

Susitna-Watana Hydroelectric Project Document

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FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D.C. 20426

July 16, 2012

OFFICE OF ENERGY PROJECTS

Project No. 14241-000 – Alaska
Susitna-Watana Hydroelectric Project
Alaska Energy Authority

Subject: Scoping Document 2 for the Susitna-Watana Hydroelectric Project

To the Parties Addressed:

The Federal Energy Regulatory Commission (Commission) is conducting National Environmental Policy Act (NEPA) scoping for Alaska Energy Authority's (AEA) proposed Susitna-Watana Hydroelectric Project FERC No. 14241-000. AEA filed its Pre-Application Document (PAD) on December 29, 2011 and will use the Commission's Integrated Licensing Process (ILP) to develop its license application and prepare the environmental record needed by the Commission and other federal agencies reviewing the project. The proposed project would be located in the Matanuska-Susitna Borough on the Susitna River at river mile 184 above the river mouth, approximately halfway between Anchorage and Fairbanks, Alaska. The small, unincorporated Native village of Cantwell, in the Denali Borough, is located about 45 air miles west of the proposed project dam, while Anchorage is approximately 180 air miles generally south of the project area. The project would occupy federal lands currently administered by the U.S. Bureau of Land Management (BLM) but selected for potential acquisition by the State of Alaska under the Alaska Statehood Act, state lands administered by the Alaska Department of Natural Resources, and private lands owned by Alaska Native Corporations and others.

Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, Commission staff intends to prepare an environmental impact statement (EIS), which would be used by the Commission to determine whether, and under what conditions, to issue a license for the project. This scoping process will be used to support the preparation of the EIS, ensure that all pertinent issues are identified and analyzed, and ensure that the environmental document is thorough and balanced. We intend for this scoping effort to also satisfy the NEPA scoping requirements of the following federal agencies that have requested to be cooperating agencies under both NEPA and the Council of Environmental Quality Regulations: the U.S. Department of Agriculture, Rural Utilities Service; the Environmental Protection Agency (EPA); and the U.S Army Corps of Engineers (Corps).

In our February 28, 2012, Scoping Document 1 (SD1), we disclosed our preliminary view of the scope of environmental issues associated with the Susitna-Watana Project. Based on verbal comments that we received at the scoping meetings which were held on March 26, 27, 28, and 29, 2012, near the proposed project, and written comments we received throughout the scoping process, we prepared the enclosed Scoping Document 2 (SD2). We appreciate the participation of government agencies, non-government organizations, Alaska Native Tribes, and the general public in the scoping process. The enclosed SD2 serves as a guide to the issues and alternatives to be addressed in the EIS. ***Key changes from SD1 to SD2 are identified in bold and italicized type.***

SD2 is being distributed to the Commission's official mailing list (see section 9.0 of the attached SD2). SD2 is also available from our Public Reference Room by calling (202) 502-8371 and can be accessed online at:
<http://elibrary.ferc.gov/idmws/search/fercgensearch.asp>.

If you have any questions about SD2, the scoping process, or how Commission staff will develop the EIS for this project, please contact David Turner at (202) 502-6091 or david.turner@ferc.gov. Additional information about the Commission's licensing process may be obtained from our website, <http://www.ferc.gov>.

Enclosure: Scoping Document 2

cc: Mailing List

SCOPING DOCUMENT 2

SUSITNA-WATANA HYDROELECTRIC PROJECT

FERC PROJECT NO. P-14241-000

**Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Licensing
Washington, D.C.**

July 2012

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1.0 INTRODUCTION

The Federal Energy Regulatory Commission (Commission or FERC), under the authority of the Federal Power Act (FPA),¹ may issue licenses for a term of up to 50 years for the construction, operation, and maintenance of non-federal hydroelectric projects. The Alaska Energy Authority (AEA) filed its Notice of Intent (NOI) and Pre-Application Document (PAD) for the Susitna-Watana Hydroelectric Project P-14241-000, on December 29, 2011, and will use the Commission's Integrated Licensing Process (ILP) to develop its license application.

The proposed project is located in the Matanuska-Susitna Borough on the Susitna River at river mile 184 above the river mouth, approximately halfway between Anchorage and Fairbanks, Alaska (Figure 1). The small, unincorporated Native village of Cantwell, in the Denali Borough, is located about 45 air miles west of the proposed project dam, while Anchorage is approximately 180 air miles generally south of the project area. The project would occupy federal lands currently administered by the U.S. Bureau of Land Management (BLM) but selected by the State of Alaska under the Alaska Statehood Act, state lands administered by the Alaska Department of Natural Resources, and private lands owned by Alaska Native Corporations and others.

The proposed project would consist of a 700- to 800-foot-high by about 2,700 foot-long, concrete gravity or rock-filled dam that would create an approximately 39-mile-long reservoir with a surface area of 20,000 acres and 2,400,000 acre-feet of usable storage capacity. Optimization studies are ongoing, but the capacity of the project is expected to be between 600 and 800 megawatts (MW) depending on results of future updates to the Railbelt Integrated Resource Plan. An approximately 40- to 50-mile-long road and transmission line corridor would be constructed along one of three alternative routes (i.e., Chulitna, Gold Creek, or Denali). The project would be operated in a load-following mode such that firm power is maximized during the critical winter months of November through April to meet the Railbelt utility load requirements. The estimated annual generation would be 2,500,000 gigawatt-hours (GWh). A detailed description of the project is provided in section 3.0.

¹ 16 U.S.C. §§ 791(a)-825(r)(2006).

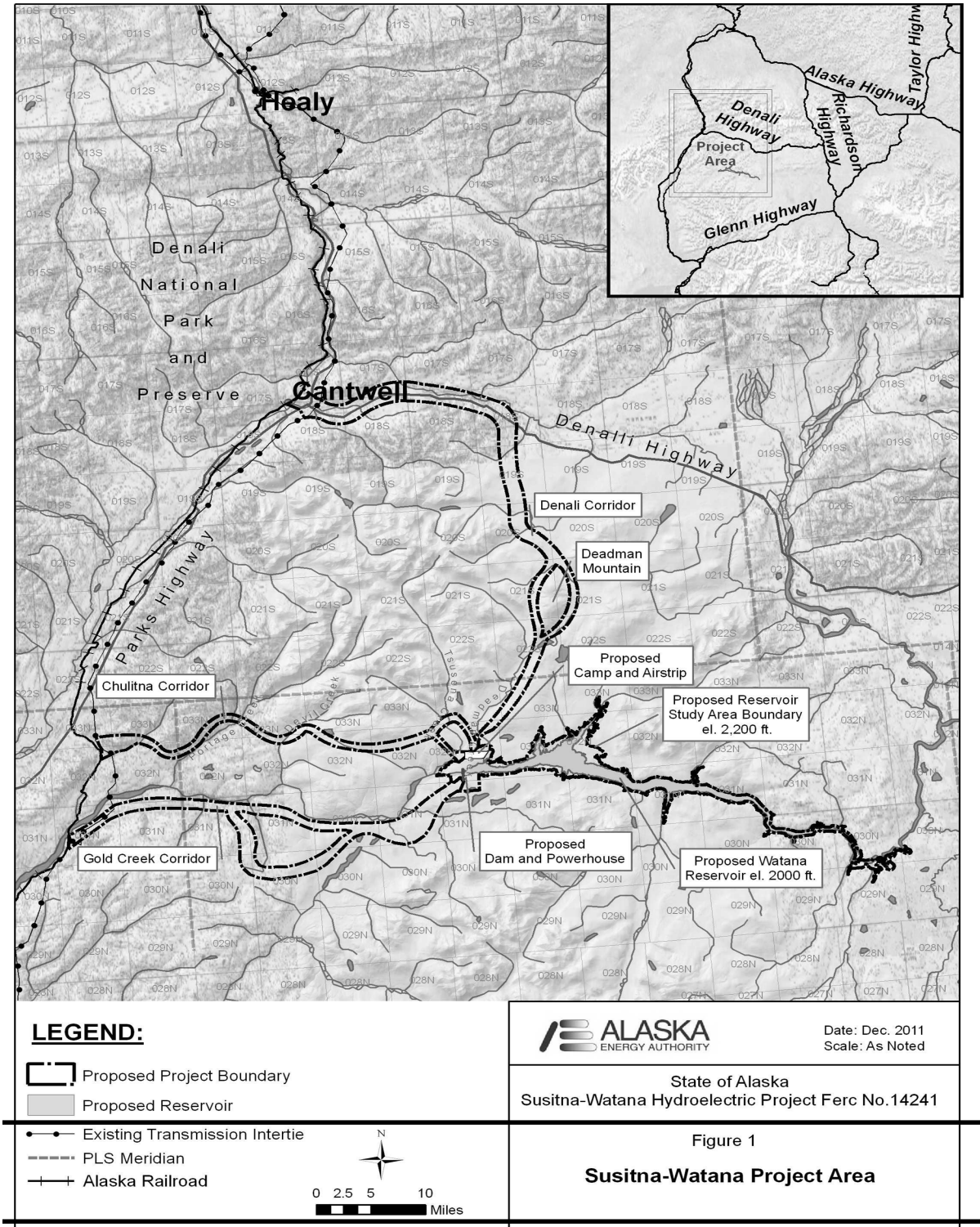


Figure 1. Susitna-Watana Project Area

The National Environmental Policy Act of 1969 (NEPA),² the Commission's regulations, and other applicable laws require that we independently evaluate the environmental effects of the proposed project and reasonable alternatives. Based on the Commission staff's analysis of the issues, staff will prepare an environmental impact statement (EIS) that describes and evaluates the probable effects, including an assessment of the cumulative effects, if any, of the proposed action and alternatives. The EIS preparation will be supported by this scoping process to ensure identification and analysis of all pertinent issues.

The following federal agencies asked to be cooperating agencies under NEPA: U.S. Department of Agriculture, Rural Utilities Service; Environmental Protection Agency (EPA); and U.S. Army Corps of Engineers (Corps). Each agency will sign a Memorandum of Understanding (MOU) with the Commission that defines how the agencies will work together during the process. This enables all of the federal agencies that need to authorize some part of the proposed project or to provide certain expertise to work together under a single process.

2.0 SCOPING

Scoping Document 2 (SD2) is intended to advise all participants of the proposed scope of the EIS based on the written and verbal comments received during the scoping period. This document contains a brief description of: (1) the scoping process and schedule for the development of the EIS; (2) the proposed action(s) and reasonable alternatives identified to date; (3) preliminary identification of environmental issues and proposed studies; (4) a proposed EIS outline; and (5) a preliminary list of comprehensive plans that are applicable to the proposed project.

2.1 Purposes of Scoping

Scoping is the process used to identify issues, concerns, and opportunities for enhancement or mitigation associated with a proposed action. According to NEPA, the process should be conducted early in the planning stage of the project.

The purposes of the scoping process are as follows:

- invite participation of federal, state and local resource agencies, Indian tribes, non-governmental organizations (NGOs), and the public to identify significant environmental and socioeconomic issues related to the proposed project;

² 42 U.S.C. §§ 4321-4335 (2006).

- determine the resource issues, depth of analysis, and significance of issues to be addressed in the EIS;
- identify how the project would or would not contribute to cumulative effects in the project area;
- identify reasonable alternatives to the proposed action that should be evaluated in the EIS;
- solicit, from participants, available information on the resources at issue, including existing information and study needs; and
- determine the resource areas and potential issues that do not require detailed analysis during review of the project.

2.2 Scoping Comments

We issued Scoping Document 1 (SD1) on February 28, 2012, to enable resource agencies, Alaska Native Tribes, and other interested parties to more effectively participate in and contribute to the scoping process. In SD1, we requested clarification of preliminary issues concerning the project and identification of any new issues that need to be addressed in the EIS. We revised SD1 following the scoping meetings and after reviewing comments filed during the scoping comment period. Scoping Document 2 (SD2) presents our current view of issues and alternatives to be considered in the EIS. *Additions to SD1 issues are shown in bold and italic type in this SD2.*

We conducted seven scoping meetings for the Susitna-Watana Project on March 26, 27, 28, and 29, 2012, in Anchorage,³ Wasilla, Sunshine, Glenallen, Cantwell, and Fairbanks, Alaska. Announcement of the scoping meetings was published in local newspapers and in the Federal Register. Based on completed registration forms, 67 individuals attended the March 26 evening meeting in Anchorage, 51 individuals attended the March 27 morning meeting in Anchorage, 32 individuals attended the March 27 evening meeting in Wasilla, 102 individuals attended the March 28 evening meeting in Sunshine, 23 individuals attended the March 28 evening meeting in Glenallen, 23 individuals attended the March 29 evening meeting in Cantwell, and 58 individuals

³ Two meetings were held in Anchorage. The first was on March 26, 2012 from 6:30 p.m. to 8:13 p.m., and the second was on March 27, 2012 from 9:00 a.m. to 1:40 p.m.

attended the March 29 evening meeting in Fairbanks. A court reporter recorded the scoping meetings.

In addition to the comments received at the scoping meetings, the Commission received 169 comment letters from the general public, non-governmental organizations, and state and federal agencies (Appendix B). Many individuals provided either oral or written scoping comments, or both. All comments received are part of the Commission's official record for the project. Information in the official file is available for inspection and reproduction at the Commission's Public Reference Room, located at 888 First Street, N.E., Room 2A, Washington, DC 20426, or by calling (202) 502-8371. Information also may be accessed through the Commission's eLibrary system using the "Documents & Filings" link on the Commission's web page at <http://www.ferc.gov>. Call (202) 502-6652 for assistance.

A large number of the comments expressed strong concerns about or opposition to the project, often referring to project effects on the natural beauty and wild character of the river corridor; fish, wildlife and the river ecosystem; recreation and tourism; fishing and hunting (including subsistence); public safety; the uses of Native Corporation lands; and local population levels (e.g., Cantwell) and demands on public services. Some of the comments received were highly supportive of the project and pointed to the need for energy development in the Railbelt, and the benefits to local economies, including potentially lower-cost electricity and the creation of new job opportunities. All of these concerns fall within the scope of issues identified in SD1 and will be addressed as part of the environmental analysis of the proposed project. Thus, they are not addressed further in SD2. However, several issues were raised that were not specified in SD1 and we have modified SD2 accordingly. We summarize below those comments where we did not make the requested change or to address concerns raised about the licensing process generally.

Comments and responses to these comments are discussed below by resource or subject area.

LICENSING PROCESS

Comment: Many commenters (including those from the U.S. Department of Commerce's National Marine Fisheries Service, the U.S. Department of Interior's Fish and Wildlife Service, and the National Wildlife Federation) state that the ILP is not the appropriate process to develop the license application for a large original project. Most commenters stated that the ILP was developed for relicensing projects and not for licensing large, original projects. Others assert that this is the first large hydroelectric

dam proposed in the United States in a generation, and the first to use the ILP. Several commenters believe that the ILP is not a good fit for a large, new, controversial project because it forces the agencies, the public, and AEA to work too quickly, and that the schedule is deadline-driven and overly restrictive, especially since numerous aspects of the project are still undefined (e.g., dam height, transmission-line route, proposed operations, etc.). Several commenters also state that agency concerns regarding the use of the ILP for this project have not been addressed, and the only response from FERC and AEA is that the ILP is the default licensing process and therefore AEA is allowed to use the ILP to develop its license application.

Response: The Commission has three licensing processes available to applicants. The traditional licensing process can be used where it is likely that the application will have relatively few issues, little controversy, and can be expeditiously processed. The alternative licensing process is available where an applicant chooses to use it and there is support for its use. In this instance, AEA chose to use the ILP, which is the default licensing process. Contrary to the commenters' assertions that the ILP was not designed to be used for original projects, in the Commission's final rule adopting the ILP as Part 5 of its regulations, the Commission specifically considered whether the ILP should apply as the prefiling process for original license applications and found that it should.⁴ Therefore, the ILP will be used to develop the license application.

It is not uncommon for various components of the project design to evolve during application development, particularly in response to measures to avoid or minimize adverse effects on environmental resources uncovered during studies. Where an applicant's project is not well defined or multiple alternatives are being considered, the applicant is subject to potentially greater study needs. These factors would be common to all licensing processes.

Comment: Multiple commenters state that the project appears to have a pre-determined outcome, is on a fast-track for approval, and that FERC rarely, if ever, denies hydropower licenses.

Response: The application process is designed to develop the record needed by the Commission to provide a sound evidentiary basis on which the Commission staff and other participants in the process can make recommendations, including whether it is in the public interest to issue a license for the project. After weighing the information

⁴ *Hydroelectric Licensing Under the Federal Power Act*, Order No. 2002, FERC Stats. & Regs. ¶ 31,150, at P 352 (2003).

developed in the proceeding, the Commission has denied issuing a license for original projects in several instances.⁵

Comment: Several commenters expressed concern about inadequate noticing of the public scoping meetings. Several felt that the scoping meetings should have been noticed using the local radio or any of the Railbelt media (e.g., pamphlets at rail stops, facebook, etc.). One commenter questioned whether FERC is legally bound to publish notice of public meetings. Another commenter stated that they were not given adequate time in the public notification process.

Response: In accordance with the Commission's regulations and longstanding practices, we issued public notice of the scoping meeting in the Federal Register, in a daily or weekly newspaper in the county or counties in which the project or any part thereof is located, and by mail to entities on the Commission's mailing list.⁶ Our February 24, 2012 notice of the scoping meetings provided entities 60 days to file comments (April 27, 2012). At the request of several agencies and with the support of AEA, the due date was extended to May 31, 2012, providing an additional 34 days to provide comments. Further, AEA's pre-application document included estimated dates for scoping, providing additional notification of likely dates when scoping would be taking place. This should have provided entities with enough time to review and comment on the project as proposed by AEA.

Comment: One citizen questions why there is not a citizens' advisory board established for the project, and notes that FERC has used citizen advisory groups on other licensing processes. She requests that we do so here.

Response: The ILP allows all interested entities to participate in the licensing process, including various groups of citizens that may have formed to express a common position or concern about a project. However, the Commission has not established a "citizens advisory board" in other hydroelectric licensing proceedings. Perhaps, the commenter is confusing the FERC licensing requirements with the efforts of AEA and the Regulatory Commission of Alaska to use advisory groups to look at the railbelt energy needs and the abilities of the Susitna Project to meet those needs.

⁵ These include Shelley Project No. 5090, Barberville Project No. 11213, Oxbow Bend No. 6329, Grave Creek Project No. 7334, Upper Squaw Creek No. 7301, and Lake Redding Project No. 2828.

⁶ 18 C.F.R. § 5.8(e) (2012).

Comment: One commenter recommends that the Commission use a commonly accessible Decision Support System (a computer-based information system) to integrate stakeholder interests.

Response: While such systems can be useful for compiling and keeping track of myriad comments, it is not necessary, particularly where, as is the case here, most of the comments are similar.

Comment: Multiple commenters request that FERC consider the value of a free-flowing river as a factor in deciding whether to issue a license for the project, and note that it is not possible to mitigate for the destruction of a natural and complex river ecosystem.

Response: The no-action alternative, will serve as the basis for comparison of the effects of all reasonable alternatives on the resources of the Susitna River, which in this case is an unregulated river system. Future power demand and supply, alternative sources of power, the public interest in preserving reaches of wild rivers and wilderness areas, the preservation of anadromous fish for commercial and recreational purposes, and the protection of wildlife are examples of the factors that will be considered in the public interest finding of whether to license the project or not, and if so, under what conditions.

Comment: The Natural Heritage Institute, supported by various other NGOs (e.g., National Wildlife Federation, Coalition of Susitna Dam Alternatives (Coalition), Alaska Survival, etc.,) argue that the Federal Power Act requires that FERC's licensing decision be in the public interest, having given equal consideration to power and non-power values. The Natural Heritage Institute further argues that the domain of public interest to be analyzed by FERC for the Susitna-Watana Project should consider Alaska's Railbelt region, the entire State of Alaska, and the entire United States. The Natural Heritage Institute argues that *equal* consideration implies an equivalent level of information and knowledge of the non-power values as for the value of power and other economic benefits ascribed to the power production of the proposed project

The National Heritage Institute, the Coalition, Chickaloon Village, and others also state that the NEPA process must put a value on the ecosystem services of the Susitna Basin, which it defines as the conditions and processes through which the natural ecosystems and their species sustain and fulfill human life.

Response: Section 4(e) of the Federal Power Act requires the Commission to give "*equal consideration*" to the purposes of energy conservation, the protection, mitigation

of damages to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of environmental quality.” “Equal consideration” is not the same as “equal treatment. Nothing in the statute requires the Commission to place a dollar value on non-power benefits, even if the Commission assigns a dollar value to the licensee's economic costs.

We do not dispute that the existence of a free-flowing, wild Susitna River that supports salmon and other resources would have intrinsic value to Alaskans and others nationally. We further recognize that various methods have been developed that attempt to express existence values in dollars. However, in the context of public interest balancing for long-term authorizations, it is not appropriate to rely too heavily on the accuracy of current dollar estimates of non-power resource values, calculated using any number of reasonably disputable assumptions and methods. This is particularly true if we were to try to determine and weigh national values against the energy needs of Alaskans, as the Natural Heritage Institute would have us do. Moreover, the public interest balancing of environmental and economic impacts cannot be done with mathematical precision, nor do we think our statutory obligation to weigh and balance all public interest considerations is served by trying to reduce it to a mere mathematical exercise. Where the dollar cost of measures can be reasonably ascertained, we will do so. However, for non-power resources such as aquatic habitat, fish and wildlife, recreation, and cultural and aesthetic values, to name just a few, the public interest cannot be evaluated adequately only by dollars and cents. The methods for evaluating effects on ecosystem services have not been determined and will be a subject of the study plan process.

STUDIES

Comment: Many commenters urged the Commission to take the time needed to gather the data necessary to evaluate project effects on the various environmental resources. Multiple commenters, including several agencies (e.g., National Marine Fisheries Service, U.S. Fish and Wildlife Service) state that two years of environmental studies is inadequate. Rather, they assert that six to eight years, the lifespan of a Chinook salmon, is the minimum timeframe for conducting studies. Other commenters believe that the licensing process should be shortened to no more than 4 years due to the historic database of information from the 1980's studies.

Response: Under the ILP, the Director of the Office of Energy Projects will approve a study plan, which will consist of a compilation of various studies that must be completed before the Commission will issue its notice that the application is ready for environmental analysis and is proceeding with preparation of the EIS. The time needed to complete the various studies will be study-specific, and will consider the availability of

existing information. We expect a license applicant to file a complete license application. Unlike a relicense of an existing project, as long as the applicant is making substantive progress in developing the license application, there is latitude as to when an applicant must file its license application.

Comment: One commenter requested that the public be allowed to participate in the 2012 study plan process since the 2012 studies are not part of the formal FERC ILP process.

Response: AEA voluntarily began developing studies that it would implement in 2012 before the Commission formally approves the project study plan. These 2012 study planning efforts are not required by the ILP and the Commission cannot require AEA to conduct these study planning processes in a particular manner. Nonetheless, AEA has approached these study efforts in a collaborative manner and Commission staff and several members of the general public have participated in many of the meetings.

Comment: The Coalition objects to AEA's statement that it can conduct environmental studies after the license application is filed, noting that this approach may not be legal and would indicate that the project is being fast-tracked.

Response: See above response on the temporal scope of studies and development of Commission-approved study plan.

Comment: Several commenters state that studies should be done by independent agencies that do not have a vested interest in the project.

Response: The Commission can require an applicant to gather information to support its application. However, the Commission cannot require an applicant to hire a particular entity or require another agency to conduct a study.

Comment: The Knik Tribal Council states that it cannot support a project of this magnitude without first having the opportunity to participate directly in determining the extent of the project's impact upon the tribe, and its lands and the resources on which it depends. The Knik Tribal Council asks that it be directly involved in establishing the scope of proposed studies and how the tribe can participate, both in gathering and collecting the data and in developing the conclusions and findings on the implications to the tribe.

Response: As noted above, the ILP provides a venue for all parties to be consulted during the development of the license application, including identifying the

information needed to address the effects of the project on Knik Tribal resources. However, as also noted above, we can not require AEA to hire a particular entity or tribal representative to gather the information.

Comment: The United Cook Inlet Drift Association would like to be included in emails, focus groups, and discussions regarding the project, as well as contacted and consulted by any party conducting fisheries studies or research.

Response: The ILP provides a venue for all entities to be consulted in the preparation of the license application, starting now with the request for comments and studies. AEA has also established a web page and email notification system for entities interested in the project, which should facilitate the United Cook Inlet Drift Association's participation in the pre-filing process. Further, as explained in Section 6.0, we recommend that all entities interested in this project register online on the Commission's web page to be notified of all filings and issuances by the Commission for this project.

PROJECT ALTERNATIVES AND NEED FOR POWER

Comment: Many commenters note that the state's goal of generating 50 percent of its energy needs is a laudable goal, but it is not a mandatory standard, and should not be relied on as a basis for support for a project that raises significant environmental concerns.

Response: The EIS will evaluate the regional need for power using the most recent projections, which are currently those forecasted in the Alaska Railbelt Regional Integrated Resource Plan. The scope of the need for power analysis encompasses such factors as whether there is a regional need for power, displacement of non-renewable fossil fuels, and diversification of generation mix.

Comment: Multiple commenters request that AEA conduct a comprehensive, comparative cost-benefit analysis that will inform the public which energy source or combination of sources will provide the required energy over the next 50 years and at what cost. Several commenters stated that the State of Alaska has not fully considered the financial effects or the best use of funds. They further state that FERC is in the unique position of being able to advise the state on its need for creating a comprehensive energy plan by requiring appropriate study and analysis of the State's energy needs. A full analysis of real costs must be detailed in the EIS, including state-funded subsidies and their effect on energy rates.

Response: The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and costs of a project, and reasonable alternatives to project power. This helps support an informed decision concerning the scope of the public interest with respect to a proposed license. The EIS will compare the current cost of project power to likely alternatives with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. However, it is beyond the scope of the EIS to develop a comprehensive energy plan for the State of Alaska.

The Commission's regulations require AEA to provide a detailed statement of project costs and financing with its application. This statement must include, in relevant part: (1) the estimated annual value of project power based on a showing of the contract price for the sale of power or the estimated average annual cost of obtaining an equivalent amount of power from the least cost alternative source of power; (2) a description of other electric energy alternatives, such as coal and nuclear-fueled power plants and other conventional and hydroelectric plants; (3) an evaluation of the consequences of denial of the license application and a brief perspective of the future use of the site if the proposed project were not constructed; and (4) a description of the sources and extent of financing and annual revenues available to the applicant to meet the identified costs. This information will form much of the basis of the costs in the EIS.⁷ To the extent state or federal subsidies would be relied on to finance the project, they should be identified in the statement. However, this is often unknown at the time of filing and dependant on final costs of construction.

We cannot factor into our public interest determination effects on retail rates when financing for the project has not been obtained. Moreover, it is the responsibility of the Regulatory Commission of Alaska (RCA) to ensure that the retail rates are just and reasonable and we have no reason to think the RCA will not fulfill its responsibilities in this regard.

Comment: Many commenters note that the project would only serve to meet 50 percent of the Railbelt's energy needs and even less of its heating needs (by some estimates 25 percent). Multiple commenters state that the Susitna dam would not eliminate the need for natural gas in the Railbelt area; rather, it would reduce the use of natural gas by only 25 percent. Consequently, natural gas alternatives and coal alternatives should be pursued instead of the hydroelectric project. FERC must evaluate the fact that the dam would not solve the Railbelt energy problems. FERC must also

⁷ See 18 C.F.R. § 4.41(e)(5)-(8) (2012).

consider that the dam would likely encourage industries to locate to the area, thereby increasing future power demand.

Response: As noted above, the EIS will evaluate the regional need for power. Predicting energy needs for development that may result from the power produced by the project would be too speculative to be of value to the decision making process and beyond the scope of the EIS.

Comment: The Copper County Alliance noted that while the project would help meet some of the Railbelt's energy needs and provide some cost stability for the Railbelt communities, it will not serve to meet the energy needs of the more rural, off-Railbelt communities whose energy costs are already much higher than the Railbelt communities. The Copper County Alliance recommends that the EIS take a broad look at alternatives, especially small local projects that bring sustainable, affordable energy and jobs to rural communities. They also recommend that the EIS look at the lost opportunity cost of meeting these small community needs.

Response: As stated, the EIS will evaluate the regional need for power. Determining how the state might use its funds to develop energy alternatives for rural communities is speculative, outside of the Commission's authority, and beyond the scope of the EIS.⁸

Comment: Multiple commenters state that the project would not provide any benefits for home heating, which is a primary need for the region, and therefore would provide an extremely low return for the huge investment required for the project.

Response: We base our electrical energy projections on the regional need for power. We will not speculate whether home owners will opt to use electricity versus other energy sources for home heating.

We also note that project economics are only one of the public interest considerations, and a finding of negative economic benefits does not preclude issuance of a license. In analyzing public interest factors, the Commission takes into account the fact

⁸ We note, however, that AEA, through its authorities, is also considering how to provide for rural communities' energy needs. For example, through its Rural Power Systems Upgrade Program, AEA is conducting an inventory of rural power system needs throughout the state to prioritize system upgrades (*See* AEA's Rural Power Systems Upgrade Program at: http://www.akenergyauthority.org/FactSheets/AEA_ProgramFS_RPSU.pdf).

that hydroelectric projects offer unique electric utility system operational benefits. These benefits include their value as a source of power available to assist in quickly placing fossil fuel-based generating stations back on line following a major utility system or regional blackout, system-power-factor correction through condensing operations, and almost instantaneous load-following response to dampen voltage instability on the transmission system during highly dynamic peak load periods. The Commission also takes into account the fact that proposed projects may provide substantial benefits not directly related to utility operations that would be lost if a license were denied on solely economic grounds. These may include creation of recreational benefits, flood control, and local economic development. Moreover, the analysis makes no assumption that a project which appears to cost more than currently available alternatives will always be so situated.⁹

Comment: Multiple commenters state that, instead of spending \$4.5 billion to build the dam, AEA should look to energy efficiency and conservation, natural gas, tidal, geothermal, wind, solar, and energy storage projects. The commenters contend that Cook Inlet has enormous natural gas supplies and the state should subsidize gas development in the Railbelt area instead of pursuing the Susitna-Watana Project.

Response: Conservation efforts appear to be part of the AEA's ongoing plans¹⁰ and were considered in developing its Integrated Railbelt analysis. The EIS will evaluate all reasonable alternatives to the proposed project that are reasonably foreseeable. In our analysis of the proposed project and any alternatives, we will include any conservation measures that we conclude could be achievable.

Comment: EPA states that the EIS should identify specific criteria that would be used to: (1) develop a range of reasonable alternatives, (2) eliminate alternatives considered, and (3) select the agency preferred alternative. The criteria should be based on factors such as conservation of important aquatic and terrestrial habitats, maintaining wildlife connectivity and fish passage, economics, public need, and public safety. The

⁹ See *Duke Power Co.*, 72 FERC ¶ 61,030 (1995); *Mead Corp.*, 72 FERC ¶ 61,027, order on reh'g, 76 FERC ¶ 61,352 (1995).

¹⁰ See AEA's Alternative Energy and Energy Efficiency Programs at: http://www.akenergyauthority.org/FactSheets/AEA_ProgramFS_AEEEPPrograms.pdf.

alternatives criteria should also incorporate substantive issues identified during scoping and agency and tribal consultation.

Response: As noted above, the Commission will consider all reasonable alternatives. The Federal Power Act requires that the Commission give “*equal consideration*” to the purposes of energy conservation, the protection, mitigation of damages to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of environmental quality. Consequently, the EIS will consider the above factors and will explain any alternatives considered but eliminated from detailed analysis. However, it is not necessary and, we believe, not prudent, to define specific criteria for defining alternatives. Doing so could be either overly restrictive or so broad that it would not be beneficial to the decision making process.

Comment: EPA expects that the range of alternatives considered in the EIS will be at least as broad as those developed in the EIS for the original Susitna Project because many of the alternatives evaluated in the previous EIS likely remain practicable today. EPA, the Coalition, and others recommend that FERC evaluate other dam designs as well as alternative energy projects to meet the future need identified by AEA. NMFS and others recommend that the EIS consider the addition of a small re-regulating dam and base load operations to reduce the effects of flow fluctuations from load-following operations on downstream resources. Trout Unlimited also recommends that the EIS analyze a range of alternative dam configurations and operations including alternative flow conditions, fish passage provisions, run-of-river operation, ramping rate restrictions, and the addition of a re-regulating reservoir. The Coalition states that the full range of potential dam heights (i.e., 700-880 feet) and alternative energy sources should be evaluated as alternatives to the proposed action in the EIS.

Response: The EIS will evaluate all reasonable, foreseeable alternatives to the proposed project. Furthermore, our regulations require AEA to consider and conduct an analysis of all environmental measures recommended by a resource agency, Indian tribe, or member of the public, and explain its reasons for not adopting an environmental measure based on project-specific information.¹¹ At this time, we have no basis for dismissing consideration of the re-regulating dam or base load operations as reasonable alternatives to the proposed project design and would expect AEA to gather sufficient information to address these measures in its application. Accordingly, the EIS will evaluate all project alternatives, including proposed and recommended environmental measures that are reasonable in the circumstances of the case.

¹¹ See 18 C.F.R. § 5.18(b)(5) (2012).

Comment: Several commenters would like a study of other transmission line routes from the project to the Copper Valley, Delta Junction, and Glennallen. The Cook Inlet Region, Inc. (CIRI) recommends the project include two separate, non-northerly, transmission corridors to ensure safety and reliability.

Response: The EIS will evaluate the environmental effects and costs of the three transmission line routes proposed by AEA. Adjustments to transmission line routes often rise during the development of an application and the EIS will consider any other reasonable alternative routes to serve as the project's primary transmission line in these circumstances. However, it is a long standing policy of the Commission not to require a specific allocation of power from licensed projects to specific entities in the absence of a statutory directive to do so. Thus the EIS will not consider alternative transmission line routes that may be recommended by other entities to serve that end.

Comment: Multiple commenters question the appropriateness of using roller compacted concrete (RCC) to construct a dam in an extremely cold environment in northern latitudes. Additionally, they question whether RCC has ever been successfully used in similar climates with a similarly sized dam.

Response: It is important whether placing conventional concrete or roller compacted concrete that proper construction procedures are followed to address the affect of extreme temperatures. The Commission's regulations require that AEA file a supporting design report that demonstrates that its proposed structures are safe and adequate to fulfill their stated functions.¹²

Comment: One commenter requests consideration of the source of the aggregate and limestone needed for dam construction. Another asked whether extraction activities associated with the project would result in massive holes and a disturbed environment.

Response: AEA's application must describe its sources for aggregate and limestone. The EIS will assess the effects of developing and processing these materials if they occur on-site and not from an existing, permitted source.

Comment: EPA states that, to support the purpose and need statement, the EIS should discuss the proposed project in the context of the larger energy market, including

¹² See 18 C.F.R. § 4.41(g)(3) (2012).

identification of existing utilities and sources, and clearly describe how the need for the proposed action has been determined.

Response: Consistent with the NEPA regulations,¹³ the purpose and need statement in the EIS will briefly specify the underlying purpose and need to which the Commission is responding in proposing alternatives to the proposed action, which is the licensing of a proposed hydroelectric project. Refer to the responses above for further discussion of the need for power and development of alternatives.

Comment: CIRI states that the Commission should examine the extent to which future state energy needs may be met by alternatives to the project. CIRI asserts that ratepayers benefit when utilities pursue multiple resource supply options, including long-term power purchase agreements with least-cost independent power producers. Thus, the Commission's NEPA analysis should engage in a very hard look at the extent to which this project will commercially exclude or preclude independent power producers from competing in the same market because the project is subsidized by the state.

Response: As noted above, the EIS will evaluate the regional need for power. However, it is beyond the scope of the EIS to develop a state energy plan.

CUMULATIVE EFFECTS

Comment: The Coalition and one other commenter state that the following actions should be included in the cumulative effects analysis for cultural, subsistence, recreational, aesthetic, and wildlife resources: (1) military flight expansion in the Fox 3 MOA as described in the Joint Pacific Alaska Range Complex EIS; (2) mineral exploration and potential production by the Pure Nickel's Man Alaska Project on 240 square miles of state lands called the Denali Block and on U.S. Bureau of Land Management lands; (3) scenic air tours and landings on two glaciers located north of the project area near Mt. Deborah; and (4) project effects on the Nelchina Public Use Area, currently managed under the 2012 Susitna Matanuska Area Plan.

Response: The direct and indirect effects of the project on the Nelchina Public Use Area will be assessed in the resource specific sections of the EIS and will also be considered in the cumulative effects analysis.

¹³ 40 C.F.R. § 1502.13 (2012).

Comment: NMFS recommends that glacial wasting and climate change be added to the cumulative effects analysis because it is reasonably foreseeable that resources could be cumulatively affected by hydropower operations and changes in timing and availability of water. Many comments were received from the public and NGOs also stating that climate change is undeniably occurring in northern latitudes and must be considered in the assessment of the project and incorporated in all prefilings study plans. In addition, many commenters state that the effects of climate change on glacial melt, snow pack, precipitation, and sediment load should be studied because it is necessary to understand how the cumulative effects of the dam and climate change will affect flows and sediment transport and fish and wildlife resources throughout the Susitna River.

Response: We are not aware of any way to accurately predict the effects of climate change on changes in glacial wasting and on the timing and availability of water in the Susitna River Basin, on a basin-specific scale given the current state of the science. It is common practice for the Commission to evaluate a range of flow release alternatives that take into consideration both high and low water years and to condition any license that may be issued to adaptively manage for these variations in water years.

Comment: Trout Unlimited states that project-related developments (roads, transmission lines, airport) will significantly increase the likelihood of additional future development in the project area. These factors should be considered as part of the cumulative effects analysis.

Response: The EIS will consider population growth and access-related effects of the proposed project facilities where such effects can be reasonably foreseen. Trout Unlimited does not specify any specific developmental actions that are reasonably foreseeable and dependant on future project road, transmission line, or airport construction in the project area. In the event that Trout Unlimited or others become aware of any reasonably foreseeable actions that are contingent on construction of project facilities, we would consider the need to expand our cumulative effects analysis at that time.

Comment: CIRI asserts that regardless of FERC's limited jurisdiction over transmission issues beyond the point of the project's interconnection to the grid, the Commission must evaluate the need for reasonably foreseeable future transmission lines and upgrades necessitated by the project as "cumulative impacts" in its NEPA analysis.

Response: As part of any hydroelectric project, the primary transmission line for that project ends at the point of interconnection to the grid or the distribution system. Also, any future transmission lines and upgrades to this primary line must end at the point

of interconnection to the grid. Therefore, our NEPA analysis does not need to include cumulative impacts by the project's transmission line beyond the point of interconnection.

Comment: CIRI asserts that the Commission's cumulative effects analysis must look beyond the 30- to 50-year time frame posed in the scoping document because construction of the dam and its effects would extend beyond the initial license term.

Response: While it is true that if the Commission finds it in the public interest to authorize the construction and operation of the project, the project may have a life-span greater than the term of the license, which is statutorily limited to 50 years. However, the projected effects beyond that time frame become too speculative to be of value in the decision whether to license the project.

GEOLOGY, SEISMICITY, AND DAM FAILURE

Comment: Multiple commenters expressed concern with the proposed location of the dam relative to major earthquake faults, notably the Broad Pass Fault and the Denali Fault, and that a 7.9 earthquake has occurred on the Denali Fault. Several members of the public questioned how the Commission and AEA could consider developing a project in an active fault area. Commenters would like AEA to study seismic activities in the faults within the project area.

Response: The EIS will examine site geologic conditions and seismology. Additionally, the Commission's regulations require that AEA file a supporting design report that demonstrates that proposed structures are safe and adequate to fulfill their stated functions.¹⁴ A comprehensive review will be undertaken of all loading conditions, including seismic loadings, by an independent consultant hired by the applicant and will be overseen by the Commission's Division of Dam Safety and Inspections. The review will insure the proposed dam is designed to safely pass all credible loading conditions, including ground motions up to the Maximum Credible Earthquake. In addition to the Commission's review of project's design, an independent Board of Consultants will be required to perform a peer review. As has been conducted on other dams of similar magnitude, the Board of Consultants will be composed of world renowned experts in dam design and construction and they will review the dam design as well as the plans and specifications for construction of the dam. The Commission will not allow AEA to start construction until we are satisfied the dam meets our Engineering Guidelines, including the seismic guidelines, which can be found on the Commission's web page at:

¹⁴ See 18 C.F.R. §4.41(g)(3) (2012).

<http://www.ferc.gov/industries/hydropower/safety/guidelines/eng-guide/chap13-draft.asp>

Comment: Many members of the public also expressed concern about their safety following a dam failure and the resulting flood. Several requested a map and analysis outlining the areas that would be flooded, and to what depth, as well as projected fatalities and economic damage in a variety of scenarios, including total dam failure. One also requested a plan for a warning system in the event of a dam failure.

Response: Public safety at licensed projects is of the upmost importance to the Commission. As noted above, the Commission's regulations require AEA to develop sufficient information to support the design of the project. AEA will be required to design the dam to withstand normal, seismic, and flood loading conditions with adequate factors of safety.

Because of its size, this dam will likely be considered as having a high hazard potential in the event of a failure. Accordingly, AEA will be required to develop an Emergency Action Plan in accordance with our guidelines, which can be found on the Commission's web page at:

<http://www.ferc.gov/industries/hydropower/safety/guidelines/eng-guide/chap6.asp>

The Emergency Action Plan will include inundation maps showing the expected downstream areas that could be impacted from a dam failure and discuss procedures for notifying emergency agencies and ensuring the downstream public is adequately warned. The inundation maps are based on a dam break analysis which is typically performed after a license is issued, once the final size and site conditions of the proposed dam are known. The analysis will be conducted in coordination with, and reviewed by, the Commission's Division of Dam Safety and Inspections and the Board of Consultants referenced above. Emergency Action Plans must be filed with the Commission no later than 60 days prior to the initial filling of the project reservoir.

Comment: Multiple commenters requested an analysis of what the increased risk of the dam will cost downstream residents in terms of higher home insurance premiums, and perhaps the necessity to buy flood insurance, including an evaluation of those that were not previously in a floodplain, but may be after construction of the dam.

Response: An analysis of how the project may affect insurance premiums is beyond the scope of the EIS because a variety of factors determine insurance premiums, including the amount and type of coverage being purchased, what deductibles are desired, location and flood zone, design and age of individual structures, elevation of structures,

and individual issuance company risk assessments. We will examine how project operations influence downstream river elevations. Further, the development of the emergency action plan may further influence individual risk factors considered by the Federal Emergency Management Agency, but this information will be dependant on final design of the project.

Comment: One commenter questions who would pay for damages to residential and community properties in the event of a dam failure, and how many residents would be affected by a failure, especially considering the increase in population over the 100 year lifespan of the project.

Response: Section 10(c) of the FPA states that each licensee shall be liable for all damages to the property of others by the construction, maintenance, or operation of the project works constructed under the license.¹⁵ As discussed above, AEA's license application must include dam design drawings and supporting design reports. Once the license application is filed, Commission staff will perform a safety assessment and review of the dam design before any license would be issued. Furthermore, also as noted above, the Emergency Action Plan would need to consider potential downstream impacts as part of the dam break analysis.

Comment: Dr. Jeff Benowitz would like the Commission to consider using "thermochronology" to map active and non-active faults along the Susitna River corridor.

Response: The EIS will identify and discuss seismic conditions at the project. The appropriate method for identifying and mapping active faults will be determined through the ILP study plan development process and will consider various factors including existing information, whether the proposed methods are consistent with generally accepted practices in the scientific community, and cost.¹⁶

WATER RESOURCES

Comment: The Coalition says that the public has not seen the Alaska Department of Environmental Conservation's (Alaska DEC's) waiver of its authority to issue Clean Water Act section 401 water quality certifications for hydropower projects in Alaska. The Coalition questions whether FERC could issue a license for a hydropower

¹⁵ 16 U.S.C. § 803 (2006).

¹⁶ See 18 C.F.R. § 5.19(b) (2012).

project without a water quality certification from Alaska DEC. Moreover, the Coalition questions whether water quality impacts and protection and mitigation measures would be adequately addressed by FERC without Alaska DEC's water quality certification.

Response: Under section 401(a)(1) of the Clean Water Act, 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. On August 10, 1999, Alaska DEC filed a letter with the Secretary of the Commission indicating that it would waive its right to issue water quality certifications under section 401 of the Clean Water Act for FERC licenses for hydroelectric projects. The letter can be found on the Commission's eLibrary web page by conducting an advanced search on the date 08/10/1999 and entering "section 401" into the text search.

The Commission would need to evaluate the effects of the project on water quality resources of affected waters as required by NEPA. Consideration of the effects of project construction and operation on numerous water quality variables is already included in the SD2.

Comment: The Center for Water Advocacy states that the absence of water rights in the Statutory and Regulatory Requirements section of the EIS outline provided in the scoping document suggests that the EIS will not include an analysis of the project's effects on federal and other water rights. This is contrary to the fact that project operations will affect instream flows and, therefore, will potentially impact downstream surface and ground water rights including those needed to protect native Alaskan health and subsistence uses.

Response: The Center for Water Advocacy does not identify which statutes and regulations should be included in the outline for the EIS. Section 27 of the FPA states that nothing in Part I of the FPA "shall be construed as affecting or intending to affect or in any way to interfere with the laws of the respective States relating to the control, appropriation, use, or distribution of water used in irrigation or for municipal or other uses, or any vested right acquired therein."¹⁷ Should a license be issued to AEA, Standard Article 5, which is included in all licenses, requires licensees to acquire all rights necessary for operation and maintenance of a project within five years of the license issuance. This includes necessary water rights. The project's effects on instream flows, groundwater, and subsistence users have already been identified as potential issues in SD1.

¹⁷ 16 U.S.C. § 821 (2006).

FISHERIES RESOURCES

Comment: Many commenters would like studies of the project's potential impacts on salmon, steelhead, dolly varden, grayling, trout, and other fish in the Susitna River above and below the dam.

Response: The Commission will make a determination on the scope of environmental studies for affected fisheries resources during the ILP study planning process.

Comment: The Coalition and Chickaloon Village state that the proposed project may be in conflict with Alaska's Sustainable Salmon Fisheries Policy as set forth in the Alaska Administrative Code (5 AAC 39.222). Moreover, the Coalition contends that the EIS must show how the project will comply with Alaska's state laws and policies for fisheries sustainability.

Response: The Federal Power Act does not require that the project comply with every state and local law and policy for fisheries and environmental resource protection. Rather, it requires that, in addition to power and developmental purposes for which licenses are issued, the Commission give equal consideration to the purposes of energy conservation; the protection of, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. The EIS will evaluate the project's effects on environmental resource issues identified in SD2, including anadromous fish populations of the Susitna River Basin, and the Commission will determine the appropriate level of environmental protection in any license issued for the project after consideration of all available information in the project record.

Comment: The Coalition states that the EIS must list and consider the Cook Inlet Regional Salmon Enhancement Planning Phase II Plan: 2006-2015, as implemented by the Cook Inlet Regional Planning Team January 2007.

Response: The Commission is required to determine whether a project is consistent with filed, qualifying comprehensive plans. The Cook Inlet Regional Salmon Enhancement Planning Phase II Plan: 2006-2015, is not an approved comprehensive plan filed under section 10(a)(2)(A) of the FPA. To be considered a comprehensive plan under 10(a)(2)(A) of the FPA, the plan must be filed with the Commission with a request that it be considered a comprehensive plan. If a document does not qualify as a comprehensive plan, we will consider the document, as we consider all relevant studies

and recommendations, in the public interest analysis pursuant to section 10(a)(1) of the FPA.

Comment: EPA recommends analyzing ecological connectivity in the EIS.

Response: SD2 already includes a comprehensive list of environmental resources that will be evaluated in the EIS, including an analysis of applicable fish and wildlife species' life histories, migrations, and habitats. Where appropriate, the EIS will evaluate the potential project effects on disruptions to the specific life history needs, migrations, and habitats of all affected fish and wildlife communities in the project area.

Comment: Trout Unlimited recommends that the EIS not only consider project effects on water quantity and quality and effects on spawning and rearing habitats, but also include a comprehensive evaluation of alternatives for restoring affected habitats in the reaches above and below the project site.

Response: We do not evaluate the appropriateness of mitigation or restoration measures at this time. An analysis of the need for, costs, and benefits of any recommended environmental measures would be included in the NEPA document after the specific recommendations (e.g., implementation of restoration measures) have been filed with the Commission in response to the notice identifying AEA's application as Ready for Environmental Assessment (REA notice).

TERRESTRIAL RESOURCES

Comment: Because the proposed action involves a discharge of dredge or fill material into waters of the U.S. and would require authorization from the Corps, the EPA recommends that practicability as defined in the 404(b)(1) Guidelines (40 C.F.R. § 230) be used as a screening criteria for all project components under all action alternatives that may require a 404 permit.

Response: The Corps has requested to be a cooperating agency for the preparation of the EIS. We intend for the EIS to serve our purposes as well as those of the Corps. Consequently, we anticipate that the Corps will prepare any analysis needed to be consistent with its authorization requirements.

Comment: The Knikatnu, Inc. would like the federal government and the state of Alaska to bring forward one or more versions of the 49 different wildlife management program models currently in use on private and/or reservation lands throughout the nation, to be implemented on lands impacted by or subject to this project.

Response: Based on consultation meetings with the Knikatnu on March 26, 2012, we understand the Knikatnu Inc.'s comment to mean that as mitigation for project effects on moose, it would like the state of Alaska and the Commission to consider providing more active wildlife habitat management methods to any lands affected by the project or proposed for mitigation as a means to increase moose populations—a species important to the subsistence use of the Knikatnu and other Alaskan Natives. We do not evaluate the appropriateness of mitigation or restoration measures at this time. An analysis of the need, costs, and benefits of any recommended environmental measures would be included in the EIS after the specific recommendations (e.g., implementation of restoration measures) have been filed with the Commission in response to the REA notice.

Comment: The Denali Citizens Council recommends that the EIS consider project effects on Denali National Park and Preserve wildlife.

Response: The Denali Citizens Council do not identify which species they are concerned about. The EIS will assess project effects on those wildlife species that have the potential to use the habitats affected by project construction and operation (e.g., occupied by the project facilities or affected by project operations). The Denali National Park and Preserve is located about 45 miles east of the proposed project. Consequently, only those species of wildlife that use both the park and areas affected by the project would be assessed in the EIS. These would most likely be species with large home ranges (e.g., wolves) or wide-ranging migration corridors (e.g., caribou).

Comment: Multiple commenters request an evaluation of the project's effects on the spread of invasive plants and noxious weeds and note that herbicides should not be used and will not be tolerated by the public to control weed spread.

Response: The EIS will assess the potential for the project to introduce and spread noxious weeds. We do not evaluate the appropriateness of mitigation measures at this time. An analysis of the need, costs, and benefits of any recommended environmental measures would be included in the EIS after the specific recommendations (e.g., implementation of restoration measures) have been filed with the Commission in response to the REA notice.

Comment: NMFS asserts that a mercury risk assessment is needed to determine whether the proposed project may pose a significant risk to health and survival of piscivorous wildlife in the reservoir area and downstream of the dam.

Response: The Commission will make a determination on the scope of environmental studies for affected wildlife resources during the ILP study planning process.

RECREATION

Comment: The BLM commented on the need to evaluate the effects of a large workforce on all recreation resources in the area, not just game resources as stated in SD1. An individual commented that improved access and hydrologic changes in the Devil's Canyon area may result in more recreationists using the resource, which may affect the recreational experience in general.

Response: SD2 has been revised to clarify that the EIS will assess the effects that a large workforce and more recreationists in the project area may have on recreational resources and experiences.

Comment: The EPA commented that the Commission should evaluate the management of outdoor recreation vehicles (ORV) and snow machine use in order to protect resources, including policing and enforcement. The BLM expressed similar concerns with increased access to off-highway vehicles in areas such as transmission line corridors and draw down areas of the reservoir.

Response: Existing and potential ORV and snow machine use will be addressed in the environmental analysis, including potential measures to address adverse effects on natural resources. However, the Commission cannot bestow on its licensees any authority for enforcing laws.

Comment: Many commenters would like studies of impacts of the project on recreation and land use including kayaking, rafting, canoeing, berry picking, and subsistence hunting. The BLM commented that while the demand for future recreation in the project area is unknown, there would likely be a need for scenic waysides, boater put-in and take-out facilities (both river and reservoir), camping and picnicking facilities, restrooms and access roads. The BLM also noted that improved winter access could substantially change winter recreational use in the area. The Alaska DNR commented that the upper Susitna River provides "an extensive remote rafting experience, with the potential to access the Talkeetna River" through a series of portages and lake crossings. They suggest that boating studies should extend upriver to the Denali Highway Bridge and those effects on river use and existing portage opportunities need to be addressed. An individual commented that recreation studies should also consider potential effects on recreational cabins that are present in the project area and have been for generations.

Response: The Commission will make a determination on the scope of environmental studies for recreational resources during the ILP study planning process. We modified SD2 to more clearly indicate that the EIS will consider how the project may affect boating opportunities, including kayaking, rafting, and canoeing, and winter recreation.

Comment: American Whitewater notes that the project will affect a segment of the Susitna River currently listed as eligible for addition to the National Wild and Scenic Rivers System, but that the Wild and Scenic suitability analysis has not been completed and must be completed as part of the NEPA process. BLM similarly states that BLM believes that the Recreation and Aesthetic Resource studies proposed by AEA, if amended to incorporate recommendations from the National Park Service, will be sufficient to complete the suitability analysis of the Susitna and Brushkana Creek—Brushkana segments by either the BLM or FERC.

Response: To clarify, the Commission does not implement the Wild and Scenic Rivers Act and does not make suitability determinations under the Act. We may participate at least indirectly through the NEPA process, including the review of project effects on recreation and aesthetic resources. The BLM would be responsible for making suitability determinations..

AESTHETICS

Comment: Ahtna, Incorporated asked how noise from flights associated with the project might affect subsistence activities.

Response: Project noise was included in SD1 as a potential effect on aesthetic resources. The noise issue has been added to the cultural resources section of SD2.

LAND USE

Comment: Doyon, Limited stated that the project significantly affects Alaska Native Claims Settlement Act (ANCSA) corporation lands. Doyon Limited also expressed concern with the use of eminent domain and how that might affect lands owned by Native corporations. Similarly, CIRI states that the EIS should consider how CIRI and the village corporations would be affected by the inundation of lands that CIRI owns or controls on behalf of itself and various Alaska Native village corporations; the purchase, lease, or taking of these lands for materials, roads, and transmission rights-of-way; and the unauthorized recreational and other uses that are likely to occur as an indirect or cumulative effect of the project's construction, operation, and maintenance.

Similarly, Chickaloon Village Traditional Council noted that, in light of ongoing court proceedings and land selections under ANCSA, future ownership of some lands in the project area is unknown, which complicates land access and project development. Ahtna recommends using land status data from BLM instead of DNR (from AEA) since native corporations are getting final ANCSA conveyances.

Response: The EIS will consider the direct and indirect effects of project construction and operation on existing land uses (e.g., trespass, subsistence, etc.). If a license is issued to AEA to construct the project, AEA will have to acquire the necessary rights to construct the project within 5 years of license issuance. How AEA may acquire those rights to such lands is not subject to environmental review as part of NEPA.

Comment: Several Alaska native tribes and their associated corporations (e.g., Doyon Ltd, CIRI, and others) expressed concern about the increased public and construction workforce access to and across native-owned lands provided by the access roads and transmission line corridors. They expressed concern that such access would result in the potential for illegal trespass, hunting, and building of structures on native-owned lands, as well as potential vandalism, break-ins, or wildfires.

Response: The EIS will consider the potential for increased access. However, the Commission has no authority to enforce trespass laws and cannot through its license provide applicants with any such authority. However, we will consider potential measures that AEA may implement to avoid or minimize such adverse effects.

Comment: Alaska Department of Natural Resources (Alaska DNR) comments that public access in rural areas is provided by public easements and rights-of-way, RS 2477 trails, ANCSA 17b easements, navigable waters, and other means that exist outside of the formal road network. Alaska DNR states that these access routes should be identified where they exist in the project area and impacts on them should be minimized and mitigated during planning, construction, operation, and maintenance of the project.

Response: We revised SD2 to more clearly indicate that the EIS will consider how project construction and operation may affect these public access areas. The Commission will make a determination on the scope of environmental studies for recreational resources during the ILP study planning process.

CULTURAL RESOURCES

Comment: The Center for Water Advocacy (Center) states that the scoping document fails to include the need to consult with Native Alaskan Tribal Governments as a measure to protect and enhance environmental resources of the project area. The Center also states that such consultation is required by the Federal Trust Doctrine to protect the interests of tribes in a manner above and beyond those of the general public. In addition, the Center states that the EIS must discuss how FERC will work with Alaskan Native tribal governments to ensure that the agency engages in proper consultation with affected Native Alaskan Tribes and otherwise complies with its trust duty to protect subsistence and other Native Alaskan interests in relation to the project.

The Ahtna and other native groups noted that they would like to be consulted throughout the development of the project.

Response: The intent of the scoping document is to advise all participants as to the proposed scope of the EIS and seek additional information pertinent to our analysis. Commission staff has actively engaged Native Alaskan tribal governments in such consultations since January 2012, involving approximately 45 Alaska Native villages, tribes, and local and regional corporations. Such consultations with Alaska Native groups are still taking place with Commission staff and will continue throughout the licensing process. The EIS will consider the information obtained through these consultations and will assess project effects on subsistence and other Native Alaskan interests.

Comment: The Talkeetna Airmen's Association commented that their Village Air Strip is listed on the National Register of Historic Places.

Response: Any cultural resources considered eligible or listed on the National Register of Historic Places that may be affected by the project will be considered in the EIS.

Comment: BLM recommends additional review of geologic maps and previously described paleontological resources for the area; field inspections by a qualified paleontologist/geologist in high probability areas or geologic formations likely to be affected by dam construction or rendered inaccessible in the future by inundation; and compliance with the Paleontological Resources Protection Act of 2009.

Response: SD2 has been revised to include paleontological resources. The Commission will make a determination on the scope of environmental studies for affected paleontological resources during the ILP study planning process.

Comment: CIRI recommends that the EIS address potential effects on properties of traditional religious and cultural importance to Indian tribes that may be determined to be eligible for inclusion on the National Register of Historic Places, as well as those which have already been determined to be eligible.

Response: Any cultural resources considered eligible or listed on the National Register of Historic Places that may be affected by the project will be considered in the EIS.

Comment: CIRI states that the Area of Potential Effects may be different for different kinds of effects on historic properties and different types of historic properties that may be eligible for inclusion on the National Register of Historic Places. Effects may extend beyond the proposed project boundary and may include effects of recreation, tourism, and other project-induced access to the project vicinity on properties listed on or eligible for listing on the National Register of Historic Places.

Response: The Commission will make a determination on the scope of environmental studies for cultural resources during the ILP study planning process. We agree that the APE and the EIS need to consider both direct and indirect effects on cultural resources. Indirect effects, such as noise and visual aspects of the project, may extend beyond the proposed project boundary

Comment: BLM recommends that Table 1 of SD1 be revised to identify and update information related to traditional cultural properties. BLM recommends that anticipated concerns by federally recognized Tribes and Regional Alaska Native Corporations regarding confidentiality over proprietary cultural information be addressed to the maximum extent possible by FERC and AEA and its contractors through the use of Confidentiality Agreements, including provisions to keep that information from public venues of discussion.

Response: Table 1 has been updated to reflect AEA's most current list of proposed studies. A restricted distribution list could be established. Thus, any confidential information gathered as part of AEA's studies or provided in consultation with the affected tribes could be filed with the Commission as non-public information and would be distributed to only those particular stakeholders who have a right to see such information, pursuant to section 106 of the National Historic Preservation Act. Confidentiality agreements among the involved parties could also be developed if desired.

SUBSISTENCE

Comment: Knikatu, Inc. states that Knikatu lands were conveyed under a federal law which mandated they be selected for the subsistence needs of Knikatu shareholders. They described some of the economic challenges and subsistence issues faced by rural communities in Alaska and asked that these issues be considered during the review of the project proposal. Because the Ahtna Natives have a documented history of hunting, fishing, and gathering on the lands at the project site, Ahtna, Incorporated would like a study on the impact of the dam on caribou migration and calving, all fish species' spawning, edible fowl, and edible and medicinal plants.

Response: While there is considerable overlap with our proposed analysis of project effects on fish, wildlife and vegetation, we revised SD2 to clarify that our analysis of how the project may affect subsistence activities includes hunting, fishing, berry picking, gathering of edible and medicinal plants, and harvesting of forest products for shelter and firewood. The Commission will make a determination on the scope of environmental studies for subsistence activities during the ILP study planning process.

SOCIOECONOMICS

Comment: Many commenters note that their businesses and communities are based on tourism and visitors that travel to the area to see the abundant wildlife and spectacular scenery, and to experience a natural setting. The Talkeetna Community Council states that the scoping document fails to address the Northern Susitna Valley's robust wilderness-based tourism industry. They also believe that dam construction and operation would change the landscape and adversely affect the free-flowing river system, salmon, and wildlife. They assert that the resulting loss in wildlife and wilderness would have significant negative effects on the economies of local businesses. Salmon was also highlighted as a major, regional economic resource that could be adversely affected by the project.

Response: SD2 has been revised to clarify that the EIS will examine project effects on natural resources-based tourism in the area.

Comment: NMFS states that the Commission's socioeconomic analysis is limited to local issues. NMFS believes the socioeconomic analysis should be expanded to include an economic valuation study at a national level.

Response: The socioeconomic analysis will examine project effects on local communities as this is where most of the effects are likely to occur. The analysis will also evaluate impacts on a regional level where appropriate. See also our earlier response to

the Natural Heritage Institute's comment regarding evaluating the intrinsic values of a free-flowing Susitna River.

Comment: The Center for Water Advocacy states that the economic analysis conducted in the EIS must address whether building the dam will rely heavily on State of Alaska funds and whether taking money from the treasury will affect the state's ability to provide other services and programs funded through the treasury (i.e., police, fire prevention and education).

Response: The analysis will consider the effect on costs to government services that are related to the project. However, an analysis of tradeoffs for the state of Alaska associated with funding the Susitna-Watana Project over other projects or programs would be too speculative and beyond the scope of the EIS.

Comment: Several commenters request to be notified of contracts and sub-contract opportunities during licensing and construction of the project, and believe that all work should be done by people who live and work in the area most affected

Response: The analysis will consider the number and likely origin of workers that will be needed for the construction and operation of the Susitna Dam. However, the Commission has no authority to require a license applicant or a licensee to hire specific workers.

Comment: The Coalition states that FERC must include license conditions for socioeconomic and cultural resources, in addition to conditions for protecting environmental resources. For example, the Coalition states that an economic boom from dam construction would require additional societal services such as police, emergency technicians, school expansion, and housing. The Coalition states that the licensing process must consider the effect of these services on the local communities that would be required to fund the expanded services through property taxes.

Response: The EIS will assess effects of project construction and operation on local and regional government services and on cultural resources and will identify measures needed to avoid or mitigate these effects.

Comment: The Denali Citizens Council states that the EIS should focus on likely land use and economic impacts in the southern Denali Borough. For example, what will be the likely changes in population in Cantwell and surrounding area during construction and operation? How much new housing will be required? What local government expenditures will be required during construction and operation related to education,

emergency services, and land use planning? Another commenter asked what will happen to the large construction workforce once the project is completed?

Response: The EIS will assess effects of project construction and operation on local and regional government services and populations and will identify measures needed to avoid or mitigate these effects.

Comment: The Talkeetna Airmen's Association would like to ensure that specific efforts are made to establish and ensure air traffic patterns and procedures are put in place for the incremental use of helicopters by the project. The Association states that noise abatement procedures must be established. Lynden Inc. would like a year-round road access and aircraft landing strip to be provided to ensure access during construction and operation.

Response: Effects of dam construction on air transportation and noise will be addressed in the EIS. We do not evaluate the appropriateness of mitigation measures at this time. An analysis of the need, costs, and benefits of any recommended environmental measures would be included in the EIS after the specific recommendations (e.g., implementation of restoration measures) have been filed with the Commission in response to the REA notice.

Comment: EPA recommends that the FERC undertake a screening process to determine which aspects of human health (including, but not limited to public, environmental, mental, social, and cultural health) could be affected by the project. As an example, EPA notes that income from new jobs can have positive health impacts by increasing socioeconomic status or increasing access to health care. However, this income has also been associated with decreased access to health care by changing someone's eligibility for public assistance programs. EPA further explains that income from new jobs has also been associated with increased rates of alcohol and drug use, and domestic violence and child abuse due to increased discretionary income, rapid social and community change (particularly in rural areas) and disrupted family structure due to unusual work schedules. As another example, adding lanes to a roadway increases vehicle traffic volume and speed, which could result in increased motor vehicle crashes and increased severity of those crashes. Increased vehicle volume also affects air quality in neighborhoods adjacent to the road, potentially exacerbating the rate and severity of respiratory disease in vulnerable populations.

Response: Impacts to socioeconomic and other resources will consider several aspects that may also have human health and safety implications. This includes changes in traffic patterns and volume, noise and dust levels, changes in housing demands, change

in demands on public services (mental and health services) and other changes in social conditions. Because of a plethora of confounding factors beyond the control of the project and affected by the project, analyzing the indirect health implications of the above impacts is beyond the scope of the EIS or would be so broad as not to be informative to the decision making process. However, AEA has indicated that it intends to evaluate human health implications of the project as required by state regulations.

AIR QUALITY

Comment: Many commenters would like studies for impacts of the project on air quality in the project area during construction.

Response: AEA has proposed an air quality study, filed May 18, 2012, which will assess the current conditions of the area against applicable state and national air quality standards for both short-term (construction) and long-term (operational) impacts. The Commission will make a determination on the scope of environmental studies during the ILP study planning process.

Comment: Multiple commenters request an evaluation and quantification of methane and carbon dioxide gas emissions as a result of inundating vegetation and thawing permafrost during reservoir filling and operation. Many others request an evaluation of the carbon footprint of constructing the project, including an evaluation of all aspects of construction (e.g., road construction, materials movement, dam construction, vegetation clearing and removal, construction workers and environmental study workers transportation, and concrete and steel manufacturing) and an evaluation of the number of years the project would have to operate to off-set the amount of carbon produced during construction.

Response: We revised SD2 to clarify that the EIS will examine the effects of air emissions from the various sources associated with the construction and from operation of the project, including carbon dioxide gas emissions from filling the reservoir. We will also assess the offset of emissions from reasonable foreseeable alternative energy sources.

Comment: The EPA commented that pollution from outdoor recreation vehicle (ORV) and snow machine use should be considered if the project results in additional access to new areas.

Response: It is too speculative to quantify the net effect of increasing access on the regional air quality. For example, there would be no way to assess the increase in the project area from an offset by a reduction in nearby areas.

DEVELOPMENTAL ANALYSIS

Comment: Many commenters state that climate change is causing glaciers to shrink, including those feeding the Susitna River. Consequently, the EIS should look at how the potential for mass glacial wasting may reduce the hydropower resource over time and increase the rate of glacial sediment deposition in the reservoir, both of which would significantly affect project generation, operational flexibility and maintenance, and the life and viability of the project.

Response: As we have stated earlier, we are not aware of any way to accurately predict the effects of climate change on changes in glacial wasting and on the timing and availability of water in the Susitna River Basin, on a basin-specific scale given the current state of the science. Nonetheless, we will evaluate a range of hydrological conditions as part of our environmental analysis of the projects. In addition, we have requested that AEA reexamine the effects of surging glaciers on sediment accumulation rates in the project reservoir based on historical data and AEA's proposed monitoring. The Commission will make a determination on the scope of such studies during the ILP study planning process.

Comment: Multiple commenters state that there is need for a cost/benefit analysis with an honest, comprehensive, and realistic analysis of the costs versus the benefits of the project and various energy alternatives, and a reasonable estimate of the cost of project power. Further, multiple commenters question where the money to construct the project will come from and who will profit from the project, noting that the bond structure used to finance the Bradley Lake Project would not likely be available for the Susitna Project.

Response: In evaluating the economics of hydropower projects, the EIS will include a comparison of the project cost to an estimate of the cost of obtaining the same amount of energy and capacity using a likely alternative source of power for the region (cost of alternative power). Funding for any project is at the discretion and risk of the applicant.

Comment: Commenters would like to see a dam removal and restoration plan, including costs for implementing such a plan, addressed in the EIS.

Response: At this point, we see no basis for evaluating a decommissioning alternative or dam removal and restoration plan in the EIS. The current project under consideration involves construction and operation of the project as proposed by AEA, as

well as the alternative locations, designs, and energy sources AEA considered in arriving at the selection of the proposed site. Any future proposals to decommission the project would be evaluated only after a license has been issued and an application has been filed to surrender the license.

Comment: Multiple commenters are concerned with the estimated costs of the project and note that cost overruns in large dam construction are very common, pointing to the Healy Clean Coal plant and Willow-Healy transmission intertie as examples of energy projects that cost millions to hundreds of millions more than their initial cost estimates.

Response: The exact cost of the project must be provided in the final license application.

COMPREHENSIVE PLANS

Comment: Multiple commenters state that FERC must consider whether the project is consistent with the Chase Comprehensive Plan, Talkeetna Comprehensive Plan, and the Y Community Council Area Comprehensive Plan, all of which were omitted from the list of comprehensive plans in SD1. Other plans mentioned by commenters include the Alaska DNR's Susitna Area Plan, Southeast Susitna Area Plan, Susitna-Matanuska Area Plan, and Susitna Basin Recreation Rivers Management Plan

Response: The Alaska's Susitna Area Plan and Susitna Basin Recreation Rivers Management Plan are approved comprehensive plans filed under section 10(a)(2)(A) of the Federal Power Act. None of the remaining plans identified above are approved comprehensive plans filed under section 10(a)(2)(A) of the FPA. To be considered a comprehensive plan under 10(a)(2)(A) of the FPA, the plan must be filed with the Commission by a state or federal agency with a request that it be considered a comprehensive plan. The Commission is required to determine whether a project is consistent with filed, qualifying plans. That analysis will be included in the EIS.

Although a city or county would not qualify to submit such plans for Commission approval, we will consider these documents, if filed, as we consider all relevant studies and recommendations, in our public interest analysis pursuant to section 10(a)(1) of the Federal Power Act.

3.0 PROPOSED ACTION AND ALTERNATIVES

In accordance with NEPA, the environmental analysis will consider the following alternatives, at a minimum: (1) the no-action alternative; (2) AEA's proposed action; and (3) alternatives to the proposed action that may be identified.

3.1 No-action Alternative

The no-action alternative is license denial. Under the no-action alternative, the project would not be built and environmental resources in the project area would not be affected.

3.2 AEA's Proposed Action

3.2.1 Project Facilities

The proposed project would be located at river mile 184, which is roughly 90 river miles northeast of the community of Talkeetna. The proposed project would consist of the following: (1) a 700- to 800-foot-high, approximately 2,700-foot-long, earth embankment, roller compacted concrete or concrete faced rockfill dam; (2) a 39-mile-long reservoir with a surface area of 20,000 acres and 2,400,000 acre-feet of usable storage capacity at a normal water surface elevation of 2,000 feet mean sea level;¹⁸ (3) a powerhouse with a minimum of three generating units and a total installed capacity of 600 to 800 MW; (4) a 40- to 50-mile-long road and 230-kilovolt (kV) transmission line corridor that would be constructed along one of three alternative routes (i.e., Chulitna, Gold Creek, or Denali); and (5) appurtenant facilities. The estimated annual generation would be 2,500,000 GWh.

Access to the project would be via a new road and by air. The access roads and transmission facilities would be located in the same corridor to the extent practicable. Three corridors are currently being evaluated: Chulitna, Gold Creek, and Denali Highway. The Chulitna and Gold Creek Corridors would accommodate east-west running transmission lines and a road running roughly parallel to the Susitna River on the north and south sides of the river respectively. A transmission line and a road from the project in this configuration would extend between 45 and 50 miles and connect to the

¹⁸ Generation optimization studies may lead to AEA proposing to operate the project at a normal maximum reservoir elevation of 2,100 feet which would cause the reservoir to be proportionately longer and have a greater surface area.

Anchorage-Fairbanks Intertie Transmission line and the Alaska Railroad near the Chulitna or Gold Creek rail stops.¹⁹ If the Denali Corridor is selected as the preferred access route, a 44-mile-long road would be constructed from the project north to the existing Denali Highway.²⁰ The Denali Corridor would also accommodate transmission and road facilities. The transmission line would continue east along the existing Denali Highway to connect to the Anchorage-Fairbanks Intertie Transmission lines near Cantwell. If the Denali corridor were used for road access, railhead facilities would likely be developed near the Cantwell rail stop. An approximately 8,000-foot long airstrip, with helicopter pad, would also be permanently constructed at the project site to accommodate the transport of construction personnel as well as supplies.

A temporary, fenced construction camp capable of housing and supporting a peak construction workforce of 1,000 would be constructed at the project site. The camp is currently proposed to be constructed on the north bank of the Susitna River near Deadman's Creek. Deadman's Creek would provide potable water and fire protection for the camp and work areas, with a backup system of groundwater wells. Water supply for the camp would be treated to meet U.S. Environmental Protection Agency and state water quality requirements. A wastewater collection and treatment system would be constructed to serve the camp. Following construction, the camp would be removed except for those facilities needed to support smaller permanent residential and operation and maintenance facilities.

3.2.2 Project Operation

The proposed project will operate in a load-following mode to maximize firm energy during the critical winter months of November through April. To meet this objective, the reservoir would be drafted on a daily and seasonal basis. The reservoir would be drafted annually by an average of about 120 ft. Maximum annual drawdown could be up to 150 foot occurring once in 50 years. In most years, the reservoir would reach its lowest levels by mid-May, and would refill by mid-August.

Downstream flows at the project site are expected to vary on a seasonal, weekly,

¹⁹ For both the Chulitna and Gold Creek Corridors alternatives, the new access roads would end at the railroad and would not connect to an existing public road.

²⁰ The new road would start at milepost 113.7 on the Denali Highway. If needed to accommodate increased construction traffic, AEA would improve about 20 miles of the Denali Highway near Cantwell.

and daily basis as dictated by minimum instream flow requirements (which have yet to be determined) and load requirements of the railbelt utilities. During the peak winter months, load following would result in discharges over a 24-hour period typically ranging from a low of 3,000 cubic feet per second (cfs) to a high of 10,000 cfs, and average about 6,700 cfs. During the late summer when the reservoir is full, discharges through the powerhouse may be as high as 14,500 cubic feet per second (at maximum plant output based on a 600 MW project) to prevent or minimize spill and maximize energy generation.

Minimum instream flow releases to maintain aquatic habitats downstream have not been determined yet. These flows would be made through either the powerhouse or low level outlet works. With the project in place, regulated peak summer flows downstream of Watana dam at Gold Creek would be reduced and winter flows would be increased in comparison to the natural flow regime.

3.2.3 Proposed Environmental Measures

AEA plans to develop measures to protect and enhance environmental resources affected by construction and operation of the project through the planned licensing studies and through agency and stakeholder collaboration. AEA has thus far identified the following measures to protect and enhance environmental resources of the project area:

Geologic and Soil Resources

- Develop a Sediment and Erosion Control Plan to prevent or minimize adverse effects on water quality of project waters.

Water Resources

- Develop a Spill Prevention, Control, and Countermeasures Plan to minimize the potential for chemical spills during project construction.
- Construct the project with selective withdrawal facilities and operate the project to meet water temperature targets in the Susitna River downstream of the project.

Aquatic Resources

- None proposed at this time.

Terrestrial Resources

- Minimize the project footprint and vegetation impacts.
- Dispose of excavated materials within the impoundment area.
- Discourage or restrict off-road vehicle use in the project area to minimize trail propagation and erosion.
- Develop a restoration plan with revegetation measures to restore construction areas.
- Avoid wetlands to the maximum extent possible, and rehabilitate temporary impacts on wetlands to the maximum extent possible

Rare, Threatened, and Endangered Species

- There are no federally listed threatened or endangered species or critical habitats that occur in the project area. The Cook Inlet beluga whale is an endangered species with designated critical habitat in Upper Cook Inlet, which is located 184 river miles downstream of the proposed dam site. No specific measures are proposed for this species at this time.

Aesthetic Resources

- Develop a comprehensive Site Restoration and Aesthetics Plan to minimize adverse effects on the landscape.

Recreation Resources

- Develop a Recreation Plan, which will include proposals for new recreation facilities and measures to manage recreation use and resources of the project area. Proposed recreation facilities are likely to include: roads and parking areas, scenic overlooks, directional and informational signage, boat launches, picnic areas, campgrounds, hiking trails, fishing piers, interpretive exhibits and programming, and a visitor center.

Cultural Resources

- Develop subsistence resource protection, mitigation and enhancement measures in consultation with the appropriate agencies, Alaska Native entities, and other interested parties.

- Develop a Historic Properties Management Plan (HPMP) to protect significant cultural resources during project construction and operation.

3.3 Alternatives to Proposed Action

Commission staff will consider and assess all alternative recommendations for location or other changes to the proposed project, as well as protection, mitigation, and enhancement measures identified by the Commission, other agencies, Alaska Native entities, NGOs, and the public.

4.0 SCOPE OF CUMULATIVE EFFECTS AND SITE-SPECIFIC RESOURCE ISSUES

4.1 Cumulative Effects

According to the Council on Environmental Quality's regulations for implementing NEPA (50 C.F.R. 1508.7), a cumulative effect is the effect on the environment that results from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time, including hydropower and other land and water development activities.

4.1.1 Resources That Could Be Cumulatively Affected

Based on information in the PAD, preliminary staff analysis, *and comments received*, we have identified *the following as resources* that *could* be cumulatively affected by the proposed construction and operation of the project: *anadromous salmonids, wildlife (particularly caribou and moose migration and calving areas), aesthetic and recreation activities, subsistence and hunting activities, tourism, and civil and commercial aviation access.*

4.1.2 Geographic Scope

Our geographic scope of analysis for cumulatively affected resources is defined by the physical limits or boundaries of: (1) the proposed action's effect on the resources, and (2) contributing effects from other hydropower and non-hydropower activities within the Susitna River Basin. Because the proposed action would affect the resources differently, the geographic scope for each resource may vary.

At this time, we have tentatively identified the Susitna River, its tributaries, and upper Cook Inlet as our geographic scope of analysis for cumulatively affected anadromous salmonids. Activities within this geographic area that may cumulatively affect these resources include: (1) oil and natural gas exploration and extraction; (2) Chuitna coal project; (3) Port Mackenzie rail expansion; (4) fish harvest (commercial, sport, personal use, and subsistence); (5) proposed coal mines in the Mat-Su Valley; and (6) introduction and proliferation of non-native fish species.²¹

At this time, we have tentatively identified the Susitna River basin as our geographic scope of analysis for wildlife (particularly caribou and moose migration and calving areas), aesthetic and recreation activities, subsistence and hunting activities, tourism, and civil and commercial aviation access. Activities within this geographic area that may cumulatively affect these resources include: (1) military flight expansion in the Fox 3 MOA as described in the Joint Pacific Alaska Range Complex EIS; (2) mineral exploration and potential production associated with the Tangle Lakes/MAN Project; and (3) scenic air tours and landings on two glaciers located north of the project area near Mt. Deborah.²²

4.1.3 Temporal Scope

The temporal scope of our cumulative effects analysis in the EIS will include a discussion of past, present, and future actions and their effects on each resource that could be cumulatively affected. Based on the potential term of a license, the temporal scope will look 30-50 years into the future, concentrating on the effect to the resources from reasonably foreseeable future actions. The historical discussion will, by necessity, be limited to the amount of available information for each resource. The quality and quantity of information, however, diminishes as we analyze resources further away in time from the present.

Those issues identified by an asterisk () in section 4.2 below will be analyzed for both cumulative and site-specific effects.*

²¹ While we have identified these projects to be considered in the cumulative effects analysis, we will reevaluate these actions as well as other new actions that may be proposed, at the time we begin to prepare the EIS to ensure that they are reasonable foreseeable projects.

²² *Id.*

4.2 Project-Specific Resource Issues

In this section, we present a preliminary list of environmental issues to be addressed in the EIS. We identified these issues, which are listed by resource area, by reviewing the PAD and the Commission's record for the project. This list is not intended to be exhaustive or final, but contains those issues raised to date that could have substantial effects. After the scoping process is completed, we will review this list and determine the appropriate level of analysis needed to address each issue in the EIS.

4.2.1 Geologic and Soils Resources

- Effects of project construction activities on soil erosion and sedimentation (e.g., dam and hydropower generation facilities, transmission lines, access roads, airstrip, construction camp, borrow areas, disposal areas, staging areas, etc).
- Effects of project construction and operation on sediment deposition in the reservoir, including the rate of sediment deposition and the effect of sediment deposition on the useful life of the reservoir.
- Effects of project operations on soil movement, shoreline erosion, tributary mouth migration, and shoreline stability within the reservoir inundation zone.
- Effects of project operations on sediment transport, streambed material particle size distribution, and stream morphology in the middle and lower reaches of the Susitna River.²³
- Potential seismic effects on the proposed dam and other project facilities, *including the potential for soil failure, (e.g., landslides, liquefaction, settlement, lateral spreading) and seiches or oscillations of lake surfaces, and* any related effects on public safety and property downstream.
- Effects of project construction and operation on access to proven or probable mineral deposits.

²³ The project area for the Susitna River includes the upper, middle, and lower reaches. The upper reach includes the mainstem Susitna River upstream of the proposed dam site at river mile (RM) 184. The middle reach includes the mainstem Susitna River from the dam site downstream to the three rivers confluence area at RM 98. The lower reach includes the mainstem Susitna River from RM 98 downstream to RM 0 at the confluence with Cook Inlet.

4.2.2 Water Resources

- Effects of project operation (e.g., minimum instream flow releases; flood, pulse, and base flow conditions; peaking operations, etc.) on the existing flow regime of the middle and lower reaches of the Susitna River, including the timing, magnitude, and duration of flows.
- Effects of project operation on ice processes within the reservoir and the middle and lower reaches of the Susitna River.
- Effects of project construction activities (*e.g., excavation, dredging, blasting, etc.*) on water quality in the Susitna River and affected tributaries, including: *temperature, turbidity, total dissolved solids, suspended solids, dissolved oxygen, pH, chemical/nutrient characteristics, and metals (e.g., aluminum, cadmium, copper, manganese, mercury, and zinc).*
- Effects of reservoir filling and project operations on water quality (within the reservoir and the middle and lower reaches of the Susitna River, *including: temperature, turbidity, total dissolved solids, suspended solids, dissolved oxygen, pH, metals, and chemical/nutrient characteristics.*
- *Effects of the project on water quality impaired waters that are listed on the Clean Water Action section 303(d) list, and identification of any potential measures to avoid further degradation of impaired waters.*
- *Effects of the project on source water/drinking water protection areas, and identification of any potential measures to protect source water areas.*
- Effects of spillway operations on total dissolved gas concentrations in the middle reach of the Susitna River.
- Effects of reservoir inundation on the potential for mercury methylation and subsequent bioaccumulation of mercury in fish and wildlife.
- *Effects of project construction and operation on water evaporation rates due to creation of a large reservoir.*

4.2.3 Fisheries and Aquatic Resources

Reservoir

- Effects of reservoir operations (e.g., daily and seasonal fluctuations) on resident fish migration and habitat in the reservoir and in reservoir tributaries.
- Effects of reservoir inundation and permanent change from riverine to reservoir habitat on aquatic habitat; primary production; and fish and macroinvertebrate distribution, species composition, and abundance.
- Effects of project operations on reservoir fish entrainment and mortality.

Susitna River

- Effects of project operation (e.g., daily and seasonal flow fluctuations, water temperature, etc.) on primary production and macroinvertebrate species distribution, composition, and abundance in the middle and lower reach of the Susitna River.
- Effects of modification of the existing flow regime on off-channel habitat (i.e., side channels and sloughs) connectivity with the mainstem Susitna River throughout the middle and lower reaches, and corresponding effects on fish access to off-channel habitats.
- Effects of changes in streambed material composition and stream morphology on aquatic habitat in the middle and lower reaches of the Susitna River (e.g., changes to streambed material particle size distribution, stream morphology, riparian vegetation characteristics, and distribution and characteristics of off-channel habitats).
- Effects of project operation on fish access to tributary habitats in the ***upper***, middle, and lower reaches of the Susitna River.
- Effects of project construction and operation on the recruitment and deposition of large woody debris within the middle and lower reaches of the Susitna River.
- Effects of project construction and operation on resident and anadromous fish migrations, including anadromous salmonid access ***to the upper reach*** through Devils Canyon, and any potential measures to minimize adverse effects (e.g., fish passage).*
- Effects of modifications to the existing flow regime on physical aquatic habitat availability for spawning and rearing resident and anadromous fish species in mainstem and off-channel habitats throughout the middle and lower reaches of the Susitna River.
- Effects of modifications to the existing flow regime, sediment transport, ice processes, channel morphology, water quality, etc. on anadromous fish spawning, rearing, and migration habitats (i.e., mainstem and off-channel) in the middle and lower reaches of the Susitna River.
- ***Effects of project construction and operation on anadromous fish distribution, abundance, and habitat utilization in the upper, middle, and lower reaches of the Susitna River.****
- ***Effects of project operation (e.g., winter peaking, water temperatures, etc.) on anadromous fish spawning success, fry emergence timing and success, juvenile fish growth and survival, and outmigration timing and success in the upper, middle, and lower reaches of the Susitna River.****

- Effects of modifications to the existing flow regime, sediment transport, ice processes, channel morphology, water quality, etc., on resident fish species distribution, composition, and abundance in the middle and lower reaches of the Susitna River.
- Effects of modifications to water temperatures on the distribution of fish communities, including the invasive northern pike.
- Effects of project construction, operation, and maintenance activities on the potential for introduction of invasive aquatic macroinvertebrates and fish species.

4.2.4 Terrestrial Resources

- Effects of habitat loss and fragmentation from project construction and operation on the availability, use, and productivity of wildlife habitats, including key habitat features such as den sites and mineral licks.*²⁴
- Effects of the project features (i.e., reservoir, access roads, camp site, etc.), fluctuating reservoir levels, ice conditions, and new patterns of human activities on wildlife movement, including any physical and behavioral blockage and alteration of wildlife movement patterns and access to important habitats (e.g., moose wintering range, caribou foraging and calving areas, etc.).*
- Effects of project-related fluctuating water levels and ice conditions in the reservoir and downstream river reaches on wildlife mortality rates, with an emphasis on big game species.*
- Effects of improved access on levels of human presence and disturbances, hunting and trapping, vehicular use, and noise, on wildlife distribution, habitat use, and abundance in the project area.*
- Effects of vegetation removal, altered hydrologic regimes, and construction and operation activities on bald and golden eagle roosting, nesting, rearing, and foraging habitats and forage availability.*

²⁴ A major focus of the analysis will be on big game species (moose, caribou, Dall's sheep, black and brown bears), game birds (ptarmigan, grouse, etc.), wolf, furbearers (beaver, marten, river otter, lynx, and red fox), and small game (snowshoe hare, ptarmigan, and grouse) due to their ecological, management, recreational, and subsistence values; however, other wildlife (e.g., small mammals, shorebirds, seabirds, amphibians, etc.) will be examined as well.

- Effects of vegetation removal and disturbance associated construction and operation activities on nesting, rearing, and foraging habitats of migratory “bird species of concern.”*²⁵
- Effects of the project transmission lines on avian collision and electrocution.
- Effects of inundation and water level fluctuations, construction activities, changes in solar radiation and temperature moderation, and erosion and dust deposition on the distribution and composition of vegetation and wetland communities within and adjacent to the proposed reservoir, transmission line and access roads, and other project features.
- Effects of project construction and operation activities on the introduction and spread of new or existing invasive plants on vegetation communities and wildlife habitats.
- Effects of altered hydrologic regimes on wetlands, wetland functions, riparian vegetation, and riparian succession patterns in the middle and lower reaches of the Susitna River.
- Effects of project construction and operation on rare plant populations.

4.2.5 Threatened and Endangered Species

- Effects on the Endangered Cook Inlet beluga whale from any changes in habitat and prey base at the Susitna River mouth.

4.2.6 Recreation Resources and Land Use

- Effects of altered hydrologic regimes and ice cover on timing and extent of river access and navigation within and downstream of the reservoir.
- *Effects of altered hydrologic regimes and ice cover on floodplain vegetation, and subsequent effects on recreational access.*
- Effects of project construction and altered hydrologic regimens on fishing opportunities, including availability of fish, fishing access, and quality of experience.*

²⁵ As stipulated in the March 30, 2011 Memorandum of Understanding between the Commission and Interior, migratory bird species of concern in this case will include: (1) species listed by the U.S. Fish and Wildlife Service (FWS) as birds of conservation concern, (2) priority migratory species identified in various bird conservation plans such as Alaska’s Comprehensive Wildlife Conservation Plan, (3) species or populations of waterfowl of high or moderately continental importance, and (4) game birds of management concern.

- Effects of project construction and altered hydrologic regimens on potential whitewater and other boating opportunities (e.g., *kayaking, rafting, canoeing*), including access and quality of experience.*
- Effects of the project **construction** (i.e., reservoir and access roads **and presence of the construction workforce**) **and operation** on hunting and trapping opportunities and on non-consumptive uses (e.g., bird-watching, hiking, camping, boating, *berry picking, recreational races and events*, etc.) in the vicinity and downstream of the project reservoir, including availability of the resource, access, quality of experience, **and displacement of users**.*
- Effects of project construction and operation activities (e.g. noise, dust, access, etc.,) on recreation.*
- Effects of changes in land use, ownership, **and winter road plowing and maintenance** on public access and recreation, **including any associated increase in off-road vehicle recreation** (e.g., *all-terrain vehicle or snow machine*) **and potential for illegal trespass, vandalism, and wildfires**.
- **Effect of the presence of more people recreating on the recreational experience**.*
- Effects of project construction on the eligibility of Brushkana Creek and the Susitna River for possible future designation as a wild and scenic river.
- Consistency of the project with any applicable land use and management plans.

4.2.7 Aesthetics

- Effects of project construction and operation activities (e.g. equipment noise, blasting, dust, lighting, *variable reservoir water levels*, etc.,) and the presence and contrast of project features (dam, transmission lines, *quarries, staging areas*, construction camp and permanent village) on aesthetic resources.*
- **Effects of the project on the natural character of the river** (e.g., *color and appearance of the flowing water*) **and adjoining lands** (e.g., *public facilities, altered channels, banks, islands, vegetation*).*

4.2.8 Cultural Resources

- Effects of project construction (e.g., soil disturbing activities); inundation and reservoir fluctuations; disturbance, looting, or vandalism from improved site access; and changes in the surrounding historic landscape on cultural resource sites, including those determined eligible for listing on the National Register of Historic Places (NRHP).
- Effects of the presence of project facilities and construction, operation, and maintenance activities (**including noise**) and increased human use on

traditional spiritual areas and other traditional uses (Traditional Cultural Properties) within the Area of Project Effect (APE).

- *Effects of project construction (e.g., inundation and disturbance) on paleontological resources.*

4.2.9 Socioeconomic Resources

- Effects of project construction and operation on local and regional employment, income, *housing, and cost of living*.*
- Effects of project construction and operation *on commercial opportunities related to fishing and hunting, recreation, tourism, forestry, and mining* in the Susitna River basin. *This includes changes in visitation, expenditures, jobs and income*.*
- *Effects of changes to the natural character of the river and adjoining lands on quality of life and tourism and other industries (e.g., photography, filmmaking) that may be highly dependent on natural landscapes.*
- *Effects on salmon as a regional economic resource*.*
- Effects of construction traffic and the construction work force on local government facilities and services (e.g., health and human services, law enforcement, emergency services, education, etc) and housing.
- Effects of project construction *and construction traffic* on local and regional transportation systems (both passenger and freight), including highway, rail and air transport.
- *Effects of altered flows and ice conditions on river-dependent transportation along or across the Susitna River (e.g., boating, snowmobiling, snowshoeing, dog-sledding, and access to recreational cabins and home sites).*
- Effects of changes in fish and wildlife populations and their normal locations and distribution patterns due to project construction and operation on the availability and use of subsistence resources.
- Effects of use and occupancy of project lands on access to subsistence resources and traditional subsistence activities *including hunting, fishing, berry picking, and gathering of medicinal plants and forest products*.
- *Disproportionate effects of project construction and operation on minority and low-income populations.*

4.2.10 Air Quality

- Effects of *air emissions (carbon monoxide, volatile organic compounds, nitrogen dioxide, sulfur dioxide, ozone, particulate matter, etc.) from concrete batching, construction equipment, earth moving activities,*

construction worker commutes, material deliveries, earth hauling, and operation and maintenance on air quality in the region.

- *Effects of air emissions from project operation, including methane and carbon dioxide gas emissions as a result of inundating vegetation and thawing permafrost during reservoir filling and operation, on air quality in the region.*
- *Effects of air emissions from outdoor recreation vehicle and snowmachines from any potential increase in access and use in the project area.*

4.2.11 Developmental Resources

- Effects of the proposed project and alternatives, including any protection, mitigation, and enhancement measures on the economics of the project.

5.0 PROPOSED STUDIES

AEA has proposed to develop studies to address the resource issues summarized in Table 1. *Table 1 has been updated to reflect the most current list of proposed studies that would be conducted in 2013 and 2014 as filed with the Commission on May 18, 2012.* AEA is actively working with resource groups to develop these studies and others that may be recommended by the groups. AEA is also voluntarily working with resource groups to gather data in 2012 before the Commission's formal approval of the study plan to help refine study needs. A formal study plan will be developed based on the Commission's identification of issues identified in this SD1 and, as necessary, an SD2.

Table 1. AEA's initial study proposals for the Susitna-Watana Hydroelectric Project (Source: Susitna-Watana Hydroelectric Project PAD).

RESOURCE AREA	STUDY
<i>Social Resources</i>	<ul style="list-style-type: none"> • <i>Cultural Resources</i> • <i>Aesthetic and Recreation Resources</i> • <i>Socioeconomics: Social Conditions and Public Goods and Services</i> • <i>Socioeconomics: Regional Economic Evaluation</i> • <i>Socioeconomics: Transportation Resources Analysis</i> • <i>Subsistence Baseline Documentation</i>
<i>Air Quality</i>	<ul style="list-style-type: none"> • <i>Air Quality</i>
Water Resources	<ul style="list-style-type: none"> • Water Quality Modeling

	<ul style="list-style-type: none"> • Baseline Water Quality • Ice Processes on the Susitna River
Fish and Aquatic Resources	<ul style="list-style-type: none"> • <i>Aquatic Resurces Study with the Access Alignment, Construction Area and Transmission Alignment Study</i> • <i>Cook Inlet Beluga Whale and Prey Study</i> • <i>Characterizatin of Potentially Affected Aquatic Habitats in the Susitna River</i> • <i>Analysis of Fish and Harvest Rates in and Downstream of the Project Area</i> • <i>Freshwater Fish Distribution and Abundance in the Middle and Lower Susitna River</i> • <i>Water Quality Modeling</i> • <i>Geomorphology</i> • <i>Groundwater-related Aquatic Habitat</i> • <i>Baseline Water Quality</i> • <i>Instream Flow Study</i> • <i>Riparian Instream Flow</i> • <i>River Productivity</i> • <i>Ice Processes on the Susitna River</i> • <i>Fluvial Geomorphology Modeling below Watana Dam</i> • <i>Fish Passage Barriers in the Upper Susitna and Select Middle Susitna Tributaries</i> • <i>The Future Watana Reservoir Fish Community and Risk of Entrainment Study</i> • <i>Fish Distribution and Abundance in the Upper Susitna River, 2013-14</i> • <i>Salmon Escapement in the Susitna River</i>
Wildlife Resources	<ul style="list-style-type: none"> • <i>Waterbird Migration, Breeding and Habitat Use</i> • <i>Wolf and Wolverine Distribution and Abundance</i> • <i>Wildlife Harvest Analysis</i> • <i>Brown Bear and Black Bear Distribution, Abundance, and Habitat Use</i> • <i>Breeding Survey of Landbirds and Shorebirds</i> • <i>Caribou Distribution, Abundance, Movements,</i>

	<p><i>and Productivity</i></p> <ul style="list-style-type: none"> • <i>Moose Distribution, Abundance, Movements, Productivity and Survival</i> • <i>Dall's Sheep Distribution, Abundance and Habitat Use</i> • <i>Population Ecology of Willow Ptarmigan in Game Management Unit 1</i> • <i>Surveys of Eagles and Other Raptors</i> • <i>Terrestrial Furbearer Abundance and Habitat Use</i> • <i>Wood Frog Distribution and Habitat Use</i> • <i>Little Brown Bat Distribution and Habitat Use</i> • <i>Small Mammal Species Composition and Habitat Use</i> • <i>Aquatic Furbearer Abundance and Habitat Use</i>
Botanical Resources	<ul style="list-style-type: none"> • <i>Invasive Plant Study</i> • <i>Wildlife Habitat Evaluation</i> • <i>Vegetation and Wildlife Habitat Mapping</i> • <i>Wetland Mapping and Functional Assessment</i> • <i>Rare Plant Study</i>

6.0 EIS PREPARATION SCHEDULE

We intend to prepare a draft and final EIS (we show our preliminary Outline in section 7). The draft EIS will be sent to all persons and entities on the Commission's service and mailing lists for the Susitna-Watana Hydroelectric Project. The EIS will include recommendations for construction and operating procedures, as well as environmental protection, mitigation, and enhancement measures that should be part of any license issued by the Commission. All recipients will then have 60 days to review the draft EIS and file written comments with the Commission. All comments on the draft EIS filed with the Commission will be considered in preparation of the final EIS. *A schedule for preparing the EIS will be issued once the application is filed.*

A copy of AEA's process plan, which has a complete list of *pre-filing* licensing milestones for the project is attached as Appendix A to this SD2.

7.0 PROPOSED EIS OUTLINE

The preliminary outline for the EIS is as follows:

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1.3.4. Endangered Species Act

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1.3.6. Magnuson-Stevens Fishery Conservation and Management Act

1.3.7. *Wild and Scenic Rivers Act*

1.3.8. Other Regulatory Requirements

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- 6.0 LITERATURE CITED
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8.0 LIST OF RECIPIENTS

APPENDICES

- A. License Conditions Recommended by Staff
- B. Response to Comments on Draft EIS

8.0 CONSISTENCY WITH COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA, 16 U.S.C. section 803(a)(2)(A), requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by a project. The staff has preliminarily identified and reviewed the plans listed below that may be relevant to the Susitna-Watana Project. Agencies are requested to review this list and inform the Commission staff of any changes. If there are other comprehensive plans that should be considered for this list that are not on file with the Commission, or if there are more recent versions of the plans already listed, they can be filed for consideration with the Commission according to 18 CFR 2.19 of the Commission's regulations. Please follow the instructions for filing a plan at <http://www.ferc.gov/industries/hydropower/gen-info/licensing/complan.pdf>.

The following is a list of comprehensive plans currently on file with the Commission that may be relevant to the project.

Alaska Department of Fish and Game. Susitna Flats State Game Refuge, March 1988. Juneau, Alaska.

Alaska Department of Fish and Game. Matanuska-Susitna Borough. 1985. Susitna Basin area plan. Juneau, Alaska. June 1985. 440 pp.

Alaska Department of Fish and Game. Matanuska-Susitna Borough. 1991. Susitna Basin recreation rivers management plan. Anchorage, Alaska. August 1991. 181 pp.

Alaska Department of Fish and Game. 1998. Catalog of waters important for spawning, rearing or migration of anadromous fishes. November 1998. Juneau, Alaska. Six volumes.

Alaska Department of Fish and Game. 1998. Atlas to the catalog of waters important for spawning, rearing or migration of anadromous fishes. November 1998. Juneau, Alaska. Six volumes.

Alaska Department of Natural Resources. Alaska's Outdoor Legacy: Statewide Comprehensive Outdoor Recreation Plan (SCORP): 2009-2014. Anchorage,

Alaska.

Bureau of Land Management. 1981. South central Alaska water resources study: Anticipating water and related land resource needs. Anchorage, Alaska. October 1, 1981. 97 pp.

U.S. Fish and Wildlife Service. Undated. Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service. Washington, D.C.

9.0 MAILING LIST

The list below is the Commission's official mailing list for the Susitna-Watana Hydroelectric Project (FERC No. 14241). If you want to receive future mailings for the Susitna-Watana Project and are not included in the list below, please send your request by email to efiling@ferc.gov or by mail to:

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, DC 20426.

All written and emailed requests to be added to the mailing list must clearly identify the following on the first page: Susitna-Watana Hydroelectric Project No. 14241-000. You may use the same method if requesting removal from the mailing lists below.

Register online at <http://www.ferc.gov/docs-filing/esubscription.asp> to be notified via email of new filings and issuances related to these or other pending projects. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll free at 1-866-208-3676, or for TTY, (202) 502-8659.

FERC's Mailing List for the Susitna-Watana Project No. 14241

Becky Long Box 320 Talkeetna, AK 99676	Rachel Day P.O. Box 921 Talkeetna, AK 99676
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Robert Gerlach 13666 E 2nd St P.O. Box 23 Talkeetna, AK 99676	John Strassenburgh 15406 E. Barge Dr. P.O. Box 766 Talkeetna, AK 99676
Kevin Foster Mile 230.7 Alaska Railroad Talkeetna, AK 99676	James Ferguson P.O. Box 15391 Fritz Creek, AK 99603-6391
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Frank Yadon 14152 E. Gliska Street Talkeetna, AK 99676	William FitzGerald 15537 Cummings Road Talkeetna, AK 99676
Robert Gerlach 13666 E 2nd St P.O. Box 23 Talkeetna, AK 99676	Paul Roderick, President Talkeetna Air Taxi 23125 Comsat Rd Talkeetna, AK 99676
Ruth D. Wood 15406 E. Barge Dr. Talkeetna, AK 99676	William Post P.O. Box 271 Talkeetna, AK 99676
Michael Wood P.O. Box 773 Talkeetna, AK 99676	Joseph Klauder P.O. Box 396 Talkeetna, AK 99676
Constance Twigg P.O. Box 266 Talkeetna, AK 99676	Sheryl Salasky P.O. Box 196 Talkeetna, AK 99676
Robert Coleman, President Susitna Community Co HC 89 Box 8575 Talkeetna, AK 99676	Sharon Corsaro Corsaro Creative Coaching P.O. Box 255 Hermosa Beach, CA 90254
Louisa Yanes Alaska Center for the Environment 807 G Street Anchorage, AK 99501	Lissa Hughes Northern Alaska Environmental Center 830 College Road Fairbanks, AK 99701
David Theriault, Legislative Director Alaska Conservation Alliance 810 N St., Ste. 203 Anchorage, AK 99501	Wayne M Dyok, Project Manager Alaska Energy Authority 813 West Northern Lights Blvd. Anchorage, AK 99503

Brett Swift American Rivers, Inc., Et Al. 320 SW Stark Street Suite 412 Portland, OR 97204	Sara Fisher-Goad, Project Manager Alaska Energy Authority 813 West Northern Lights Blvd. Anchorage, AK 99503
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Shawn Stankowitz, President Trapper Creek Community Council P.O. Box 13021 Trapper Creek, AK 99683	Bob Shavelson Cook Inlet Keeper P.O. Box 3269 Homer, AK 99603-3269
Cliff Earnes Copper Country Alliance HC 60 Box 306T Copper Center, AK 99573	Charlie Loeb, President Denali Citizens Council PO Box 78 Denali Park, AK 99755
Jeremy Millen, Executive Director Friends of Mat-Su 308 East Dahlia St Palmer, AK 99645	Pat Lavin National Wildlife Federation 750 W. 2nd Ave., Suite 200 Anchorage, AK 99501
Susan Walker, Marine Resources Specialist NOAA National Marine Fisheries Service, Alaska Region P.O. Box 21668 Juneau, AK 99802-1668	Eric Rothwell, Hydrologist Pat Lavin National Wildlife Federation 750 W. 2nd Ave., suite 200 Anchorage, AK 99501
Thomas Meyer, General Counsel NOAA National Marine Fisheries Service, Alaska Region P.O. Box 21109 Juneau, AK 99801	Mary B. Goode, Admin. Assistant NOAA National Marine Fisheries Service, Alaska Region PO Box 21668 Juneau, AK 99802-1668

U.S. Fish & Wildlife Service Regional Office 1011 East Tudor MS 331 Anchorage, AK 99503	Office of Solicitor U.S. Department of Interior 4230 University Dr, Ste. 300 Anchorage, AK 99508
Coalition for Susitna Dam Alternatives 1 Main Street Talkeetna, AK 99676	Joshua Sonkiss 1024 21st Avenue Fairbanks, AK 99701
Sharon Montagnino, Chairperson Talkeetna Community Council, Inc. P.O. Box 608 Talkeetna, AK 99676	Ellen Wolf Talkeetna Defense Fund P.O. Box 371 Talkeetna, AK 99676
Brad Powell, Forest Supervisor USDA Forest Service Tongass National Forest Federal Building Ketchikan, AK 99901	Karen Kelly, Executive Director Northern Alaska Environmental Center 830 College Road Fairbanks, AK 99701
Kathryn Miller Trout Unlimited 227 SW Pine Street, Suite 200 Portland, OR 97204	Ken Lord, Attorney-Advisor U.S. Department of Interior 4230 University Dr., Suite 300 Anchorage, AK 99508
Kirby Gilbert, Water Resources Planner Alaska Energy Authority MWH Americas Inc. 2353 130th Ave N.E., Suite 200 Bellevue, WA 98005	Office of Environmental Policy and Compliance (USDOJ) Regional Environmental Office 3601 C St, #1100 Anchorage, AK 9950-5947
Governor of Alaska Office of the Governor of Alaska RE: FERC Projects Office of the Governor of Alaska P.O. Box 110001 Juneau, AK 99811-0001	Monte D Miller ADFG Statewide Hydropower Coordinator Alaska Department of Fish and Game Division of Sport Fish/RTS 333 Raspberry Rd. Anchorage, AK 99518-1565
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NOAA National Marine Fisheries Service, Alaska Region 222 West Seventh Ave 5th Floor Anchorage, AK 99513	Corinne Smith Mat-Su Basin Program Director The Nature Conservancy of Alaska 715 L Street Suite 100 Anchorage, AK 99501
Teresa Trulock, Lands Forester USDA Forest Service P.O. Box 19001 Thorne Bay, AK 99919-0001	Pete Stephan, President Montana Creek Native Association 3300 C Street Anchorage, AK 99503
Penny Carty, President Village of Salamatof P.O. Box 2682 Kenai, AK 99611	Charles G. Anderson, Chairman Cook Inlet Region, Inc. 2525 C. St., Suite 500 Anchorage, AK 99503
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JoAnn Polston, President Healy Lake Village P.O. Box 74090 Fairbanks, AK 99706	Roy Ewan, President Gulkana Village Council Gulkana Village P.O. Box 254 Gakona, AK 99586- 0254
Darin Gene, President Gakona Village Council Native Village of Gakona P.O. Box 102 Gakona, AK 99585	Ron Mahle, President Chitina Traditional Village Indian Council P.O. Box 31 Chitina, AK 99566
Donald Charlie, First Chief Nenana Native Association P.O. Box 369 Nenana, AK 99760	C. Nora David, 1 st Chief Mentasta Traditional Council P.O. Box 6019 Mentasta, AK 99780
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Kathrin McConkey , President Native Village of Kluti-Kaah P.O Box 68 Copper Center, AK 99573	Donald Adams, President Native Village of Tetlin P.O. Box TTL Tetlin, Ak 99779
Roy Denny, President Tanacross Village Council P.O. Box 76009 Tanacross, AK 99776	John Goodlaw, President Tazlina Village Council Native Village of Tazlina P.O. Box 87 Glennallen, AK 99588
Crystal Collier, President Seldovia Village Tribe Drawer L Seldovia, AK 99663	Richard “Greg” Encelewski, President Ninilchik Traditional Council P.O. Box 39070 Ninilchik, AK 99639
William J. Miller, President Village of Dot Lake P.O. Box 2279 Dot Lake, AK 99737	Lee Stephan, President Eklutna Native Village 26339 Eklutna Village Road Chugiak, AK 99567

APPENDIX A PROCESS PLAN AND SCHEDULE

The timeline assumes two years of study *and the filing of a license application by September 11, 2015, as proposed by AEA*, but this is subject to change based on the outcome of the study development process. Shaded milestones are unnecessary if there are no study disputes *filed by any agency with mandatory conditioning authority*. *The timeline has been adjusted to account for weekends and holidays, but if a due date falls on a weekend or holiday, the due date is the following business day. We will issue a post-filing schedule once the application is filed.*

Responsible Party	Pre-Filing Milestone	Date	FERC Regulation
AEA	Issue Public Notice for NOI/PAD	12/29/11	5.3(d)(2)
AEA	File NOI/PAD with FERC	12/29/11	5.5, 5.6
FERC	Tribal Meetings	1/30/12	5.7
FERC	Issue Notice of Commencement of Proceeding and Scoping Document 1	2/27/12	5.8
FERC	Scoping Meetings	3/26-29/12	5.8(b)(viii)
All stakeholders	PAD/SD1 Comments and Study Requests Due	5/31/12	5.9
FERC	Issue Scoping Document 2 (if needed)	7/16/12	5.1
AEA	File Proposed Study Plan (PSP)	7/16/12	5.11(a)
All stakeholders	Proposed Study Plan Meeting	8/15/12	5.11(e)
All stakeholders	Proposed Study Plan Comments Due	10/15/12	5.12
AEA	File Revised Study Plan	11/14/12	5.13(a)
All stakeholders	Revised Study Plan Comments Due	11/29/12	5.13(b)
FERC	Director's Study Plan Determination	12/14/12	5.13(c)
Mandatory Conditioning Agencies only	Any Study Disputes Due	1/3/2013	5.14(a)
Dispute Panel	Third Dispute Panel Member Selected	1/18/2013	5.14(d)
Dispute Panel	Dispute Resolution Panel Convenes	1/23/2013	5.14(d)(3)
AEA	Applicant Comments on Study Disputes Due	1/28/2013	5.14(j)

Dispute Panel	Dispute Resolution Panel Technical Conference	2/04/2013	5.14(j)
Dispute Panel	Dispute Resolution Panel Findings Issued	2/22/2013	5.14(k)
FERC	Director's Study Dispute Determination	3/14/2013	5.14(l)
AEA	First Study Season	2013	5.15(a)
AEA	Initial Study Report	12/16/13	5.15(c)(1)
All stakeholders	Initial Study Report Meeting	1/6/13	5.15(c)(2)
AEA	Initial Study Report Meeting Summary	1/21/13	5.15(c)(3)
All stakeholders	Any Disputes/Requests to Amend Study Plan Due	2/20/14	5.15(c)(4)
All stakeholders	Responses to Disputes/Amendment Requests Due	3/23/14	5.15(c)(5)
FERC	Director's Determination on Disputes/Amendments	4/23/14	5.15(c)(6)
AEA	Second Study Season	2014	5.15(a)
AEA	Updated Study Report due	1/15/14	5.15(f)
All stakeholders	Updated Study Report Meeting	1/5/15	5.15(f)
AEA	Updated Study Report Meeting Summary	1/20/15	5.15(f)
All stakeholders	Any Disputes/Requests to Amend Study Plan Due	2/19/15	5.15(f)
All stakeholders	Responses to Disputes/Amendment Requests Due	3/22/15	5.15(f)
FERC	Director's Determination on Disputes/Amendments	4/21/15	5.15(f)
AEA	File Preliminary Licensing Proposal	4/14/15	5.16(a)
All stakeholders	Preliminary Licensing Proposal Comments Due	7/13/15	5.16(e)
AEA	File Final License Application ²⁶	9/11/15	5.17

²⁶ The timeline from the filing of the application forward assumes that a complete application is filed with the Commission and no additional information is required to process the application.

APPENDIX B ENTITIES THAT FILED WRITTEN SCOPING COMMENTS

In addition to the comments received at the scoping meetings, the following entities filed written comments on SD1:

<i>Entity</i>	<i>Date Filed</i>
<i>Knikatnu, Inc.</i>	<i>March 27, 2012</i>
<i>Wayne Mushrush</i>	<i>March 28, 2012</i>
<i>Laborers' International Union of North America – Local 341</i>	<i>March 28, 2012</i>
<i>Cathy Giessel</i>	<i>March 28, 2012</i>
<i>Athna, Inc.</i>	<i>March 28, 2012 and May 16, 2012</i>
<i>Cathy Teich</i>	<i>March 28 & 30, 2012, May 15, 21, and 25, 2012</i>
<i>Greg Campbell</i>	<i>April 2, 2012</i>
<i>Anne Kahn</i>	<i>April 2, 2012</i>
<i>Ivan Chikigak-Steadman</i>	<i>April 2, 2012</i>
<i>Susan Olsen</i>	<i>April 3, 2012</i>
<i>Paul B. Theodore, Knik Chief</i>	<i>April 4, 2012</i>
<i>Richard G. Wilson</i>	<i>April 4, 2012</i>
<i>David Rohwer</i>	<i>April 5, 2012</i>
<i>Alaska Ratepayers, Inc.</i>	<i>April 5, 2012</i>
<i>Jerry Gallegher</i>	<i>April 5, 2012</i>
<i>Linda Rutledge</i>	<i>March 28, 2012 and April 6, 2012</i>
<i>Unnamed</i>	<i>April 6, 2012</i>
<i>United Cook Inlet Drift Association</i>	<i>April 9, 2012</i>
<i>Lynden Inc.</i>	<i>April 12, 2012</i>
<i>Shannon Cartwright</i>	<i>April 14, 2012</i>
<i>Beth Pike</i>	<i>April 15, 2012</i>

<i>Bob Doyle</i>	<i>April 16, 2012</i>
<i>Anne Kilkenny</i>	<i>April 17, 2012</i>
<i>Gary L. Fandrei</i>	<i>April 18, 2012</i>
<i>Carly Wier</i>	<i>April 20, 2012</i>
<i>Harden Mebone</i>	<i>April 23, 2012</i>
<i>Steve Denton</i>	<i>April 23, 2012</i>
<i>Michael Raffaeli</i>	<i>April 23, 2012</i>
<i>Carlise Doria</i>	<i>April 26, 2012</i>
<i>Douglas McIntosh</i>	<i>April 26, 2012</i>
<i>Charlie Bussell</i>	<i>April 27, 2012</i>
<i>Steve Estes</i>	<i>April 27, 2012</i>
<i>Laura Caillet</i>	<i>April 27, 2012</i>
<i>Doyon Limited</i>	<i>May 1, 2012</i>
<i>William Nye</i>	<i>May 7, 2012</i>
<i>Robert H. Weaver</i>	<i>May 7, 2012</i>
<i>Karin Landsberg</i>	<i>May 7, 2012</i>
<i>Richard Herron</i>	<i>May 7, 2012</i>
<i>Jeff Lebegue</i>	<i>May 7, 2012</i>
<i>Savuth Chhin</i>	<i>May 7, 2012</i>
<i>Janie Kirk</i>	<i>May 7, 2012</i>
<i>Robert Thompson</i>	<i>May 7, 2012</i>
<i>Frank Abegg</i>	<i>May 7, 2012</i>
<i>Chickaloon Village Traditional Council</i>	<i>May 8, 2012</i>
<i>Kevin Foster</i>	<i>May 9, 2012</i>
<i>U.S. Geological Survey</i>	<i>May 9, 2012</i>
<i>Katherin Erickson</i>	<i>May 14, 2012</i>
<i>Roger Perry</i>	<i>May 14, 2012</i>
<i>Will Elliott</i>	<i>May 14, 2012</i>
<i>Lance Roberts</i>	<i>May 14, 2012</i>
<i>Audobon Bakewell</i>	<i>May 14, 2012</i>
<i>Galen Johnston</i>	<i>May 14, 2012</i>

<i>Denis Ransy</i>	<i>May 14, 2012</i>
<i>Katie Writer</i>	<i>March 28, 2012 and May 15, 2012</i>
<i>Trenton Rieley-Gibbons</i>	<i>May 16, 2012</i>
<i>Jeralyn Hath</i>	<i>May 16, 2012</i>
<i>Jonathan F. Durr</i>	<i>May 16, 2012</i>
<i>Charles and Linda Rutledge</i>	<i>May 17, 2012</i>
<i>Judith Fisher</i>	<i>May 21, 2012</i>
<i>John Polonowski</i>	<i>May 21, 2012</i>
<i>Randi Gryting</i>	<i>May 21, 2012</i>
<i>Robin Song</i>	<i>May 21, 2012</i>
<i>John Strassenburgh</i>	<i>May 21, 2012</i>
<i>Deborah Teich</i>	<i>May 21, 2012</i>
<i>Sarah Radonich</i>	<i>May 22, 2012</i>
<i>Jeff Benowitz</i>	<i>May 22, 2012</i>
<i>Talkeetna Airmen's Association</i>	<i>May 22, 2012</i>
<i>Robert Gerlach</i>	<i>May 22, 2012</i>
<i>Sarah Birdsall</i>	<i>May 23, 2012</i>
<i>William Barstow</i>	<i>May 23, 2012</i>
<i>Sean Bujold</i>	<i>May 24, 2012</i>
<i>Mike Sheehan</i>	<i>May 24, 2012</i>
<i>National Park Service, Alaska Region</i>	<i>May 25, 2012</i>
<i>Chris Noonan</i>	<i>May 25, 2012</i>
<i>Coalition for Susitna Dam Alternatives & Alaska Survival</i>	<i>May 25, 2012</i>
<i>Dan Dunn</i>	<i>May 25, 2012</i>
<i>Charles Renick</i>	<i>May 29, 2012</i>
<i>Becky Long</i>	<i>May 29, 2012</i>
<i>Clyde W. Lovel, Jr.</i>	<i>May 29, 2012</i>
<i>Jennifer Peters</i>	<i>May 29 & 30, 2012</i>
<i>Sandra White-Loomis</i>	<i>May 29, 2012</i>
<i>Matt Clabaugh</i>	<i>May 29, 2012</i>

<i>Shawn Murray</i>	<i>May 29, 2012</i>
<i>James Trussell</i>	<i>May 29, 2012</i>
<i>Tony Crocetto</i>	<i>May 29, 2012</i>
<i>Marybeth Holleman</i>	<i>May 29, 2012</i>
<i>Cari (Carolyn) Sayre</i>	<i>May 29, 2012</i>
<i>Coley Gentzel</i>	<i>May 29, 2012</i>
<i>Shelley Plumb</i>	<i>May 29, 2012</i>
<i>Jeff Yarman</i>	<i>May 30, 2012</i>
<i>Shelley Campbell</i>	<i>May 30, 2012</i>
<i>Joe Page</i>	<i>May 30, 2012</i>
<i>Alaska Departments of Natural Resources, Environmental Conservation, and Fish and Game</i>	<i>May 30, 2012</i>
<i>Barbara A. Mercer</i>	<i>May 30, 2012</i>
<i>James Trump</i>	<i>May 31, 2012</i>
<i>David H. Holmquist</i>	<i>May 31, 2012</i>
<i>Kathy Trump</i>	<i>May 31, 2012</i>
<i>Francis Marvin Milam</i>	<i>May 31, 2012</i>
<i>National Wildlife Federation</i>	<i>May 31, 2012</i>
<i>Ed Yadon</i>	<i>May 31, 2012</i>
<i>John Schandelmeier</i>	<i>May 31, 2012</i>
<i>Felicia Riede</i>	<i>May 31, 2012</i>
<i>Stefanie Tatalias</i>	<i>May 31, 2012</i>
<i>Copper Country Alliance</i>	<i>May 31, 2012</i>
<i>Natural Resources Defense Council</i>	<i>May 31, 2012</i>
<i>Murray Nash</i>	<i>May 31, 2012</i>
<i>Cedar Cussins</i>	<i>May 31, 2012</i>
<i>Heather Collins</i>	<i>May 31, 2012</i>
<i>Deborah A. Brocke</i>	<i>May 31, 2012</i>
<i>Matt Kaso</i>	<i>May 31, 2012</i>
<i>Robert Gordy Vernon</i>	<i>May 31, 2012</i>
<i>Sheryl Salasky</i>	<i>May 31, 2012</i>

<i>National Marine Fisheries Services</i>	<i>May 31, 2012</i>
<i>Sean Fitzgerald</i>	<i>May 31, 2012</i>
<i>Center for Water Advocacy</i>	<i>May 31, 2012</i>
<i>The Nature Conservancy</i>	<i>May 31, 2012</i>
<i>Alaska Department of Natural Resources Division of Mining and Land</i>	<i>May 31, 2012</i>
<i>Trout Unlimited</i>	<i>May 31, 2012</i>
<i>U.S. Fish and Wildlife Service</i>	<i>May 31, 2012</i>
<i>Daniel Rauchenstein</i>	<i>May 31, 2012</i>
<i>Elaine Martin</i>	<i>May 31, 2012</i>
<i>American Whitewater</i>	<i>May 31, 2012</i>
<i>U.S. Bureau of Land Management</i>	<i>May 31, 2012</i>
<i>Ricardo Ernst</i>	<i>June 1, 2012</i>
<i>Kathleen Fleming</i>	<i>June 1, 2012</i>
<i>William J Fitzgerald</i>	<i>June 1, 2012</i>
<i>U.S. Army Corps of Engineers</i>	<i>June 1, 2012</i>
<i>Noelle Carbone</i>	<i>June 1, 2012</i>
<i>Kinross Fort Knox</i>	<i>June 1, 2012</i>
<i>Cari Sayre</i>	<i>June 1, 2012</i>
<i>Mark B Butler</i>	<i>June 1, 2012</i>
<i>Kathy Ungrodt Ernst</i>	<i>June 1, 2012</i>
<i>Whitney Wolff</i>	<i>June 1, 2012</i>
<i>Talkeetna Community Council</i>	<i>June 1, 2012</i>
<i>Knik Tribal Council</i>	<i>June 1, 2012</i>
<i>Alaska Center For The Environment</i>	<i>June 1, 2012</i>
<i>Chickaloon Native Village</i>	<i>June 1, 2012</i>
<i>Chase Community Council</i>	<i>June 1, 2012</i>
<i>Talkeetna Defense Fund</i>	<i>June 1, 2012</i>
<i>Michael Wood</i>	<i>June 1, 2012</i>
<i>Charlie Loeb</i>	<i>June 1, 2012</i>
<i>David Theriault</i>	<i>June 1, 2012</i>

<i>Kathleen P Harms</i>	<i>June 1, 2012</i>
<i>Vince Pokryfki</i>	<i>June 1, 2012</i>
<i>Susan Deyoe</i>	<i>June 1, 2012</i>
<i>Colby Coombs</i>	<i>June 1, 2012</i>
<i>Laura Wright</i>	<i>June 1, 2012</i>
<i>Mia Costello</i>	<i>June 1, 2012</i>
<i>Lon McCullough</i>	<i>June 1, 2012</i>
<i>Elisabeth Moorehead</i>	<i>June 1, 2012</i>
<i>Niall McInerney</i>	<i>June 1, 2012</i>
<i>Harry Brod</i>	<i>June 1, 2012</i>
<i>Eleanor Fitzgerald</i>	<i>June 1, 2012</i>
<i>U.S. Environmental Protection Agency</i>	<i>June 1, 2012</i>
<i>Alexa FitzGerald</i>	<i>June 1, 2012</i>
<i>Diane Calamar Okonek</i>	<i>June 1, 2012</i>
<i>Doug Smith</i>	<i>June 1, 2012</i>
<i>Shannon Salomaki</i>	<i>June 4, 2012</i>
<i>Knik Tribal Council</i>	<i>June 5, 2012</i>
<i>Representative Kyle Johansen</i>	<i>June 7, 2012</i>
<i>Representative Mia Costello</i>	<i>June 12, 2012</i>