

CHAPTER I
GENERAL REQUIREMENTS

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Chapter I

General Requirements

1-1 Purpose and Scope

The purpose of this chapter of the guidelines is to establish the basis for determining the need for engineering review and studies conducted by Commission Staff during the processing stage of license applications and the review of reports prepared by licensees, exemptees, or independent consultants.

The following Federal Power Act regulations, and Division of Dam Safety and Inspections, Office of Hydropower Licensing Operating Manual, provide requirements and general guidance concerning: the contents, deposition, and evaluation of applications for licenses or exemption, and the supervision of existing licenses and exemptions.

1-1.1 Regulations

Application for License for Major Unconstructed Project and Major Modified Project; and Application for Amendment to License - Subchapter B, Part 4, Subpart E, Section 4.40 and Subpart H, Sections 4.70 and 4.41.

Application for License for Major Project - Existing Dam - Subchapter B, Part 4, Subpart F, Sections 4.50 and 4.51.

Application for License for Minor Water Power Projects and Major Water Power Projects 5 Megawatts or Less - Subchapter B, Part 4, Subpart G. Sections 4.60 and 4.61.

Exemptions of Small Hydroelectric Power Projects of 5 Megawatts or Less - Subchapter B, Subpart K, Sections 4.101 to 4.108.

Amendment of License - Subchapter B, Subpart L, Part 4, Sections 4.200 to 4.202.

1-1.2 Operating Manual

For Inspection of Projects and Supervision of Licenses for Water Power Projects published in 1986.

1-2 Project Classification

1-2.1 Hazard Classification

The hazard potential classification of a project determines the level of engineering review and the criteria that are applicable. Therefore, it is critical to determine the appropriate hazard potential of a dam, because it sets the stage for the analyses that must be completed to properly evaluate the structural integrity of any dam.

1-2.2 Downstream Hazard Potential - Definitions

The hazard potential of dams describes the potential for loss of human life or property damage in the area downstream or upstream of the dam in event of failure or incorrect operation of a dam. Hazard classification does not indicate the structural integrity of the dam itself, but rather the effects if a failure should occur. The hazard potential assigned to a dam is based on consideration of the effects of a failure during both normal and flood flow conditions.

Dams conforming to criteria for the low hazard potential category generally are located in rural or agricultural areas where failure may damage farm buildings, limited agricultural land, or township and country roads. Low hazard potential dams have a small storage capacity, the release of which would be confined to the river channel in the event of a failure and therefore would represent no danger to human life.

Significant hazard potential category structures are usually located in predominately rural or agricultural areas where failure may damage isolated homes, secondary highways or minor railroads; cause interruption of use or service of relatively important public utilities; or cause some incremental flooding of structures with possible danger to human life.

Dams in the high hazard potential category are those located where failure may cause serious damage to homes, agricultural, industrial and commercial facilities, important public utilities, main highways, or railroads, and there would be danger to human life.

The hazard potential evaluation includes consideration of recreational development and use and socio-economic matters. Included in the high hazard potential category are dams where failure would cause serious damage to permanently established or organized recreational areas or activities. Also included in the high hazard potential category are dams where failure could result in loss of life of people gathered for an unorganized recreational activity (such as salmon fishermen and kayakers) where concentrated use of a confined area below the dam is a common annual occurrence during certain times each year.

1-3 Study Requirements

1-3.1 General

The following guidance shall establish the basic requirements for reviews and studies conducted by both the Washington and Regional offices. It is recognized that unique situations may require deviations from these guidelines, however, they are considered flexible enough to be followed for most of the basic types of reviews and studies anticipated. Any engineering study which is conducted, shall be consistent with the applicable sections of these guidelines.

1-3.2 Regional Office Inspections and Studies

The operating manual, prepared by the Division of Dam Safety and Inspections (D2SI), establishes minimum requirements for reports and field inspections of hydroelectric projects conducted pursuant to the Federal Power Act.

1-3.3 Washington Office Studies

1-3.3.1 License Applications

Review for Deficiencies - All license applications shall be reviewed for compliance with the engineering requirements of FERC regulations. Application deficiencies should be documented so the applicant can be appropriately and timely notified. A preliminary review should then be conducted to preliminarily assess economic feasibility and to ensure that the project's power output can be utilized. These preliminary studies should be conducted prior to the acceptance of the application. Items which should be examined include: the need for project power; the existence (or absence) of an agreement or memorandum of understanding for sale of project power; the impact of changes in fish habitat preservation flow releases on power generation; and the reasonableness of the project construction cost estimate. This study should resolve any basic questions concerning the ability of the Applicant to build the project and/or sell the project power.

Safety and Design Assessment - The safety and design assessment report shall include a summary of the conclusions and recommendations resulting from the engineering data in the license applications and technical review and studies based on such data.

1-3.3.2 Review of Consultants Reports

Review of Board of Consultants Report - All licenses authorizing major construction require the licensee to employ a board of qualified independent engineering consultants, approved by the Director, D2SI, to review the design, plans and specifications, and construction of the project. Also, the board is expected to assess the construction inspection program, construction procedures and progress, planned instrumentation, the filling procedures for the reservoir, and plans for surveillance during initial filling of the reservoir. Staff review of consultants reports should examine all recommendations made by the Board. Recommendations which are inconsistent with engineering guidelines, or previously stated staff positions on a particular problem with the project, should be reviewed and the differences resolved.

Review of Part 12, Subpart D Inspection Reports - Reference is made to the Operating Manual which establishes the Commission's policy concerning Part 12 (Independent Consultant 5-year) inspections. Specific guidance is given to Regional Directors concerning the review of Consultants' Part 12 reports.

1-3.3.3 Review of Staff Studies

Independent analyses conducted by any member of the Staff shall be reviewed by another staff member for completeness and appropriate application of analytical methods.

1-4 Deviations from the Guidelines

1-4.1 Changes

Guideline criteria and recommendations which are found to be technically incorrect, or outdated, should be brought to the attention of the Director, D2SI. This shall be done in writing with the incorrect or outdated passages cited, and shall include the Staff members' recommendations for correcting the deficiency.

1-4.2 Deviations

Deviations from the guidelines shall be subject to the approval of the Director, D2SI. The procedures, or criteria, used in lieu of guideline recommendations shall be justified in writing for inclusion in the guideline files, and shall be accompanied by any suggested changes in the guidelines that may be necessary to incorporate such procedures or criteria in future revisions.

1-5 References

1. **Federal Energy Guidelines**, Statutes and Regulations, Federal Energy Regulatory Commission, Subchapter B - Regulations Under the Federal Power Act, Parts 4 through 12.
2. **Operating Manual for Inspection of Projects and Supervision of Licensees for Water Power Projects.**