



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

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To: Director, Fish and Wildlife Service
Director, National Park Service
Director, Bureau of Land Management (202-B)
Commissioner, Bureau of Reclamation (Code 621)
Deputy Assistant Secretary, Indian Affairs

From: Office of Environmental Project Review

Subject: Typical License Articles

Attached for your distribution and use are two copies of 44 typical license articles which may be used in the review of hydroelectric license applications from FERC. The purpose of these typical articles is to bring a certain amount of uniformity to our preparation of license articles for transmittal to FERC. To this end we would like the format and the phrasing to be followed as much as possible. However, we consider these typical articles to be subject to modification as dictated by a given review situation. Also, these articles are not to be considered all inclusive.

These articles have been reviewed once by bureau personnel, and their suggestions have been incorporated. Since this is the type of activity which could be revised many times, we believe it is important to place the articles in use and revise them as we use them. You are, therefore, invited to make additional suggestions in writing at any time. If you have other typical articles, which are not included, please draft them and forward them to this office.

These articles have been prepared partly in response to our reaffirmed responsibilities under Section 4(e) of the Federal Power Act. However, they may be used as recommended articles under Section 10 of the FPA and as mandatory fish and wildlife articles under Sections 18 and 30 of the FPA. If these articles are used under Sections 4(e), 18, or 30 the language should delete any references to "reserved rights of the Commission." These sections grant sole authority to prescribe terms and conditions to the Secretary.

Several of the articles contain language requiring their completion prior to the start of construction. This is an attempt to protect our fish and wildlife interest in light of the Ninth Circuit Court's Yakima Decision. Presumably FERC will abide by this decision within the Ninth Circuit. However, we cannot be assured that projects in the remainder of the country will not be licensed before the completion of FERC's fish and wildlife considerations required prior to licensing by the Yakima Decision.

Bruce Blanchard
Director

Attachment

cc: All Regional Environmental Officers

Protection of Cultural Resources During-Construction

Article _____. Licensee shall, within ____ months from the date of issuance of this license and at least ____ months prior to the commencement of any future construction at the project, consult with the _____ State Historic Preservation Officer (SHPO) about the need for any cultural resource survey and salvage work. If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted and the Departmental Consulting Archeologist shall be notified to determine the significance of the sites and measures to recover important scientific, prehistoric, historic or archeological data that otherwise would be damaged or destroyed.

Exemption - Cultural Resource Survey

Article _____. Exemptee shall, prior to undertaking any ground-disturbing activities, (a) consult with the _____ State Historic Preservation Officer (SHPO) determine the scope of any necessary cultural resource survey; and (b) conduct any needed surveys to identify and evaluate archeological and historical properties that may be eligible for listing in the National Register of Historic Places. The survey shall be conducted by a professional archeologist in a manner satisfactory to the SHPO. Within ____ months from the date of issuance of this exemption, and at least ____ months prior to any scheduled ground-disturbing activity at a particular location the project area, the Exemptee shall prepare and file with the SHPO and the Commission a report on the scope, methods, and findings of the survey, and the Exemptee's proposed measures for avoiding or protecting any properties that may meet the criteria for the National Register. If the archeological report is inadequate to permit a determination of eligibility for the National Register for the resources identified, the Director of the Commission's Office of Electric Power Regulation may stay any ground-disturbing activities that would affect the properties. If the SHPO concurs with the Exemptee's proposed measures, ground-disturbing activities may proceed. However, if the ground-disturbing activities would affect properties that may meet the criteria for the National Register, then ground-disturbing activities at those locations may not proceed until: (a) the Keeper of the National Register (National Park Service, Department of the Interior) has determined the eligibility of the properties for the National Register; (b) the Advisory Council on Historic Preservation has been afforded a reasonable opportunity to comment on the effect of the proposed undertaking on the National Register eligible properties; and (c) mitigative or salvage measures (if necessary) are completed to the satisfaction of the SHPO. If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted and the Departmental Consulting Archeologist shall be notified to determine the significance of the sites and measures to recover important scientific, prehistoric, historic or archeological data that otherwise would be damaged or destroyed.

License - Cultural Resource Survey

Article _____. Permittee shall, prior to undertaking any ground-disturbing activities under the Preliminary Permit or subsequent License, (a) consult with the State Historic Preservation Officer (SHPO) determine the scope of any necessary cultural resource survey; and (b) conduct any needed surveys to identify and evaluate archeological and historical properties that may be eligible for listing in the National Register of Historic Places. The survey shall be conducted by a professional archeologist in a manner satisfactory to the SHPO. Within ____ months from the date of issuance of this Permit, and at least ____ months prior to any scheduled ground-disturbing activity at a particular location in the project area, the Permittee shall prepare and file with the SHPO and the Commission a report on the scope, methods, and findings of the survey, and the Permittee's proposed measures for avoiding or protecting any properties that may meet the criteria for the National Register. If the archeological report is inadequate to permit a determination of eligibility for the National Register for the resources identified, the Director of the Commission's Office of Electric Power Regulation may stay any ground-disturbing activities that would affect the properties. If the SHPO concurs with the Permittee's proposed measures, ground-disturbing activities may proceed. However, if the ground-disturbing activities would affect properties that may meet the criteria for the National Register, then ground-disturbing activities at those locations may not proceed until: (a) the Keeper of the National Register (National Park Service, Department of the Interior) has determined the eligibility of the properties for the National Register; (b) the Advisory Council on Historic Preservation has been afforded a reasonable opportunity to comment on the effect of the proposed undertaking on the National Register eligible properties; and (c) mitigative or salvage measures (if necessary) are completed to the satisfaction of the SHPO. If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted and the Departmental Consulting Archeologist shall be notified to determine the significance of the sites and measures to recover important scientific, prehistoric, historic or archeological data that otherwise would be damaged or destroyed.

Studies to Assess Impacts of Project Operation on Fish, to Include Turbine Mortality

Article _____. Licensee shall, after consultation with the (State Fish and Game Agency) and the U.S. Fish and Wildlife Service, develop a study plan to assess the impacts of project operation on fishery resources at all life stages including turbine, impingement, and entrainment mortalities. Within ____ months from the date of issuance of this license, Licensee shall file a copy of the study plan with the Commission for approval, along with the comments from the above agencies on the adequacy of the study and a schedule for filing the results of the study. Project construction may not commence prior to filing of the study results. The construction commencement date may be extended for completion of these studies. The Commission reserves the right to require modification to the plan and the schedule.

The results of the study shall be submitted to the Commission according to the approved schedule along with the comments from the consulted agencies relating to the results of the study. Further, if the results of the study indicate that changes in project structures or operations are necessary to minimize adverse project effects on fish resources, Licensee shall also include, for Commission approval, a schedule for implementing the specific changes in project structures or operations, along with comments from the above agencies on the adequacy of the specific changes. At the same time, copies of the schedule shall be served upon the agencies consulted.

Mitigative Plan for Outmigrating Species

Article _____. Licensee shall consult with the (State Fish and Game Agency), National Marine Fisheries Service, U.S. Fish and Wildlife Service, affected Indian Tribal Governments, and the National Park Service, as appropriate in developing a plan to minimize or mitigate the impacts of the project on outmigrating species in the (stream name). In developing this plan, Licensee shall consider, among other methods, screening the intake structure, stocking hatchery-reared salmonids in the (stream name), and providing habitat enhancement in the (stream name). Further, Licensee shall, within ____ months from date of issuance of this license, file the plan for Commission approval, with comments on the plan from consulted agencies. At the same time, copies of the plan shall be served upon the agencies consulted. Project construction may not commence prior to plan approval by the Commission. The construction commencement date may be extended for completion of this article.

Fish Passage Facilities

Article _____. Licensee shall, no later than ____ months after license issuance, file at the Commission functional design drawings for upstream and downstream fish passage facilities at the ____ (name) Project, prepared after consultation with the U.S. Fish and Wildlife Service and the (State Fish and Game Agency). Licensee shall, following filing at the Commission, install such fish passage facilities at the ____ (name) Project. Project construction may not commence prior to filing the design drawings at the Commission. The construction commencement date may be extended for completion of this article. Further, Licensee shall file with the Commission within ____ months after construction of the ____ (name) Project as-built drawings of the fish passage facilities.

Functional Design Drawings of Intake Structures and Fish Screens

Article _____. Licensee shall consult with the (State Fish and Game Agency), the U.S. Fish and Wildlife Service, and (appropriate agencies) on the final design of the intake structure and fish screening and within ____ months from the date of issuance of this license, file with the Com

mission for approval, functional design drawings of the fish screening structure for the intake of the (name) Project. Licensee shall file as-built drawings with the Commission within months after completion of construction. Project construction may not commence prior to Commission approval of the functional design drawings along with the comments of the above named agencies. The construction commencement date may be extended for completion of this article.

Functional Design Drawings of Fish Screen and Bypass Facility

Article . Licensee shall, within months following issuance of this license file for Commission approval, functional design drawings of the fish screen and fish bypass facility for the diversion intake of the (name) Project, prepared after consultation with the (State Fish and Game Agency), the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service. Within months of completion of construction, Licensee shall file as-built drawings with the Commission. Project construction may not commence prior to Commission approval of the functional design drawings along with the comments of the above-named agencies. The construction commencement date may be extended for completion of this article.

Plan to Control Erosion, Dust, and Slope Stability

Article . Licensee shall, within months from the date of issuance of this license, after consultation with the (Federal and State Resource Agencies), and before construction begins prepare and file with the Commission a plan to control erosion, dust, and slope stability, and to minimize the quantity of sediment or other potential water pollutants resulting from construction and operation of the project, along with the comments from the above agencies on the adequacy of the plan. The plan shall address, among other things, vegetation, grading of slopes, control of surface drainage, measures to contain sediment or minimize the amount of sediment that would be generated in the event of a break in the pipeline/penstock, temporary stockpiling of topsoil, storage and disposal of excess excavation and slide materials, and any construction or upgrading of access roads, including construction access. The plan shall also include: provisions for identifying and mapping any erosive soils and potentially unstable slopes; an implementation schedule; monitoring and maintenance programs for project construction and operation; provisions for periodic review of the plan and for making any necessary revisions to the plan; documentation of consultation with the above agencies during preparation of the plan; and a summary of agency comments and recommendations. In the event that the Licensee does not concur with any agency recommendations, Licensee shall provide a discussion of the reasons for not concurring based on actual site geological, soil, and groundwater conditions. The Commission reserves the right to direct changes to the plan. Unless the Director, Office of Electric Power Regulation, within months from the filing date instructs otherwise, the Licensee may commence ground disturbing or spoil disposal activities at the project at the end of that period.

Field Check for Mineral Resources

Article _____. Licensee shall consult with the U.S. Bureau of Mines (USBM) (appropriate Field Operations Center, in city, State) and conduct a field check for mineral resources at the project site including the transmission line route. A report on the results of the field check shall be prepared to include: (a) a description of the location of the (name) Claim with respect to the proposed project; (b) a description of any economic mineral deposits that may be present at the project; (c) a description of any impacts that project construction and operation would have on mineral deposit development or utilization; and (d) a plan to minimize project impacts on the development and utilization of these resources. The report shall be provided to the USBM and the Director, Office of Electric Power Regulation, within ____ months from the date of issuance of this license. The Director, Office of Electric Power Regulation, may require changes in the plan.

Article Requiring Minimum Flow

Article _____. Licensee shall discharge from the (name) Project, a continuous minimum flow of ____ cubic feet per second, as measured immediately downstream from the Project (dam or powerhouse), for the protection and enhancement of fish and wildlife, recreation, or aesthetic resources in the (stream name). This flow may be temporarily modified if required by operating emergencies beyond the control of Licensee, and for short periods upon mutual agreement between Licensee and the (State Fish and Game Agency and/or State Recreation Agency). The National Park Service should be consulted if temporary modification of flow will affect a downstream unit.

Maintenance of Minimum Flows in Bypassed Reach

Article _____. Licensee shall maintain in the (locate bypassed reach) a continuous minimum flow of ____ cubic feet per second, as measured immediately downstream from the (name diversion), for the protection of fish and wildlife, recreation, or aesthetic resources in the (stream name). This flow may be temporarily modified if required by operating emergencies beyond the control of Licensee, and for short periods upon mutual agreement between Licensee and the (State Fish and Game Agency, and/or State Recreation Agency).

Article requiring a Minimum Flow below the Project and in the Bypass Reach of Project Area

Article _____. Licensee shall discharge from the (name) Project, a continuous minimum flow of ____ cubic feet per second (cfs), as measured immediately below the project powerhouse for the protection of fish and wildlife, recreation, or aesthetic resources in the (stream name). Licensee shall discharge from the project dam a continuous minimum flow of ____ cfs for the protection of fish and wildlife resources in the (stream name) between the project dam and tailrace. Minimum flows may be temporarily modified if required by operating emergencies beyond the control of the

Licensee, and for short periods upon mutual agreement between the Licensee and the (State Fish ; and Game Agency and/or State Recreation Agency). The National Park Service should be considered if temporary modification of flow will affect a downstream unit.

Instantaneous Run-of-River Operation

Article _____. Licensee shall operate the (____ name ____) Project in an run-of-river mode for the protection of fish and wildlife, recreation, or aesthetic resources in the (stream name). Licensee, in operating the project in an instantaneous run-of-river mode, shall at all times minimize the fluctuation of the reservoir surface elevation, i.e., maintain discharge from the project so that flow in the (stream name), as measured immediately downstream from the project tailrace, equals the instantaneous sum of inflow to the project reservoir. Instantaneous run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of licensee, and for short periods upon mutual agreement between Licensee and the (State Fish and Game Agency and/or State Recreation Agency).

Article Requiring Interim Minimum Flow During an Instream Flow Study

Article _____. Licensee shall discharge from the (____ name ____) Project an interim continuous minimum flow of ____ cubic feet per second, as measured immediately downstream from the project (dam or powerhouse) for the protection of fish and wildlife, recreation, or aesthetic resources. Interim minimum flows may be temporarily modified if required by operating emergencies beyond the control of Licensee, as required for instream flow study, and for short periods upon mutual agreement between Licensee and the (State Fish and Game Agency and/or State Recreation Agency).

Instream Flow Study

Article _____. Licensee shall, after consultation with the (State Fish and Game Agency), (other), the U.S. Fish and Wildlife Service, and the National Park Service, as appropriate, develop an instream flow study plan for the (____ name ____) Project on the (stream name) to determine: (a) the relationship between the proposed project discharges and aquatic and terrestrial habitat; (b) the minimum flow releases necessary to protect and enhance the fish and wildlife resources, (c) the habitat requirements by life history stage of important aquatic organisms currently found in the reach affected by project discharges, and aquatic organisms planned for introduction; (d) the effects of proposed project discharges on water quality, stream morphology, and stream stability, and (d) the effect of project discharges on recreation or aesthetic resources. Within ____ months from the date of issuance of this order, Licensee shall file, with copies to the agencies consulted, the instream flow study plan, and schedule for study completion, with the Commission for approval. Documentation of agency consultation on the study plan shall be included in the filing. Project construction may not commence prior to completion of the instream flow study. The construction commencement date may be extended for completion of this article. Licensee shall conduct the instream flow study as approved by the Commission and in accordance with the schedule. Within ____ months from the

date of completion of the study, Licensee shall file, with copies to the agencies consulted, a report on the results of the study, and, for Commission approval, recommendations for minimum flow releases from the project. Documentation of agency consultation on the report and recommendations shall be included in the filing.

Study Plans for Pre- and Post-construction Studies to Determine Effects of Flow Releases on Fishery, Recreation, or Aesthetic Resources

Article _____. Licensee shall, after consultation with (State Fish and Game Agency), U.S. Fish and Wildlife Service, the National Park Service, and (other), as appropriate, prepare plans and implementation schedules for pre- and post-construction studies to determine the effects of the flow releases required by Article ____ on the populations of (species of fish), the potential for recreation, and the aesthetic resources in the (stream name) between (location) and (location). Within ____ months from the date of issuance of this order, Licensee shall file the study plan with the Commission for approval, with copies to the agencies consulted. The Commission reserves the right to require modifications to the study plan. Licensee shall conduct the studies as approved by the Commission and submit progress reports annually to the Commission and agencies consulted. Within ____ months after completing the studies, Licensee shall file with the Commission for approval, with copies to the agencies consulted, its recommendations for changes in project operations or facilities, including flow releases, that are necessary to ensure maintenance and protection of the fishery, recreation, or aesthetic resources in the (stream name). Documentation of agency consultation on the recommendations shall be included in the filing. Project construction may not commence prior to Commission approval of the study results. The construction commencement date may be extended for completion of this article.

Article Requiring a Reservoir Ramping Rate and Pool Elevation Limits

Article _____. Licensee shall, after consultation with the (State Fish and Game Agency), the U.S. Fish and Wildlife Service, the National Park Service, and (others), as appropriate, operate the (name) Project so that the project reservoir drawdown does not exceed the instantaneous rate of ____ inches (feet) per hour. The rate of project reservoir drawdown may be temporarily modified if required by operating emergencies beyond the control of Licensee, and for short periods for project maintenance purposes, upon mutual agreement between Licensee and the (State Agency). The reservoir pool level shall be maintained between elevations ____ and ____ (USGS Datum) between the dates of _____ and _____. To show compliance, a staff gage shall be permanently installed at an appropriate location and calibrated to the prescribed elevations. Pool level fluctuation may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods upon mutual agreement between the Licensee and the State and Federal fish and wildlife agencies.

Article Requiring Determination of Ramping Rate for Project Releases

Article _____. Licensee shall consult with the (State Fish and Game Agency), the U.S. Fish and Wildlife Service, the National Park Service, and (others), as appropriate, to set limits on the maximum rate of change in river flow (ramping rate) (locate flow area) for the protection of recreationists and fish and wildlife, recreation, or aesthetic resources. At least ____ months prior to the commencement of operation of the project, Licensee shall file for Commission approval, recommendations for ramping rates. The filing shall include comments from the consulted agencies on the ramping rate.

Stream Gage Construction and Operation to Include Providing Flow Data to Resource Agencies

Article _____. Licensee shall construct and operate stream flow gages as required by standard L-Form Article in the (locate gages) in a manner to allow continuous monitoring of the (name) Project minimum flows. Location of the streamflow gage shall be determined after consultation with the State and Federal fish and wildlife agencies. Further, Licensee shall annually make available to the (appropriate agencies) and the (State Fish and Game Agency), the record of minimum flows obtained from these gages.

Article Requiring Licensee to Monitor Dissolved Oxygen and/or Temperature of Releases

Article _____. Licensee shall, within 6 months of the issuance of this order and after consultation with the (State Water Quality Agency), the (State Fish and Game Agency), and the (other), install continuous dissolved oxygen (and temperature) monitoring equipment in the (stream name) at the (location). Licensee shall monitor dissolved oxygen (and temperature) concentrations and maintain records of the monitoring data for a period of ____ months, and shall file with the (State Water Quality Agency), the (State Fish and Game Agency), (other), and the Commission, an annual data summary, filed annually on the anniversary date of issuance of the license, that shall include observed daily minimum, maximum, and average dissolved oxygen concentrations.

If dissolved oxygen (and temperature) levels are found to violate State Water Quality Standards established for the (stream name) River (____ ppm and ____ degrees Celsius), the Licensee shall immediately consult with the State and Federal Fish and Wildlife Agencies and the State Water Quality Agency and take prompt and effective action to correct the deficiency.

Further, if the results contained in any annual report indicate that changes in project structures or operations are necessary to maintain a minimum dissolved oxygen concentration of ____ milligrams per liter, Licensee shall within 2 months from the date of annual report submission, file with the Commission for approval, with copies to the agencies consulted, a schedule for implementing the

specific changes in project structures or operations that are needed. Documentation of agency consultation on the schedule and specific changes shall be included in the filing.

File Revised Report on Recreational Resources

Article _____. Licensee shall, after consultation with the National Park Service, the U.S. Forest Service (when FS lands are affected), the Corps of Engineers (when at Corps' dams), (State Recreation Agency), and (local government, if appropriate) prepare and file with the Commission for approval within ____ months from the date of issuance of this license, a revised Report on Recreational Resources that conforms to the requirements of Commission Regulations, 18 CFR at _____. The Report shall include, but not be limited to, provisions for development of (type of facilities), including consideration of facilities for the handicapped. Further, the filing shall include a drawing showing the type and location of the facilities to be provided at the project, a construction schedule, an operation and maintenance schedule and/or agreement, and documentation of consultation with the above-named agencies.

File Revised Report on Recreational Resources (Pending Water Quality Improvement

Article _____. Licensee shall continue to consult with the (appropriate State Agency) regarding water quality at the project, and when project waters have been declared safe for water-related recreational activities, including boating and fishing, by the above agencies, Licensee shall prepare and file with the Commission for approval, within ____ months from the date of the agencies' declaration, a revised Report on Recreational Resources that conforms to the requirements of Commission Regulations, 18 CFR at 4.51.

Conduct Study and File Plan for Recreational Development

Article _____. Licensee shall, after consultation with the (appropriate Federal, State, and local agencies) conduct a study to determine the location and type of recreational facilities, (including any facility that requires special consideration) that are needed at the project. Licensee shall, within ____ months from the date of issuance of this license, file with the Commission the results of the study, and for approval, its plan shall include a construction schedule, an operation and maintenance schedule and/or agreement, a drawing showing the type and location of proposed recreational facilities, including the (special facility), and documentation of consultation with the above agencies.

Construct Approved Recreational Facilities

Article _____. Licensee shall, within ____ months from the date of issuance of this license: (a) complete construction of the recreational facilities proposed in the Report on Recreational Resources; (b) file for Commission approval a revised Exhibit G and recreational drawings, which include within the project boundary all recreational lands developed or proposed for development;

and (c) develop an operation and maintenance schedule or implement an agreement for operation and maintenance services.

Licensee Required to Construct Recreational Facility

Article _____. Licensee shall, after consultation with the (appropriate Federal and State agencies, and, if appropriate, interested local agencies and entities), design, construct, and commence operation of a [type of facility(ies)]. Within ____ months from the date of issuance of this license, and within ____ months following completion of construction, Licensee shall file with the Commission as-built drawings necessary to show the location and type of the [facility(ies)].

Evaluate the Feasibility of Providing a Specific Facility

Article _____. Licensee shall, after consultation with the (appropriate State and local agencies) evaluate the need for and feasibility of developing a (type of facility) at the project. If warranted, Licensee shall construct the (type of facility) and within ____ months from the date of issuance of the license, Licensee shall file with the Commission an as-built drawing showing the location and features of the (type of facility).

File Recreational Drawing

Article _____. Licensee shall, after consultation with (appropriate Federal, State, and local agencies), and within ____ months from the date of issuance of this license, prepare and file with the Commission a drawing, which identifies the location(s) of (type of facility) at the project along with documentation of consultation with the above agency(ies).

Study Period for Adequacy of Recreational Management Plan

Article _____. Licensee shall commence construction of the recreational facilities within ____ months from the date of issuance of this order. Also, Licensee shall after consultation with the (appropriate agencies and/or interested entities) establish a study period for implementation of the recreational use management plan at the Development. The study period may extend over ____ full recreational seasons, but not beyond ____ months from the date of issuance of this order. During this period Licensee, upon agreement with the consulted agencies, may, for study purposes, depart from the approved recreational use management plan contained within the Report on Recreational Resources in such ways as may be necessary to ensure that the most appropriate means to achieve the goals and objectives with respect to public access and resource protection are instituted. At the end of the study period, Licensee shall file with the Commission a report on the results of the study, to include the comments of the consulted agencies, and for Commission approval, any revisions of the Report on Recreational Resources that may be indicated.

Boating Study

Article _____. Licensee shall, after consultation with the National Park Service of the U.S. Department of the Interior (State recreation agency and if appropriate, county planning agency) conduct a study of boating use on the reach of the (stream name) that would be affected by project construction and operation. The study shall include, but not be limited to: (a) a description of the existing boating resources, (b) the timing of the use and numbers of boaters on a daily, weekly, and monthly basis, (c) the range of stream flows at which various types of boating use occurs, (d) a description of the impacts that would occur as a result of the project, and (e) a description of measures that could be implemented to mitigate project impacts on boating use. Within ____ months from the date of issuance of this license, Licensee shall file with the Commission the results of the study with comments from the consulted agencies, and for approval, any proposals for mitigation of project impacts on boating.

Buffer Zone Plan

Article _____. Licensee shall, within ____ months from the date of issuance of this license, file for Commission approval a copy of a detailed management plan for the use of project buffer zone lands, which shall include: (a) a proposed permit system (with a sample permit); (b) allowable uses for the lands; (c) any conditions to be specified for such allowable uses; and (d) procedures for a case-by-case analysis, to be performed by Licensee prior to approval of any permits for the use of project lands, to avoid potential conflicts with other project purposes. The plan shall be coordinated with the appropriate Federal, State, and local agencies and other interested entities, and copies of any comments from such entities shall be filed concurrently with the plan.

Exemption - Enhance Historical and/or Recreational Resources

Article _____. (Exemptee) shall cooperate with the (appropriate State and local agencies) in the development and implementation of the (Name of Plan) to enhance historical resources and recreational opportunities of the project vicinity.

Water Quality Study Plan for Maintenance of State Standards

Article _____. Licensee shall, in cooperation with the (State agency), and (appropriate Federal agency) develop and implement a mutually satisfactory water quality study plan, including multiple level outlets, to assess the impact of project operation on the water quality of the (stream name). Within ____ months from the date of issuance of this license, the Licensee shall file a description of the study plan, schedule for completion and a date for filing a final report with the Director, Office of Hydropower Licensing along with comments from the above agencies on the adequacy of the study. The Director may require modification to the plan.

The results of the study shall be submitted to the Commission. Further, if the results of the study indicate that changes in project structures or operations are necessary to maintain the State of (name of State) water quality standards, Licensee shall also file for Commission approval as part of the final report, a schedule for implementing the specific changes in project structures or operations. At the same time, copies of the schedule shall be served upon the agencies consulted.

Operation of Project (at a Government Dam) to Maintain State Temperature and Dissolved Oxygen Standards Downstream and to Include a Monitoring Program

Article _____. Licensee shall, in cooperation with the U.S. Government, design and operate the (name) Project so that water released from the Dam will not exceed a temperature of ____ degrees Fahrenheit, or contain less than ____ milligrams per liter of dissolved oxygen for the purpose of maintaining State water quality standards in the (stream name). Licensee shall, in cooperation with the Corps, and the (appropriate State Water Quality Agency), monitor the temperature and dissolved oxygen levels of the project discharge for a ____-month period following commencement of project operations to determine if project discharges maintain State water quality standards downstream. During the study period, Licensee shall file annual data reports with the Commission and the consulted agencies. Within ____ months from date of issuance of this license, Licensee shall file a report on its findings, and, for Commission approval, recommendations for changes in the design of project structures or operation needed to maintain State water quality standards.

If dissolved oxygen (and temperature) levels are found to violate State water quality standards established for the (stream name) River (____ ppm and ____ degrees Celsius), the Licensee shall immediately consult with the State and Federal fish and wildlife agencies and the State water quality agency and take prompt and effective action to correct the deficiency.

Soil Erosion Control Plan to Include Testing Sediments for Toxic Substances

Article _____. Licensee shall, after consultation with the (State Fish and Game Agency) and the Environmental Protection Agency (EPA), and other appropriate agencies, prepare a plan to: (a) control erosion; (b) conduct tests of bottom sediments for heavy metals and other toxic substances in the (stream name) in the project area; (c) minimize input to the (stream name) of sediments and any potential toxic substances resulting from dredging, constructing, and operating project facilities; (d) safely dispose of any toxic substances discovered; and (e) adequately dispose of spoils resulting from project construction. The plan shall include an implementation schedule, monitoring and maintenance programs for project construction and operation, and evidence of agency consultation. The plan shall be filed with the Commission, (State Fish and Game Agency), and EPA within ____ months from the date of issuance of this license, and ____ months prior to any ground-disturbing activity or spoil disposal. The Director, Office of Electric Power Regulation, reserves the right to require changes in the plan.

Flushing of Sediments from an Existing Reservoir

Article _____. Licensee shall, after consultation with the U.S. Fish and Wildlife Service, the (State Fish and Game Agency), appropriate Federal agencies, develop a plan to remove accumulated sediment from the project reservoir. The plan shall include an implementation schedule that provides for initial and normal maintenance sediment flushing periods designed to minimize adverse impacts on fish spawning and rearing, minimum flow releases from the project dam during reservoir refill following flushing operations, and cooperation with and notification of agencies prior to sediment flushing operations, and shall be consistent with the conditions of the water quality certificate issued to Licensee by the (State water quality agency) on (date). Within ____ months from the date of issuance of this license and prior to any sediment flushing at the project, Licensee shall file the plan with the Commission for approval, along with comments from the above agencies on the adequacy of the plan. At the same time, copies of the filing shall be served upon the agencies consulted. The Commission reserves the right to require modifications to the plan. Both State and Federal fish and wildlife agencies shall be informed of any changes to the plan.

Wildlife Mitigative Plan (Habitat Replacement)

Article _____. Licensee shall, after consultation with the (State Fish and Game Agency), and the U.S. Fish and Wildlife Service, prepare and file for Commission approval, a plan to mitigate for loss of (identify specific habitat loss concerned) wildlife habitat resulting from project construction. The plan shall include, but not be limited to: (a) identification of the type of habitat to be used for replacement; (b) a determination of the location and number of acres of habitat to be used for replacement including a description and the method of acquisition; (c) a discussion of the specific construction and maintenance techniques to be used for on-site mitigation of habitat; (d) a schedule of implementation, and (e) a monitoring and evaluation program to determine the effectiveness of the plan and the mitigative measures. Documentation of agency consultation on the mitigative plan shall be included in the filing. The plan shall be filed within ____ months of license issuance. Construction may not commence until the plan is approved by the Commission. Start of construction may be extended for completion of this article.

Wildlife Mitigative Plan (File Report on Fish, Wildlife, and Botanical Resources)

Article _____. Licensee shall, after consultation with the U.S. Fish and Wildlife Service, the (State Fish and Game Agency), and (other appropriate agencies), and within ____ months from the date of issuance of this order, file for Commission approval, a Report on Fish, Wildlife, and Botanical Resources. The report shall be prepared in compliance with the Commission's Regulations (Section _____). The report shall include, but not be limited to: (a) a plan to (add what plan should address); (b) provisions to avoid or mitigate adverse impacts on fish and wildlife resources in the project area and vicinity that may result from construction and operation of project works; (c) provision for annual reports of details on all site-specific management plans and localities, acreage and wildlife unit values of parcels acquired in fee or by easement for wildlife mitigation; and (d) copies of letters containing the comments of the aforementioned agencies on the report.

Plan for Raptor-proofing Transmission Line and Right-of-Way Management

Article _____. Licensee shall, after consultation with the U.S. Fish and Wildlife Service and the (State Fish and Game Agency), develop a wildlife mitigative plan that will consider: (a) the design of the project transmission line to prevent or minimize electrocution hazards to raptors; (b) enhancement of raptor habitat through the addition of perching and hunting structures; and (c) the clearing, revegetation, and maintenance of project transmission line rights-of-way for the benefit of wildlife resources. Licensee shall file the plan for Commission approval within ____ months from date of issuance of this license. Agency comments on the plan shall be included in the filing.

Plan for Raptor-proofing to Protect Federally Listed Raptors and Nonlisted Raptors

Article _____. Licensee shall, within the guidelines set forth in "Raptor Protection on Powerlines --- The State of the Art --- 1981," Raptor Research Report 414, Raptor Research Foundation, Inc., 1981, develop a detailed design plan of project transmission line construction to protect bald eagles and other raptors. The plan shall consider, among other things, the timing of construction activities to avoid disturbances to migrating, wintering, feeding, or nesting raptors. Licensee shall, within ____ months of the date of issuance of this license, file with the Director, Office of Electric Power Regulation the design plan, along with comments on the design from the (State Fish and Game Agency), the U.S. Fish and Wildlife Service, and the (land management agency). The Director, Office of Electric Power Regulation, reserves the right to require modifications to the design of the transmission line to protect the bald eagle and other raptors.

Bald Eagle License Article

Article _____. Licensee shall, in cooperation with the U.S. Fish and Wildlife Service's Endangered Species Office (Region) and the (State Fish and Game Agency or Federal landowner), develop measures to protect and to minimize impacts to the American bald eagle, including: (choose appropriate measures)

- (a) the design of transmission towers and the appropriate spacing of conductors to prevent or minimize electrocution hazards;
- (b) timing of construction activities to avoid disturbances to migrating, wintering, feeding, or nesting eagles;
- (c) preventing or mitigating the loss of perching and roosting sites or feeding areas;
- (d) locating project facilities, including transmission lines, access roads, borrow and spoil sites, and other construction activities to avoid impacts to eagles; and
- (e) any additional measures that may be necessary to promote the conservation and protection of the bald eagle.

Licensee shall, within ____ months from the date of issuance of this license, and at least months prior to any ground-disturbing activity, file for Commission approval a mutually satisfactory plan containing measures to ensure protection of the American bald eagle, and a schedule for the implementation of these measures. Agency letters indicating concurrence on the plan shall be included in the filing.

Protection of Riparian Vegetation and Fishery Resources

Article _____. Licensee shall, after consultation with the (State Fish and Game Agency), the (land management agency), and the U.S. Fish and Wildlife Service, prepare plans and implementation schedules for pre- and post-construction studies to determine the effects of the flow release required by Article ____ on the riparian vegetation and fishery resources along (stream name) between the diversion intake and powerhouse (bypassed reach). The plan shall include, but not be limited to: (a) pre- and post-project mapping of the riparian habitat along the bypassed reach of (stream name); (b) determination of the number of acres of riparian habitat in the bypassed reach and the density, frequency, and dominance of plant species; (c) pre- and post-project seasonal determinations of fish standing crops; (d) establishment of fixed survey transects, to achieve a representative sample of the riparian habitat; (e) development of a methodology and techniques for monitoring and evaluating impacts of the interim flow release on riparian vegetation on an annual basis over the first ____ months of project operation, and thereafter at appropriate intervals; (f) development of a schedule for analyzing data and implementing mitigative measures over the term of the license; (g) installation of a stream gage to monitor flow releases from the diversion; and (h) documentation of agency consultation during preparation of the plan.

Within ____ months from the date of issuance of this order, and prior to any stream bank disturbance or stream flow modification within the bypassed reach, Licensee shall file the study plan with the Commission for approval, with copies to the agencies consulted. The Commission reserves the right to require modifications to the study plan. The Licensee shall conduct the studies as approved by the Commission and submit progress reports annually to the agencies consulted. Within ____ months after completing the studies, Licensee shall file with the Commission for approval, with copies to the agencies consulted, its recommendations for changes in project operations or facilities, including flow releases, that are necessary to ensure maintenance and protection of the riparian vegetation and fishery resources in the bypassed reach of (stream name). Documentation of agency consultation on the recommendations shall be included in the filing.

Wetlands at U.S. Government Owned Projects

Article _____. Licensee shall, after consultation with the U.S. Fish and Wildlife Service, appropriate Federal Agencies, and the (State Fish and Game Agency) monitor the effects of project operation on wetland habitats within (reservoir) or the first ____ months of project operation, and within ____ months after issuance of this license file with the Commission a report assessing these effects. Further, Licensee shall file for Commission approval a plan to mitigate any loss or degradation of reservoir wetland habitats caused by project operation along with comments on the plan from the agencies consulted.

Operation of Project within Guidelines Established by the U.S. Government

Article _____. Licensee shall, ____ months prior to the commencement of project operation, consult with the appropriate U.S. Government owner and the (State Fish and Game Agency) in development of a plan for project operation, which shall specify hydroelectric operation within the guidelines established by the U.S. Government owner for the operation of (name) Dam. Licensee shall file with the Director, Office of Electric Power Regulation, a copy of the plan with comments received from agencies that review the plan. Copies of the plan shall be sent to the consulted agencies coincident with filing with the Director.