agreement, and dispute resolution procedures. Section 3 describes expected actions of the licensee and the settling parties to support the Agreement and procedures for modifying or terminating the Agreement. As discussed in further detail below, Section 4 describes various operational and other environmental measures covered by proposed license articles set forth in Appendix A to the Agreement that the settling parties request be included in a new license without material modification. Section 5 describes off-license provisions of the Agreement.⁶ Section 6 describes limitations of

⁶ The non-license provisions provide for the establishment of an interagency committee to evaluate instream flow needs and determine the desired instream release schedule of Cooper Creek and Stetson Creek on an annual basis, including operating bylaws described in an Memorandum of Agreement among the Forest Service, FWS, NMFS, Alaska DNR, and Alaska DFG that is found in Appendix C to the Agreement. Other non-license provisions include an agreement between Chugach and the Forest

(continued)

applicability of the Agreement, binds the parties to the Agreement, describes the procedures to be followed if performance is delayed or prevented by Force Majeure, describes notification and communication procedures,⁷ describes responsibilities for costs incurred in implementing the Agreement, and sets forth other miscellaneous items of responsibility.

19. Nine of the proposed articles in Appendix A to the Agreement deal with Forest Service approval for use of national forest system lands⁸ and various administrative requirements of the Commission.⁹ These articles have been included in this license, respectively, as Forest Service conditions submitted under FPA section 4(e) (attached as Appendix A to this order) and as license articles with minor modifications to conform to Commission practice.

20. The remaining ten proposed license articles are project-specific environmental measures.¹⁰ Proposed Agreement Article 401 provides for the construction of the Stetson

Service for shared maintenance of Snug Harbor Road, modifications to a culvert on Porcupine Creek to improve fish passage, the design and construction of a winter access parking area off Snug Harbor Road, and an annual contribution of \$6,000 to the Kenaitze Indian Tribe for support of cultural and educational programs. The improvements to Porcupine Creek were completed in April 2007.

⁷ Contact information for the responsible parties is found in Appendix D to the Agreement.

⁸ The Forest Service included Settlement Agreement Article 306 as Condition 10 of its section 4(e) conditions. Settlement Agreement Article 306 covers Forest Service approval of activities on Forest Service lands.

⁹ These include standard license articles that set administrative annual charges (Article 201), establish amortization reserves (Article 202), require filing of approved exhibit drawings (Article 203), require filing of revised exhibit drawings following completion of construction activities (Article 301), require Commission review and approval of final construction plans and specifications (Article 302), establish a quality control and inspection program for construction activities (Article 303), require Commission approval of cofferdam construction drawings and a temporary emergency action plan (Article 304). These articles are consistent with the proposed standard articles.

¹⁰ The settlement parties number their articles 401 to 410. These numbers do not reflect those of this license. To distinguish between the requirements of this license and those proposed by the Agreement, this order will refer to the Agreement articles as proposed Agreement Articles and those of this license as Articles.

Creek diversion, the pipeline to Cooper Lake, and the Cooper Lake bypass structure within six years after issuance of a new license, at an estimated cost of \$9.2 million in 2004 dollars. A detailed plan for the construction of the facilities would be filed within 36 months of license issuance.

21. Proposed Agreement Article 402 provides a mechanism by which Chugach would notify the Commission and the parties to the Agreement if the facilities could not be built because of permitting problems, legal prohibitions, or lack of necessary water rights or if the capital cost to build the facilities would exceed \$11 million in 2004 dollars. In such an instance, Chugach would consult with the settlement parties and file with the Commission a mutually acceptable alternative to the proposal, including as necessary, a license amendment.

22. Proposed Agreement Article 403 provides for the diversion of up to 110 cfs of flow from Stetson Creek and the annual release of 10,256 acre-feet of water into Cooper Creek, from either Cooper Lake or a combined flow from Cooper Lake and Stetson Creek. The proposed article also provides for flow releases that, when combined with natural flows, will provide flushing flows in Cooper Creek for up to 30 days in any rolling ten year period.¹¹ The flow release schedule would be developed with direction from an Interagency Committee that would provide the release schedule by May 1 of each year, based on an annual report from Chugach that describes the amount of water released in the previous water year (May 1 to April 30) and the amount that is projected to be available during the water year beginning May 1 of that year. In the absence of a release schedule, a default monthly flow and volume release schedule would be followed. The proposed article also defines a complex water allocation procedure that accounts for variability of water between years.

23. Proposed Agreement Article 404 provides for monitoring of flows through the Stetson Creek diversion, outflows from the Cooper Lake bypass structure, and flows and temperature at a gage at the mouth of Cooper Creek. These are to be continuously recording gages that comply with U.S. Geological Survey (USGS) standards. Once the flow releases have begun, Chugach would report quarterly to the Interagency Committee the amount of flows released from the Cooper Lake bypass structure and the amount diverted to Cooper Lake from Stetson Creek.

24. Proposed Agreement Article 405 provides that Chugach will develop, fund, and implement studies and monitoring programs for water temperature, biological conditions, and geomorphological processes to assist the Interagency Committee in developing

¹¹ A flushing flow is defined as occurring when the average daily flow at the U.S. Geological Survey gage at the mouth of Cooper Creek meets or exceeds 150 cfs.

instream and flushing flow recommendations to optimize instream habitat in Cooper Creek and to monitor fish responses to instream flows and diversions.¹²

25. Proposed Agreement Article 406 provides that Chugach would operate the project to maintain the Cooper Lake reservoir level between 1,160 msl and the normal maximum operating level of 1,194 msl, as it is currently operated. In addition, between January 1 and April 30, Chugach would not shut down the powerhouse for more than three consecutive days when the water level at the USGS gage at the Kenai River Bridge shows flows less than 500 cfs in the Kenai River, unless an emergency occurs, in which case Chugach would release 60 cfs into Kenai Lake.

26. Proposed Agreement Article 407 provides that Chugach would implement the Transmission Line ROW Management Plan and Access Management and Maintenance Plan, which defines best management practices, protocols, and consultation requirements for use and maintenance of the transmission ROWs. It also requires that access points along the transmission lines will be closed to the public. The proposed article further provides for termination of Commission jurisdiction over the 90.4-mile-long, 115-kV transmission line when all necessary permits and approvals are obtained from the Forest Service, the State of Alaska, and other land owners, as applicable. Documentation that such permits have been obtained would be filed within three years of the effective date of the license.

27. Proposed Agreement Article 408 provides that Chugach would maintain the road from the beginning of the Forest Service property to the Cooper Lake Dam and proposed Stetson Creek diversion structure. Chugach would also seek a special use permit from the Forest Service within three years of license issuance that requires gating the access road and allowing recreational access consistent with Forest Service properties, so long as the recreational use does not interfere with project maintenance and operation. The proposed article further provides that Chugach would maintain four spur roads off of Snug Harbor Road and would comply with applicable lease and permitting requirements for use of State of Alaska lands, including working with Alaska DNR to resolve applicable leasing and permitting requirements of state lands underlying project facilities, complying with applicable requirements, and paying necessary fees or assessments.

¹² Agreement Article 405 initially contained funding limits for conducting studies and broadly defined studies. On November 9, 2005, Chugach filed on behalf of the settling parties, a revision to proposed Agreement Article 405 that provided greater detail regarding the objectives of the studies and removed the funding limits, noting that the parties remain committed to the funding limits of the original proposed article. Forest Service section 4(e) condition 16 mirrors the revised proposed Agreement Article.

28. Chugach would report to the Commission upon conclusion of these permitting issues.

29. Proposed Agreement Article 409 provides for painting the powerhouse and intake structure to Forest Service specification to reduce the visual contrast of facilities with the surrounding environment.

30. Proposed Agreement Article 410 provides that Chugach would implement the provisions of a Programmatic Agreement and a Historic Properties Management Plan to protect historical properties.

SECTION 4(e) FINDINGS AND CONDITIONS

31. Section 4(e) of the FPA,¹³ provides that the Commission can issue a license for a project located within any reservation only if it finds that the license will not interfere or be inconsistent with the purposes for which such reservation was created or acquired. The project occupies lands of the Chugach National Forest, which is a federal reservation under Forest Service supervision.

32. I have reviewed the Organic Administration Act of 1897,¹⁴ which established the purposes for forest reservations, and the presidential proclamation that created the Chugach National Forest.¹⁵ There is no evidence or allegation in this proceeding to indicate that relicensing of the Cooper Lake Project would interfere with the purposes of the Chugach National Forest within which the project is located. Therefore, I find that this license, as conditioned, will not interfere or be inconsistent with the purposes for which the Chugach National Forest was created.

33. FPA section 4(e) further requires that Commission licenses for projects located within federal reservations must include all conditions that the Secretary of the

¹³ 16 U.S.C. § 797(e) (2000).

¹⁴ 16 U.S.C. § 473 *et seq.* (2000).

¹⁵ The Chugach National Forest was established by Presidential Proclamation of July 23, 1907, 35 Stat. 2149 (1907). At the time, the Organic Administration Act of 1897, 16 U.S.C. § 475 (2000), stipulated that all national forest lands were established and administered only for watershed protection and timber production. These are the only purposes that are relevant for a Commission determination under section 4(e) as to whether a project will interfere or be inconsistent with the purpose for which the reservation (national forest) was created or acquired. *See Rainsong Company v. FERC*, 106 F.3d 269 (9th Cir. 1997).

department under whose supervision the reservation falls shall deem necessary for the adequate protection and utilization of such reservation. The Forest Service filed its section 4(e) conditions on April 25, 2006.

34. The Forest Service submitted 18 section 4(e) conditions for the project. Conditions 1-7 require Chugach to: (1) annually consult with the Forest Service; (2) restore National Forest System Lands in the event of the surrender of license; (3) implement a Hazardous Substance Plan; (4) take care in handling explosives; (5) restrict pesticides use; (6) implement a Fire Prevention Plan; and (7) implement a Noxious Weed Management Plan. Condition 8 reserves authority for the Forest Service to modify its section 4(e) terms and conditions. Condition 9 requires Chugach to stop work and notify the Forest Service in the event that any unidentified cultural resources are discovered during the term of the new license.

35. Condition 10 mirrors proposed Agreement Article 306. Conditions 11-18 mirror proposed Agreement Articles 401- 408, with the exception of proposed Agreement Article 408(b).¹⁶ The provisions of the proposed Agreement Articles that are included in the conditions submitted under section 4(e) of the FPA are thus required to be included in this license.

36. The Forest Service's section 4(e) conditions are attached to this license in Appendix A, and made a part of this license by ordering paragraph (D).

DISCUSSION OF SETTLEMENT TERMS

37. The Commission looks with favor on settlements in licensing cases. When parties are able to reach settlements, it can save time and money, avoid the need for protracted litigation, promote the development of positive relationships among entities who may be working together during the course of a license term, and give the Commission, as it acts on license and exemption applications, a clear sense as to the parties' views on the issues presented in each settled case.¹⁷ At the same time, the Commission cannot automatically

¹⁶ Forest Service Condition 18 does not include proposed Agreement Article 408(b), which describes maintenance responsibilities of the four spur roads off Snug Harbor Road and the efforts that would be followed to resolve leasing and permitting requirements for project facilities.

¹⁷ See *Settlements in Hydropower Licensing Proceedings under Part I of the Federal Power Act*, 116 FERC ¶ 61,270 at P 2-12 (2006).

accept all settlements, or all provisions of settlements. Section 10(a)(1) of the FPA¹⁸ requires that the Commission determine that any licensed project is:

best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes referred to in section 4(e)....

38. Consequently, in reviewing settlements, the Commission looks not only to the wishes of the settling parties, but also at the greater public interest, and whether settlement proposals meet the comprehensive development/equal consideration standard.

A. Approval of Plans and License Amendments

39. Forest Service Conditions 3 (Hazardous Substance Plan), 6 (Fire Prevention Plan), and 7 (Noxious Weed Management Plan) require development of plans for approval by the Forest Service. Article 401(a) requires that the plans be filed with the Commission for approval before implementation. The plans shall include an implementation schedule.

40. The settling parties contemplated that development of the Stetson Creek diversion and Cooper Lake releases might prove to be infeasible. If that is the case, the parties have agreed to notification procedures to alert the parties and the Commission and to consultation requirements and timeframes to identify alternative mitigation proposals. The settling parties provided for Commission approval of any modifications to the plan and an amendment to the license as necessary. The Forest Service included these contingency procedures (Condition 12) as a section 4(e) condition. For the record, any measure that would not result in the construction of the Stetson Creek diversion and pipeline, or the Cooper Lake bypass structure would be a material change to the license that requires a license amendment.¹⁹

¹⁸ 16 U.S.C. § 803(a) (1) (2000).

¹⁹ See Article 401(b). The Commission's regulations, as well as the terms of the license and basic due process principles, govern what types of alterations require what sorts of submittals or public notice.

B. Instream Flow Compliance and Gaging

41. The settling parties established a complicated accounting system that allows the Interagency Committee to consider within- and between-year water availability to establish flow release schedules to best meet resource objectives of improving water temperatures and habitat conditions for salmon and trout in Cooper Creek. The Agreement also provides for modifying instream flow release schedules up to twice a month between May and October (weather and access permitting) upon request by the Interagency Committee (proposed Agreement Article 403, and required by Forest Service Condition 13). However, it does not provide for modifying instream flow releases based on emergency conditions.

42. To ensure compliance with the instream flow releases and gather information for recommending the annual flow release schedule, the licensee would monitor flows through Stetson Creek, outflows from Cooper Lake, and flows and temperature at a gage at the mouth of Cooper Creek (proposed Agreement Article 404, and required by Forest Service Condition 14). The licensee would report to the Interagency Committee quarterly the amount of flow diverted from Stetson Creek to Cooper Lake and the outflow from the Cooper Creek bypass structure. The EA recommends that a final gaging plan be filed for Commission approval. Article 403 requires the gaging plan to be filed at least one year prior to providing the flow releases.

43. Staff evaluated the proposed release schedule, including anticipated modifications, and recommended that they be adopted in a new license.²⁰ Staff also noted the need to allow for temporary modifications to the flow release schedule in cases of emergencies beyond the control of the licensee. They also recommended that the licensee notify the Commission by May 31 of the flow release schedule established for that water year so that the Commission could follow established flow requirements and ensure compliance with the license. Therefore, Article 404 requires the licensee to file the flow release schedule by May 31 and to notify the Commission of any alterations in flow due to emergencies.

C. Transmission Line Disposition and Right-of-Way Management

44. The project currently includes two transmission lines: a 6.3-mile-long, 69-kV line from the powerhouse switchyard to the Quartz Creek substation and a 90.4-mile-long, 115-kV line from the Quartz Creek substation to a substation in Anchorage, Alaska. Chugach states in its application that the line connecting the Quartz Creek and Anchorage substations likely no longer conforms to the Commission's definition of a primary

²⁰ EA at 146-48.

transmission line²¹ and thus is no longer subject to Commission jurisdiction. However, the settling parties desire that the Commission retain jurisdiction until all necessary permits and approvals are obtained from the Forest Service, State of Alaska, and other land owners, as applicable. The settling parties also expect that the licensee will apply for such permits and approvals within six months of license issuance, and that such permits and approvals will be obtained within three years of license issuance (proposed Agreement Article 407). Forest Service Condition 17 requires these provisions to be included in the license.

45. The information in the license application indicates that the 6.3-mile-long transmission line from the powerhouse to Quartz Creek Substation in Cooper Landing serves as the project's primary transmission line. The 90.4-mile-long transmission line from Quartz Creek substation to the Anchorage substation is no longer used solely to transmit power from the project, but rather is an integral part of the connection between the Anchorage/Alaska Railbelt grid and the Kenai Peninsula grid and various distribution points. Thus, it is not required to be licensed.

46. This order approves the deletion from the license of the 115-kV transmission line. However, the deletion and revised project description will not become effective until Chugach receives special use authorization from the Forest Service and any other approvals for use and occupancy of state and federal lands. Forest Service Condition 17 (in Appendix A of this license), as required by Ordering paragraph D of this license, requires Chugach to file with the Commission documentation that Chugach has obtained all necessary permits and approvals. Only after filing such documentation will annual charges be revised to reflect the removal of these lands from the project (Article 201).

47. Forest Service Condition 17 further requires the licensee to implement the Transmission Line ROW Management Plan and Access Management and Maintenance Plan (proposed Agreement Article 407) contained in appendix B to the Agreement. Staff reviewed the management plan and generally recommends that the measures set forth in the plan be made part of the license. However, staff noted that some information was omitted in the plan, including procedures for avoiding or minimizing impacts to nesting

²¹ Section 3(11) of the FPA, 16 U.S.C. § 796(11), defines a project as including "the primary line or lines transmitting power therefrom to the point of junction with the distribution system or with the interconnected transmission system." A line is generally considered to be a primary transmission line if it is used solely to transmit power from a licensed project to a load center, and if there would be no other way to market the full capacity of the project. *See, e.g., Pacific Gas and Electric Co.*, 85 FERC ¶ 61,411 at 62,559 (1998).

birds.²² Article 405 requires the licensee to file a final plan, including such provisions, for Commission approval within one year of license issuance.

D. Roads within the Project Boundary

48. Chugach proposes to include in the project boundary: (a) the existing access road to Cooper Lake Dam beginning from the Forest Service property and extending to the dam; (b) the proposed road to the proposed Stetson Creek diversion structure; and (c) four existing spur roads off Snug Harbor Road that provide access to the project powerhouse, surge tank, tunnel portal, and intake structure. Project boundaries are used to designate the geographic extent of the lands, waters, works, and facilities that the license identifies as constituting the licensed project and for which the licensee must hold the rights necessary to carry out project purposes. Staff found that these roads provide the only access routes to specific project facilities, would be necessary to construct, operate and maintain the Stetson Creek diversion, and are, or would be, used almost exclusively to maintain and operate the project.²³ Therefore the above roads should be brought into the project boundary and the licensee made responsible for their maintenance.²⁴ Article 204 requires the licensee to file revised Exhibit G (project boundary) drawings that, among other things, include these roads.

49. Forest Service Condition 18, which mirrors proposed Agreement Article 408(a), requires the licensee to obtain a special use permit for the access roads to Cooper Lake Dam and the proposed Stetson Creek diversion access road, gate these roads, maintain them consistent with the terms of the special use permit and the licensee's needs, and provide recreational access consistent with Forest Service land management practices so long as it does not interfere with the licensee's maintenance and operation needs. The Alaska DFG recommended that Chugach restrict motorized access into the Cooper Creek watershed. Because of the remoteness of the Cooper Creek watershed, the sensitive

²² In its December 8, 2006 comments on the EA, FWS states that it has modified its recommended timing guidelines for vegetation clearing in Alaska to reduce the risk of take of migratory birds. The revised guideline is to avoid vegetation clearing between May 1 and June 15 as opposed to the April 15 to July 15 period noted in the EA. Article 405 reflects the revised time period.

²³ EA at 126-127.

²⁴ See, e.g., *Portland General Electric Company*, 117 FERC ¶ 61,112 (2006). While the extent to which project roads may be found necessary for project purposes may vary from case to case, as a general matter the concept of roads being "necessary" for a project is restricted to roads used solely by a project.

species that inhabit the watershed, and the increasing recreational demand in the area, staff recommended that a public access control plan be developed that describes procedures and schedules for maintaining the gates, monitoring the effectiveness of the gates for controlling motorized access, and identifying additional measures if gating proves ineffective at controlling motorized access.²⁵ Article 406 requires a public access control plan for the Cooper Lake Dam access road and the proposed Stetson Creek diversion access road to be filed for Commission approval within one year of license issuance.

50. Proposed Agreement Article 408(b) further provides for the licensee to maintain the four spur roads off Snug Harbor Road for operational purposes. However, it also provides that the licensee will comply with applicable lease and permitting requirements for use of State of Alaska lands; work with the Alaska DNR and applicable federal agencies to resolve what leasing and permitting requirements are applicable to the state lands underlying the spur roads, powerhouse, intake structure, and any other state lands affected by the project; comply with such applicable requirements and pay necessary fees or assessments; and report to the Commission upon conclusion of these issues.

51. Article 407 of the license requires the licensee to maintain the four spur roads for operational purposes as requested by the settlement parties; however, I have not included the remaining provisions of proposed Article 408(b) which would require the licensee to comply with unidentified and undefined lease and permitting requirements. The Commission prefers that its licensees be good citizens of the communities in which projects are located, and thus comply with state and local requirements, where possible. However, I cannot state with certainty what requirements may be included in, or precluded by, our future orders. Thus, it would be inappropriate to condition this license with such vague and unspecified terms.²⁶

E. Aesthetic Enhancements

52. Proposed Agreement Article 409 would require the licensee to paint the project powerhouse and intake structure in accordance with Forest Service color specifications within two years of license issuance. Painting the powerhouse and intake structure would reduce the contrast of these facilities with the surrounding environment and help meet

²⁵ EA at 147.

²⁶ In any event, standard Article 5 of the license requires the licensee to acquire sufficient rights necessary to carry out its responsibilities under the license. In the event Chugach cannot obtain such rights through negotiation, it may exercise the eminent domain authority conferred by section 21 of the FPA, 16 U.S.C. § 814 (2000).

Forest Service visual management guidelines for power facilities.²⁷ This license includes a requirement to paint the powerhouse and intake as requested by the settling parties (Article 409).

WATER QUALITY CERTIFICATION

53. Under section 401(a)(1) of the Clean Water Act (CWA),²⁸ the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued 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 one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.²⁹

54. By letter dated May 3, 2005, to the Alaska Department of Environmental Conservation (Alaska DEC), Division of Water, Chugach requested a waiver from section 401 of the Clean Water Act. On June 2, 2005, Alaska DEC notified Chugach that the agency waived its right to issue a 401 certification for the relicensing of the Cooper Lake Project.

COASTAL ZONE MANAGEMENT ACT

55. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),³⁰ the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification. By letter filed March 19, 2007, the Alaska DNR concurred with Chugach's certification.

SECTION 18 FISHWAY PRESCRIPTIONS

56. Section 18 of the FPA,³¹ provides that the Commission shall require the construction, operation, and maintenance by a licensee of such fishways as may be

²⁷ EA at 132-35.

²⁸ 33 U.S.C. § 1341(a)(1) (2000).

²⁹ 33 U.S.C. § 1341(d) (2000).

³⁰ 16 U.S.C. § 1456(3)(A) (2000).

³¹ 16 U.S.C. § 811 (2000).

prescribed by the Secretaries of Commerce or the Interior, as appropriate. Neither department submitted section 18 prescriptions for the Cooper Lake Project nor reserved its authority to prescribe fishways at a later date.

ESSENTIAL FISH HABITAT

57. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (Act),³² 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)(A) of the Act, NMFS is required to provide EFH conservation recommendations for actions that would adversely affect EFH.³³ Under section 305(b)(4)(B) of the Act, an agency must, within 30 days after receiving recommended conservation 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.³⁴

58. Staff found that licensing the project in accordance with the Agreement and staff's recommended measures would not adversely affect EFH of Pacific salmon and that consultation under section 305(b)(2) of the Act is not necessary.³⁵ By letter filed December 14, 2006, NMFS concurred with staff's determination, provided that the operational and enhancement measures recommended in the EA are included in the license.

THREATENED AND ENDANGERED SPECIES

59. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA),³⁶ 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 their designated critical habitat. No ESA-listed species are known to occur in the project area.

³² 16 U.S.C. § 1855(b)(2) (2000).

³³ 16 U.S.C. § 1855(b)(4)(A) (2000).

³⁴ 16 U.S.C. § 1855(b)(4)(B) (2000).

³⁵ EA at 20.

³⁶ 16 U.S.C. § 1536(a) (2000).

NATIONAL HISTORIC PRESERVATION ACT

60. Under section 106 of the National Historic Preservation Act (NHPA),³⁷ and its implementing regulations,³⁸ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register (defined as historic properties) and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

61. To satisfy these responsibilities, the Commission executed a Programmatic Agreement (PA) with the Alaska SHPO and invited Chugach; the Forest Service; Cook Inlet Region, Inc.; Kenaitze Indian Tribe; Salamatof Native Association, Inc.; Ninilchik Traditional Council; Kenai Native Association, Inc.; Native Village of Eklutna; and Alaska DNR to concur with the stipulations of the PA. The Cook Inlet Region, Inc.; Kenaitze Indian Tribe; Salamatof Native Association; and Chugach concurred.

62. The Forest Service did not sign the PA, citing concerns that the wording in the PA inappropriately delegates the Commission's decisional authority to the licensee. Additionally, because its role would be limited to a concurring party to the PA, the Forest Service claims that it would not have sufficient authority to protect resources on its lands. As explained in the April 19, 2007 Commission staff letter submitting a revised PA for signature, the Cooper Lake PA contains standard provisions used in PAs for hydroelectric projects across the country. The language has been developed with the Advisory Council on Historic Preservation. Nonetheless, Forest Service concerns are addressed in the existing PA. As staff notes in its April 19, 2007 letter, the Commission remains legally responsible for all findings and determinations. Where any disagreement arises among any parties to the PA, including concurring parties, those disagreements may be brought before the Commission to resolve in accordance with stipulation IV of the PA.

63. A Historic Properties Management Plan (HPMP) for the Cooper Lake Project was filed on September 27, 2005. During deliberations over the PA, it was agreed that the HPMP should be modified to clarify a few procedural matters in carrying out the tasks defined in the September 2005 HPMP. The PA stipulates that the licensee shall prepare and implement a HPMP for the term of any new license issued for this project. Execution of the PA demonstrates the Commission's compliance with section 106 of the

³⁷ 16 U.S.C. § 470 *et seq.* (2000).

³⁸ 36 C.F.R. Part 800 (2007).

NHPA. Article 410 requires the licensee to implement the PA and to file its final HPMP with the Commission within six months of license issuance.

RECREATION

64. Chugach maintains a gravel parking area and informal boat launch on Cooper Lake. Public access to the parking area and informal boat launch is provided by the spur road to the intake structure. Article 407 requires Chugach to maintain the spur road. Article 411 requires Chugach to maintain the gravel parking area and informal boat launch.

RECOMMENDATIONS OF STATE AND FEDERAL FISH AND WILDLIFE AGENCIES

A. Recommendations Pursuant to Section 10(j) of the FPA

65. Section 10(j)(1) of the FPA³⁹ requires the Commission, when issuing a license, to include conditions based on recommendations by federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act⁴⁰ to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

66. In response to the February 28, 2006 public notice that the project was ready for environmental analysis, Alaska DFG, FWS, and NMFS collectively filed fifteen different recommendations.⁴¹ Seven recommendations are outside the scope of section 10(j) and are discussed in section B, below. This license includes conditions consistent with all eight of the remaining recommendations that are within the scope of section 10(j). These include recommendations to: (1) restrict motor vehicle access into Cooper Creek watershed (Forest Service Condition 18 in Appendix A, as modified by Article 406); (2) construct Stetson Creek diversion, pipeline, and Cooper Lake bypass facilities (Forest Service Condition 11); (3) divert up to a maximum of 110 cfs from Stetson Creek into Cooper Lake, and release 10,246 acre-feet annually to Cooper Creek to provide instream flows (Forest Service Condition 13); (4) monitor flows at the Stetson Creek diversion, outflows at Cooper Lake, and flows and water temperature at the mouth of Cooper Creek

³⁹ 16 U.S.C. §803(j) (1) (2000).

⁴⁰ 16 U.S.C. §§ 661 *et seq.* (2000).

⁴¹ Alaska DFG filed recommendations on April 21, 2006, FWS filed recommendations on April 25, 2005, and NMFS filed recommendations on April 28, 2006.

(Forest Service Condition 14); (5) implement a Cooper Creek and Stetson Creek water temperature and aquatic biota study program (Forest Service Condition 15); (6) implement Cooper Creek geomorphology and sediment studies (Forest Service Condition 15); (7) maintain the reservoir elevation between 1,160 feet and 1,194 feet msl and restrict powerhouse shutdowns (Forest Service Condition 16); and (8) maintain the transmission line ROW and implement an Access and Maintenance Plan to protect wildlife habitats (Forest Service Condition 17 as modified by Article 405).

B. Recommendations Pursuant to Section 10(a)(1) of the FPA

67. Alaska DFG made four recommendations that are not specific measures to protect, mitigate damages to, or enhance fish and wildlife and one for a study that could have been completed prior to licensing. In addition, two recommendations made by Alaska DFG, FWS, and NMFS are not specific measures to protect fish and wildlife. Consequently, I do not consider these recommendations under section 10(j) of the FPA. Instead, I consider these recommendations under the broad public-interest standard of FPA section 10(a)(1).⁴²

68. I am adopting all seven agency recommendations that were determined to be outside of the scope of section 10(j). These require: (1) agency access to project lands with appropriate notice (Article 408); (2) measures to prevent Chugach employees from fishing and hunting during project construction and operation (Article 402); (3) notifying the Commission and settlement parties that constructing the Stetson Creek is infeasible (Forest Service Condition 12); (4) conducting Cooper Creek biota monitoring prior to diverting Stetson Creek flows (Forest Service Condition 15); (5) maintaining roads within the project boundary (Forest Service Condition 18 and Article 407); (6) painting the powerhouse and intake structure (Article 409), and (7) implementing an HPMP (Article 410).

ADMINISTRATIVE CONDITIONS

A. Annual Charges

69. The Commission collects annual charges from licensees for administration of the

⁴² 16 U.S.C. § 803(a)(1) (2000). Section 10(a)(1) requires that any project for which the Commission issues a license shall be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes

FPA and for the use, occupancy and enjoyment of federal lands. Article 201 provides for the collection of funds for administration of the FPA and for recompensing the United States for the use of its lands.

70. On July 11, 1966, the Commission approved Exhibit K drawings of the project boundary and required annual charges for the occupancy of project works, other than transmission lines, on 1,012.9 acres of lands of the United States within the Chugach National Forest.⁴³ On February 3, 1970, the Commission issued an order establishing annual charges for 92.77 miles of 100-foot wide transmission line rights-of-way (1,124.37 acres) on lands within the Chugach National Forest and other lands of the United States.⁴⁴ In the relicense application, however, the licensee states that the amount of non-transmission line federal lands within the project boundary is 3,043.23 acres, consisting of 3,012 acres for Cooper Lake and 31.23 acres access roads and routes to the transmission line. The license application identifies the total acreage for federal lands within the transmission line rights-of-way as 437.88 acres. The discrepancy in the acreage of occupied federal lands needs to be resolved.

71. One reason for the difference in acreages may be due to the conveyance of lands from the federal government to the State of Alaska pursuant to the Alaska Statehood Act of July 7, 1958 (Act)⁴⁵ Section 6(a) of the Act⁴⁶ authorized Alaska to select from federal lands a certain amount of acreage. Upon the state's selection of lands, a patent was issued to the state. However, the lands occupied by the Cooper Lake Project were conveyed to the state subject to the provisions of section 24 of the FPA,⁴⁷ which deals with the protection of the potential hydropower value of lands of the United States.⁴⁸ Since the Commission retains an interest in the land, it has authority to collect annual charges for use of state land for power purposes under the annual charges provision of section 10(e).⁴⁹ Therefore, Article 201 of the license requires that annual charges

⁴³ *Chugach Electric Association, Inc.*, 36 FPC 47 (1966).

⁴⁴ *Chugach Electric Association, Inc.*, 43 FPC 136 (1970).

⁴⁵ Pub. L. 85-508, 72 Stat. 339 (1958).

⁴⁶ 72 Stat. 340.

⁴⁷ 16 U.S.C. § 818 (2000).

⁴⁸ See *Petersburg Municipal Power & Light*, 78 FERC ¶ 62,186 (1997), *reh'g denied*, 82 FERC ¶ 61,031 (1998); and *Clark Gruening*, 61 FERC ¶ 61,226 (1992).

continue to be collected for the use of these lands.

72. Information in Exhibit A (Section VIII tabulating federal lands) and on the Exhibit G drawings of the license application do not permit a determination of which state lands enclosed within the project boundary are subject to section 24 of the FPA. We, therefore, require in Article 204 the filling of a revised Section VIII of Exhibit A and Exhibit G drawings. Such a determination shall include the lands occupied by the transmission line that is no longer required to be licensed.

B. Amortization Reserves

73. The Commission requires that for new major licenses, licensees must set up and maintain an amortization reserve account upon license issuance. Article 202 requires the establishment of the account.

C. Exhibit A and F Drawings

74. Exhibit A descriptions (except Section VIII) and Exhibit F drawings filed with the license application are approved and made part of the license (ordering paragraph C). The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Article 203 requires the filing of these drawings. Article 204 requires the filing of revised tabulation of federal lands to reflect lands subject to Section 24 of the FPA.

75. Article 301 requires that the licensee shall file for Commission approval revised Exhibits A, F, and G within 90 days of completion of construction of any new facilities or modification of project boundaries authorized by this license.

D. Exhibit G Drawings

76. The Exhibit G drawings are not approved. The Exhibit G drawings need to be revised to reflect the acreage of lands subject to section 24 of the FPA, discussed above, that are enclosed by the project boundary. Article 204 requires the filing of revised Exhibit G drawings for Commission approval.

⁴⁹ 16 U.S.C. § 803(e) (2000). Section 10(e) directs the Commission to fix annual charges to compensate the United States for use of federal lands by licensees. Section 24 prohibits anyone who obtains federal lands subject to section 24 from collecting from licensees for their use. *See Petersburg Municipal Power & Light*, 82 FERC ¶ at 61,123, n. 5 (1998).

E. Headwater Benefits

77. Some projects directly benefit from headwater improvements that were constructed by other licensees, by the United States, or by permittees. Article 204 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

F. Review of Final Plans and Specifications

78. This license authorizes several construction-related actions, including construction of the Stetson Creek diversion, pipeline, and the Cooper Lake bypass structure. Article 301 requires the licensee to file for Commission approval, within 90 days of completing construction, revised exhibits describing and showing the facilities as built. Article 302 requires the licensee to provide the Commission's Division of Dam Safety and Inspection Portland Regional Office (D2SI-PRO), for approval, final contract drawings and specifications, together with a supporting design report consistent with the Commission's regulations, a Quality Control and Inspection Program, and a Soil Erosion and Sediment Control Plan. Article 303 requires the licensee to provide D2SI-PRO with cofferdam construction drawings and specifications at least 30 days prior to starting construction of the cofferdams. Article 304 requires the licensee to provide the D2SI-PRO with a temporary emergency action plan.

G. Use and Occupancy of Project Lands and Waters

79. Requiring a licensee to obtain prior Commission approval for every use or occupancy of the project would be unduly burdensome. Therefore, Article 412 allows the licensee 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 purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

STATE AND FEDERAL COMPREHENSIVE PLANS

80. Section 10(a)(2)(A) of the FPA,⁵⁰ requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.⁵¹ Under section 10(a)(2)(A), federal and state agencies filed 27 comprehensive plans that address

⁵⁰ 16 U.S.C. § 803(a)(2)(A) (2000).

⁵¹ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2007).

various resources in Alaska. Of these, staff identified and reviewed five comprehensive plans that are relevant to this project.⁵² No conflicts were found.

APPLICANT'S PLAN AND CAPABILITIES

81. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,⁵³ Commission staff evaluated Chugach's record as a licensee for these areas: (A) conservation efforts; (B) compliance history and ability to comply with the new license; (C) safe management, operation, and maintenance of the project; (D) ability to provide efficient and reliable electric service; (E) need for power; (F) transmission services; (G) cost effectiveness of plans; and (H) actions affecting the public. I accept staff's findings in each of the following areas.

A. Conservation Efforts

82. Section 10(a)(2)(C) of the FPA⁵⁴ requires the Commission to consider the applicant's electricity consumption improvement program, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of state regulatory authorities. Section 16.10 of the Commission's regulations⁵⁵ requires an applicant for a new license to include in its application a discussion of its record in encouraging energy conservation. Because Chugach primarily sells project power to electric associations/cooperatives through wholesale and economy energy sales contracts, its ability to influence end-users is limited. However, Chugach promotes energy conservation and efficiency improvements through various programs such as free commercial and residential energy audits, and rating of energy efficiency of new and existing homes. Staff finds that Chugach is making an effort to conserve electricity and has made a satisfactory good faith effort to comply with section 10(a)(2)(C) of the FPA.

⁵² The list of applicable plans can be found in section IX of the EA at 154-55.

⁵³ 16 U.S.C. § 803(a)(2)(C) and 808(a) (2000).

⁵⁴ 16 U.S.C. § 803(a)(2)(c) (2000).

⁵⁵ 18 C.F.R. §16.10 (2007).

B. Compliance History and Ability to Comply with the New License

83. Chugach has operated the project continuously for the past 50 years. Based on a review of Chugach's compliance with the terms and conditions of the existing license, staff finds that Chugach's overall record of making timely filings and compliance with its license is satisfactory. Therefore, staff believes that Chugach can satisfy the conditions of a new license.

C. Safe Management, Operation, and Maintenance of the Project

84. Staff reviewed Chugach's management, operation, and maintenance of the Cooper Lake Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines and periodic Independent Consultant's Safety Inspection Reports. Staff concludes that the dams and other project works are safe, and that there is no reason to believe that Chugach cannot continue to safely manage, operate, and maintain these facilities under a new license.

D. Ability to Provide Efficient and Reliable Electric Service

85. Staff reviewed Chugach's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Staff's review indicates that Chugach has completed upgrades at the project including rewinding the generators and replacing the turbine runners with modern equipment. These upgrades have increased the installed capacity at the project. Additional features of the project, such as spinning reserve, energy storage, and voltage support, contribute to the interconnected utility system of south-central Alaska, providing benefits shared by all utilities in the area. All generation resources available to Chugach are operated on an economic dispatch basis to minimize total generation cost. Staff concludes that Chugach is capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

86. Chugach is Alaska's largest electric utility, supplying power to nearly 75 percent of Alaska's residents through wholesale and retail power sales. The direct retail sales comprise about 63 percent of the total energy sales for Chugach, while the wholesale sales are about 33 percent. The company serves more than 74,750 metered retail locations in a service territory extending from Anchorage to the North Kenai Peninsula and from Whittier, on Prince William Sound, to Tyonek on the west side of Cook Inlet. Wholesale and non-firm energy sales also are made regularly to several other utilities in the region.

87. The project provides about two percent of the annual energy required to meet Chugach's generation needs and represents approximately 15 percent of Chugach's total

hydroelectric capacity. Hydroelectric production accounts for 93.38 MW of Chugach's total generation supply of 531.1 MW. The mix of generation is made up of natural gas, steam power, and hydropower.

88. If the project were not licensed, replacement power for the Railbelt area would likely come from the natural gas-fired Bernice Lake Power Plant. If licensed, power from the project would continue to make an important contribution to Chugach's base supply for a portion of the local and regional economy. The project helps displace fossil-fueled electric power generation that the region now uses, thereby conserving non-renewable fossil fuels and reducing the emission of noxious byproducts caused by fossil-fuel combustion. Assuming an average annual generation of 48,500 MWh, replacing Cooper Lake's hydroelectric generation with a natural gas-fired facility would emit an estimated 136.3 tons of pollutants each year. With the increase in average annual generation to 51,500 MWh, the estimated pollutants that would result from replacement power increases to about 144.7 tons each year.

F. Transmission Services

89. The project consists of two transmission lines—a 6.3-mile-long 69-kV transmission line extending to the Quartz Creek substation, and a 90.4-mile-long 115-kV transmission line from the Quartz Creek substation to the Anchorage substation. The transmission line between the Quartz Creek to Anchorage substations has been determined by staff to no longer meet the Commission's definition of a primary transmission line (16 U.S.C. § 796(11)). Staff recommends that the line be removed from the project boundary when all necessary permits and easements are obtained by Chugach.

90. Chugach is proposing no changes that would affect its own or other transmission services in the region. The project and its primary transmission line are important elements in providing power and voltage control to local communities and the region.

G. Cost Effectiveness of Plans

91. Chugach plans to make a number of facility and operational modifications to both improve and enhance environmental resources affected by the project. Based on Chugach's record as an existing licensee, staff concludes that these plans are likely to be carried out in a cost-effective manner.

H. Actions Affecting the Public

92. Chugach maintains the gravel parking area and informal boat launch on the east shore of Cooper Lake, which facilitates recreational boating and fishing on the reservoir. Chugach uses the project to help meet local power needs and pays taxes that contribute to the cost of public services provided by local government.

PROJECT ECONOMICS

93. In determining whether to issue a new license for an existing hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,⁵⁶ the Commission uses current costs to compare the costs of the project and likely alternative power with no forecasts concerning potential future 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 benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

94. In applying this analysis to the Cooper Lake Project, we have considered two options: Chugach's proposal and the project as licensed herein. As proposed by Chugach, the levelized annual cost of operating the Cooper Lake Project is \$5,002,662, or \$97.14/megawatt-hour (MWh). The proposed project would generate an estimated average of 51,500 MWh of energy annually. When we multiply our estimate of average generation by the alternative power cost of \$188.90/MWh,⁵⁷ we get a total value of the project's power of \$9,728,350 in 2007 dollars. To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the project's power.⁵⁸ Therefore, in the first year of operation, the project would cost \$4,725,688 or \$91.76/MWh less than the likely alternative cost of power.

95. As licensed herein with the mandatory conditions and staff measures, the levelized annual cost of operating the project would be about \$5,006,655 or \$97.22/MWh. Based on the same alternative power cost and annual generation, project power would cost \$4,721,695, or \$91.68/MWh less than the likely cost of alternative power.

96. In considering public interest factors, the Commission takes into account that hydroelectric projects, like the Cooper Lake Project, offer unique operational benefits to

⁵⁶ 72 FERC ¶ 61,027 (1995).

⁵⁷ For the Cooper Lake Project, Chugach estimated that the cost to provide the same amount of power from existing combustion turbines in the region ranges from \$37.30/MWh to \$340.50/MWh. In the EA, staff assumed a power value of \$188.90/MWh—the mid-point of this range, which includes energy, capacity, and ancillary services (spinning reserve and voltage support).

⁵⁸ Details of staff's economic analysis for the project as licensed herein and for various alternatives are included in the EA issued November 17, 2006.

the electric utility system (ancillary service benefits). These benefits include their capability to provide an almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and a source of power available to help in quickly putting fossil-fuel based generating stations back on line following a major utility system or regional blackout.

COMPREHENSIVE DEVELOPMENT

97. Sections 4(e) and 10(a)(1) of the FPA⁵⁹ require the Commission to give equal consideration to the power 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 or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

98. The EA for the project contains background information, analysis of effects, and support for related license articles. Staff concluded, based on the record of this proceeding, including the EA and the comments thereon, that licensing the Cooper Lake Project as described in this order would not constitute a major federal action significantly affecting the quality of the human environment. The project will be safe if operated and maintained in accordance with the requirements of this license.

99. Based on our independent review and evaluation of the Cooper Lake Project, recommendations from the resource agencies and other stakeholders, and the No-Action Alternative, as documented in the EA, I have selected the proposed Cooper Lake Project, with the staff-recommended measures, and find that it is best adapted to a comprehensive plan for improving or developing the Cooper Creek waterway.

100. I selected this alternative because: (1) issuance of a new license will serve to maintain a beneficial, dependable, and inexpensive source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, recreational resources and historic properties; and (3) the 19.38 MW of electric energy generated from a renewable resource will continue to offset the use of fossil-fueled, steam-electric generating plants, thereby conserving non-renewable resources and reducing atmospheric pollution.

⁵⁹ 16 U.S.C. §§ 797(e) and 803(a)(1) (2000).

LICENSE TERM

101. Section 15(e) of the FPA,⁶⁰ provides that any new license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.⁶¹

102. This license requires a substantial amount of new construction: (1) a new diversion structure on Stetson Creek; (2) an 11,000-foot-long pipeline; (3) outflow structure; (4) a screened water bypass structure through the existing project dam; and (5) an outflow energy dissipation structure downstream of the dam. Because of the substantial new construction, a 50-year license for the Cooper Lake Project is appropriate. The settlement agreement also supports a 50-year license.

The Director orders:

(A) This license is issued to Chugach Electric Association (licensee) to operate and maintain the Cooper Lake Project, for a period of 50 years, effective the first day of the month in which this order is issued. The 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 subject 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 interests in these lands, described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (1) a 920-foot-long rock-and-fill dam; (2) a 3-foot-high, 50-foot-wide spillway section adjacent to the dam; (3) Cooper Lake, a 5.5-mile-long, 1-mile-wide impoundment with a maximum useable storage capacity of

⁶⁰ 16 U.S.C. § 808(e) (2000).

⁶¹ See *Consumers Power Company*, 68 FERC ¶ 61,077 at 61,383-84 (1994).

80,000 acre-feet at elevation 1,194 feet mean sea level (msl); (4) a power intake structure on the shore of Cooper Lake with an invert of 1,151 feet msl; (5) a 10,686-foot-long tunnel and penstock extending to Kenai Lake; (6) a 56-by-67-foot concrete powerhouse containing two turbine-generators, each rated at 9.69 MW; (7) a transformer and switchyard adjacent to the powerhouse; (8) a 6.3-mile-long 69-kV transmission line extending to the Quartz Creek substation; and (9) a step-up transformer at the Quartz Creek substation.

The 90.4-mile-long 115-kV transmission line from the Quartz Creek substation to the Anchorage substation is excluded from the project and the project boundary upon the licensee's compliance with Condition 17 submitted by the Forest Service under section 4(e) of the Federal Power Act, as set forth in Appendix A and required by Ordering Paragraph D of this order.

The project works generally described above are more specifically shown and described by those portions of exhibits A and F shown below:

Exhibit A: The following sections of Exhibit A filed on April 26, 2005:

Section I.A through I.D, pages A-1 through A-8, entitled "Introduction and Project Overview"; figure A-1, page A-5, entitled "Location of the Cooper Lake Project"; section II.A through II.J, pages A-8 through A-14, entitled "Primary Structures"; section III, pages A-14 through A-15, entitled "Impoundment"; section IV, pages A-15 through A-16, entitled "Generating Equipment"; section V, pages A-16 through A-17, entitled "Transmission Lines"; section VI, page A-17, entitled "Transformers"; section VII, page A-17, entitled "Additional Mechanical, Electrical and Transmission Equipment Appurtenant to the Development."

Exhibit F: The following sections of Exhibit F filed on September 27, 2005:

<u>Exhibit F Drawing</u>	<u>FERC No.</u>	<u>Description</u>
Sheet F-1	2170-1001	Location Map
Sheet F-2	2170-1002	Dam and Spillway Plan
Sheet F-3	2170-1003	Dam and Spillway Section & Profile
Sheet F-4	2170-1004	Intake Plans and Sections
Sheet F-5	2170-1005	Tunnel Plan and Profile

Sheet F-6	1006	Penstock Plan
Sheet F-7	1007	Penstock Profile
Sheet F-8	1008	Powerhouse Site Plan
Sheet F-9	1009	Powerhouse Generator Floor Plan
Sheet F-10	1010	Powerhouse Turbine Floor Plan
Sheet F-11	1011	Powerhouse Transverse Section
Sheet F-12	1012	Powerhouse Longitudinal Section
Sheet F-13	1013	Transmission Line Structures
Sheet F-14	1014	One-Line Diagram
Sheet F-15	1015	Proposed Stetson Creek Diversion Site Plan
Sheet F-16	1016	Proposed Stetson Creek Diversion and Outlet Structures

(C) The sections of Exhibit A and all of Exhibit F described above are approved and made part of this license. The Exhibit G drawings do not comply with the Commission's regulations and are not approved.

(D) The license is subject to the conditions submitted by the Forest Service under section 4(e) of the FPA, as those conditions are set forth in Appendix A to this order.

(E) This license is subject to articles set forth in Form L-1 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Lands of the United States (*see* 54 FPC 1799 *et seq.*)," and the following additional articles.

Article 201. Administrative Annual Charges. The licensee shall pay the United States annual charges, effective the first day of the month in which this license is issued, and as determined in accordance with the provisions of the Commission's regulations in effect from time to time, for the purposes of:

- (1) reimbursing the United States for the cost of administration of Part I of the

Federal Power Act. The authorized installed capacity for that purpose is 19.38 megawatts; and

(2) recompensing the United States for the use, occupancy and enjoyment of the amount of acres of its lands or its interest in lands (other than for transmission line right-of-way) to be determined pursuant to Article 204;

(3) recompensing the United States for the use, occupancy, and enjoyment of the amount of acres of its lands for transmission line right-of-way to be determined pursuant to Article 204. Upon compliance with Ordering Paragraph B and D of this order, the Commission will issue an order revising the amount of federal lands for transmission line use to the correct acreage as it is determined at that time.

If modifications are made to the project boundaries that involve federal lands during the license term, the Commission will adjust the annual charges accordingly.

Article 202. Amortization Reserve. Pursuant to section 10(d) of the Federal Power Act, 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, 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, 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. Exhibit F Drawings. Within 45 days of the date of issuance of the license, the licensee shall file the approved exhibit drawings in aperture card and electronic file formats.

a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-2170-1001 through P-2170-####) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

Two of the sets of aperture cards along with form FERC-587 shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections Portland Regional Office.

b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections Portland Regional Office. Exhibit F drawings must be identified as (CEII) material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-2170-####, F-1, Project Description, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & white raster file
 FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4
 RESOLUTION – 300 dpi desired, (200 dpi min)
 DRAWING SIZE FORMAT – 24" X 36" (min), 28" X 40" (max)
 FILE SIZE – less than 1 MB desired

Article 204. *Revised Section VIII of Exhibit A and Exhibit G Drawings.* Within 90 days of the date of issuance of the license, the licensee shall file, for Commission approval, revised Section VIII of Exhibit A and Exhibit G drawings enclosing within the project boundary all project works necessary for operation and maintenance of the project. In addition, the drawings shall be revised to reflect the total acreage of land subject to the power site reservation pursuant to section 24 of the FPA. The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission's regulations.

Article 205. *Headwater Benefits.* If the licensee's project was directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater

improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 301. *Revised Exhibits and As-built Drawings.* Within 90 days of the completion of any construction of facilities, modifications of project boundaries, or any other action required by this license that results in changes to Exhibits A, F, and G, the licensee shall file for Commission approval revised Exhibits A, F, and G, as appropriate, to show and describe those project facilities and lands as built or modified. The exhibits shall have sufficient detail to adequately delineate the relative location of project features. The licensee shall submit six copies of the revised exhibits to the Commission, one copy to the Commission's Division of Dam Safety and Inspections' Portland Regional Engineer, and one to the Director, Division of Hydropower Administration and Compliance.

Article 302. *Contract Plans and Specifications.* At least 60 days prior to the start of any construction, the licensee shall submit one copy of its plans and specifications (and a supporting design document for an unconstructed dam) to the Commission's Regional Engineer, and two copies to the Commission (one of which shall be a courtesy copy to the Director, Division of Dam Safety and Inspections). The submittal to the Regional Engineer must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the Regional Engineer has approved in writing the plans and specifications and determined that all preconstruction requirements have been satisfied.

Article 303. *Cofferdam Construction Drawings.* Before starting any 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 Regional Engineer and two copies to the Commission (one of which shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 304. *Temporary Emergency Action Plan.* At least 60 days before starting any construction, the licensee shall submit one copy to the Division of Dam Safety and Inspections, Portland Regional Engineer and two copies to the Commission (one of which shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the Temporary Emergency Action Plan (TEAP) for the Commission's review and approval. The TEAP shall describe emergency procedures in case failure of a cofferdam, large sediment control structure, or any other water retaining structure could endanger

construction workers or the public. The TEAP shall include a notification list of emergency response agencies, a plan drawing of the proposed cofferdam arrangement, the location of safety devices and escape routes, and a brief description of testing procedures.

Article 401. Scheduling and Reporting Requirements and Amendment Applications.

(a) Requirement to File Plans for Commission Approval and Requirement to Consult

Various conditions of this license required by ordering paragraph D and found in the Forest Service's mandatory section 4(e) conditions (Appendix A) require the licensee to prepare plans for approval by some or all of the signatories to the Cooper Lake Settlement Agreement. Each such plan shall also be submitted to the Commission for approval and include an implementation schedule. These plans are listed below.

Condition	Plan	Due Date
Appendix A, condition no. 3	Hazardous Substance Plan	60 days prior to any new construction
Appendix A, condition no. 6	Fire Prevention Plan	60 days prior to any new construction
Appendix A, condition no. 7	Noxious Weed Management Plan	60 days prior to any new construction

The licensee shall submit to the Commission documentation of its consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. The licensee shall allow a minimum of 30 days for the consulted entities 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 make changes to any plan submitted. Upon Commission approval the plan becomes a requirement of the license, and the licensee shall implement the plan or changes in project operations or facilities, including any changes required by the Commission.

(b) Requirement to File Amendment Applications

Condition no. 12 in Appendix A contemplates unspecified long-term changes to project operations, requirements, or facilities if the construction of the Stetson Creek diversion, pipeline, and Cooper Lake bypass facility is not possible or too costly. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license.

Article 402. *Stetson Creek Diversion and Pipeline and Cooper Lake Bypass Plan.* Within three years of the issuance date of the license, the licensee shall file for Commission approval a Stetson Creek Diversion and Pipeline and Cooper Lake Bypass plan. In addition to the measures set forth in condition no. 11 (included in Appendix A), the plan shall include a detailed description of how the licensee will enforce employee work standards and conduct to ensure that they are consistent with the terms of the license and any permits and would prevent potential exploitation of fish and wildlife where employees have improved access to the Cooper Creek valley.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 403. *Gaging Plan.* At least one year prior to releasing instream flows through the new Cooper Lake dam release structure and Stetson Creek diversion structure, the licensee shall file for Commission approval a Gaging Plan that includes, at a minimum: (1) the conceptual design for the new flow gaging stations at the Cooper Lake dam and Stetson Creek diversion; (2) plans for maintenance, quality assurance, and control at the new Cooper Lake dam and Stetson Creek diversion gaging stations; and (3) reporting schedules for the new Cooper Lake dam and Stetson Creek diversion monitoring locations and the existing U.S. Geological Survey gage at the mouth of Cooper Creek.

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

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 404. *Instream Flow Release Schedule and Compliance.* By May 31 of each year immediately following the construction of the Stetson Creek diversion and release of instream flows, the licensee shall file with the Commission a flow release schedule into Cooper Creek for the upcoming May 1 to April 30 water year. The

licensee's flow release schedule shall be based on the input of the Interagency Committee's recommendations and projected available flows as provided in condition no. 13 (Appendix A). The flow release schedule may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods upon agreement between the licensee and the Interagency Committee. 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 405. *Transmission Line ROW Management Plan and Access Management and Maintenance Plan.* Within one year of the issuance date of the license, the licensee shall file for Commission approval a final Transmission Line Right-of-Way Management Plan and Access Management and Maintenance Plan. The final plan shall complete all omitted sections of the draft plan filed with the Cooper Lake Settlement Agreement on August 31, 2005, including, but not limited to, procedures for avoiding or minimizing adverse impacts to nesting birds. Bird protection measures shall include avoiding vegetation clearing between May 1 and July 15 to the extent practicable.

The plan shall be developed in consultation with the U.S. Forest Service, U.S. Fish and Wildlife Service, Alaska Department of Natural Resources, and Alaska Department of Fish and Game. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the consulted entities, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities 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. Upon Commission approval, the licensee shall implement the plan in accordance with the provisions of condition no. 17 (included in Appendix A), including any changes required by the Commission.

Article 406. *Public Access Control Plan for the Cooper Creek Dam and Stetson Creek Diversion Access Roads.* Within one year of the issuance date of the license, the licensee shall file for Commission approval a Public Access Control Plan for Cooper Creek and Stetson Creek access roads. In addition to the measures set forth in Condition no. 18 (included in Appendix A), the plan shall include detailed descriptions of procedures and schedules for maintaining the gate(s), monitoring the effectiveness of the gate(s) at controlling motorized access, and procedures for identifying additional measures that would be implemented if gating measures prove ineffective at controlling motorized access.

The Public Access Control Plan for Cooper Creek and Stetson Creek Access Roads shall be developed in consultation with the U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. National Park Service, Alaska Department of Natural Resources, and Alaska Department of Fish and Game. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the consulted entities, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities 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. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 407. Maintenance of Spur Roads. The licensee shall maintain the following access roads off Snug Harbor Road for operational purposes: the spur road accessing the project powerhouse, the spur road accessing the project surge tank, the spur road accessing the penstock tunnel portal, and the spur road to the intake structure.

Article 408. Agency Access. The licensee shall provide representatives of the Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, and U.S. Forest Service, who show proper credentials, free and unrestricted access to, through, and across the project lands and waters and project works, in the performance of their official duties, after appropriate advance notification is made.

Article 409. Aesthetics. Within two years of the issuance date of the license, the licensee shall paint the powerhouse and intake structures in accordance with U.S. Forest Service color specifications to reduce the visual impact of project facilities. Within three years of the issuance date of the license, the licensee shall file with the Commission documentation that the requirements of this article have been completed and a painting maintenance schedule for the remainder of the license.

Article 410. Programmatic Agreement and Historic Properties Management Plan. The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission and the Alaska Historic Preservation Officer (Alaska SHPO) for Managing Historic Properties that May be Affected by a License Issuing to Chugach Electric Association, Inc., for the Cooper Lake Hydroelectric Project in Kenai Peninsula Borough, Alaska (FERC No. 2170-029)," executed on June 22, 2007, and including but not limited to the Historic Properties Management Plan (HPMP) for the project. Pursuant to the requirements of this Programmatic Agreement (PA), the licensee will file for the Commission's approval a HPMP within six months of issuance of this order. The Commission reserves the authority to require changes to the HPMP at any

time during the term of the license. If the PA is terminated prior to Commission approval of the HPMP, the licensee shall obtain approval from the Commission and the Alaska SHPO, before engaging in any ground-disturbing activities or taking any other action that may affect any historic properties within the project's area of potential effects.

Article 411. Maintenance of Boat Launch and Parking Area. The licensee shall maintain the gravel parking area and unimproved boat launch on the east shore of Cooper Lake to provide vehicle access to, and hand launching of boats on, Cooper Lake.

Article 412. Use and Occupancy. (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 type of use and occupancy of project lands and water 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 water craft 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 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 water craft 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 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 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 ensure 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.

(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 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 drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee 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 the order to be consulted on matters relating to that filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in section 313(a) of the FPA. 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 shall constitute acceptance of this order.

J. Mark Robinson, Director
Office of Energy Projects

Form L-1
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE
FOR CONSTRUCTED MAJOR PROJECT AFFECTING
LANDS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and

supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights or occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a nonpower licensee under the provisions of Section 15

of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other

projects or power systems and in such manner as the Commission any direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the

relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity

for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall clear and keep clear to an adequate width 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 results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Timber on lands of the United State cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

Article 22. The Licensee shall do everything reasonably within its power, and

shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

Article 23. The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

Article 24. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

Article 25. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 26. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

Article 27. The Licensee shall make provision, or shall bear the reasonable cost,

as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 28. The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

Article 29. The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice ad opportunity for hearing.

Article 30. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may

prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 31. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 32. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

Appendix ACooper Lake Hydroelectric Project
Project No. P-2170-029USDA Forest Service
Alaska Region
Chugach National Forest4(e) 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 Chugach 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 Chugach National Forest System 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. Conditions 1 through 9 are not intended to supercede or contradict the negotiated Settlement Agreement and Suggested License Articles. Conditions 10 through 14 and 16 through 18 are identical to the specific Suggested License Articles attached to the Settlement Agreement, filed in August 2005. Condition 15 (Settlement Agreement Article 405) is identical to the Revised Article 405 that was drafted by the Settlement Working Group and submitted to FERC in late October 2005. Revisions to this Article were made based on the concerns expressed by FERC representatives at a public meeting held in Anchorage in September 2005.

Condition No. 1 – 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 System lands and resources.

Condition No. 2 - 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 1 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. 3- Hazardous Substances Plan

During planning for and at least 60 days prior to any new construction or maintenance, the Licensee shall file with the 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:

- 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,
- Maintain in the project area, a cache of spill cleanup equipment suitable to contain any spill from the project,
- Inform the Forest Service of the location of the spill cleanup equipment on NFS lands and of the location, type, and quantity of oil and hazardous substances stored

in the project area, and

- Inform the Forest Service quarterly of the nature, time, date, location, and action taken for any spill.

Condition No. 4 - Use of Explosives

In the use of explosives, the Licensee shall exercise the utmost care not to endanger life or property and shall comply with Federal, State and local laws and ordinances. The Licensee shall contact the Forest Service prior to blasting to obtain the requirements of the Forest Service. The Licensee shall be responsible for any and all damages resulting from the use of explosives and shall adopt precautions to prevent damage to surrounding objects. The Licensee shall furnish and erect special signs to warn the public of the Licensee's blasting operations.

The Licensee shall place and maintain such signs so they are clearly evident to the public during all critical periods of the blasting operations.

The Licensee shall store all explosives on National Forest System lands and Licensee adjoining fee title property in compliance with all applicable Federal, State and local laws and ordinances.

When using explosives on National Forest System lands and Licensee adjoining fee title property, the Licensee shall adopt precautions to prevent damage to landscape features and other surrounding objects. When directed by the Forest Service, the Licensee shall leave trees within an area designated to be cleared as a protective screen for surrounding vegetation during blasting operations. The Licensee shall remove and dispose of trees so left when blasting is complete. When necessary, and at any point of special danger, the Licensee shall use suitable mats or some other approved method to smother blasts.

Condition No. 5 - Pesticide Use Restrictions

Pesticides may not be used to control undesirable woody and herbaceous vegetation, aquatic plants, insects, and rodents on National Forest System lands without the prior written approval of the Forest Service. The Licensee shall submit a request for approval of planned uses of pesticides. The request must cover annual planned use and be updated as required by the Forest Service. The Licensee shall provide information essential for review in the form specified. Exceptions to this schedule may be allowed only when unexpected outbreaks of pests require control measures that were not anticipated at the time the request was submitted. In such an instance, an emergency request and approval may be made.

The Licensee shall use on National Forest System lands only those materials registered

by the U. S. Environmental Protection Agency for the specific purpose planned. The Licensee must strictly follow label instructions in the preparation and application of pesticides and disposal of excess materials and containers.

Condition No. 6 - Fire Prevention Plan

The Licensee is responsible for fire prevention measures and for fire suppression costs, directly and indirectly resulting from or caused by any high-risk use and occupancy within the project area. The Licensee is not liable when injury, loss or damage results wholly or in part from a negligent act of United States or from an act of a third party not involving the Licensee's facilities or operations.

Within 60 days prior to any ground-disturbing activity, the Licensee shall file with Commission a Fire Prevention Plan that is approved by the USDA Forest Service in consultation with appropriate State and local fire agencies. At a minimum, the Licensee shall:

- Analyze fire prevention needs to ensure that prevention equipment and personnel are available,
- Identify fire hazard reduction measure (e.g., eliminating ladder fuels, reducing fuel loading), and
- Provide the USDA Forest Service a list of the location of available fire-prevention equipment and the location and availability of fire-prevention personnel.

Condition No. 7 - Noxious Weed Management Plan

Within 60 days prior to any ground-disturbing activity, the Licensee shall file with the Commission a Vegetation Management Plan that is approved by the USDA Forest Service. At a minimum the Plan shall:

- Identify and prioritize (into high, moderate and low priority sites) all inadequately vegetated areas to be re-vegetated or rehabilitated along with an implementation schedule,
- List the species to be used along with planting locations, methods, and densities (native species must be used),
- Identify methods for prevention and control of noxious weeds. Treatment of existing infestations of highest priority weeds shall be initiated immediately upon approval of the Noxious Weed Management Plan by the Commission,
- Develop a monitoring program to evaluate the effectiveness of noxious weed control measures, and
- Develop procedures for identification of additional measures that the licensee shall implement if monitoring reveals that noxious weed control is not successful or does not meet intended objectives.

Condition No. 8 – Implementation and Modification of Forest Service Conditions

The USDA Forest Service reserves the authority to modify USDA Forest Service 4(e) terms and conditions if upon completion of the USDA Forest Service administrative appeals process at 36 Code of Federal Regulations (CFR) Part 251, Subpart C-Appeal of Decisions Relating to Occupancy and Use of National Forest System Lands, the Chief, USDA Forest Service, or Secretary of Agriculture directs that substantial changes to the terms and conditions submitted herein be made.

Condition No. 9 – Heritage Resources

If the Licensee discovers any previously unidentified cultural resources during the course of the construction or project work, the Forest Service archaeologist will be notified immediately. The Licensee shall immediately stop all land clearing, land disturbing or spoil producing activities in the vicinity of the cultural sites. Construction or work activities may not resume until receiving Forest Service approval.

Condition No. 10 – Activities on Forest Service Lands (Settlement Agreement Article 306)

(a) Additional lands of the US Forest Service (USFS) that are authorized for use by Licensee shall be subject to laws, rules, and regulations applicable to the USFS, as appropriate. Within six months of a license or license amendment, Licensee shall seek a special use authorization from the USFS, as applicable, for occupancy and use of any lands added to the project boundary by the license amendment and file it with the Commission. The special use authorization also shall be subject to applicable enforcement procedures of the Commission at the request of the USFS.

(b) Licensee shall not make changes in the location of any constructed Project features or facilities located on National Forest System (NFS) lands, or make any departure from the requirements of any approved exhibits authorizing use or occupancy of NFS lands filed with the Commission (such as the Transmission Line ROW Management Plan and Access Management and Maintenance Plan specified under Article 408), and authorized by the new license as issued and amended before receiving comments from the USFS and approval from the Commission. Following receipt of such comments from the agency, and at least 60 days prior to initiating any such changes or departure, Licensee shall file a report with the Commission and with USFS as appropriate, describing the changes, the reasons for the changes, and showing the comments of the agency for such changes.

(c) After consultation with the USFS and before starting any activity on NFS land that

USFS or BLM, as appropriate, determines that the activity may affect another federally authorized activity on those lands, Licensee shall consult with USFS or BLM to resolve any potential conflicts with representatives of those permitted uses.

(d) Licensee shall comply with the Transmission Line ROW Management Plan and Access Management and Maintenance Plan under Article 407 for any habitat-disturbing and ground-disturbing activities on NFS lands required by the license, including activities contained within resource management plans required by the license that shall be prepared subsequent to license issuance.

**Condition No. 11 – Construction of the Stetson Creek Diversion, Pipeline and Cooper Lake Diversion Structures
(Settlement Agreement Article 401)**

(a) For purposes of establishing an instream flow regime in Cooper Creek below the Project dam, Licensee shall within six years after issuance of the New License take the following actions:

- (1) Construct a diversion structure with manual controls on Stetson Creek approximately 7,000 feet from Stetson Creek's confluence with Cooper Creek to divert water from Stetson Creek to Cooper Lake. Such diversion structure will allow for instream flow releases and flushing flow releases below the Stetson Creek diversion structures as described in Article 403.
- (2) Construct a pipeline (approximately 11,000 feet in length) from the Stetson Creek diversion structure to an outflow point in Cooper Lake, approximately 1,000 feet from the Project dam.
- (3) Construct a water bypass structure to allow for the release of water from Cooper Lake into Cooper Creek through the existing Project Dam structure from a manually controlled, screened diversion structure within Cooper Lake (about 600 feet from the crest of the dam) to an outflow energy dissipation structure downstream of the Project dam, with the ability to maintain a variable flow capacity of up to 30 cfs.
- (4) Engineer, permit, procure, construct, and operate the Stetson Creek diversion structure, pipeline, and the Cooper Lake bypass structures, the total capital cost of which is estimated to be \$9.2 million in 2004 dollars, which represents a 75% increase in total plant investment.

(b) Within 36 months of license issuance, the Licensee shall file with the Commission, for approval, a Stetson Creek Diversion and Pipeline and Cooper Lake Bypass Plan that describes how the Licensee will construct the facilities set forth in section (a) of this Article. The plan shall include, but not be limited to:

1. detailed drawings and specifications for the new facilities;

2. a construction schedule;
3. all necessary state and federal permits and water rights;
4. an erosion and sediment control and monitoring plan;
5. an environmental compliance monitoring plan;
6. a fuel and hazardous substance spill plan;
7. bird nesting and bear denning avoidance procedures; and
8. a management plan regarding public access during construction.

Licensee shall consult with the Parties to the Settlement Agreement and shall allow a minimum of 30 days for the Parties to comment and to make recommendations before filing the plan with the Commission. In addition, Licensee shall seek all necessary state and federal permits and water rights prior to filing the plan with the Commission. At the time of filing, Licensee shall include with the plan, an implementation schedule, documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the Parties, and specific descriptions of how the comments of Parties are accommodated by the plan.

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

**Condition No. 12 – Impracticability of Construction of the Stetson Creek Diversion, Pipeline and Cooper Lake Diversion Structures
(Settlement Agreement Article 402)**

Within 20 days of discovery, Licensee shall notify FERC and the Parties to the Settlement Agreement in writing in the event that:

- (1) the Stetson Creek diversion structure, pipeline, and Cooper Lake bypass structures cannot be built due to permitting, legal prohibitions, or lack of necessary water rights; or
- (2) the total capital cost of engineering, permitting, procuring and constructing the Stetson Creek diversion structure and pipeline and Cooper Lake bypass structures exceeds \$11.04 million in 2004 dollars (20% more than the current estimate). Upon such written notice, the Licensee shall initiate consultation with the Parties to the Settlement Agreement filed with the Commission on August 12, 2005, pursuant to that Settlement Agreement, within 30 days, and conduct such consultation so that the Licensee can report to the Commission within 90 days from the date of Licensee's report the outcome, and file a mutually acceptable request for time extension, alternative mitigation proposals, modifications to the proposed diversion, pipeline, and release structures, or license amendment (if

required). The Licensee shall allow a minimum of 30 days for the Parties to comment and to make recommendation before filing an implementation schedule, documentation of consultation, copies of comments and recommendations on the proposed plans and specific descriptions of how the Parties comments are accommodated by the plans.

The Commission reserves the right the require changes to the plans. Implementation of the plans shall not begin until the plans are approved by the Commission. Upon Commission approval, the Licensee shall implement the plans, including any changes required by the Commission.

**Condition No. 13 – Cooper Creek Instream Flows
(Settlement Agreement Article 403)**

- (a) After the facilities contemplated in Article 401 are completed and through the remainder of the term of the New License, Licensee shall take the following actions to establish an instream flow regime in Cooper Creek below the Project dam:
- (1) divert flow from Stetson Creek (through the diversion structure and pipeline) up to maximum flow of 110 cfs.
 - (2) release up to an annual total volume of 10,256 acre-feet of water (i) from Cooper Lake into Cooper Creek at instantaneous flows in the range of 1 to 30 cfs, or (ii) from combined releases from Cooper Lake and Stetson Creek (bypassing the Stetson Creek diversion structure), as directed by the Interagency Committee within the parameters defined below and pursuant to the water allocation procedures set forth below.

(3) in the event of no direction from the Interagency Committee, provide a default regime of target instantaneous flow releases and associated target monthly volumes into Cooper Creek as follows:

Month	cfs	approx. monthly flows (ac.-ft.)
January	10	610
February	10	550
March	10	610
April	10	590
May	10	610
June	20	1190
July	25	1540
August	20	1230
September	20	1190
October	15	920
November	10	590
December	10	610

For purposes of determining compliance with these provisions, the target instantaneous flow releases shall be deemed to have been met if the actual measured flow is within 2 cfs of the specified target flow.

- (4) notify the Interagency Committee and the Commission in writing by April 1 of each year regarding the amount of water that was released in the previous water year and the amount that is projected to be available for release during the water year beginning on May 1 of that year pursuant to the water allocation procedures set forth below.
- (5) provide instream flow releases that, when combined with natural flows, will provide flushing flows (as defined below) in Cooper Creek for up to 30 days in any rolling ten (10) year period for the term of the license.
- (6) provide quarterly reports to the Interagency Committee and Commission of the amount of water released during the first five years of provision of instream flow releases.
- (b) For the purpose of establishing and manipulating flows in this Article, Licensee shall consult with and take direction from the Interagency Committee consisting of USFS, USFWS, NMFS, ADNR, ADF&G to the extent of their interest in participating pursuant to bylaws attached to the Settlement Agreement filed with the Commission on August 31, 2005. Pursuant to the Settlement Agreement, Licensee shall take direction from the Interagency Committee as communicated in the following manner:
- (1) the Interagency Committee's evaluation of the instream flow needs and determination of the desired instream release regime of Cooper Creek and Stetson

Creek on an annual basis;

- (2) the Interagency Committee's written instream release schedule submitted to Licensee by May 1 of each year, provided that such schedule for both Cooper Creek and Stetson Creek instream flow releases combined shall not exceed the total annual release of 10,256 acre-feet, except for any Banked Water (part (c)(3)(iv) of this license article) from previous water years and any Supplemental Water defined in part (c)(5) of this license article, that is available for release.
 - (3) the Interagency Committee's written schedule for seasonal or year-round instream flow releases in Stetson Creek (if any) from the total amount of water available for release to Cooper Creek.
 - (4) the Interagency Committee's requests to adjust flow releases from Cooper Lake Dam and the Stetson Creek diversion structure up to two times per month, weather and access permitting, during the period from May through October.
 - (5) the Interagency Committee's consideration of whether the total number of days of flushing flows needed in Cooper Creek (as defined below) should be less than 30 days in a rolling ten (10) year period; provided that any necessary instream releases for such flushing flows count as water-for-generation deficit amounts as remedied in subpart (c)(4) below.
- (c) Water Allocation Procedures
- (1) For purposes of these rules and procedures, a water year will begin on May 1 and run through April 30 of the following calendar year.
 - (2) Water Available for Release. The amount of water that will be available for release during each water year shall consist of:
 - (i) 10,256 acre-feet,
 - (ii) any "Banked Water" from previous water years (as defined below), and
 - (iii) any "Supplemental Water" that is available for release (as defined below).
 - (3) Release Options. Under the direction of the Interagency Committee, Licensee shall implement any combination of the following uses for the water available for release:
 - (i) release water into Cooper Creek, through the Cooper Lake dam bypass structure;
 - (ii) release water into Stetson Creek, through the diversion bypass structure ("Stetson Creek Instream Flows");
 - (iii) release water into Stetson Creek, through the (a) Stetson Creek Instream Flows, and/or (b) mechanical closure of the Stetson Creek diversion to provide instream releases that, when combined with natural flows, will provide flushing flows down Stetson Creek into Cooper Creek for up to 30 days in a

ten (10) year period ("Flushing Flows"); provided that:

- (A) a flushing flow shall be defined as occurring when the average daily flow at the USGS gage at the mouth of Cooper Creek meets or exceeds 150 cfs; and
 - (B) any necessary instream releases for such flushing flows count as water-for-generation deficit amounts as remedied in subpart (4) below;
- (iv) retain in Cooper Lake for use in future years some portion of the total annual amount of water that is available for release into Cooper Creek. This "Banked Water" may accumulate up to a cumulative amount of 10,256 acre-feet and carry forward as available for instream flow releases to be met in future years.
- (4) Water-for-generation deficits. Water-for-generation deficits occur when the actual amount of water diverted from Stetson Creek to Cooper Lake in a given year does not meet or exceed 18,285 acre-feet. Such deficits will accumulate and carry forward to be met by diversion of water from Stetson Creek in future years. Water-for-generation deficits must be fully compensated on a unit for unit basis from any inflows from Stetson Creek into Cooper Lake in excess of 18,285 acre-feet before any supplemental water can be allocated.
- (5) Supplemental Water. Licensee will make available for release into Cooper Creek one-half (50%) of any inflow diverted during the prior year from Stetson Creek into Cooper Lake in excess of 18,285 acre-feet, less any water needed to offset outstanding water-for-generation deficits. Supplemental Water not used in the following year may be "banked" for used in future years.
- (6) In the event that the Cooper Lake diversion structure is not operable, Licensee shall notify the Interagency Committee as soon as possible and release the scheduled flows from the Stetson diversion unless otherwise directed by the Interagency Committee.
- (7) In the first partial year of operation of the diversion and bypass structures, the following principles will apply: (i) no water will be diverted from Stetson Creek until flows are released from Cooper Lake; (ii) Licensee will consult with the Interagency Committee to plan the first partial year's flow releases.
- (d) While Licensee will use best efforts to make all mechanical flow adjustments described above in accordance with the recommendations by the Interagency Committee, such efforts will be subject to prevailing weather conditions, and access constraints so as to not endanger human safety or risk property or environmental damage, as determined by the Licensee in its sole discretion. Licensee shall notify the Interagency Committee if it is unable to make adjustments within three days of the scheduled date.

**Condition No. 14 – Flow Monitoring
(Settlement Agreement Article 404)**

For purposes of ensuring compliance with Article 402 and for scientific purposes, Licensee shall provide monitoring of: (1) flows through the Stetson Creek diversion; (2) outflows from the Cooper Lake bypass structure, and (3) flows and temperature at a gage at the mouth of Cooper Creek. Continuously recording devices must comply with standards established by USGS and must record flows at least once every 15 minutes. Pursuant to Article 403(a)(6), Licensee shall report to the Interagency Committee quarterly the amount of outflows from the Cooper Lake bypass structure to ensure compliance with its commitment and the amount of flows diverted to Cooper Lake through the Stetson Creek diversion.

**Condition No. 15 – Study Commitments - Biotic Conditions
(Settlement Agreement Article 405)**

Licensee shall provide funding for, and implement, certain studies of water temperature, biological conditions, and geomorphological processes with respect to the environment affected by the Project as set forth in this Article. The objective of these studies is to provide the Interagency Committee with scientific information to make its determinations regarding the instream and flushing flows to optimize instream habitat for affected resources pursuant to Article 403(b).

With respect to each of the study, monitoring, and surveying programs listed below, Licensee shall develop a study plan in consultation with the Interagency Committee and with approval of appropriate agencies pursuant to their respective statutory authorities to the extent necessary. The study plan will include the objectives, tasks, implementation schedule, and evaluation criteria consistent with this Article. Licensee will implement the program with continued involvement of the Interagency Committee through the annual work planning and reporting process.

Following approval by the appropriate agencies, the Licensee shall file the program plan with the Commission within six months after the issuance of the License. The Commission reserves the right to require changes to the program plan. Implementation of the program plan shall not begin until the Commission approves the plan. Upon Commission approval, the Licensee shall implement the program plan, including any changes required by the Commission.

Licensee will prepare an annual report describing the results of all studies, surveys, and monitoring conducted the preceding year and making recommendations for changes to the study plan for the following year. Licensee shall provide a draft of the report to the Interagency Committee at least 30 days in advance of its annual meeting in April of each year. Licensee shall allow a minimum of 30 days for the Interagency Committee to comment on a draft of the annual report and to make recommendations before filing the

final annual report with the Commission no later than June 1 of each year.

Licensee shall conduct the following studies:

- (a) **Stream Temperature:** In addition to the stream gage that will continue to be operated at the mouth of Cooper Creek as required in Article 404, Licensee shall record stream temperatures at the outlet of Cooper Lake (post-Stetson diversion) and in Cooper Creek below the confluence with Stetson Creek. Stream temperature data will be recorded no less than every two hours and collected during every year prior to operation of the Stetson diversion (except at the outlet of Cooper Lake) and during a total of ten years (which need not be consecutive) after instream flow releases begin from Cooper Lake.
- (b) **Geomorphological/Sediment Transport:** Following completion of the Stetson Creek diversion, Licensee shall conduct studies to: (1) inform the Interagency Committee on the effectiveness of flushing flows combined with natural flooding events in maintaining channel character and fish habitat; and (2) allow the Interagency Committee to make recommendations regarding flushing flows pursuant to Article 403(b). The studies will be conducted in the fifth, tenth, fifteenth, and twentieth years after instream flow releases begin from Cooper Lake. The studies will consist of a combination of a stream walk narrative, channel geometry and substrate measurements, and photo points.
- (c) **Stream productivity:** To assess basic stream productivity, nitrogen, phosphorus, pH, and biomass will be measured at the mouth of Cooper Creek three times in a year before the Stetson diversion is completed and then three times in the first full water year after instream flow releases begin from Cooper Lake.
- (d) **Adult anadromous/fluvial fish assessment:** Licensee shall develop a population estimate and distribution survey of adult fish migrating into Cooper Creek between 1 May and 15 October of each year for rainbow trout, Dolly Varden char, coho, sockeye, and chinook salmon to allow the Interagency Committee to identify trends and spawning distribution of fish populations. These population estimates and distribution surveys shall be conducted in each year prior to operation of the Stetson diversion and during a total of ten years (which need not be consecutive) after instream flow releases begin from Cooper Lake.
- (e) **Resident adult fish assessment and juvenile production:** Licensee shall conduct surveys to investigate habitat use and relative abundance of resident adult and juvenile rainbow trout and Dolly Varden char, and juvenile coho and chinook salmon and outmigration of such juveniles. These studies will be conducted

during a total of ten years (which need not be consecutive) after instream flow releases begin from Cooper Lake.

- (f) Assessment of Cooper Lake Arctic char population status: Licensee shall conduct Cooper Lake Arctic char studies to obtain periodic post-diversion estimates of Arctic char abundance and overall condition such that the status of Arctic char populations can be compared to pre-diversion conditions. These Arctic char studies will be conducted twice during the License period at times suggested by the Interagency Committee after instream flow releases begin from Cooper Lake.

**Condition No. 16 – Cooper Lake Reservoir and Powerhouse Operations
(Settlement Agreement Article 406)**

(a) Licensee shall operate the Project and maintain the Cooper Lake reservoir within the existing license reservoir limitations (between 1160 feet m.s.l. and the normal maximum operating level of 1194 feet m.s.l.), with a spillway level of 1210 feet m.s.l. as modified by any applicable probable maximum flood studies pursuant to FERC policies and procedures. Annual reservoir fluctuation may increase from existing conditions as needed to accommodate the additional inflow from Stetson Creek and the storage of water contemplated in Article 402.

(b) No new operational restrictions on the reservoir or powerhouse operations are required, except that between January 1 and April 30, Licensee shall not shut down the powerhouse for more than three consecutive days when the water at the USGS gage at the Kenai River Bridge shows flows less than 500 cfs in Kenai River, unless an emergency occurs, in which case Licensee will release 60 cfs into Kenai Lake.

**Condition No. 17 – Transmission Line ROW Maintenance
(Settlement Agreement Article 407)**

(a) Licensee shall maintain the right-of-way for the Project transmission line to be able to access, maintain, and repair the transmission line.

(b) Licensee shall implement the Transmission Line ROW Management Plan and Access Management and Maintenance Plan ("ROW Management and Maintenance Plan", referenced in the Settlement Agreement), which describes the methods, timing, access points, and other guidelines for use and maintenance of the transmission line rights-of-way, including requirements for consultation with resource agencies, as conditions affecting access change over time. The ROW Management and Maintenance Plan includes agreed-to protocols for best management practices, emergency access (especially across wetlands and streams), and access control.

(c) Licensee will, at its expense, maintain access points as "closed to public use" in accordance with the provisions of the ROW Management and Maintenance Plan. Method of traffic control can be by gates, vegetation and other methods agreed to and outlined in the ROW Management and Maintenance Plan.

(d) Commission jurisdiction pursuant to Part 1 of the Federal Power Act over the transmission line from Quartz Creek Substation to the Anchorage Substation, is terminated, effective on the date the Licensee receives all necessary permits and approvals from the U.S. Forest Service, the State of Alaska, and other land owners, as applicable, for the continued use of lands within the Transmission Line ROW. The Licensee shall file copies of all permits and approvals with the Commission within 30 days of receiving the permits or approvals. Within six months after issuance of the license, Licensee shall apply for a long-term special use permit from the USFS and all other necessary permits for maintenance of the transmission line right-of-way across such lands consistent with the ROW Management and Maintenance Plan.

(e) Within 60 days of the termination of Commission jurisdiction over the transmission line as specified in ordering paragraph (d), Licensee shall file for Commission approval, revised exhibits A, F, and G drawings showing and describing the project features, boundaries, and facilities, as well as a statement indicating the revised amount of federal lands occupied by the project so the Commission can amend Article 201 of the license regarding the Licensee's payment for the use of federal lands.

(f) Licensee shall file with the Commission documentation that the requirements of this Article have been completed within three years from the effective date of the License.

**Condition No. 18 – Roads Within Project Boundary
(Settlement Agreement Article 408)**

Access Road to the Cooper Lake Dam and Stetson Creek Diversion

The Licensee will maintain the road from the beginning of the Forest Service property (which begins approximately one mile from the Sterling Highway) to the Cooper Lake Dam and the proposed Stetson diversion structure for operational purposes.

Consistent with applicable laws and procedural requirements, Licensee shall within three years of issuance of a New License seek a special use permit from the USFS for Licensee's use of the road across USFS lands, which requires Licensee to: (1) gate access to this road and maintain the road to meet Licensee's needs and the terms of the special use permit; and (2) allow recreational access consistent with the USFS land management plans and policies, so long as such recreational use does not interfere with Licensee's

maintenance and operation activities related to the Project, the proposed Project modifications, and the road.