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SUSITNA HYDROELECTRIC PROJECT

PROPERTY OF: Alaska Power Authority 334 W. 5th Ave. Anchorage, Alaska 99501

LICENSING REPORT

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ALASKA POWER AUTHORITY

TASK 10

PRELIMINARY LICENSING DOCUMENTATION SECOND VERSION

NOVEMBER 1981

Acres American Incorporated

Suite 329 The Clark Building Columbia, Maryland 21044 Telephone (301) 992-5300



PCN0 3258

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1 - INTRODUCTION

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1.1 - Background

The primary objective of Task 10 is to provide for timely preparation and assembly of all documentation necessary for application for license to the Federal Energy Regulatory Commission (FERC). As a subset of this effort, analyses of the project in light of all govenmental regulatory requirements have been made. In April 1980, a design transmittal entitled "Preliminary Licensing Documentation" was produced by Subtask 10.02. This document reviewed all potential licensing requirements and identified those needed for the Susitna project during planning, construction and operation phases. Since April 1980, numerous changes have taken place which require revision to that design transmittal. These include:

- (a) Detailed project formulation
- (b) Revised State permitting requirements and procedures
- (c) Revised FERC regulations

In response to these changes, the original design transmittal has been updated. This document differs somewhat, however, both in scope and content. The focus of this updated transmittal is on those permits needed for submittal at the time of completion of the feasibility study. The most obvious is, of course, the FERC license. The other permits discussed in this document are those needed to satisfy FERC, and other agencies, that the project is feasible and is consistent with public objectives. These permits are the approvals on the planning phase of the project and are needed to proceed to the construction phase.

As discussed in the previous design transmittal, numerous permits will be needed for the construction and operation phases of the project. These actions are many months away, however, and can be addressed at a later date. These permits will not be vital to actual development of the project, but will focus more on specific activities related to individual development activities and processes.

This report also encompasses efforts undertaken under Subtask 10.01, evaluation of new FERC regulations. In 1980, when the Susitna feasibility study was initiated, the FERC requirement for major unconstructed projects included an application with 21 exhibits. On January 23, 1981, a notice of proposed rulemaking was issued which suggested revising these requirements. After the public comment period, a final set of regulations was adopted by the Commission in October 1981. These regulations were very similar to the proposed rules.

In the original POS, a design transmittal was to be issued with an impact analysis of the rule changes on project licensing. This document will serve that purpose, as well as present information on the other permits.

1.2 - Contents

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This report is separated into three sections, relating to jurisdictional requirements: Federal, State and local. Under each heading, specific permits are discussed in detail, focusing on authority, applicability to the project, and permit requirements and procedure. Each section is written in summary form to enable the reader to get a clear view of the purpose and requirements for each action. In addition, a corresponding appendix includes reference detail for each of the permits. This information can be used directly in developing the application and as a reference for project personnel planning specific project features.

Since each appendix contains a large volume of specific information, it is being reproduced in limited quantities and is not included with all copies of the report.

This document is intended as a limited update on the April 1980 version. In the interests of economy, duplication of material has been avoided where possible. As a result, reference is made to some of the material in the first version.

1.3 - Implementation

Should the State of Alaska decide to build the Susitna Hydroelectric Project, a FERC license will be submitted in June 1982. Project schedules have been previously designed around this date. Also at that time, the other Federal, State and local permits identified in this document as critical to project implementation will be submitted. These permits include the Corps of Engineers permit, six state permits and a Special Use District permit from Matanuska-Susitna Borough. The applications for these other permits will be prepared under Subtask 10.07 for execution by the APA. The initial review of the regulatory requirements imposed by these regulations has identifed no information which is not being produced by the study. ためためというというというという

2 – FEDERAL PERMITS

The Susitna Hydroelectric Project will come under the direct regulatory scrutiny of two Federal agencies, the FERC and the Corps of Engineers. In addition, numerous other agencies will have an opportunity to comment on certain aspects of the project during the permitting processes.

The most significant regulatory requirement for the development of the Susitna project will be the FERC license. FERC is an independent commission with jurisdiction over the project since it is a hydroelectric development involving Federal lands. FERC will also assume a lead agency role in development of the Federal Environmental Impact Statement (EIS). An EIS will be required due to provisions of the National Environmental Policy Act. The lead agency is responsible for preparation, coordination and filing of the Federal EIS. and the second states of the second states and the second s

The Corps requires permits for discharge of dredged or fill materials, construction of structures, or work in navigable waters of the United States. For purposes of this action, the Susitna River is considered a navigable water.

2.1 - FERC License

The Federal Energy Regulatory Commission (FERC) is authorized under the Federal Power Act, as amended, to regulate hydroelectric power development within the United States. As such, the Susitna Hydroelectric Project will come under the licensing authority of FERC.

(a) Authority

The Federal Power Act was originally enacted as the Federal Water Power Act in 1920. The act established the Federal Power Commission and established the authority of this independent commission to license water power projects on navigable waterways. Amendments to the act subsequently gave the Commission regulatory authority over interstate sales of electric power and natural gas. The Department of Energy Organization Act of 1977 abolished the Federal Power Commission and transferred most of its authority, including the hydropower licensing function to FERC.

The jurisdiction by FERC extends to hydroelectric projects involving U.S. Government land and/or facilities, projects on navigable waterways and projects connected to interstate market grids. FERC jurisdiction is expected to apply to Susitna in the first two areas mentioned. The Susitna River may be considered to be a navigable waterway, and lands of the U.S. Government will be needed to develop the project.

(b) Application Contents

The contents of the Susitna FERC application will be governed by Section 4.41 of Title 18 of the Code of Federal Regulations. These

rules have been changed by the Commission this year in an effort to streamline requirements of project applicants. The initial proposed changes were issued on January 23, 1981, for public comment. In October 1981, the Commission approved a set of final rules governing the application. The rules were published in the Federal Register on November 13, and effective December 14, 1981. The final rules are nearly identical to the proposed rules in that there are no additional data requirements.

The current rules require submission of an application (a brief summary document) and seven exhibits. The number of exhibits has been reduced from twenty-one in the previous set of rules. Material requirements regarding the project have not substantially changed; however, the format for the material is more concise and less repetitive. For example, the new Exhibit E, Environmental Report, comprises parts of five exhibits under the old format.

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The license application and exhibits will be compiled under Subtask 10.07. Most of this information will be extracted from the draft final feasibility report to be issued on March 15, 1981. Rewriting or reformatting to meet FERC requirements will be accomplished as necessary. Thus, development of the feasibility outline has been coordinated with the license requirements to assure that all of the information necessary for the license application has been included in the feasibility report.

Table 2.1 is a thorough list of requirements for the license application cross referenced to the feasibility report outline (as of October 15, 1981). The primary task and contributing tasks have been identified as the developers of the information. This list is the primary document to be used in developing the license application.

(c) Format

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The text of the license application will be in a style consistent with other project documents. This format is specified in the project manual, Procedure No. 7.4, and in a memo to project staff from J. Hayden dated February 20, 1981.

A list of drawings needed for the license application, by exhibit, is in Table 2.2. The specifications for these drawings are shown directly out of the FERC regulations in Table 2.3.

(d) Process

The following paragraphs discuss the post-application FERC process. Figure 2.1 is a diagram of the process described.

After the application is filed, FERC issues a docket number (for example: "Project No. XXXX") and begins a review of the documents for completeness. If the application is incomplete, FERC issues a

deficiency letter to the applicant. When the application is deemed complete, the public notice is issued and the public comment and interagency review process begins. Also at this time, the FERC staff initiates environmental impact statement and the analysis of the project application begins. At the end of the public comment and review period, potential intervenors must submit materials. The Commission will grant intervenor status as appropriate. Intervenors are entities which are full parties to all further project licensing proceedings. There is also a review and comment period for the Federal EIS which is written by FERC staff.

If no intervenors submit petitions or none of the petitions are allowed, the process proceeds to Commission consideration at the end of staff review. If there are intervenors with relevant issues, a hearing process is initiated. At the time of completion of the hearing process, an order is drafted and the licensing issue is scheduled to go before the commission for action. At that time, FERC can issue the license with standard and special conditions as warranted. The applicant then has 30 days to accept the conditions or file for rehearing. The license provides authority to the licensee to operate and maintain the project for the licensing period of up to 50 years, under specified conditions and gives the licensee the right to exercise power of eminent domain in acquiring project land and water rights. こうちょう ない たい たい たい たい ちょうちょう しょう しょうしょう

For a major license action, the FERC licensing time is targeted to take from 18 to 24 months. The addition of the hearing process would add about one year to the processing time. Since a hearing can be expected on a project of the magnitude of Susitna, the expected time for licensing would be 24 to 36 months.

Experience with the licensing process has shown that processing can frequently be delayed for extended periods due to inadequate exhibit preparation or interventions. However, FERC recently has been maintaining close control on "fast-tracking" the processing applications. There are indications that lead-time requirements should be more stable in the future.

(e) Coordination

During the early portion of the study, it was intended that all coordination with outside agencies would be documented in a manner that it would be included in the license application. This approach has proved to be impractical as there are numerous contacts between agencies and the study team on a daily basis. Documenting this sort of coordination in a license application would be useless, due to volume and tedious nature of contacts. Additionally, while providing an extremely valuable information exchange, most agency contacts do not provide an agency viewpoint.

The proposed rule changes affecting the FERC filing offered an opportunity to streamline a 'formal coordination' program. The main objective of this program is to document and address agency concerns as required by FERC. Thus, this 'formal' program consists of correspondence exchanges between key agencies and Acres, as the Alaska Power Authority's representative. The FERC rules require documentation of consultation with responsible agencies in six resource areas: water quality and use; fish, wildlife and botanical; historical and archeorogical; recreational; aesthetic and land use. Table 2.4 is a list of key agencies for each of these areas. This list includes the contacts for the formal coordination program.

This program does not impact the Steering Committee, Mitigation Task Force, APA's public participation program or any other existing coordination activity. It will provide a concise set of correspondence reflecting agency viewpoints on the project developments for use in the FERC application. Other coordination activities will be summarized for presentation in the FERC license application.

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Table 2.5 is a complete list of products to be distributed for agency comment.

2.2 - Corps of Engineers

The Corps permitting program is authorized by Sections 9 and 10 of the Rivers and Harbors Acts of 1899 and Section 404 of the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500). Regulations covering the Corps permitting program are found in Title 33 of the Code of Federal Regulations, Part 320 through 329. Activities requiring permits fall typically under three categories:

- (a) Dams and dikes in navigable waters of the United States
- (b) Structures or work in or affecting navigable waters of the United States
- (c) Discharges of dredged or fill materials into waters of the United States.

The Project will come under more than one of these areas of jurisdiction, but only one permit action is required.

The application and procedure for obtaining the Corps permit is essentially unchanged since the April 1980 design transmittal. The permit application will be prepared and submitted concurrently with the FERC application. No information is needed for the Corps application that is not submitted to FERC.

At the present, consideration is being given to dropping the requirement for the Corps permit where a FERC license is obtained. This consideration is due to a case pending in court and the movement towards relieving regulatory burden. It is expected that a permit will still be required in June of 1982.

2.3 - Other Actions

It is possible that other Federal permits will be needed prior to completion of the project. High transmission towers will need to be

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permitted by the Federal Aviation Administration. Any sanitary waste discharging facilities will need to be permitted by the Environmental Protection Agency's National Pollution Discharge Elimination System (NPDES) program. Neither of these permits will be needed initially, however, to complete the planning phase of the project.

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TABLE 2.1: LICENSE APPLICATION REQUIREMENTS

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		Primary Task	Contributing Tasks	Source Documents
(a)	Initial Statement	10		License Document
(b)	Exhibit A - Project Description (1) Physical composition, dimensions, & configurations of dams, spillways,	6	6.2630	Feasibility Report 10.1 - 10.20 and 11.1 - 11.20
	<pre>penstocks, powerhouses and structures to be included in the project. (2) Reservoir data: Normal maximum water surface area and normal maximum water elevation (mean sea level),</pre>		6.2630	Feasibility Report 10.14
	gross storage capacity and usable storage capacity of any impoundments (2) Number type % nated capacity of		6 26 20	and 11.13
	 (3) Number, type & rated capacity of turbines & generators (4) Number, length, voltage & inter- 		8	Report 10.16 and 11.15 Feasibility
	connections of primary transmission lines to be included in the project		,	Report 12.3 - 12.6
	(5) Description of additional electrical/ mechanica ³ equipment		6.2630	Feasibility Report 10.17 - 10.19 & 11.17 - 11 10
	(6) All lands of the U.S. enclosed within project boundary - total U.S. acreage		2.04 - 7.07	Map, land surveys 10.20 & 11.19
(c)	Exhibit B - Project Operation & Resource Utilization (separate for each operat- ional development) One for first dam; one for dual development	6		(Exhibit G (3)
	 Description of each alternative site considered. 		6.05	Feasibility Report 8.1-8.7
	(2) Description of alternative facility designs, processes & operations considered		6.23 - 6.24	Feasibility Report 9 and 12.1 - 12.3
	(3) Statement of operations: manual or automatic; annual plant factor, statement of operations in adverse, mean high flow years		6.26 - 6.27	Feasibility Report 12.1 & 13.6
	(4) Estimate of dependable capacity & average annual energy production		6.2324	Feasibility Report 15.3
	(i) Minimum, mean & maximum recorded flows at power plant intake,		3	Feasibility Report 15.3

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		Primary Task	Contributing Tasks	Source Documents
	accounting for evaporation, leak- age, minimum flow releases or other flow reductions; flow duration curve indicating period of record of gauging stations used; Critical streamflow used to determine dependable capacity (ii) Area-capacity curve and rule curve showing use of storage		6	Feasibility Report 15.3
	<pre>(iii) Hydraulic capacity of plant, flow & efficiency, generator output (iv) Tailwater rating curve</pre>		6 6	Feasibility Report 15.3 Feasibility Report 15.3
	<pre>(v) Curve of power plant capability vs. head at maximum, normal, minimum head</pre>		6	Feasibility Report 15.3
	(5) Statement of system & regional power needs & manner in which project power will be used including on-site uses			DSR & revisions, Feasibility Report 5 & 6
	 (i) Load curves and tabular data (ii) Details of conservation & rate design programs and their his- toric and projected impacts on system loads 		6.35	Feasibility Report 5.5 DSR
	<pre>(iii) Amount of power to be sold and identity of proposed purchasers</pre>		11.04	Feasibility Report 16.3
	(6) Plans for future development of the project. (This section will not be significant if a joint Watana & Devil Canyon application is submitted.)		NA	
(d)	Exhibit C - Construction Schedule (may be supplemented with a bar chart)	9.03		Feasibility Report 15
	 Commencement and completion dates for major project works Proposed date of first commercial operation for each major facility and generating unit. 			

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	Primary Task	Contributing Tasks	Source Documents
<pre>(3) History of any existing project (N/A - see section (d)(3)</pre>			
(e) <u>Exhibit D</u> - Costs & Financing	11		
(1) Statement of estimated costs		9.03	Feasibility Report 14,
(i) Cost of land or water rights(ii) Total costs of all major works			14.1
(111) Indirect construction costs (such as construction camps equipment and commission)			14.4 14.2
 (iv) Interest during construction (v) Overhead, construction legal, contingencies 			
(2) Statement of previously constructed water power facilities	NA		
(3) Estimate of takeover price at cost of license period	NA		
(4) Statement of average annual cost of the project, specifying projected	11		
changes in life cycle costs over the financing and licensing period including:			13.6 & 16.2
<pre>(i) Cost of capital (equity & debt)</pre>	11		Feasibility Report 16.2, 13.4
 (ii) Local, state & federal taxes (iii) Depreciation or amortization (iv) Operation & maintenance expenses including interim replacements, insurance, administration and general expenses and 		9.03	Feasibility Report 15.3
contingencies		6.37	
(5) Estimated annual value of project power based on contract price for sale of power <u>or</u> average annual cost of equivalent from lowest cost alter- native source over financing or licensing period			Feasibility Report 16.1 & 16.2

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		Primary	Contributing	Source
		Task	Tasks	Documents
	 (6) Statement describing other electric energy alternatives (gas, oil, coal, nuclear, other hydro) (7) Consequences of license application 		6.3637	Feasibility Report 6.1, 6.4, 6.5 Feasibility
	<pre>(8) Sources and extent of financing and annual revenue available to meet the costs identified in paragraphs (e)(1) and (4)</pre>		11	other sources Feasibility Report 16.2, 16.3
(f)	Exhibit E - Environmental Report Information must be organized and referenced per subparagraphs below. If information is not applicable, provide a brief explanation why it is not (see section (f) for more details).			Exhibit E will be identical in format to the feasibility report Part II
	 <u>Report (E-1)</u> General description of locale, project location and environment <u>Report (E-2)</u> Water Quality & Use: Discuss quality & flows, contain baseline data to determine normal & seasonal variation, impacts, mitigations & protection 	7 7.04		
	 (i) Description of existing instream flow uses of streams affected by the project, water discharged (ii) Description of existing water quality seasonal, vertical, horizontal variations in parameters 		7/3 7.04	
	<pre>(iii) Description of proposed reser- voirs (i.e., surface area, volume, flushing rate, shoreline, etc)</pre>		7/6	
	(iv) Quantification of construction		7.04	
	<pre>(v) Measures recommended by federal and state agencies for protect- ing and improving WQ and stream flows</pre>		7.04	Coordination letters Steering Committee

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	Primary	Contributing	Source
	Task	Tasks	Documents
(VI) Description of groundwater - expectation of impacts		7.04	
(vii) Appendix E-2A, Copy of dated		10.04	
Appendix E-2B. Coordination:		10.04/7	
Letters & response from key			
agencies; Summary of task force			
other information coordination			
(3) Report (E-3) Fish, Wildlife &			
Botanical Resources:	7		
description, impacts, mitigation			
tation & coordination			
(i) Decomintion of very uses of use		7 00 14	
ject area & vicinity including		7.0914	
transmission ROW and downstream			
areas (ii) Description of impacts on fish.		7.0914	
wildlife and botanical resources		,	
(iii) Mitigation measures or facilities		7.0914	
agencies; adaptation of those			
measures (iv) Eurthon information on mitigation		7 00 14	
measures and facilities		7.0914	
A Functional design drawings			
B Description of operation and maintenance procedures for			
mitigation facilities			
C Implementation of construction			
facilities			
D Cost estimates for mitigation			
E Sources & financing for			
mitigation measures E Location man of proposed			
facilities			
Annondiv E 2+ Coordination Decumentation		7.06	
Appendix c-s. Coordination Documentation		7.00	

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 (4) <u>Report (E-4)</u> Historic & Archeological 7 7.06 <u>Resources, Description, avoidance,</u> mitigation, coordination (i) Description of discovery measures recommended by federal/state agencies (ii) Results of subsurface testing work recommended by agencies (iii) Identification of H&A sites affected (iv) Description of direct & indirect impacts of the project on sites listed or eligible for the National Register (v) Management plans for avoidance or mitigation of impacts on H&A sites (vi) Schedule, cost estimate and financing for mitigation measures (vii) Only 5 copies of survey, inventory, & subsurface testing reports containing specific site and property information Appendix E-4: Documentation of consultation with historical and archeological agencies 			Primary Task	Contributing Tasks	Source Documents
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sites (vi) Schedule, cost estimate and financing for mitigation measures (vii) Only 5 copies of survey, inventory, & subsurface testing reports containing specific site and property information Appendix E-4: Documentation of consultation with historical and archeological agencies		mitigation of impacts on H&A			
<pre>(vi) Schedule, cost estimate and financing for mitigation measures (vii) Only 5 copies of survey, inventory, & subsurface testing reports containing specific site and property information Appendix E-4: Documentation of consultation with historical and archeological agencies</pre>		sites			
financing for mitigation measures (vii) Only 5 copies of survey, inventory, & subsurface testing reports containing specific site and property information Appendix E-4: Documentation of consultation with historical and archeological agencies	(vi)	Schedule, cost estimate and			
<pre>(vii) Only 5 copies of survey,</pre>		financing for mitigation measures			
<pre>inventory, & subsurface testing reports containing specific site and property information Appendix E-4: Documentation of consultation with historical and archeological agencies</pre>	(vii)	Only 5 copies of survey.			
reports containing specific site and property information Appendix E-4: Documentation of consultation with historical and archeological agencies		inventory. & subsurface testing			
and property information Appendix E-4: Documentation of consultation with historical and archeological agencies		reports containing specific site			
Appendix E-4: Documentation of consultation with historical and archeological agencies		and property information			
Appendix E-4: Documentation of consultation with historical and archeological agencies					
consultation with historical and archeological agencies	Appendi	x E-4: Documentation of			
archeological agencies	consult	ation with historical and			
	archeol	ogical agencies			
(5) Report (E-5) Socio-Economic Impacts: 7.05	(5) Rep	ort (E-5) Socio-Economic Impacts:	7.05		
Impacts on employment, population,	Imp	acts on employment, population,			
housing, income, services, tax	hou	sing, income, services, tax			
revenue, etc.	rev	enue, etc.			an a
(i) Definition of impact area	(i)	Definition of impact area			
(ii) Description of employment,	(ii)	Description of employment,			
population, & personal income		population, & personal income			
trends		trends			
(iii) Evaluation of in-migration	(iii)	Evaluation of in-migration			
impacts on local government		impacts on local government		and the same set of the	
facilities and services		facilities and services			
(iv) On site manpower	(iv)	On site manpower			
requirements & payroll		requirements & payroll			
including monthly		including monthly			
projections		projections			
(v) Origin of construction person-	(v)	Origin of construction person-			
nel and impact to the area		nel and impact to the area			
(vi) Housing impacts	(vi)	Housing impacts			na sa sa kacamatan kacamatan kacamatan Kacamatan kacamatan
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	Primary	Contributing	Source
	Task	Tasks	Documents
(vii) Displacement of current residences & businesses (viii) Impact on local government of forced expenditures versus revenues			
(6) <u>Report (E-6)</u> Geological and Soil Resouces: G&S resources in project area and other affected lands. Report may be surplemented with maps.	5.08	4.12	
 (i) Detailed description of geological features, including bedrock lithology, stratigraphy, glacial features, etc. (ii) Description of the soils including types, characteristics, erodability & potential for mass movement 			
 (iii) Description of existing hazard areas, including earthquakes, faults, seepage, subsidence, erosion & mass movement, areas which could be effected by reservoir fluctuation, etc. (iv) Description of anticipated erosion, mass movement & other impacts (v) Mitigation measures to reduce impacts on soils 		6.2930	
(7) <u>Report (E-7)</u> Recreational Resources Proposed recreation plan describing utilization, design & development of project recreational facilities and public access	7.08		
 (i) Description of area within or in vicinity of the proposed project boundary included in: National Wild & Scenic Rivers System National Trails System Wilderness Area 			

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	Primary Task	Contributing Tasks	Source Documents
<pre>(ii) Detailed description of existing recreational facilities and public facilities to be provided no later than 3 years from</pre>			
project operation, ultimate development	5.08	4.12	
<pre>(iii) Provision for shoreline buffer zone within project boundary above normal maximum surface elevation</pre>			
 (iv) Estimates of existing & future recreational use at the project (v) Development schedule and cost estimate; source and extent of 			
financing (vi) Agency recommendations (vii) Drawing or drawings including - Project lands, rec. facilities		6.2930	
access roads & traits, Camping facilities - initial develop- ment - Recreational facilities planned for future development - Project lands reserved for other uses - Project boundary at all			
recreation area, referenced to Exhibit G drawings.		10	
Appendix E-7 Documentation of consul- tation with agencies for recreational planning.			
(8) <u>Report (E-8)</u> Aesthetic Resources: <u>Description</u> , impacts, mitigation, enhancement			
 (i) Description of aesthetic character (ii) Description of impacts from construction and project 			
presence (iii) Mitigation measures, including architectural design, landscaping & other reasonable treatment			

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	Primary Task	Contributin	g Source
<pre>(iv) Maps, drawings & photographs sufficient to provide an understanding (per specs of paragraph 4.32).</pre>		CALUY	Documents
Appendix E-8 Documentation of consultation with involved land management agencies		10	
 (9) <u>Report (E-9)</u> Land Use Description of existing uses and occurence of post project uses report may reference land use discussions in other portions of Exhibit E. Prepared in consultation with zoning and land management authorities. 	7.07		
 (i) Description of existing land use including wetlands, floodlands & U.S. lands (ii) Proposed land use (iii) Illustrative maps, drawings, other graphics necessary to clearly illustrate project. 			
<pre>(10) <u>Report (E-10)</u> Alternatives Environmental assessment of alternatives</pre>	6.34		DSR Battelle Report
 (i) Alternative sites considered (ii) Alternative facility designs processes & operations (iii) Alternative electrical energy sources (gas, coal, other hydro) (iv) Consequences of license denial 		6.03 6.03 6.3233 6.3738	
(11) <u>Report (E-11)</u> List of Literature	7	All Primary Subtasks	
g) <u>Exhibit F</u> - General Design Drawings: Drawings of principal project works described in Exhibit A and supporting design information.		6.2627	Feasibility Report 10 & 11
(1) Drawings must show all major project structures in safficient detail to provide a full under- standing			

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		Primary Task	Contributing Tasks	Source Documents
	<pre>(i) Plans (ii) Elevations (iii) Profiles (iv) Sections</pre>			
	(2) Preliminary design drawings may be submitted. Final exhibit may be submitted at any time during the process. Final F must be submitted prior to commencement of construction			
	(3) Design Report demonstrating safety and adequacy			Separate from Feasibility Report
	 (i) assessment of site suitability and rim stability based on geological and subsurface investigation, soils and rock borings, etc. 			Close out Subtask 2.15
	<pre>(ii) Copies of boring logs, geology and test reports, etc.</pre>			Geotech Reports
	<pre>(iii) Identification of borrow areas, quarry sites and estimate of required quantities</pre>			Subtask 2.13
	(iv) Stability & stress analyses of all major strutures & abutment slopes under all loading conditions including seismic and hydrostatic up to probable max. flood			Preliminary Design Criteria plus new Information
	<pre>(v) Bases for seismic loading and spillway design flood</pre>			Design Criteria
(h)	Exhibit G - Project Map(s): Sheets must be numbered consecutively with small insert showing entire project - in accordance with FERC specifications (4.32)	6.26 - .27		Feasibility Report 10 & 11
	A final Exhibit G must be submitted at a later date if any change in project boundary occurs.			
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	Primary Task	Contributing Tasks	Source Documents
The map must show:			
 Location of project and p features 	rincipal		
(2) Project boundaries descri	bed for:		
(i) Impoundments (ii) Continuous features (iii) Noncontinuous feature	S		
 (3) Federal lands [see 16 U.S.C. pp. 796 (1 (4) Non-federal lands) and (2)]		

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TABLE 2.2: FERC APPLICATION DRAWING LIST

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	Reference to FERC Regulations
Exhibit A Project Description (see Exhibit F)	
<pre>Exhibit B Statement of Project Operation (1) Alternative site plans (2) Alternative facility designs - plans, layouts, etc. (3) Operation Schematic A. Watana (single dam development) B. Devil Canyon and Watana (system development) (4) Operation graphs and sharts (warious)</pre>	4.41 (c)(1) 4.41 (c)(2) 4.41 (c)(3)
can be in figure form)	4.41 (0)(4)-(5)
Exhibit C Construction Schedule (1) Schedule bar chart (optional)	4.41 (d)(1)-(2)
Exhibit D (No Drawings)	
Exhibit E (see last item on this list)	
Exhibit F General Design Drawings (Project features to be illustrated are described in Exhibit A. A separate set of drawings is to be provided for each of Watana and Devil Canyon developments, except where typical designs allow reference.)	4.32 4.41 (b)
 Site Plan System Profile: showing river profile, dam, penstock, powerhouse, spillway, intake, impoundment Principal Project Structures: Drawings of principal structures, showing plan elevation, profile, and section views as needed for clarity. Separate or composite drawings should include: 	4.32 (c) 4.32 (c)
 A. Dams and diversion structures plan and elevation sections details (e.g. structural fittings, materials specs) spillway, tailrace locations 	
 B. Spillway plan, profile and sections spillway rating curve 	

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C.	<pre>Intake Strucures and Power Tunnels - plan, profile, and sections - details (e.g., gates, penstock transitions)</pre>	
D,	Powerhouse - general layout - profile and details - floor plans - intake and penstock locations - electrical single line diagram	
E.	<pre>Switchyard - plan and elevation - structures and details - electrical single line diagram (for powerhouse, transmission and switchyard)</pre>	
F.	 Transmission Lines transmission corridor (refer also to Exhibit G) typical transmission structure primary transmission lines (no., length, voltage, interconnections) 	4.41(b)(4) and 4.32 (b)
G.	Turbines and Generators - manufacturer's drawings, as appropriate	4.41 (b)(3)
Η.	Appurtenant Equipment - mechanical, electrical and transmission equipment, as appropriate	4.41 (b)(5)
Ι.	 Reservoirs and Impoundments plan view (showing water levels, surface area, project boundaries) area and capacity curves 	4.41 (b)(2) See also 4.41 (h)(2)(i)
J.	Construction Facilities - camps and facilities, etc.	
к.	Land Status - including lands of the U.S. (see also Exhibits E(9) and G)	Exhibit E, Sect. (9) 4.41 (b)
L.	Access Roads - site details (see also Site Plan) - routes (see also Project Map)	4.32 (b)

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Exhibit G Project Map 4.32 One or more sheets conforming to the specifications of 4.32 and including a key plan on each sheet, showing: (1). Location of Project and Principal Features: 4.41 (h)(1)[dams, powerhouses, reservoirs, switchyards, transmission line corridors (licensed with project), connection with intertie system. access roads, recreation facilities, construction facilities] (2). Project boundaries: 4.41 (h)(2)(may be shown in more detail on principal 4.32 (b)(3) project structure drawiangs, e.g. reservoirs, access routes, transmission corridors) (3). Federal and Non-Federal Lands 4.41 (h)(3)-(4) Exhibit E Environmental Report 4.41 (f) Note 1: (*) indicates that drawings are specified in the requirements. Lack of an (*) indicates drawings which are suggested for descriptive purposes. Note 2: In general, drawings within different reports of Exhibit E may be consolidated. Effort should be made to make Exhibit E as complete a document as possible, i.e., when cross referencing drawings between Exhibits, other Exhibits should refer to Exhibit E where possible. It may be useful to repeat drawings in more than one Exhibit (1). General Description of Locale A. location and environmental setting maps 4.41 (f)(1)(2). Report on Water Use and Quality A. descriptions of project reservoirs 4.41 (f)(2)(iii)- reservoir plans - river and reservoir profile B. description of mitigation measures 4.41 (f)(2)(v)- functional drawings for facilities - operational curves C. descripton of groundwater 4.41 (f)(2)(vi)- groundwater table and profiles - location map of springs, wells, artesian flows, etc. - mitigation measures

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(3).	Report on Fish, Wildlife, and Botanical Resources		
	 A. description of existing resources general and/or area maps showing location, size, distribution, density (etc) of biotic communities B. description of mitigation measures or facilities functional design drawings* implementation, construction and operation schedule* location map of facilities* 	4.41 4.41 4.41 4.41 4.41	<pre>(f)(3)(i) (f)(3)(iv) * (f)(3)(iv)(A) * (f)(3)(iv)(C)* (f)(3)(iv)(F)</pre>
(4).	<pre>Report on His. and Arch. Resources - schedule for implenting the mitigation management plan* - location maps) 5 copies - photos and inventory data) only</pre>	4.41 4.41	* (f)(4)(vi)(A) (f)(4)(vii)
(5).	Report on Socio-Economic Impacts - map of socioeconomic impact area	4.41	(f)(5)(i)
(6).	<pre>Report on Geological Soil Resources A. Maps and drawings (as required to describe - geologic features - soils - location of potential geological and soil hazards - mitigation measures and facilties</pre>	4.41 4.41 4.41 4.41	(f)(6)(i) (f()6)(ii) (f)(6)(iii) (f)(6)(v)
(7).	Report on Recreation Resources - drawing or drawings covering entire project area showing specified details*	4.41	(f)(7)(vii)*
(8).	Report on Aesthetic Resources A. Drawing or drawings sufficient to provide understanding of resources* aesthetic character of land impacts from construction and presence of facilities mitigative measures 	4.41 4.41 4.41 4.41	(f)(8)(iv)* (f)(8)(i) (f)(8)(ii) (f)(8)(iii)
(9).	Report on Land Use - aerial photos, maps, drawings or graphics to show location, extent, and nature of land use*	4.41	(f)(9)(iii)*
(10).	Alternatives - alternative site plans - alternative facility designs	4.41 4.41	(f)(10)(i) (f)(10)(ii)
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TABLE 2.3: SPECIFICATIONS FOR MAPS AND DRAWINGS [¶ 12,032]

§ 4.32 Specifications for maps and drawings.

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All required maps and drawings must conform to the following specifications, except as otherwise prescribed in this chapter:

(a) Each original map or drawing must consist of a print on silver or gelatin 35mm microfilm mounted on Type D $(3\frac{1}{4}"$ by $7\frac{3}{8}")$ aperture cards. Two duplicates must be made of each original. Full-sized prints of maps and drawings must be on sheets no smaller than 24 by 36 inches and no larger than 28 by 40 inches. A space five inches high by seven inches wide must be provided in the lower right corner of each sheet. The upper half of this space must bear the title, numerical and graphical scale, and other pertinent information concerning the map or drawing. The lower half of the space must be left clear. If the drawing size specified in this paragraph limits the scale of drawings described in paragraph (c) of this section, a smaller scale may be used for those drawings.

(b) Each map must have a scale in full-sized prints no smaller than one inch equals 0.5 miles for transmission lines, roads, and similar linear features and no smaller than one inch equals 1,000 feet for other project features. Where maps at these scales do not show sufficient detail, larger scale maps may be required under 4.31(f). Each map must show:

(1) True and magnetic meridians;

(2) State, county, and town lines; and

(3) Boundaries of public lands and reservations of the United States [see 16 U.S.C. 796(1) and (2)], if any. If a public land survey is available, the maps must show all lines of that survey crossing the project area and all official subdivisions of sections for the public lands and reservations, including lots and irregular tracts, as designated on the official plats of survey that may be obtained from the Burcau of Land Management, Washington, D.C., or examined in the local land survey office; to the extent that a public land survey is not available for public lands and reservations of the United States, the maps must show the protractions of townships and section lines, which, if possible, must be those recognized by the Federal agency administering those lands.

(c) Drawings depicting details of project structures must have a scale in full-sized prints no smaller than:

(1) One inch equals 50 feet for plans, elevations, and profiles; and

(2) One inch equals 10 feet for sections.

(d) Each map or drawing must be drawn and lettered to be legible when it is reduced to a print that is 11 inches on its shorter side. Following notification to the applicant that the application has been accepted for filing [see 4.31(c)], prints reduced to that size must be bound in each copy of the application which is required to be submitted to the Commission or provided to any person, agency, or other entity.

.01 44 F.R. 61328 (October 25, 1979) .05 Historical record.—Section 4.32 originated in Order 518, 39 F.R. 40942 (11/22/74), and was amended in Order 570, 42 F.R. 40190 (8/9/77), and in 44 F.R. Order 54, 61328 (10/25/79), effective 11/26/73.

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TABLE 2.4: FORMAL COORDINATION GROUP

Water Quality and Use Group

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- Mr. John Katz Alaska Department of Natural Resources Pouch M Juneau, Alaska 99811
- 2. Regional Administrator Region X U.S. Environmental Protection Agency 1200 South Avenue Seattle, Washington 98101
- 3. Col. Lee Nunn District Engineer U.S. Army Corps of Engineers Anchorage District P.O. Box 7002 Anchorage, Alaska 99510

Fish, Wildlife and Botanical Group

- Mr. Keith Schreiner Regional Director, Region 7 U.S. Fish and Wildlife Service 1011 E. Tudor Road Anchorage, Alaska 99503
- 5. Robert McVey Director, Alaska Region National Marine Fisheries Service NOAA P.O. Box 1668 Juneau, Alaska 99802
- 6. Mr. Ronald O. Skoog Commissioner State of Alaska Department of Fish and Game Juneau, Alaska 99801
- 7. Mr. Ernst W. Mueller c Commissioner Alaska Department of Environmental Conservation Juneau, Alaska 99801

- cc: Mr. Alan Carson Alaska Department of Natural Resources 323 East 4th Avenue Anchorage, Alaska 99501
- cc: Judy Swartz U.S. Environmental Protection Agency Mail Stop 443 Region X EPA 1200 South 6th Avenue Seattle, Washington, 98101

cc: Mr. Ron Morris Director, Anchorage Field Office National Marine Fisheries Service 701 C Street Box 43 Anchorage, Alaska 99513

- cc: Mr. Thomas Trent State of Alaska Department of Fish and Game 333 Raspberry Road Anchorage, Alaska 99502
- cc: Mr. Bob Martin
 Alaska Department of Environmental
 Conservation
 437 E Street, 2nd Floor
 Anchorage, Alaska 99501

TABLE 2.4: FORMAL COORDINATION GROUP (Cont'd)

Historical and Archeological Group

 Mr. John E. Cook Regional Director Alaska Office National Park Service 540 West Fifth Avenue Anchorage, Alaska 99501

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- 9. Mr. Robert Shaw State Historic Preservation Officer Alaska Department of Natural Resources Division of Parks 619 Warehouse Avenue, Suite 210 Anchorage, Alaska 99501
- 10. Ms. Lee McAnerney Commissioner Department of Community & Regional Affairs Pouch B Juneau, Alaska 99811

Recreation Group

- 11. Mr. John E. Cook Regional Director Alaska Office National Park Service 540 West Fifth Avenue Anchorage, Alaska 99501
- 12. Mr. John Katz Alaska Department of Natural Resources Pouch M Juneau, Alaska 99811
- 13. Mr. Lee Wyatt Planning Director Matanuska-Susitna Barough Box B Palmer, Alaska 99645

- cc; Mr. Larry Wright National Park Service 1011 E. Tudor Road, Suite 297 Anchorage, Alaska 99503
- cc: Mr. Alan Carson Alaska Department of Natural Resources 323 East 4th Avenue Anchorage, Alaska 99501

- cc: Mr. Larry Wright National Park Service 1011 E. Tudor Road, Suite 297 Anchorage, Alaska 99503
- cc: Mr. Alan Carson Alaska Department of Natural Resources 323 East 4th Avenue Anchorage, Alaska 99501

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TABLE 2.4: FORMAL COORDINATION GROUP (Cont'd)

Aesthetics and Land Use Group

- 14. Mr. John Rego Bureau of Land Management 701 C Street Anchorage, Alaska 99501
- 15. Mr. John Katz Alaska Department of Natural Resources Pouch M Juneau, Alaska 99811
- cc: Mr. Alan Carson Alaska Department of Natural Resources 323 East 4th Avenue Anchorage, Alaska 99501
- 16. Cook Inlet Region Corporation

General

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17. Mr. Tom Barnes Office of Coastal Management Division of Policy Development and Planning Pouch AP Juneau, Alaska 99811

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	Document	Approximate <u>Date</u>	Groups
1.	P.O.S. and Revisions	Feb/Sept/80	A11
2.	Summary Task 7 Year End Report	0ct/81	A11
3.	Development Selection Report	Nov/81	A11
4.	1980 Annual Reports	October/81	
	 a. Fish Ecology b. Plant Ecology c. Big Game, Birds & Non-Game Mammals, Furbearers 		FWB FWB FWB
	d. Land Usee. Secio-economicsf. Cultural Resources		ALU HA HA
5.	Instream Flow Study Plan	December/81	WQ, FWB, G
6.	Preliminary Screening of Alternate Transportation Corridors	January/82	A11
7.	1981 Annual Reports (drafts)	May/82	A11
8.	Draft Feasibility Report - Environmental Component	March/82	A11
9.	Draft Feasibility Report - Total	March/82	A11
10.	Transmission Line Corridor Screening Closeout Report	November/81	A11
11.	Fish and Wildlife Mitigation Policy	November/81	A11

TABLE 2.5: FORMAL COORDINATION PLAN - PRODUCT LIST

FWB - Fish, Wildlife and Botanical A - Aesthetics, Land Use HA - Historic and Archeologic R - Recreation WQ - Water Quality G - General

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3 - STATE PERMITTING

At the time of submission of the FERC Application for License, submission of applications for State Permits necessary for project planning should also be made. Several of these permits are required by Federal regulation as prerequisites to granting of the FERC License, while others are necessary for establishment of project priority and for planning within State agencies. The State permits required for project planning are:

Permit/Certification

Alaska Coastal Management Program-Certificate of Consistency

Certificate of Reasonable Assurance (Water Quality Certification)

Water Rights Permit and Certificate of Appropriation

Permit to Construct or Modify a Dam

Right-of-Way or Easement Permit

Anadromous Fish Protection Permit

State Agency

Office of the Governor

Department of Environmental Conservation

Department of Natural Resources

Department of Natural Resources

Department of Natural Resources

Department of Fish and Game

Detailed Permit Summaries for these six permits are provided with the purpose of preparing for submission in June of 1982. For that reason, details regarding later submissions required for construction have been summarized only briefly.

A number of additional permits will be required at various stages of design and construction. A listing of additional permits that may be required by the State at later phases of project development is provided in Table 3.1.

Meetings

It is intended that a presubmittal meeting will be held with the state agencies and the Corps of Engineers after a decision on the project has been made. This will most likely take place in April 1982. The purpose of the meeting will be to confirm permit needs and discuss specific application date requirements.

3.1 - Alaska Coastal Management Program - Certificate of Consistenc;

(a) Agency

Office of the Governor Division of Policy Development and Planning (DPDP) Coastal Zone Management Pouch AP, Juneau, Alaska 99811 Contacts: Tom Lawson, Wendy Wolf (907) 465-3540 Juneau

(b) Authority & Purpose

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Prior to the granting of the federal license and permits, Federal Law¹ requires that the applicant's "Certificate of Consistency" is approved by the State. The purpose is to ensure that project planning is consistent with state guidelines for development in areas defined as the coastal zone.

(c) Applicability to the Susitna Project

Watana Dam is located within the limits of the definition of the coastal zone. Other portions of the project, namely transmission lines or access roads, will also fall under the scrutiny of the Coastal Management Program if they are routed in the vicinity of the coast or the Susitna River. The segment of the upgraded intertie in the Anchorage vicinity will fall within the jurisdiction of either the Anchorage District or the Matanuska-Susitna Borough Coastal Management Programs.

(d) Responsibility of Project Planners

The responsibility of project planners and development engineers is to ensure that the guidelines of the Alaska Coastal Management Program are followed. Although there is little of a specific nature required by the guidelines, the general doctrine requires sound planning principles.

The following guidelines which are applicable to the Susitna Project are included in the appendix to this section.

Application	Guidelines	
Project in General	6 AAC 80.070	Energy Facilities
Access Roads & Transmission	6 AAC 80.080	Transportation & Utilities
Clearing of Reservoirs	6 AAC 80.100	Timber Harvest & Processing
Project in General	6 AAC 80.130	Habitats

Code of Federal Regulations, Title 15, Part 930 - Federal Consistency with Approved Coastal Management Programs.

Project in 6 AAC 80.140 Air, Land & Water Quality General

Project in 6 AAC 80.150 Historic, Prehistoric & Archeological General Resources

Intertie

Anchorage District Program

- (e) <u>Permit Requirements</u>
 - (i) Letter stating that the proposed project will be carried out in a manner consistent with the approved Alaska Coastal Management Program. This letter serves as the 'Consistency Certification.' (An optional application form may be used in place of the letter. The letter is generally preferred).
 - (ii) A copy of the application for Federal License or Permit.
 - (iii) There is no application fee.
- (f) Procedures
 - (i) Applicant submits copies of the federal license and permit applications and the consistency certification to DPDP at the time of submittal of license application to FERC.
 - (ii) A copy of the consistency certification is also submitted to the federal agencies (Corps, FERC).
 - (iii) DPDP ensures timely public notice and may hold a public hearing.
 - (iv) DPDP circulates the application and certification to affected state and local agencies and reviews comments.
 - (v) Within 6 months of the initial receipt of application, DPDP responds in writing to the federal agenices to inform them of their findings. DPDP concurrence with the Consistency Certification is required for granting of the Federal License.
- (g) Attachments (in Appendix)
 - (i) Alaska State Regulations 6 AAC 80: Standards of the Alaska CMP.
 - (ii) Permit directory excerpt: Alaska Coastal Management Program
 - (iii) Copy of optional application form
 - (iv) Criteria for approving consistency certification
 - (v) Anchorage District Plan (available in Columbia office)
 - (vi) Definition of coastal zone (available in Columbia office)
 - (vii) Matanuska-Susitna Borough CMP (Progress Report available in Columbia Office)

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- 3.2 Certificate of Reasonable Assurance Water Quality Certification
- (a) Agency

Department of Environmental Conservation (DEC)

(b) Authority and Purpose

Prior to granting of federal license and permits, the applicant must obtain a certificate from the DEC stating that the proposed activity will comply with federal water pollution control laws.^{1,2} The purpose of the certification is to provide reasonable assurance to the federal agencies that project planning is consistent with the stipulations of these laws.

(c) Applicability to the Susitna Project

The licensing of the Susitna Project as a hydroelectric project does not require obtaining an NPDES permit² for the project as a whole. At this time, a dam is not considered to be a point source of pollution as defined under NPDES. (Although some pending litigation may alter this point in the future, permitting efforts are proceeding on this assumption.) For this reason, at the project planning stages, the Certificate of Reasonable Assurance takes the place of the State certification of the NPDES program.

It should be noted that at future stages of the project, NPDES permits will be required if, for example, waste treatment facilities are to be constructed for use at project construction camps.

(d) Responsibilities of Project Planners

Compliance with the applicable portions of Section 401 of the FWPCA amendments as modified by the Clean Water Act is required.

- (e) Permit Requirements
 - (i) A copy of the permit and license applications being submitted to the federal agencies.
 - (ii) A letter to DEC requesting that certification be granted. Form 18-106 may also be used in lieu of a letter. It is suggested that this is used as a guideline for writing the letter. Specific requirements of the application form may be cross referenced to the License Application. Section A, B. C, D, E,
- Section 401 of the Federal Water Pollution Control Act Amendments of 1972, as modified by the Clean Water Act of 1977.

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² National Pollutant Discharge Elimination System.

and S of the form are applicable for the certification of the Susitna Project.

- (iii) There is no application fee.
- (f) Procedures

- (i) At the time of the FERC submittal, submit the letter requesting certification and a copy of the federal license (FERC) and permit (Corps) applications to DEC.
- (ii) A copy of the letter requesting certification must be included in the FERC application [(Exhibit E - Sect. 4.41 (f)(2)(vii)].
- (iii) DEC and the applicant will publish notice and receive comments.
- (iv) A public hearing will be held if deemed necessary.
 - (v) The Certificate of Reasonable Assurance must be issued before the federal license may be granted.
- (g) Attachments (in Appendix)
 - (i) Alaska Directory of Permits Excerpt: Certificate of Reasonable Assurance
 - (ii) DEC Form 18-106 Application for Certification of Reasonable Assurance (and instructions)
 - (iii) Alaska State Regulations: 18 AAC 15.180 - Certification for Other Federal Licenses & Permits
 - 18 AAC 15.130 .170 Procedures referenced.
 - (iv) Section 401, Federal Water Pollution Control Act Amendments of 1972; PL 52-500.
- 3.3 Water Rights Permit and Certificate of Appropriation
- (a) Agency

Department of Natural Resources Division of Forest, Land & Water Management Contacts: Mary Lou Harle (general informaton) Dean Brown; Chief, Water Section Ted Smith; Director, Division of F,L, & W Management (907) 279-5577 (907) 276 2653 Anchorage

(b) Authority and Purpose

The purpose of this permit system is to ensure beneficial use of the waters of the State. The permit authorizes the applicant to construct

the proposed means of appropriation and the certificate provides approval of the constructed works.

(c) Applicability to Susitna Project

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Although construction would not begin for several years, it is important to establish a priority date for use of the water in order to protect against competing applications. The priority date is established as the date of receipt of the application by DNR. Application at this time will also aid DNR in its resources planning responsibilities. A water rights permit may be granted prior to the granting of the FERC license. In this case, the permit would be subject to FERC approval of the dam structures and project or other conditions that may be set by DNR.

(d) Responsibility of Project Personnel

With regards to this permit, there are no particular guidelines specified for project planning other than information required for the completion of the permit application.

Source

(e) Permit Requirements

(i)	Application Form: Application for Water Right	Task 10
(ii)	Additional Info Required (See Application Form)	
	 map showing location of water source and area of use 	Exhibit G
	 copy of property ownership document or land status documents 	Land Status Report and Exhibit G
	- Statement of Beneficial Use of Water - (Form 10-1003A) if this is an existing water use	N/A
	- Application for Permit to Construct or Modify a Dam (10-1015)	Info available at time of license applica- tion submittal
(iii)	Important Info for Application Form	
	- 4.(c) Does applicant own or lease the property at point of water withdrawal and over which water is transported?	Land Status Report
	If ves - attach ownership documents	

If no - obtain an easement of right-of-way and supply copy. Supply name, address, etc. of legal owner.

Portania - the tradition of pullots

- 6. and 7. Info on water use schedule Exhibit B guantity, use, time period.
- 8. Date expected to begin water use. Exhibit C
- (iv) \$25.00 filing fee.
- (f) Procedures

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- (i) Submit application and attachments to the Director, Division of Forest, Land, & Water Management, D.N.R.
- (ii) Concurrent Submittal of the Dam Safety Permit application is required.
- (iii) Public notice of the application for water appropriation must be made.
- (iv) Hearings may be held if objections are received.
 - (v) The permit is issued for a period determined by the Director and may be subject to conditions set for the project. The permit allows the applicant to construct the proposed works.
- (vi) When the works are completed and approved, and after the appropriation of water has commenced, a Certification of Appropriation is issued.
- (vii) Note, the water rights are issued to the property owner, and are tranferred with the deed to land.
- (g) Attachments
 - (i) Application for Water Right
 - (ii) 1981 Alaska Directory of Permits Exerpt Water Rights Permit
 - (iii) State Regulations Article 2 - Appropriation of Water: 11 AAC 93.040 - .140
 - (iv) Alaska Statutes Title 46, Chapter 15 - Water Use Act
- 3.4 Dam Safety Permit to Construct or Modify a Dam
- (a) Agency

Department of Natural Resources Division of Forest, Land and Water Management Pouch 7-005

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Anchorage, Alaska, 99501 Contact: Paul Janke, Civil Engineer Water Management Section (907) 276-2653 or 279-5577

(b) Authority and Purpose

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The purpose of the permit is to ensure that construction of or modification to a dam is performed in a proper manner and that the resulting structure is safe. The permit is required as a stipulation of the Water Rights Permit.

(c) Applicability to the Susitna Project

Especially in the case of a very large development such as the Watana Dam, DNR's dam safety approval is mainly contingent upon granting of the FERC license. DNR will perform a review of the structural design. The state regulations also make provisions for inspections by a registered professional engineer.

(d) Responsibility of Project Personnel

Although there are no specific design standards set forth in the regulations, the regulations do stipulate that certain information be provided (Refer to 11 AAC 93.160 - .170) in the application. Additionally, planning of the construction schedule must include provisions for a schedule of inspections by a registered P.E. (11 AAC 93.170(c)).

(e) Application Requirements

Source

- (i) Application Form 10-1015 Application for Permit to Construct or Modify a Dam
 - general info on application
 location, general description of dam and
 License
 reservoir
 - attachments specified in 11 AAC 93, Article 3 various (See Table 3.2 - Dam Safety Application exhibits -Requirements) Task 6
- (ii) Application Fee [11AAC 93.20 (b)(4)]
 - For a storage capacity of 1000 ac-ft or more, \$1,150 plus 15¢ for each ac-ft over the first 1000 ac-ft; in no case more than \$5,000
- (f) Procedures
 - (i) Submit one completed application form (10-1015) and attachments for each dam to Division of Forest, Land and Water Management, DNR.

- (ii) Analysis of design, construction methods, operation schedules and maintenance schedules will be performed. The state office will accept a dam safety certification by FERC for any of the four areas mentioned above. For any portions not reviewed by FERC, the state office will review the work and certify to the dams' safety.
- (iii) Pending the satisfactory analyses, a certification of approval authorizing construction will be issued by the state office.
- (iv) DNR should be notified of project developments. Federal dam safety certifications (Federal license issuance) or appropriate documents allowing further analysis should be supplied to DNR.
- (g) Attachments (in Appendix)
 - (i) DNR Form 10-1015 application

(ii)	State Regulations:	
()	11 AAC 93.150165	Dam Safety & General Requirements
	- 11 AAC 93.170	Construction of Large Dams
	- 11 AAC 93.200	Fee for Dan Construction Permit

3.5 - Right-of-Way or Easement Permit

(a) Agency

Department of Natural Resources Division of Forest, Land and Water Resources Contact: Mike Franger; Permit Information Len Johnson; Lands Manager, South Central District

(b) Authority and Purpose

The Right-of-Way or Easement Permit is required for roads, trails, ditches, pipelines, drill sites, log storage, telephone and transmission lines or similar uses on State land. The purpose is to enable the State to give preference to the use of the land which will be of greatest economic benefit to the State and to aid DNR in planning of land disposal.

(c) Applicability to Susitna Project

DNR is responsible for disposal of State lands. Therefore, DNR must be informed of the locations of rights-of-way required for major project facilities such as transmission lines and access roads. Even though this particular permit is not specifically required at this time, DNR has indicated that they would like to see applications with preliminary information at the earliest possible time in order to aid them in their planning efforts.

Additionally, with regard to the lack of land ownership rights at the time of submittal, the state requires Easement Permits as a condition of the Water Rights Permit Application.

Construction activities may require additional permits at a later date. For all activities, a "Letter of Entry" is issued if the proposed development is approved. The Permit is not issued until the construction is adequately completed.

(d) Responsibility of Project Personnel

There is no specific guideline set for planning of right-of-ways. At this time, the only responsibility with respect to this permit is to make application and include the plats, as specified.

(e) <u>Permit Requirements</u>

Source

i)	Application Form 10-112	Task 10
	 brief description and location of R-O-W's brief description of construction 	Exhibit A Exhibit F
	<pre>standards to be used - construction start and finish dates (proposed)</pre>	Exhibit C

(ii) Plats showing R-O-W locations

Exhibit G

- attach triplicate copies of letter-size plats
- show centerline and boundary of R-O-W
- show ties from centerline to establish monuments and section corner
- show conflicts with other R-O-W's, 8" per
- (iii) Application Fee (\$10.00)
- (f) Procedure
 - (i) Submit application, preliminary plats, and fee to the Director, Division of Forest, Land and Water Management of DNR.
 - (ii) Terms, duration, and final approval are at discretion of the director. If proposed construction is approved, a "Letter of Entry" is issued which authorizes construction.
 - (iii) After the construction is complete, and the as-built plans approved, the Right-of-Way Permit is issued.
 - (iv) If proposed construction may impact waters of the state, permits from the AK Dept. of Fish & Game and the U.S. Army Corps of Engineers may be required also.
- (g) Attachments (in Appendix)
 - (i) Application for R-O-W Permit Form 10-112
 - (ii) State Regulations: 11 AAC 58.200 R-O-W or Easement Permit

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3.6 - Anadromous Fish Protection Permit

(a) Agency

Department of Fish and Game (DF&G) Habitat Protection Contact: Tom Trent c/o Susitna Hydroelectric Studies (907) 274-7583 Anchorage

(b) Purpose and Authority

The purpose is to ensure that the construction of a hydraulic project or an activity affecting natural flow in an anadromous water body will be carried out in a manner so as to protect and preserve fish.

(c) Applicability to Susitna Project

Although anadromous fish have not been identified as using the Susitna River in the vicinity of the proposed dam, regulation of flows from the dam, project construction, and other activities may affect conditions downstream where a significant fishery is supported. Submission of an application for this permit at the time of the FERC submittal will aid the Dept. of Fish & Game in their planning efforts.

Note that this permit is not required as prerequisite to granting of the FERC license.

The following project related activities may affect anadromous bodies of water.

- (i) Dam construction
- (ii) Construction material use/removal from riverbed
- (iii) Construction of access roads or transmission lines near or crossing stream banks.
- (iv) Regulation of flow releases.
- (d) Responsibility of Project Personnel

No specific guidelines are provided with regards to protection of fish for application for this permit. The environmental studies being carried out under Task 7 and the application of criteria for completion of the FERC license application should provide adequate information to satisfy permit requirements in the planning stages.

(e) Permit Requirements

Source

Task 10

- (i) Application Forms
 - General Inwater Application

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		 Instream Flow Use Application Material Removal Application 	
(e)	Pern	mit Requirements	Source
	(ii)	Attachments	
		- Full plans and specs for proper protection of fish and game in connection with the project.	Exhibit E
		 For a dam structure include: Blueprints Statement outlining the necessity for the structure 	Exhibit F Exhibit B
		Materials to be utilized Proposed construction method Reservoir capacity	Exhibit F Exhibit A
		- Approximate project schedule	Exhibit C
		- Map of project site	Exhibit G
	(111)	There is no application fee.	
(f)	Pro	ocedures	
	(i)	Submit applicable applications and attachments to the Fish and Game, Regional Habitat Supervisor (in this ca to Tom Trent).	Dept. of se, submit
	(ii)	Each project is evaluated individually based on specif concerns.	ic resource
	(iii)) The DF&G will act on the application within 30 days. however, that the permit is required for construction, planning. It may be the DF&G will require more detail information which would not be available until a later	(Note, not for ed date).
	(iv)) Neither application fees nor public notices are requir	red.
	(v)) The Permit is issued on an annual basis. Renewals are specific request only.	e made by
(g)	Att	tachments (in Appendix)	
	(i)) Application forms - DF&G	
		 General Inwater Application Instream Flow Use Application Material Removal Application 	
	(ii)) 1981 Alaska Directory of Permits Excerpt - Anadromous Protection Permit.	Fish

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TABLE 3.1: STATE PERMITS*

Office of the Governor

Alaska Coastal Management Program

Dept. of Environmental Conservation (DEC)

Air Quality Control Permit to Open Burn Air Quality Control Permit to Operate Certificate of Reasonable Assurance (W.Q.Cert.)

Plan Review for Sewerage Systems or Water and Wastewater Treatment Works Solid Waste Disposal Permit Surface Oiling Permit Wastewater Disposal Permit NPDES Certification

Dept. of Fish & Game (DF&G)

Anadromous Fish Protection Permit State Game Refuge Permit may be needed for intertie segment near Anchorage Fishways for Obstructions to Fish Passage Critical Habitat Area Permit

State Game Sanctuary Permit

Dept. of Labor

Permits for Construction & Contractors (Several)

Dept. of Natural Resources (DNR)

Division of Forest, Land, & Water Mgmt Burning Permit Conditional Use Permtis & Variances Land Use Permit (Special Land Use Permit) Permit to Construct or Modify a Dam Right-of-Way Easement Permit Water Rights Permit Project Phase of Development

Project

Construction Construction Project

Construction

Construction Construction Construction Construction

Project (only if refuge lands are impacted) No - N/A No - no lands impacted No - no lands impacted

Construction

Construction Construction Construction

Project Project Project

TABLE 3.1: STATE PERMITS (cont)

Division of Parks Special Land Use Permtis State Park Noncompatible Use Permit State Park Use Permit

DNR (Permits Not Described in Directory) Notice of Operations - Timber Harvest on State Land Open-to-Entry AS 38.05.077 1AAC 54.700-.730

Purchase of Alaska Lands 11AAC54.060

R-O-W Lease AS 38.35

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Preference Rights Occupied Tide & Submerged Land AS38.G5.320 Existing Forest Service Permit AS 38.05.087 Preference for Agricult. Purposes AS 38.05.069

Dept. of Public Safety (DPS)

Div. of Fire Prevention Life & Fire Safety Plan Check for the Construction & Occupancy of Buildings Permit to Use Dangerous Fireworks Div. of Troopers Permits for Oversize & Overweight Vehicles

Dept. of Transportation & Public Facilities (DOTPF)

Utility Permit for Encroachment w/in Highway Rights-of-Way Encroachment Permit Construction

Project Phase of Development

) only if park

) land is

utilized

Construction

may be

applicable depending on

land status

Construction

Construction

Construction

Construction

* Sources of Information

Alaska Administrative Code Alaska Statutes Alaska Directory of Permits U.S. Codes & Regulations Contacts with State Agency Representatives

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TABLE 3.2: DAM SAFETY FERMIT - APPLICATION REQUIREMENTS

11 AAC 93.160. GENERAL Products MENTS. (a) No person may begin the construction, enlargement, alteration, or repair of a dam 10 feet or more in height, or storing 50 acre-feet or more of water, without first submitting an application on a form provided by the commissioner, submitting plans as required by this section, paying the fees required by sec. 200 of this chapter, and receiving a certificate of approval for the proposed work. "Alteration or repair" means only an alteration or repair that directly affects the safety of the dam or reservoir and does not mean routine maintenance.

(1)

(b) Plans must be prepared on a good grade of scale-stable tracing material. Tracings must be reproducible by standard duplicating processes. Plans and drawings must be of sufficiently large scale and must have enough views with suitable dimensions to allow for complete review and analysis of the proposed project. After reviewing the information, the commissioner will notify the applicant in writing whether or not changes must be made.

(c) Plans must include the following:

(1) plans for a water measuring device that is capable of accurately measuring the total flow of the stream below the reservoir or the rate of discharge at the outlet works; \nearrow

(2) a topographic map of the dam site showing the location of the proposed dam by township, range, section, and quarter section, and the location of the spillway, outlet works, borings, test pits, and material pits; $E \times hibit G$

(3) a profile along the dam axis showing the locations, elevations, and depths of borings or test pits, including logs of any bore holes or test pits; and $E \times M \times H \in F$

(4) a maximum cross-section of the dam showing elevation and width of crest, slopes of upstream and downstream faces, thickness of erosion control structures, location of cutoff and bonding trenches, and elevations, size, and type of outlet conduit, valves, and operating mechanism. (Eff. 12/29/79, Reg. 72) *Exhibit F* Authority: AS 46.15.020 AS 46.15.100 AS 46.15.080 AS 46.15.180

11 AAC 93.165. DAM MEASUREMENT. The height of a dam is measured as the vertical distance from the natural bed of the watercourse of the downstream toe of the barrier, as determined by the commissioner, or from the lowest elevation of the outside limit of the barrier, if it is not across a watercourse, to the maximum storage elevation. (Eff. 12/29/79, Reg. 72) 11 AAC 93.170. CONSTRUCTION OF LARGE DAMS. (a) This section applies to large dams, which are dams that are twenty feet or more in height or have a storage capacity of 100 acre-feet or more.

(b) The following information must be submitted along with the plans and specifications required under sec. 160 of this chapter: $E \times hubit > A, B, F$

V

(1) formulas and assumptions used in the design criteria, test results, and detailed construction specifications;

(2) hydrologic data used in the development of flood forecasting for the drainage area;

(3) a physical analysis and a permeability analysis of the materials used in the embankment and a stability analysis of the structure;

(4) an evaluation of earthquake effects in seismic zones III and IV (see the U.S. Army Corps of Engineers' publication TM 5-809-10/ NAVFCA P-335/AFM 88-3, Chapter 13, April 73);

(5) a complete seepage analysis;

(6) the type, location, and sizing of the outlet works;

(7) the type, location, and records of the hydrometeorological gauges appurtenant to the project;

(8) foundation data and information on geological features, including logs of borings, geologic maps, profiles, and cross-sections and reports of foundation stability; and

(9) detailed drawings of the spillway, including a curve showing discharge in cubic feet per second versus gauge height of the reservoir storage pool level, the formulas used in making the curve, detailed plans of the spillway structure, cross-sections of the channel leading to and from the spillway, and the spillway profile.

(c) All specifications submitted must include provisions, acceptable to the commissioner, for adequate supervision by a registered professional engineer during the period of construction. The supervising engineer shall devise a schedule of incremental inspections and submit his findings in writing to the commissioner within 15 days after each inspection. $E \times M \oplus C$

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4 - LOCAL PERMITS

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As presented in the April 1980 report, only one local permit will be necessary for the Susitna project, the Talkeetna Mountains Special Use Permit. This permit is a special land use permit required by the Matunuska-Susitna Borough (MSB). Th purpose of the permitting program is to conserve the unspoiled beauty of the region, consistent with the use of the lands resources by wildlife and men.

The MSB is currently reviewing this and several other special use permits for consolidation into a comprehensive plan. This activity will likely not be completed by next spring when the application is submitted.

There is no set requirement for a formal permit application. According to MSB planning personnel, a copy of the feasibility report detailing the plan with a cover letter requesting the permit will be sufficient.

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