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	Engineering and Design WATER CONTROL MANAGEMENT	
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Engineering and Design
WATER CONTROL MANAGEMENT

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CHAPTER 1

Introduction

1-1. Purpose.

a. This Engineer Regulation (ER) prescribes policies governing water control management activities as required by Federal Law and directives, including the establishment of water control plans as appropriate, by the U.S. Army Corps of Engineers (USACE) at all USACE-owned and USACE-operated reservoirs, locks, dams, and other water control projects in which storage is operated and managed for authorized purposes such as flood control, navigation, and other uses. This ER also applies to USACE actions in developing water control plans and manuals or in operating non-USACE reservoirs, locks, dams, and other water control projects in which storage is operated and managed for flood control and navigation and subject to USACE direction pursuant to Section 7 of the Flood Control Act of 1944 or other law. This policy may also provide guidance in other cases where water resources infrastructure is similarly operated for flood control or navigation and subject to USACE direction through the establishment of water control or operational plans. Guidance on how to implement the policies contained herein is provided in other guidance documents, principally including but not limited to Engineer Manual (EM) 1110-2-3600, Management of Water Control Systems, as well as other guidance as applicable listed in Appendix A, while remaining subject to further updates in those listed references.

b. With this revision, the content from two prior Engineer Regulations - ER 1110-2-240, Water Control Management (1982) (33 C.F.R. § 222.5), and ER 1110-2-241, Use of Storage Allocated for Flood Control and Navigation at Non-Corps Projects (1990) (33 C.F.R. § 208.11) - has been updated and consolidated in this single ER. This version of ER 1110-2-240 supersedes previous versions of both ER 1110-2-240 and ER 1110-2-241.

1-2. Applicability. This regulation applies to all HQUSACE elements, major subordinate commands (MSC), districts, laboratories, and separate field operating activities (FOA) having civil works responsibilities and activities related to or affecting water control management. This regulation also applies to entities of non-USACE owned projects as defined in paragraph 1.

1-3. Distribution Statement. Approved for public release; distribution is unlimited.

1-4. References and Resources. Appendix A provides recommended references for USACE policy and guidance, USACE resources, and partial lists of Federal Water Resource Management and Environmental Laws; Appendix B provides a brief description of legal authorities establishing responsibilities for USACE with regard to water control management, including USACE-owned projects and non-USACE projects; Appendix C lists USACE-owned projects subject to this regulation; Appendix D lists non-USACE owned projects that are subject to this regulation; Appendix E lists the USACE Environmental Operating Principles; and Appendix F contains definitions of terms and abbreviations used in this ER.

This Engineer Regulation supersedes previous versions of ER 1110-2-240, dated 8 October 1982 and ER 1110-2-241, dated 24 May 1990

1-5. Authorities for the USACE Water Control Management Role.

a. USACE is responsible for water control management at the reservoir projects it owns and operates throughout the United States. These projects are referred to in this regulation as USACE-owned projects. This responsibility is prescribed by laws initially authorizing construction of specific projects and any referenced project documents, laws specific to projects that are passed subsequent to construction, and the flood control acts and related legislation that Congress has passed that apply generally to all USACE reservoirs. Modifications to project operations are also permitted under laws passed post-construction.

USACE-owned projects are operated for authorized purposes such as flood control, hydropower, irrigation, municipal and industrial water supply, recreation, low flow augmentation, water quality, and fish and wildlife conservation. Operations for these authorized purposes may derive from the original project authorization, from appropriate revisions within the discretionary authority of the Chief of Engineers, or from modifications permitted under subsequent congressional acts or in compliance with Federal laws relating to the operation of Federal facilities. In addition, water control plans for projects owned and operated by USACE shall be developed in concert with all basin interests which may be impacted by or influence project regulation, and public involvement in the development or significant revision of water control plans shall be provided for as required under this regulation. These considerations should be addressed by a water control manual and reflected in an approved water control plan. Questions requiring interpretation of authorizations will be referred to HQUSACE (Headquarters, U.S. Army Corps of Engineers) CECW-CE (USACE, Civil Works - Construction and Engineering) for guidance and resolution, , and should include review by District, Division, and HQUSACE counsel.

b. USACE is also responsible for prescribing flood control and navigation regulations and providing operational guidance for certain reservoir projects constructed or operated by other federal, non-Federal, or private agencies; such projects are referred to in this regulation as non-USACE projects. These projects include those subject to direction by USACE under Section 7 of the Flood Control Act of 1944 (which requires USACE to prescribe regulations for the use of storage allocated to navigation or flood control at reservoirs constructed wholly or in part with Federal funds) and related legislation, and those authorized by special acts of Congress; those for which licenses are issued by the Federal Energy Regulatory Commission on the condition that they be operated in accordance with USACE instructions; those covered by agreements between the operating agency and USACE; and those that fall under the terms of general legislative and administrative provisions. This regulation establishes the general policies that USACE shall follow when developing water control management plans or operations for such projects.

For these non-USACE projects, the intent is to establish an understanding of the water control plan and responsibilities for flood control and navigation between the project owner, operating agencies, and USACE. Excepted non-USACE projects include those under the jurisdiction of the International Boundary and Water Commission, United States and Mexico; and those under the jurisdiction of the International Joint Commission, United States and Canada, and the Columbia River Treaty.

c. More information about authorities prescribing USACE roles and responsibilities for water control management is located in Appendix B of this regulation.

1-6. Scope of this Regulation.

a. This regulation is applicable to reservoir systems as well as single projects; and to both multipurpose and single-purpose projects.

b. The following types of reservoirs, dams, locks, and other water control projects, and systems of such projects, are covered by this regulation:

(1) All USACE-owned and operated reservoirs, locks, dams and other water control projects.

(2) Non-USACE water control projects authorized under legislative and administrative provisions described in paragraph 1-5b above.

(3) Dams constructed by non-federal, state, or private agencies under provisions of special Congressional acts wherein the Secretary of the Army is directed to prescribe rules and regulations for project operation in the interest of flood control and navigation.

(4) Dams constructed under Emergency Conservation Work authority or similar programs, on which USACE has performed major repairs or rehabilitation, and which are operated and maintained by local agencies.

(5) Projects constructed by USACE and turned over to other agencies or local interests for operation.

c. The following types of projects are not covered by this regulation:

(1) Local flood protection works governed by 33 Code of Federal Regulations (CFR) 208.10 or navigation facilities and associated structures that are otherwise covered by 33 CFR 207.

(2) Small, non-USACE reservoirs that contain less than 12,500 acre-feet of flood control or navigation storage, unless specifically required by law or conditions of the license or permit.

(3) Projects covered under the Small Reclamation Projects Act of 6 August 1956.

(4) Projects under the jurisdiction of the International Boundary and Water Commission, United States and Mexico, or the International Joint Commission, United States and Canada; or governed by provisions of the Columbia River Treaty.

1-7. Publication of Project Information.

a. USACE projects listed in Appendix C and non-USACE projects listed in Appendix D are subject to this regulation. Updates to these lists are published in the Federal Register and the CFR.

b. The following information for each project shall be published in the Federal Register prior to the time the project becomes operational and prior to any significant impoundment before project completion or if the responsibility for physical operation and maintenance of USACE-owned projects is transferred to another entity:

- (1) Dam and reservoir or lake names.
- (2) Stream, county, and state corresponding to the dam site location.
- (3) The maximum current active storage space, in acre-feet, to be reserved exclusively for flood control, navigation, or other purposes, including multiple-use storage space.
- (4) The name of the project owner.
- (5) Citation to congressional legislation authorizing the project for federal participation.

CHAPTER 2

Water Control Management Policies

2-1. USACE Water Control Management Responsibilities. USACE water control management responsibilities include the following:

- a. Developing and maintaining water control plans, manuals, and agreements.
- b. Implementing the water control plans/manuals of USACE projects.
- c. Directing the establishment and implementation of water control plans for applicable non-USACE projects.
- d. Directing the establishment and implementation of flood control and navigation regulations and operational activities at USACE and non-USACE projects.
- e. Providing technical assistance to non-USACE project owners.
- f. Participating with the United States Geological Survey (USGS), National Weather Service (NWS), and other federal agencies in the operation and maintenance of the precipitation (rainfall/snowpack) and river reporting network.
- g. Coordinating with the USGS, NWS, and other federal agencies to collect, exchange, and disseminate pertinent information to support the USACE water control mission.
- h. Acquiring, quality controlling, maintaining, and disseminating water control data. (See ER 1110-2-249 for guidance.)
- i. Providing project information to USACE entities, stakeholders, and the public, as required by this regulation.
- j. Integrating the USACE Environmental Operating Principles in all water control management activities with respect to authorized or approved purposes.

2-2. Objectives of USACE Water Control Management.

a. In general, the goal of water control management is to conform a project's operation to its authorizing legislation, to criteria defined in USACE reports prepared in the planning and design of a particular project or system, and applicable congressional acts relating to the purpose of federal facilities or systems. Water control plans shall be developed to accomplish this objective and any operational changes to the plan shall be done in accordance with any applicable review and approval requirements.

b. In some cases, a reservoir is authorized for a single purpose, and its operation and management is carried out for attainment of that purpose. However, in most cases, a project will be authorized for multiple purposes, and a water control plan will need to strike a balance among the use of water storage for all such purposes, including but not limited to flood risk

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management, municipal and industrial water supply, navigation, hydroelectric power, low flow augmentation, water quality, fish and wildlife protection, ecosystem management, and recreation. For multipurpose projects, operational priorities among these purposes under particular conditions, such as drought or high water, may need to be defined.

c. The basic objectives of water control management can be summarized as follows:

(1) Operate in accordance with authorized purposes and applicable law.

(2) Maintain the structural and operational integrity of the project.

(3) Avoid risk to public health and safety, life, and property.

2-3. Policy Requirements for Water Control Management.

a. Water control management activities and documents, including water control manuals and plans, shall comply with all applicable federal laws and regulations, including those laws listed in Appendix A and B of this regulation, such as the Flood Control Act of 1944 and Water Resource Development Acts of various years. The Corps' Digest of Water Resources Policies and Authorities may be consulted for more information.

b. Storage space in reservoirs shall be used for the purposes for which Congress has authorized the project to be operated, including but not limited to flood control and navigation. Within existing authority, operations may be adjusted to better address new or existing authorized purposes. In all cases, water control manuals and water control plans should be updated as necessary to reflect any authorized changes.

c. Appropriate attention shall be given to project safety in accordance with ER 1130-2-530 to ensure that all water impounding structures are operated for the safety of users of the facilities and the general public.

d. Water control plans shall be developed and executed to reflect water conservation as a national priority. ER 1110-2-1941 requires water managers to determine whether improvement can be made in water control management procedures during low-water periods within current authorities. Therefore, all water control management plans shall have an associated drought contingency plan.

e. USACE water control management activities shall be carried out in accordance with the USACE role as an environmental steward. Thus, all USACE water control management activities shall be guided by the USACE Environmental Principles in accordance with authorized or approved purposes and comply with the National Environmental Policy Act (NEPA) as provided in ER 200-2-2 and other applicable environmental laws, executive orders, and regulations. The Planning and Policy Division (HQUSACE (CECW-P) is the point of contact for information on the USACE NEPA documents, NEPA oversight activities, review of other agencies' EIS and NEPA documents about legislation, regulations, national program proposals or other major policy issues. Project operations in support of enhanced ecosystem sustainability are encouraged when compatible with other project purposes.

f. Water control management documents and activities shall satisfy USACE quality management requirements. The District Commander is the official responsible for compliance with quality management procedures for water control management documents and activities within district boundaries.

g. USACE shall take a systems approach in development of water control plans and in development and implementation of regulatory strategies. Considerations include hydrologic and ecological relationships within and among systems, comprehensive scope, multiple users, project purposes, and economic impacts throughout the system. A systems approach shall be taken when implementing operation plans.

h. USACE shall incorporate risk and uncertainty analysis in water control management activities, including development of water control plans, analysis of proposed deviations (as defined in Appendix F) and their potential consequences, and developing regulatory strategies. It is also imperative to have public involvement in risk reduction strategies and be able to effectively communicate the concept of risk. USACE guidance on risk and uncertainty analysis includes ER 1105-2-101 and EM 1110-2-1619.

i. Water control management policies and procedures, including project regulation, shall be evaluated for adaptation to climate change.

j. Effective public information programs shall be developed and maintained to inform and educate the public regarding USACE water control management activities. (More information on public information and public involvement is provided in Chapter 5 of this regulation.)

2-4. USACE Water Control Management Roles and Responsibilities.

a. HQUSACE (CECW-CE) water control management responsibilities include, but are not limited to, the following:

(1) Establishing policies and guidelines applicable to all field offices and providing interpretation or clarification as necessary to assure a reasonable degree of consistency in basic policies and practices in all MSC areas.

(2) Providing assistance to other USACE entities during emergencies and upon special request.

(3) Fulfilling the division-level responsibilities described in paragraph 2-4b when more than one division in river basin or watershed is impacted by an event requiring coordinated actions.

(4) Providing guidance on the preparation of master water control manuals if applicable for river basins that include more than one division.

(5) Reviewing and approving water control manuals for large watersheds that cover more than one division.

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b. Water control management responsibilities of division commanders or their designees include, but are not limited to, the following:

(1) Making real-time water control decisions in those divisions with real-time management missions, subject to applicable requirements of a project's approved water control manual or water control plan.

(2) Ensure the real-time water control management modeling capabilities of the Corps Water Management System (CWMS) is available in the divisions with real-time water management missions.

(3) Establishing specific requirements to implement HQUSACE guidance.

(4) Reviewing and approving water control plans and manuals.

(5) Providing management and technical assistance to districts and project owners to assure that plans and manuals are prepared on a timely and adequate basis to meet water control management requirements in the division area.

(6) Reviewing and approving requests for deviation (defined in Appendix F) from the approved water control plan or manuals or from operations as prescribed by the approved water control plans or manuals.

(7) Overseeing quality assurance and quality control of water control management activities.

(8) Fulfilling division-level water control management reporting requirements.

(9) Fulfilling the district-level responsibilities described in paragraph 2-4c when more than one district is impacted.

(10) Monitoring hydro-meteorological and water control conditions throughout their respective divisions.

(11) Reviewing and approving interagency water control management agreements.

(12) Conducting appropriate programs for improving technical methods applicable to water control activities in the division, including the ongoing review and reevaluation of established water control management procedures and methods.

(13) Working with CECW-CE to develop and implement plans and procedures to ensure adequate staffing during real time flood events and during non-flooding periods

(14) Fulfilling other water control management functions as provided in ER 1110-2-1400.

c. Water control management responsibilities of district commanders or their designees include, but are not limited to, the following:

- (1) Making real-time water control management decisions, subject to applicable requirements of a project's approved water control plan.
- (2) Conducting or managing background studies in support of development or revision of water control manuals and plans.
- (3) Developing water control manuals and plans for major control structures and interrelated systems in their respective district areas.
- (4) Overseeing the operation, maintenance, and regulation of all USACE projects within their respective Civil Works boundaries.
- (5) Collecting and processing hydro-meteorological data.
- (6) Analyzing water quality parameters necessary to evaluate proposed operations and inform water control management decisions.
- (7) Sending instructions to project operators consistent with the project's approved water control plan.
- (8) Monitoring project effectiveness and preserving project integrity.
- (9) Ensuring that district water control management documentation and activities are guided by the USACE Environmental Operating Principles in accordance with authorized or approved purposes and comply with NEPA and other environmental regulations.
- (10) Fulfilling district-level reporting requirements, including annual project reports and post-flood reports.
- (11) Notifying the division commander of water control management policy issues that require attention.
- (12) Maintaining suitable training programs to assure satisfactory performance capabilities in water control management activities.
- (13) Working with the division commander to develop and implement plans and procedures to ensure adequate staffing during real-time flood events and during non-flooding periods.
- (14) Conducting appropriate programs for improving technical methods applicable to water control activities in the district, including the ongoing review and reevaluation of established water control management procedures and methods.
- (15) Ensuring the real-time water management modeling capabilities of CWMS is available.

d. Water control management responsibilities of field level personnel, including hydrology, hydraulics, and operations personnel, involve collecting, analyzing, and

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disseminating water control data, formulating specific project regulation directives in accordance with the water control plan, performing consequence analysis, and carrying out project regulation.

e. The roles and responsibilities of water control data system administrators and managers, described in ER 1110-2-249, include, but are not limited to, overall management of a project or water management system, reporting, development and testing of a continuity of operations plan (COOP), providing CWMS and other data feeds to the National CWMS database, and maintaining data operations.

CHAPTER 3

Water Control Manuals and Plans

3-1. Water Control Manuals.

a. In general, a water control manual defines rules or provides guidance for direction, operation, and management of water storage at an individual project or system of projects in addition to other pertinent information subject to criteria in this regulation including paragraph 1-6. Water control manuals prepared in accordance with this regulation are required for all reservoirs under the supervision of USACE, regardless of the purpose or size of the project. Water control manuals are also required for lock and dam, reregulation (defined in Appendix F), and major control structure projects that are physically directed, operated, or managed by USACE. Where there are several projects in a drainage basin with interrelated purposes, a master manual shall be prepared. ER 1110-2-8156 provides guidance on format and general content to include in water control manuals. EM 1110-2-3600 provides detailed procedures for developing much of that content.

b. The water control plan for a project shall comply with the objectives and provisions of authorizing legislation and supporting reports for that project (see paragraph 1-5 for more detail). For non-USACE projects, refer to Chapter 4 for additional requirements and Appendix B paragraph B-3 for authorities.

c. Development, revision, and evaluation of water control manuals shall comply with Corps policies, objectives, and principles of water control management and ecological sustainability (to the extent allowed) including those described in Chapter 2 of this regulation. Administrative updates to water control manuals which are not updates to the water control plan should be performed not less than every ten years. These types of updates include points of contact, phone numbers and other information that may be outdated. Also note that if the project is being reviewed by the dam safety program, the project cannot receive a DSAC V (dam is adequately safe) classification unless the water control manual has been updated within the last 5 years.

d. Preliminary water control manuals for projects directed, managed, or operated by USACE shall contain regulation schedules in sufficient detail to establish the basic plan of initial project regulation. As a general rule, preliminary manuals are to be superseded by more detailed final manuals no more than one year after the project is placed in operation.

e. Water control manuals shall be prepared to meet initial requirements when storage in the reservoir or water control projects begins. They shall be revised as necessary to conform to changing requirements resulting from developments in the project area and downstream, improvements in technology, improved understanding of ecological response and sustainability, new legislation, and other relevant factors, provided such revisions comply with existing federal regulations and established Corps policy.

f. Each water control manual shall contain a section on special operational or management practices to be conducted during emergency situations, including droughts.

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g. Division commanders (or their designees) are delegated the authority to approve water control manuals.

h. Electronic copies and notification of the location of all water control manuals and subsequent revisions shall be forwarded to HQUSACE (CECW-CE) for file purposes as soon as practicable after completion, preferably within thirty days from the date of approval at the division level.

3-2. Water Control Plans.

a. Water control plans are developed to ensure that operations of reservoirs, locks and dams, re-regulation, and major control structures and interrelated systems conform to objectives and specific provisions of authorizing legislation and applicable USACE reports, including any applicable authorities established after project construction. For non-USACE projects see Chapter 4 for additional requirements. Water control plans are prepared with appropriate consideration of all federal laws that relate to the operation of federal facilities, as well as the requirements of water control manuals provided in paragraph 3-1 of this regulation and any application regulations. Thorough analysis shall be made as necessary to establish optimal water control plans within prevailing constraints.

b. Water control plans developed for specific projects and reservoir systems will be documented clearly in appropriate water control manuals. Water control manuals include coordinated regulation schedules for project/system regulation and any additional provisions required to collect, analyze, and disseminate data; prepare detailed operating instructions; assure project safety; and carry out regulation of projects in an appropriate manner. ER 1110-2-8156 provides guidance on the required content of water control manuals.

c. The water control plan, including any allocation of storage it describes, shall be designed to achieve all authorized purposes of the particular project, acting separately or in combination with other projects in a system, to the extent practical, in light of applicable law and existing conditions.

d. Water control plans shall be developed in consultation with all basin interests that are impacted or could be impacted by or have an influence on project regulation. Close coordination shall be maintained with all appropriate international, federal, state, regional, and local agencies and stakeholders in the development and execution of water control plans.

e. A water control plan shall define “normal operation”. The definition of normal operation should be broad enough to incorporate usual and approved operational flexibility, but not so broad that any operation can be interpreted as normal. See Appendix F for the definition of operation. An operation that is not in accordance with the approved water control plan or manual or operations as prescribed by the approved water control plans or manual constitutes a deviation (see Appendix F).

f. The water control plan shall account for changes in post-project downstream conveyance efficiency and the need for periodic flushing flow releases.

g. Revisions and updates may incorporate upstream and downstream environmental flow objectives when compatible in accordance with authorization and approved purposes. Environmental flow may include both operational and structural modification of USACE facilities to improve the ecological sustainability of riverine systems. Refer to ER 1110-2-8154 for additional guidance and information.

h. Interim water control plans during construction.

(1) Appropriate interim water control and contingency plans shall be established for use from the date any storage may accumulate behind a partially completed dam until the project is formally accepted for operation. Division commanders or their designees shall make certain that construction-stage regulation plans are established and maintained in a timely and adequate manner for projects under the supervision of USACE so that such projects operate as safely and effectively as possible during the critical construction stage and any period that may elapse before regular operating arrangements have been established.

(2) Interim water control plans should include consideration for protection of construction operations; safety of downstream interests that might be jeopardized by failure of partially completed embankments; requirements for minimizing adverse effects on partially completed relocations or incomplete land acquisition; and the need for obtaining benefits from project storage that can be safely achieved during the construction and early operation period.

i. Interim water control plans for dam safety.

(1) Interim Risk Reduction Measures Plan (IRRMP) for Dam Safety are developed, prepared and implemented to reduce the probability and consequences of failure to the maximum extent that it is reasonably practicable while long term remedial measures are pursued. ER 1110-2-1156 provides guidance on the principles, measures, and approval process for the IRRMP. When an interim risk reduction measure includes a change to the water control plan that does not meet the guidelines for a deviation, then the change shall be processed as a temporary change to the water control plan.

j. Water control plans should be reviewed no less than every 10 years and shall be revised as needed in accordance with this regulation.

(1) The development of water control plans continues as new information becomes available during project implementation. Water control plans will be revised as necessary to conform with changing requirements resulting from developments in the project area and downstream, improvements in technology, improved understanding of ecological response and ecological sustainability, new legislation, reallocation of storage, new regional priorities, changing environmental conditions and other relevant factors. At any time during project implementation, it may be appropriate to revise the water control plan.

(2) To keep water control plans up to date, personnel from the water control office responsible for regulation of each project shall periodically review the plan for each project. These personnel will be professionally qualified in the technical areas involved and familiar with comprehensive project objectives and other factors affecting water control management.

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(3) Close coordination with basin interests and stakeholders, as described in d above, is required throughout the water control plan revision process.

(4) Significant, recurrent or prolonged deviations from operations prescribed by an approved water control plan may indicate a need for a formal change to operations prescribed by an approved water control plan. The division commander should evaluate whether revision of the approved water control plan is appropriate in such a case. Deviations that impact the fulfillment of authorized purposes, that occur in three or more consecutive years, or that occur more than three times within a five-year period must be fully coordinated with CECW-CE.

(5) Significant modifications to completed projects may require a feasibility study and authorization by Congress with the associated requirements for compliance with all Federal laws and directives. ER 1165-2-119 contains additional guidance on considerations for modifications to multipurpose projects. Minor changes to authorized storage may require a study in accordance with the Water Supply Act. Additional guidance for projects modifications with respect to dam safety can be found in ER 1110-2-1156. All of these issues should be fully coordinated with the Office of Counsel and CECW-CE.

k. Water control plan development, revisions, and updates shall consider USACE Environmental Principles in accordance with authorization and approved purposes and comply with NEPA, the Endangered Species Act (ESA), and related laws and regulations. Changes to a water control plan that could impact the fulfillment of authorized purposes or could result in operations which do not fall within existing authorities may require a feasibility or reallocation study. Any change to the water control plan requires compliance with applicable environmental requirements to address the extent of impacts and it is incumbent upon the USACE office with responsibility for the project to make that decision on a case by case basis regardless of the magnitude of the change. The review requirements for all water control manuals and plans supported by NEPA or other environmental documentation are addressed in Engineering Circular (EC) 1165-2-214.

3-3. Evacuation of Impounded Water.

a. Consistent with the authorized purposes of a project and affected interests in the project area, any water impounded in the flood control space defined by the plan of regulation shall be evacuated as rapidly as can be accomplished without causing downstream flows to exceed the controlling rates and not releasing more than peak inflow or in accordance with reservoir regulation schedules. That is, releases from reservoirs shall be restricted insofar as practicable to quantities that, in conjunction with uncontrolled runoff downstream of the dam, will not cause water levels to exceed the controlling maximum non-damaging stages currently in effect. This implies making decisions based on the principle of water on the ground which is observed precipitation or observed snowpack. Forecasted conditions may be used for planning future operations, but releases should follow the water control operations plan based on observed conditions within the watershed to the extent practicable.

In some areas of the United States, reservoir releases from Corps projects are made based on stream flow forecasts due to melting of snowpack which is considered to be water on the ground. Additionally some Corps projects are operated based on the prediction of ice jam flooding for

rivers and reservoirs. There are also Corps projects which make release decisions based on the prediction of storm tides and hurricanes on water levels in coastal regions of the United States. Guidance on the application of the principle of efficient and safe evacuation of flood storage should be included in the project's approved water control plan.

b. The plan of regulation may require releases to be completely curtailed in the interest of flood control or safety of the project.

c. Nothing in the plan of regulation for flood control shall be construed to require or allow dangerously rapid changes in magnitudes of releases. Releases shall be made in a manner consistent with requirements for protecting the dam and reservoir from major damage during passage of the maximum design flood for the project, as well as preventing downstream channel bank sloughing. The maximum allowable rate of change for reservoir releases shall be specified in the water control plan and documented in the water control manual.

d. All affected interests shall be alerted to possible hazards from project regulation activities.

3-4. Deviation from the Approved Water Control Plan.

a. All water control manuals shall contain provisions authorizing the operating agency to deviate temporarily from operations prescribed by the project's approved water control plan when necessary to alleviate critical situations or possibly to realize increased benefits during an operation season without significantly affecting the fulfillment of the project's authorized purposes. A risk and uncertainty analysis shall be performed to determine potential consequences of the deviation. These shall be evaluated to determine appropriate course of action. Deviations generally fall into three categories: planned deviations, unplanned deviations, and emergency deviations. Each division with is responsible for establishing guidance as outlined in ER 1110-2-1400 with respect to water control management policy. This could include establishing definitions for minor and major deviations and approval processes. Regardless of the category of deviation it is imperative to adhere to the objectives of water control management as outlined in paragraph 2-2 and the tenets of safe evacuation of impounded water in paragraph 3-3. Any deviations must be consistent with the project authorization and within existing authorities.

b. The division commander is responsible for reviewing and approving any proposed deviations from the water control plan. This responsibility may be delegated at the MSC to the responsible Senior Executive, or Chief, WM Division or Operational WM Division. Approval of minor deviations may be delegated to the District Commander. Delegation of approval authority must be documented in the guidance memorandum for the water management division. In all cases, the delegated approving official must be a registered professional engineer with civil engineering background. Deviations must also be coordinated with the Division water control manager, the Division Dam Safety Officer, and the District Dam Safety Officer.

c. Planned Deviations. Each request for a planned deviation shall be evaluated on its own merits. Examples include deviations for interim risk reduction measures and scheduled construction, maintenance, or inspections activities. Planned deviations shall receive advance

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approval from the division commander. The deviation request should be self-supporting and self-explanatory. The following information shall be submitted in written form to the division commander for consideration:

(1) Description of the proposed deviation, including purpose, proposed change from the approved water control plan, duration, and other details about the deviation.

(2) The outcomes of adhering to the water control plan and of employing the proposed deviation.

(3) Alternative deviation plans to include the application of risk and uncertainty in the analysis and the consequences of each.

(4) Effects of the proposed deviation on project and system operation, and on other project purposes such as flood control, hydropower, water quality, water supply, navigation, recreation, or fish and wildlife.

(5) Review of the Potential Failure Mode Analysis (PFMA) for the dam and an analysis of the effect of the deviation on the probability of failure and consequences associated with the deviation.

(6) The potential flood threat with and without the proposed deviation.

(7) Current and predicted maximum storage, elevation, river stage, and other pertinent information with and without the deviation.

(8) Review of the alternatives under provisions of pertinent laws and regulations, including, but not limited to, NEPA and ESA, when applicable.

(8) A description of the coordination that has been done with affected entities, both USACE and non-USACE, the effect on other local, regional, state, tribal, and federal agencies.

(10) Written comments from agencies, organizations, businesses, and individuals who may be impacted by, or supportive of the proposed change in flows, including federal, state, and local agencies; tribes; industries, organizations, and other stakeholders; and the public.

(11) Discussion of any other relevant issues.

(12) District commander, or designee, recommendation.

d. Unplanned Deviations. The need for unplanned deviations may arise due to unforeseen conditions that do not allow sufficient time for a full analysis prior to the deviation. Each request for an unplanned deviation should be analyzed on its own merits, with an evaluation of factors such as potential failure mode and consequences, upstream watershed conditions, potential flood threat, condition of the lake, possible alternative measures, and potential adverse effects on the overall regulation of the project for the authorized purposes. Requests for and approval of unplanned deviations may be transmitted by telephone or electronic media. A follow up

evaluation, including all of the requirements for planned deviations, shall be documented and furnished to the Division commander as soon as practicable.

e. Emergency Deviations. Emergencies may require deviation from the approved water control plan to mitigate an imminent threat to public health and safety, property, or the environment. Examples include dam safety issues, drowning and other accidents, failure of operation facilities, oil or chemical spills and drainage, bacterial contamination, harmful algal blooms, water or sewage treatment plant failures, and fish kills. Such situations require a rapid response which does not allow sufficient time for a full analysis of the deviation. Evaluation of emergency deviations may be based on available information with consideration of the potential for transfer of risk. Necessary actions under emergency conditions may be initiated by the District commander. Requests for and approval of emergency deviations may be transmitted by telephone or electronic media. A follow up evaluation, including all of the requirements for planned deviations, shall be documented and furnished to the Division commander as soon as practicable.

f. Deviations may require separate NEPA documentation, if they involve changes in environmental impacts which were not considered in the existing NEPA documentation for the project, water control plan, or water control manual.

g. The review and approval process for a deviation request shall comply with USACE quality management requirements as described in EC 1165-2-214. Examples of measures to ensure such compliance include the following:

(1) Review at the district level of the technical, legal, environmental, real estate, and operations aspects of the request, as appropriate.

(2) District quality review measures such as District Quality Control (DQC), quality control certification, and environmental decision documentation, as appropriate.

(3) Division quality assurance and policy compliance review, followed by approval or disapproval of the deviation request.

h. Significant, recurrent or prolonged deviations from operations prescribed by an approved water control plan may indicate a need for a formal change to operations prescribed by an approved water control plan. The division commander should evaluate whether revision of the approved water control plan is appropriate in such a case. Deviations that impact the fulfillment of authorized purposes, that occur in three or more consecutive years, or that occur more than three times within a five-year period must be fully coordinated with CECW-CE.

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CHAPTER 4

USACE Regulation of Non-USACE Projects

4-1. Authority for and Responsibilities Pertaining to Regulation of Non-USACE Projects.

a. Under Section 7 of the Flood Control Act of 1944 and subsequent related legislation, USACE is responsible for providing a water control plan for the regulation of storage managed and operated for flood control or navigation at all reservoirs constructed wholly or in part with federal funds as a condition of a license, permit, or legislation. Carrying out this responsibility requires USACE to consult with non-USACE project owners and operators during the planning, design, construction phases and throughout the life of the project; develop the water control plan and agreement with the cooperation of the project owner; facilitate public notification of the water control plan and related information; consider requests from the project owner for deviation from the plan of regulation; revise the water control plan when necessary; and fulfill limited reporting requirements for each project. (USACE may also provide a water control manual for a non-USACE project, but only if required by the project agreement and funded by the project owner.) Further information about these activities is provided in this chapter with an explanation of authorities in Appendix B.

b. This chapter provides specific requirements applicable only to USACE regulation of storage managed and operated for flood control and navigation purposes in non-USACE reservoirs, locks, dams, and other water control projects. The policies provided herein pertain only to the use of that storage, if that is the intent between USACE and the project owner. Note some guidance in Chapter 3 is generally applicable to non-USACE projects. In the event a requirement provided in Chapter 3 of this regulation conflicts with a requirement listed in this chapter, the conflict should be resolved in favor of the requirement in this chapter. Note this ER may also be applicable to dam and reservoir projects operated under provisions of future legislative acts wherein the Secretary of the Army is directed to prescribe rules and regulations in the interest of flood control and navigation. Under Section 7 of the 1944 Flood Control Act, the Secretary of the Army is directed to prescribe these regulations for flood control and navigation; and the Chief of Engineers, USACE, is generally designated as the duly authorized representative of the Secretary of the Army to exercise authority granted in statute or authorization legislation for water control management activities. This Regulation will normally be implemented by letters of understanding between USACE (exercising regulatory authority) and the project owner and will incorporate the provisions of such letters of understanding prior to the time construction renders the project capable of significant impoundment of water. A water control agreement signed by both parties will follow when deliberate impoundment first begins or at such time as the responsibilities of any USACE-owned projects may be transferred to another entity. Promulgation of this Regulation for a given project will occur at such time as the name of the project appears in the Federal Register. When agreement on a water control plan cannot be reached between USACE and the project owner after coordination with all interested parties, the project name will be entered in the Federal Register and the USACE plan will be the official water control plan until such time as differences can be resolved.

4-2. Water Control Plans and Agreements for Non-USACE Projects. In addition to the general principles provided in Chapters 2 and 3 of this ER, water control plans for non-USACE projects are subject to the specific policies described in paragraphs 4-2a through 4-2p.

a. During the planning and design phases, the project owner should consult with USACE regarding the quantity of space to reserve in the reservoir for flood control or navigation purposes, use of the space, and other requirements of the license, permit, or conditions of the pertinent law.

b. Prior to project completion, water control managers from the responsible USACE district shall visit the project and the area it serves to become familiar with the water control facilities and to ensure sound formulation of the water control plan. Development of the water control manual shall be coordinated with the project owner to obtain necessary information, and to ensure compatibility with other project purposes and with surcharge regulation.

c. District and division engineers shall initiate discussions at the regional level with the project owners and operating agencies to clarify conditions governing allocations for storage capacity for the project purposes and regulation.

d. The district engineer shall assemble background information on the project and conditions requiring flood control or navigation services, along with other relevant factors, and will incorporate this information in a preliminary information report. The preliminary information report shall be submitted to the division commander or designee for review and approval. Normally, the agency having jurisdiction over the particular project is expected to furnish information on project features, the basis for storage allocations, and any other available data relevant to the studies. USACE supplements this information as required.

e. Generally, USACE personnel at the district level will conduct the studies required to develop reservoir regulation schedules and plans, in which case the studies will be reviewed by division personnel. Assistance from the project operating agency and others concerned will be solicited.

f. Regulations developed for use of storage managed and operated to meet flood control or navigation purposes should be predicated on a mutual understanding between the Corps and the operating agency concerning the conditions of the allocations in order to assure reasonable achievement of the basic objectives intended. In the event Corps field representatives and the operating agency are unable to reach necessary agreements after all reasonable possibilities have been explored, appropriate background explanations and recommendations shall be submitted to HQUSACE for consideration and issue resolution.

g. District commanders or their designees are responsible for developing water control plans necessary to meet the requirements of Section 7 of the 1944 Flood Control Act and other authorizing legislation for all projects located within their areas.

h. Water control plans applicable to projects already completed and being operated by other entities, including projects built by USACE and turned over to others for operation, shall be developed and processed as soon as possible.

i. Water control plans developed for non-USACE projects shall contain special instructions to the dam tenders or reservoir manager on data collection, procedures for reporting to federal authorities, and procedures to be followed in the event of a communication outage under emergency conditions.

j. Project regulations shall be written to permit operation of the project by the operating agency without interpretations of the regulations by the division or district commander or their designees during operating periods. However, the water control plan should acknowledge the role of the division or district commander as the Chief of Engineers' designee for issuing special instructions.

k. An agreement shall be prepared between USACE and the project owner specifying USACE and owner responsibilities for operating the project and interpreting the plan of regulation. When necessary agreements are reached at the district level and regulations developed in accordance with this regulation, they shall be submitted to the division commander or designee for review, approval, and forwarding to HQUSACE for processing.

l. Division commanders (or their designees) are designated as the USACE representative on all letters of understanding, water control agreements, and other documents that may become part of prescribed regulations for projects located in their respective divisions and that are subject to the provisions of this regulation.

m. USACE shall revise the water control plan and all associated documents as necessary to reflect changed conditions affecting flood control and navigation, such as reallocation of reservoir storage space due to sedimentation or transfer of storage space to another project.

(1) Water control managers from the district office shall participate as team members in any water control plan revisions.

(2) Water control plan revision processes, procedures, and products shall meet the requirements stated in Chapters 2 and 3, including requirements for environmental investigations and quality control/quality assurance. Additionally the revised water control plan for non-USACE projects must be in compliance with any other applicable federal laws, FERC (Federal Energy Regulatory Commission) license, and any operating agreements related to that project.

(3) Revision of the water control plan, water control agreement, water control diagram, or release schedule requires review by the district water control office and approval by the division commander or designee.

(4) Each such revision shall be effective upon the date specified in the approval.

(5) The original (signed document) water control agreement shall be kept on file in the appropriate division or district office.

n. USACE shall prepare a water control diagram (graphical) for each project having variable space reservation for flood control or navigation during the year (variable seasonal storage, joint-use space, or other guide curve designation). Reservoir inflow conditions shall be

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included on the diagrams when appropriate. Concise notes shall be included on the diagrams prescribing the use of storage space in terms of release schedules, runoff, non-damaging or other controlling flow rates downstream of the dam site, and other major factors as appropriate. A water control release schedule shall be prepared in tabular form for projects that do not have variable space reservation for flood control or navigation. The water control diagram or release schedule shall be signed by a duly authorized representative of the Chief of Engineers, the project owner, and the designated operating agency, and shall serve as the basis for carrying out operation and management of water storage at the project. Each diagram or schedule shall contain a reference to this regulation.

o. When deemed necessary by USACE, information given on the water control diagram or release schedule shall be supplemented by appropriate text to assure mutual understanding on certain details or other important aspects of the water control plan not covered in this regulation, on the water control diagram, or in the release schedule. This material will include clarification of any aspects that might otherwise result in unsatisfactory project performance in the interest of flood control or navigation.

p. Supplementation of the agreement shall be necessary for each project where USACE exercises the discretionary authority to prescribe the flood control regulation on a day-to-day (real-time) basis. The agreement shall include delegation of the responsibility. The document should also cite, as appropriate, Section 7 of the 1944 Flood Control Act, the Federal Power Act, or other Congressional legislation authorizing construction or directing the purpose or regulation of the project.

4-3. Policies Governing USACE Regulation of Non-USACE Projects. In addition to the general principles and federal laws provided in Chapters 2 and 3, USACE water control management activities for non-USACE projects are subject to the policies described in paragraphs 4-3a through 4-3l.

a. If the project owner is responsible for implementation of the water control plan, USACE will provide consultation and assistance when appropriate.

b. If specified in the project agreement between the project owner and USACE, USACE may prescribe the continuing operation and management of flood control storage space for any project subject to this regulation on a real-time basis. When this is the case, the project owner shall consult with and provide assistance to the extent possible to the dam tender or other person responsible for the routine operation and maintenance activities of a dam and its appurtenant structures. Special requests by the project owner or appropriate operating entity are preferred before USACE offers advice on real-time operation and management approaches during surcharge storage (which results when the total storage space reserved for flood control is exceeded).

c. The project owner shall provide instrumentation in the vicinity of the dam and communication equipment necessary to record and transmit hydro-meteorological and reservoir data to all appropriate federal authorities on a real-time basis, unless such data recording and transmission are otherwise provided for in the conditions of the license or permit. For those projects where the owner retains responsibility for real-time implementation of the water control plan, the owner shall also provide or arrange for the measurement and reporting of hydro-

meteorological conditions required within and adjacent to the watershed and downstream of the dam sufficient to regulate the project for flood control or navigation in an efficient manner. When data collection stations outside the immediate vicinity of the dam are required, and funds for installation, observation, and maintenance are not available from other sources, USACE may agree to share the costs for such stations with the project owner. Decisions on cost sharing will take into account the authority for use of funds, the availability of funds, and urgency of data needs.

d. The project owner shall monitor current reservoir and hydro-meteorological conditions in and adjacent to the watershed and downstream of the dam, as necessary. This and any other pertinent information shall be reported to USACE on a timely basis, in accordance with standing instructions to the dam tenders or other means requested by USACE.

e. In all cases where the project owner retains responsibility for real-time implementation of the water control plan, the owner shall make current determinations of reservoir inflow; flood control storage used; and, scheduled releases. The owner shall also determine storage space and releases required to comply with the water control plan prescribed by USACE. The owner shall report this information on a timely basis as requested by USACE.

f. Responsibility for compliance with this and other applicable regulations rests with the operating agency. The division or district commander (or their designees) of the area in which the project is located shall be kept informed regarding project operations to verify compliance.

g. The project owner is responsible for the safety of the dam and appurtenant facilities and for regulation/operation of the project during surcharge storage. Emphasis upon the safety of the dam is especially important in the event surcharge storage is used, which results when the total storage space reserved for flood control is exceeded. Any assistance provided by USACE concerning surcharge regulation/operation is to be used at the discretion of the project owner, and does not relieve the owner of the responsibility for safety of the project. Any dam safety interim risk reduction measures that alter the water control plan requires that a revision (either permanent or interim) of the plan be developed in accordance with Chapters 2, 3, and 4.

h. Advance approval by USACE is required prior to any deviation from the plan of regulation prescribed or approved by USACE in the interest of flood control or navigation, except in emergency situations described in paragraph 4-4i. Requests for deviation from the approved water control plan shall comply with the requirements of paragraph 3-4. It is imperative that the objectives of water control management as outlined in paragraph 2-2 and the tenets of safe evacuation of impounded water in paragraph 3-3 be considered when evaluating the deviation. Additionally deviations from the water control plan for non-USACE projects must be in compliance with project authorization and thus operated within existing authorities. This includes compliance with FERC licenses and any operating agreements.

i. The project owner or USACE may initiate a temporary deviation from the water control plan when deemed necessary for emergency reasons to mitigate an imminent threat to public health and safety, property, or the environment. Documentation and approval of such deviations

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shall occur as described in paragraph 3-4e. Such actions shall be reported as soon as practicable. Actions shall be confirmed in writing to USACE and shall include a follow up evaluation of the action. Upon refusal of the project owner to comply with deviations initiated by USACE, the division commander or designee will send a letter to the project owner describing the reason for the regulations prescribed, events that have transpired, and notification that the project owner is in violation of the federal code of regulations

4-4. Periodic Inspection Reports of Non-USACE Facilities. Project owners shall inform USACE of any deficiencies found during inspections of non-USACE facilities that may impact their structural stability, safety, or operational adequacy.

4-5. Notification of the General Public and Other Stakeholders. USACE, other interested federal and state agencies, and the project owner will jointly sponsor public involvement and notification activities consistent with the requirements of Chapter 5 of this regulation.

CHAPTER 5

Communication and Coordination

5-1. Required Coordination and Communication.

a. It is imperative that communication and coordination on water control management issues occur up and down the chain of command, among managers of interrelated projects in the same system, between non-USACE project owners/operators and USACE, between USACE and stakeholders, and with the general public.

b. District and division commanders (or their designees) are responsible for notifying higher USACE authorities of project conditions, compliance issues, and future plans through regularly scheduled reports.

c. USACE entities at all levels are encouraged to communicate and coordinate with other entities up and down the chain of command regarding water control management issues. Pertinent contact information shall be kept available and up to date. EM 1110-2-3600 provides guidelines for coordination meetings, briefings, schedule releases, and other communication and coordination methods.

d. The dissemination and exchange of information are critical components of the USACE water control management mission.

(1) USACE is committed to keeping stakeholders and the general public informed of water control management activities. To the extent practicable and reasonable, and taking into consideration project security, water control managers are encouraged to provide project and gage data to other agencies, post data on district water control management Web pages, and provide data and other information to the public by way of interactive voice systems, e-mail, fax, telephone, or other appropriate means of communication.

(2) District offices are encouraged to provide assistance to communities and individuals regarding the impact of forecast floods, such as providing approximate water surface elevations at locations upstream and downstream of NWS forecast points. USACE water control managers are responsible for announcing anticipated significant changes in reservoir release rates for projects under their jurisdiction to the general public as far in advance as possible. Coordinating public communications with the NWS is particularly important as NWS is the lead federal agency regarding flood forecasting and flood warning.

(3) Public notice shall be given in the event that significant problems that may pose a risk to life or property are anticipated or experienced in accordance with the Flood Emergency Plan.

e. Water control manuals will be reviewed by the information proponent for the originating office to determine and apply the appropriate distribution statements and markings to the water control manual in accordance with current policy and legal requirements for release of information.

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5-2. Public Participation in Water Control Plan Development and Revision. Water control plans will be developed in concert with all basin interests which are or could be impacted by or have an influence on project regulation. Close coordination will be maintained with all appropriate international, Federal, State, regional and local agencies in the development and execution of water control plans. Effective public information programs will be developed and maintained so as to inform and educate the public regarding Corps of Engineers water control management activities. Public involvement in the development or significant revision of water control plans, as well as certain deviations from those water control plans, is required under this regulation. The USACE office with responsibility for the water control project shall make the determination if this requirement is needed with input from the chain of command if necessary. In addition, public involvement shall be provided for as necessary in accordance with applicable provisions of NEPA, the Water Resources Development Act (WRDA) of 1990, and other federal regulations.

a. Public participation in water control plan development and revisions promotes open communication between USACE and the public, and leads to better analysis and decision making. Public, federal, tribal, state, and local community involvement is a critical and continuing part of water control plan development and revision.

b. Conditions that require public involvement and public meetings include development of a new water control manual that includes a water control plan, or a revision or update of a water control manual that changes the water control plan in a way that impacts the public or changes the documented impact of the project. Another condition that could require public participation is a proposed deviations from the water control plan. This should be considered in the context of project authorization and scope of impact to the public. It should also be noted that revisions to water control manuals that are administrative or informational in nature and that do not change the water control plan do not require public meetings. The exception would be those dams that require an IRRMP. Refer to ER 1110-2-1156 (Chapter 7) for guidance.

c. Documentation shall be prepared that explains the recommended water control plan or change or deviation and provides technical information explaining the basis for the recommendation. It should include a description of the plan's impacts (both monetary and nonmonetary) for various purposes, and comparisons with alternative plans or changes and their effects, if applicable. The plan or manual shall be prepared only after the public involvement process associated with its development or change is complete.

d. Public involvement requires access to information and adequate notice of public hearings.

(1) For those conditions requiring public involvement, USACE shall provide information to the public concerning proposed water control management decisions at least thirty days in advance of a public meeting.

(2) The initial meeting shall be conducted as early as practical but no later than the time the project first becomes operational.

(3) Notice of the initial public meeting shall be published once a week for four consecutive weeks in one or more newspapers of general circulation published in each county covered by the water control plan. Such notice shall also be used when appropriate to inform the public of modifications in the water control plan, and to identify where the public can access the information produced and distributed under the requirements of paragraph 5-2b. If no newspaper is published in a county, the notice shall be published in one or more newspapers of general circulation within that county. For the purposes of this section, a newspaper is one qualified to publish public notices under applicable state law.

(4) In addition to notices published in one or more newspapers, notice should be posted on appropriate publicly accessible USACE Web sites, and public service announcements about public meetings shall be distributed to all radio and television stations that serve viewers or listeners potentially affected by the water control plan.

5-3. Reporting Policies.

a. Division commanders or their designees shall report to HQUSACE on significant events and activities in the division in compliance with appropriate USACE procedures and methods.

b. Reports are submitted electronically and disseminated according to appropriate district or division procedures, taking into consideration client needs and security precautions.

c. In addition to required reports, division commanders or their designees shall keep the Office of the Chief of Engineers informed of any unusual problems or activities associated with water control management that impact the responsibilities of the Chief of Engineers.

6 Appendixes
Appendix A: References and Resources
Appendix B: Authorities
Appendix C: USACE-owned Projects
Appendix D: Non-USACE Projects
Covered by this Regulation
Appendix E: USACE Environmental Operating Principles
Appendix F: Terms and Abbreviations


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APPENDIX A

References and Resources

A-1. USACE Guidance Documents Cited in this ER.

EM 1110-2-1201

Reservoir Water Quality Analysis and Maintenance Policy

EM 1110-2-1619

Risk-based Analysis for Flood Damage Reduction Studies

EM 1110-2-3600

Management of Water Control Systems

ER 1105-2-100

Guidance for Conducting Civil Works Planning

ER 1105-2-101

Planning Risk Analysis for Flood Damage Reduction Studies

ER 1110-2-50

Low Level Discharge Facilities for Drawdown of Impoundments

ER 1110-2-249

Management of Water Control Data Systems

ER 1110-2-1156

Safety of Dams – Policy and Procedures

ER 1110-2-1400

Reservoir/Water Control Management

ER 1110-2-1454

Corps Responsibilities for Non-Federal Hydroelectric Power Development Under the Federal Power Act

ER 1110-2-1462

Water Quality and Water Control Considerations for Non-Federal Hydropower Development at Corps of Engineers Projects

ER 1110-2-1941

Drought Contingency Plans

ER 1110-2-8153

Reservoir Water Quality Analysis

ER 1110-2-8154

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Water Quality and Environmental Management for Corps Civil Works Projects

ER 1110-2-8156

Preparation of Water Control Manuals

ER 1130-2-530

Flood Control Operations and Maintenance Policies

ER 1130-2-540

Environmental Stewardship

ER 1165-2-501

Civil Works Ecosystem Restoration Policy

ER 200-1-5

Environmental Quality—Policy for Implementation and Integrated Application of the U.S. Army Corps of Engineers (USACE) Environmental Operating Principles (EOP) and Doctrine

ER 200-2-2

Procedures for Implementing NEPA

A-2. USACE Centers of Expertise. Special assistance in technical studies is available from the following USACE centers of expertise:

Hydrologic Engineering Center <http://www.hec.usace.army.mil/>

Institute for Water Resources <http://www.iwr.usace.army.mil/>

Risk Management Center <http://www.iwr.usace.army.mil/>

A-3. Partial List of Federal Laws That Authorize or Define Federal Water Resource Management Responsibilities.

16 U.S.C. 460 (various land and water conservation measures, including several Flood Control Acts, see appendix B)

16 U.S.C. 791a et seq. (Federal Power Act, as amended, see appendix B)

33 U.S.C. 701 et seq. (various navigable waters provisions, see appendix B)

Reclamation Project Act of 1939 (53 Stat. 1189, 43 U.S.C. 485, Section 9(b))

43 U.S.C. 390 et seq. (utilization of dams and reservoir projects for irrigation projects, etc.)

Section 9 of Public Law 83-436 (68 Stat. 303, see appendix B)

Public Law 99-662, Water Resources Development Act (WRDA) 1986.

Public Law 100-676, Water Resources Development Act (WRDA) 1988.

Public Law 101-640, Water Resources Development Act (WRDA) 1990.

Public Law 106-53, Water Resources Development Act (WRDA) 1999.

A-4. Partial List of Federal Environmental Laws That Impact the USACE Water Control Management Mission.

Endangered Species Act of 1973 (ESA), 16 U.S.C. 1531 et seq., P.L. 93-205

Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251, P.L. 92-500

National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq.

U. S. Fish and Wildlife Coordination Act of 1958, 16 U.S.C. 661 et seq., P.L. 85-624

Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq.

Safe Drinking Water Act, 42 U.S.C. 300f et seq.

Federal Facilities Compliance Act of 1990

Executive Order 12088 (Federal Compliance with Pollution Control Standards, 13 October 1978 (3 C.F.R.)).

A-5. Code of Federal Regulations.

33 CFR 208.10, Local flood protection works; maintenance and operation of structures and facilities.

33 CFR 207, Navigation Regulations

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APPENDIX B

Authorities

B-1. General.

a. The involvement of the federal government in flood risk reduction dates to the early 1870s with efforts to alleviate flooding along the Mississippi River. In 1874, Congress appropriated federal funds for relief work and established the Mississippi River Commission. This legislation was justified by the need to protect interstate navigation to accommodate concerns about the constitutionality of the role of the federal government in local flood control. Nevertheless, despite the construction of levees, severe flooding continued to occur along the lower Mississippi in the ensuing decades. On March 1, 1917, Congress passed the Flood Control Act (FCA) of 1917, which authorized federal expenditures for existing flood control plans on the Mississippi River and the Sacramento River. The FCA of 1917 stipulated that local interests must contribute at least one-half of the cost for the construction and repair of the levees and must provide rights-of-way free to the federal government. Federal support of flood control and navigation improvement in the lower Mississippi basin continued with the FCA of 1928.

b. Section 3 of the Flood Control Act of 1936 (33 U.S.C. 701a), substantially broadened the role of the federal government in flood control work, expressing the sense of Congress that flood control is a proper federal activity, and that improvements for flood control purposes are in the interest of the general welfare of the public. The act expressed the sense of Congress that federal involvement in flood control activities is justified "if the benefits to whomsoever they may accrue are in excess of the estimated costs, and if the lives and social security of the people are otherwise adversely affected".

B-2. USACE-Owned Projects.

a. The authority for water control operations for USACE-owned and USACE-operated reservoir projects is contained in authorization acts and supported by referenced project documents. These public laws generally authorize the project for construction and operation for certain purposes with details being outlined in referenced project documents, which USACE carries out, including through the development of water control plans and appropriate revisions thereto under the discretionary authority of the Chief of Engineers. Subsequent federal legislation may also affect project operations.

B-3. Non-USACE Projects.

a. Section 7 of the Flood Control Act of 1944 (33 U.S.C. 709). This directs the Secretary of the Army to prescribe regulations for flood control and navigation in the following manner:

"Hereafter, it shall be the duty of the Secretary of War to prescribe regulations for the use of storage allocated for flood control or navigation at all reservoirs constructed wholly or in part with Federal funds provided on the basis of such purposes, and the operation of any such project shall be in accordance with such regulations: Provided, that this section shall not apply to the Tennessee Valley Authority, except that in case of danger from floods on the Lower Ohio and

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Mississippi Rivers the Tennessee Valley Authority is directed to regulate the release of water from the Tennessee River into the Ohio River in accordance with such instructions as may be issued by the War Department."

b. Section 9 of Public Law 83-436 (68 Stat. 303). This law provides for the development of the Coosa River, Alabama and Georgia, and directs the Secretary of the Army to prescribe rules and regulations for project operation in the interest of flood control and navigation as follows:

"The operation and maintenance of the dams shall be subject to reasonable rules and regulations of the Secretary of the Army in the interest of flood control and navigation."

c. Section 9(b) of the Reclamation Project Act of 1939 (53 Stat. 1189, 43 U.S.C. 485h(b)). This law authorizes the Secretary of the Interior to allocate costs of new projects or supplemental works to flood control or navigation. Such allocations shall be in consultation with the Chief of Engineers and the Secretary of the Army, and any necessary investigations or studies may be performed under a cooperative agreement with the Secretary of the Army. The law also provides that in the event of such an allocation, the Secretary of the Interior shall operate the project for purposes of flood control or navigation, to the extent justified by the allocation.

d. The Federal Power Act, approved 10 June 1920, as amended (41 Stat. 1063, 16 U.S.C. 791 et seq.). This law established the Federal Power Commission, now called the Federal Energy Regulatory Commission (FERC), with authority to issue licenses for constructing, operating, and maintaining dams or other project works for the development of navigation, for use of water power, and for other beneficial public uses in any streams over which Congress has jurisdiction. The Chief of Engineers is called upon for advice and assistance as needed in formulating reservoir regulation requirements as follows:

(1) Responsibilities of the Secretary of the Army and the Chief of Engineers in FERC licensing actions are set forth in the Federal Power Act. The Commission may further stipulate as a licensing condition that a licensee enter into an agreement with the Department of the Army providing for operation of the project during flood, in accordance with rules and regulations prescribed by the Secretary of the Army.

(2) Section 4(e) of the Federal Power Act requires approval by the Chief of Engineers and the Secretary of the Army of plans of dams or other structures affecting the navigable capacity of any navigable waters of the United States, prior to issuance of a license by the Commission as follows:

"The Commission is hereby authorized and empowered to issue licenses to citizen... for the purpose of constructing, operating and maintaining dams, water conduits, reservoirs, powerhouses, transmission lines, or other project works necessary or convenient for the development and improvement of navigation and for the development, transmission, and utilization of par across, along, from or in any of the streams or other bodies of water over which Congress has jurisdiction .. Provided further, that no license affecting the navigable capacity of any navigable waters of the United States shall be issued until the plans of the dam or

other structures affecting navigation have been approved by the Chief of Engineers and the Secretary of the Army."

(3) Sections 10(a) and 10(c) of the Federal Power Act specify conditions of project licenses including the following:

Section 10(a): "That the project adopted . . . shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, and for other beneficial public uses"

Section 10(c): "That the licensee shall... so maintain and operate said works as not to impair navigation, and shall conform to such rules and regulations as the Commission may from time to time prescribe for the protection of life, health, and property..."

(4) Section 18 of the Federal Power Act directs that the operation of any navigation facilities built under the provision of that act be controlled by rules and regulations prescribed by the Secretary of the Army as follows:

"The operation of any navigation facilities which may be constructed as part of or in connection with any dam or diversion structure built under the provisions of this Act, whether at the expense of a licensee hereunder or of the United States, shall at all times be controlled by such reasonable rules and regulations in the interest of navigation; including the control of the pool caused by such dam or diversion structure as may be made from time to time by the Secretary of the Army."

(5) Federal Power Commission Order No. 540 issued 31 October 1975 and published 7 November 1975 (40 FR 51998), amending Section 2.9 of the Commission's General Policy and Interpretations prescribed Standardized Conditions (Forms) for Inclusion in Preliminary Permits and Licenses Issued Under Part I of the Federal Power Act. As an example, Article 12 of Standard Form L-3, titled: "*Terms and Conditions of License for Constructed Major Projects Affecting Navigable Waters of the United States*", sets forth the Commission's interpretation of appropriate sections of the Act, which deal with navigation aspects, and attendant responsibilities of the Secretary of the Army in licensing actions as follows:

"The United States specifically retains and safeguards to the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, . . . and the Licensee shall release water from the project reservoir at such rate . . . as the Secretary of the Army may

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prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned."

e. Section 3 of the Flood Control Act of 1936 (33 U.S.C. 701). Projects constructed by USACE for local flood protection purposes are subject to conditions of local cooperation as provided in Section 3 of the Flood Control Act approved 22 June 1936, as amended. One of those conditions is that a responsible local agency will maintain and operate all works after completion in accordance with regulations prescribed by the Secretary of the Army. Most such projects consist mainly of levees and floodwalls with appurtenant drainage structures. A regulation for operation and maintenance of these projects has been prescribed by the Secretary of the Army in 33 CFR 208.10. When a reservoir is included in such a project, it may be appropriate to apply 33 CFR 208.10 in establishing regulations for operation, without requiring their publication in the Federal Register. For example, if the reservoir controls a small drainage area, has an uncontrolled flood control outlet with automatic operation, or contains less than 12,500 acre-feet of flood control or navigation storage, 33 CFR 208.10 may be applicable. However, this regulation is applicable in prescribing flood control regulations for the individual reservoir if the project has a gated flood control outlet by which the local agency can regulate floods.

B-4. Publication in Federal Register.

a. Pertinent information on projects for which regulations are prescribed under Section 7 of the 1944 Flood Control Act (33 U.S.C. 709), the Federal Power Act (16 U.S.C. 791 et seq.), and Section 9 of Public Law 83-436 (68 Stat. 303) is published in the Federal Register in accordance with paragraph 1-6b of this regulation. Publication in the Federal Register establishes the fact and the date of promulgation of the regulation plan of a project.

Appendix C
USACE-Owned Projects

This list is provided for informational purposes only; for more specific information interested parties should contact the respective USACE District office.

Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Alaska District										
Chena River Lakes Flood Control Project, (Moose Creek Dam & Floodway, Tanana River Levee)	CEPOD	AK/Fairbanks North Star Borough	Chena River, Tanana River	F	34.0 (224.0)	506.7	490.0	5,400.0	400.0	PL 90-483
Albuquerque District										
Abiquiu Dam	CESPD	NM/Rio Arriba	Rio Chama River	FMR	572.2 (1,369.0)	6,283.5	6,220.0	7,469.0 (9,680.0)	4,120.0 (3,368.0)	PL 97-140, PL 80-858, PL 81-516
Cochiti Lake	CESPD	NM/Sandoval NM/Santa Fe NM/Los Alamos	Rio Grande River	F	598.0 (722.0)	5,460.5	5,356.6	9,361.0	1,200.0	PL 86-645
				IRC		5,356.6	5,330.0	1,200.0	0.0	
Conchas Lake	CESPD	NM/San Miguel	Canadian River	F	458.4 (709.1)	4,218.0	4,201.0	13,664.0	9,692.0	HD 308-74
				IR		4,201.0	4,155.0	9,692.0	3,000.0	
Galisteo Dam	CESPD	NM/Santa Fe	Rio Grande River	F	79.4(152.6)	5,608.0	5,496.0	2,060.0	0.0	PL 86-645
Jemez Canyon Dam	CESPD	NM/Sandoval	Jemez River	F	73.0 (264.7)	5,232.0	5,196.1	2,877.0	1,370.0	PL 80-858, PL 81-516
John Martin Reservoir	CESPD	CO/Bent	Arkansas River	F	620.2 (608.2)	3,870.0	3,851.0	17,630.0	11,655.0	PL 74-738
				RC		3,851.0	0.0	11,655.0	0.0	
Santa Rosa Dam & Lake	CESPD	NM/Guadalupe	Pecos River	F	500.0 (717.0)	4,746.2	4,776.5	10,740.0	3,823.0	PL 83-780
				IR		4,776.5	4,746.2	7,115.0	3,823.0	
Trinidad Lake & Dam	CESPD	CO/Las Animas	Purgatoire River	F	78.0 (164.9)	6,260.0	6,230.0	2,107.0	1,453.0	PL 85-500
				IFR		6,230.0	0.0	1,453.0	0.0	
Two Rivers Dam	CESPD	NM/Chaves	Rio Hondo River	F	150.0	4,032.0	3,945.0	4,806.0	0.0	PL 83-780
Baltimore District										
Almond Lake	CENAD	NY/Steuben	Canacadea Creek	FR	14.6	1,300.0	1,255.0	489.0	124.0	PL 74-738
Alvin R. Bush Dam	CENAD	PA/Clinton	Kettle Creek	FR	75.0	937.0	840.0	1,430.0	160.0	FCA 1954
Arkport Dam	CENAD	NY/Steuben	Canisteo River	F	8.0	1,304.0	1,218.0	192.0	0.0	PL 74-738
Aylesworth Creek Lake	CENAD	PA/Lackawanna	Aylesworth Creek	FR	1.7	1,150.0	1,108.0	87.0	7.0	PL 87-874
Jennings Randolph Lake	CENAD	MD/Garrett	North Branch, Potomac River	F	36.2 (92.0)	1,500.0	1,466.0	1,184.0	952.0	PL 87-874
				FMA		92.0	1,466.0	1,255.0	952.0	
Cowanseque Lake	CENAD	PA/Tioga	Cowanseque River	FR	82.0 (171.0)	1,117.0	1,045.0	2,060.0	410.0	PL 85-500
Curwensville Lake	CENAD	PA/Clearfield	West Branch, Susquehanna River	FR	124.0 (209.0)	1,228.0	1,162.0	3,020.0	790.0	FCA 1954
East Sidney Lake	CENAD	NY/Delaware	Ouleout Creek	FR	33.6 (58.4)	1,203.0	1,150.0	1,100.0	210.0	PL 74-738
Foster Joseph Sayers Dam	CENAD	PA/Centre	Bald Eagle Creek	FR	99.0 (186.0)	657.0	630.0	3,450.0	1,730.0	FCA 1954
Indian Rock Dam	CENAD	PA/York	Codorus Creek	F	28.0 (48.0)	435.0	370.0	1,430.0	0.0	PL 74-738
Jennings Randolph Lake	CENAD	MD/Garrett WV/Mineral	North Branch, Potomac River	FMR	94.7 (130.9)			965.0		PL 87-874
Raystown Lake	CENAD	PA/Huntingdon	Raystown Branch	F	762.0 (871.0)	812.0	786.0	10,800.0	8,300.0	PL 87-874
				FR		786.0	622.8	8,300.0	150.0	
Stillwater Lake	CENAD	PA/Susquehanna	Lackawanna River	FMR	11.6 (17.0)	1,621.0	1,572.0	422.0	83.0	PL 77-228
Tioga Lake	CENAD	PA/Tioga	Tioga River	FR	52.5 (143.2)	1,131.0	1,081.0	1,630.0	470.0	PL 85-500
Hammond Lake	CENAD	PA/Tioga	Crooked Creek	FR	54.2 (136.0)	1,131.0	1,086.0	1,770.0	680.0	PL 85-500
Whitney Point Lake	CENAD	NY/Broome	Otselic River	PFMR	86.4 (176.0)	1,010.0	973.0	3,340.0	1,200.0	PL 74-738
Buffalo District										
Mount Morris Dam	CENAD	NY/Livingston	Genesee River	F	337.4 (408)	760.0	585.0	3,300.0	0.0	PL 74-738

USACE-Owned Projects...continued

Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Fort Worth District										
Aquilla Lake	CESW	TX/Hill	Aquilla Creek	F	255.0	564.5	537.5	8,980.0	3,280.0	PL 90-483
				MR	(420.8)	537.5	478.6	3,280.0	26.0	
Bardwell Lake	CESWD	TX/Ellis	Waxahachie Creek	F	122.4	439.0	431.0	6,040.0	3,570.0	PL 86-399
				MR	(317.5)	421.0	372.6	3,570.0	0.0	
Belton Lake	CESWD	TX/Bell	Leon River	F	1,012.7	631.0	594.0	23,600.0	12,400.0	PL 79-526
				MR	(1,876.7)	594.0	470.0	12,400.0	42.0	HD 88-81-1
Benbrook Lake	CESWD	TX/Tarrant TX/Parker	Clear Fork, Trinity River	F	242.9	724.0	694.0	7,630.0	3,770.0	HD 103-771
				MRN	(410.0)	694.0	656.0	3,770.0	730.0	
Canyon Lake	CESWD	TX/Comal	Guadalupe River	F	742.8	934.0	909.0	12,890.0	8,240.0	PL 79-14
				PMR	(1,208.4)	909.0	75.0	8,240.0	0.0	
Ferrells Bridge Dam, Lake O'The Pines	CESWD	TX/Marion	Big Cypress Creek	F	829.5	249.5	228.5	38,200.0	18,700.0	PL 79-526
				MR	(1,998.7)	228.5	201.0	18,700.0	1,100.0	
Granger Lake	CESWD	TX/Williamson	San Gabriel River	F	200.1	528.0	504.0	11,040.0	4,400.0	PL 87-874
				MR	(650.0)	504.0	440.0	4,400.0	0.0	
Grapevine Lake	CESWD	TX/Denton, TX/Tarrant	Denton Creek	F	397.4	560.0	535.0	12,710.0	7,280.0	HD 103-77-1
				MR	(788.0)	535.0	451.0	7,380.0	41.0	
Hords Creek Lake	CESWD	TX/Coleman	Hords Creek	F	22.5	1,920.0	1,900.0	1,260.0	510.0	PL 77-228
				MR	(49.3)	1,900.0	1,848.0	510.0	0.0	
Joe Pool Lake	CESWD	TX/Dallas, TX/Ellis TX/Tarrant	Mountain Creek	F	1,414.9	536.0	522.0	10,940.0	7,470.0	PL 89-298
				MR	(642.5)	522.0	456.0	7,470.0	10.0	
Lavon Lake	CESWD	TX/Collin	East Fork, Trinity River	F	655.6	503.5	492.0	29,450.0	21,400.0	HD 533-78-2
				MR	(1,020.5)	492.0	433.0	21,400.0	2,870.0	
Lewisville Lake	CESWD	TX/Denton	Elm Fork, Trinity River	F	961.2	532.0	515.0	39,080.0	13,280.0	HD 403-77-1
				PMR	(1,804.3)	515.0	433.0	23,280.0	12.0	
Navarro Mills Lake	CESWD	TX/Navarro	Richland Creek	F	196.4	443.0	424.5	11,700.0	5,070.0	HD 498-83-2
				MR	(323.9)	424.5	375.3	5,070.0	0.0	
North San Gabriel Dam & Georgetown Lake	CESWD	TX/Williamson	North Fork, San Gabriel River	F	116.8	834.0	791.0	3,220.0	1,310.0	PL 87-874
				MCR	(236.5)	791.0	699.0	1,310.0	0.0	HD 591-82-2
O C Fisher Lake	CESWD	TX/Tom Green	North Concho River	F	357.6	1,938.5	1,908.0	12,700.0	5,440.0	PL 77-228
				MR	(766.0)	1,908.0	1,836.0	5,440.0	3.0	
Proctor Lake	CESWD	TX/Comanche	Leon River	FMR	310.1 (585.8)	1,197.0	1,162.0	14,010.0	4,610.0	PL 83-780, HD 535-81-2
Ray Roberts Lake	CESWD	TX/Denton	Elm Fork of the Trinity River	PFMR	799.6 (1,931.9)	645.5	524.0	42,000.0	29,350.0	PL 89-298, PL 79-14
Sam Rayburn Reservoir (Lake Sam Rayburn)	CESWD	TX/Angelina TX/Jasper TX/Nacogdoches TX/Sabine TX/San Augustine	Angelina River	F	2,545.6 (6,520.0)	173.0	164.4	142,700.0	114,500.0	HD 981-76-1
				PMRC		164.4	149.0	114,500.0	74,040.0	
Somerville Lake	CESWD	TX/Burleson TX/Lee TX/Washington	Yegua Creek	F	481.6	258.0	238.0	24,400.0	11,460.0	PL 83-780
				MR	(1,042.0)	238.0	200.0	11,460.0	0.0	
Stillhouse Hollow Lake	CESWD	TX/Bell	Lampasas River	F	595.5	666.0	622.0	11,830.0	6,430.0	PL 83-780
				MR	(1,042.0)	622.0	498.0	6,430.0	0.0	
Town Bluff Dam, B A Steinhagen Lake	CESWD	TX/Taylor TX/Jasper	Neches River	PMRF	24.5 (218.2)	83.0	81.0	13,700.0	10,950.0	SD 98-76-1
Waco Lake	CESWD	TX/McLennan	Bosque River	F	104.1	500.0	455.0	19,440.0	7,270.0	PL 83-780
				MR	(969.0)	455.0	370.0	7,240.0	0.0	HD 535-81-2
Lake Whitney	CESWD	TX/Bosque TX/Hill	Brazos River	F	1,753.9	571.0	533.0	49,820.0	23,560.0	PL 77-228
				PFMR	(2,100.4)	533.0	425.0	23,560.0	475.0	HD 390-76-1
Wright Patman Lake	CESWD	TX/Bowie TX/Cass	Sulphur River	F	2,506.4	259.5	220.0	119,700.0	20,300.0	PL 79-526
				FMR		220.0	180.0	20,300.0	0.0	
Galveston District										
Addicks Reservoir	CESWD	TX/Harris	Mayde Creek, Buffalo Bayou	F	200.8 (200.8)	112.0	71.1	16,423.0	0.0	HD 250-83-2
Barker Reservoir	CESWD	TX/Harris TX/Ft. Bend	Buffalo Bayou	F	209.0 (209.0)	106.0	73.2	16,734.0	0.0	HD 250-83-2, RHA 1938

Project Name	USACE Division	State/County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Huntington District										
Alum Creek Lake	CELRD	OH/Delaware	Alum Creek	F FMRC	132.3 (134.8)	901.0 888.0	888.0 885.0	4,852.0 3,387.0	3,387.0 3,105.0	PL 87-874
Atwood Lake	CELRD	OH/Carroll OH/Tuscarawas	Indian Fork, Conotton Creek	F FRC	33.7 (49.7)	941.0 928.0	928.0 922.5	2,460.0 1,540.0	1,540.0 1,250.0	PW 1933
Beach City Lake	CELRD	OH/Tuscarawas	Sugar Creek, Tuscarawas River	FCR	69.9 (71.7)	978.5	948.0	6,150.0	420.0	PW 1933
Beech Fork Lake	CELRD	WV/Cabell WV/Wayne	Beech Fork, Twelvepole Creek	F FCR	33.3 (37.5)	614.5 592.0	592.0 583.5	1,847.0 725.0	725.0 460.0	PL 87-874
Belleville L&D	CELRD	OH/Megis WV/Wood	Ohio River	NR	0.0	582.0	560.0	0.0	0.0	RHA 1909
Bluestone Lake	CELRD	WV/Summers	New River	F FCR	600.1 (631.0)	1,520.0 1,410.0	1,410.0 1,406.0	9,180.0 2,040.0	2,040.0 1,800.0	PL 74-738 PL 75-761
Bolivar Dam	CELRD	OH/Tuscarawas OH/Stark	Sandy Creek, Tuscarawas River	F	149.6 (149.6)	962.0	895.0	6,500.0	0.0	PW 1933
Burnsville Lake	CELRD	WV/Braxton	Little Kanawha River	F FCAR	61.7 (65.9)	825.0 789.0	789.0 776.0	1,902.0 965.0	965.0 553.0	PL 75-761
Captain Anthony Meldahl L&D	CELRD	KY/Bracken OH/Clermont	Ohio River	NR	0.0 (609.8)	485.0	455.0	0.0	0.0	RHA 1909
Charles Mill Lake	CELRD	OH/Ashland	Black Fork, Mohican River	F FCR	85.1 (88.0)	1,020.0 997.0	997.0 993.0	6,050.0 1,350.0	1,350.0 827.0	PW 1933
Clendening Lake	CELRD	OH/Harrison	Brushy Fork, Stillwater Creek	F FCR	35.5 (54.0)	910.5 898.0	898.0 893.0	2,620.0 1,800.0	1,800.0 1,430.0	PW 1933
Deer Creek Lake	CELRD	OH/Pickaway	Deer Creek	F FCR	96.1 (102.5)	844.0 810.0	810.0 796.0	4,046.0 1,277.0	1,277.0 727.0	PL 75-761
Delaware Lake	CELRD	OH/Delaware	Olentangy River	F FCAR	123.6 (132.0)	947.0 915.0	915.0 910.0	8,550.0 1,270.0	1,270.0 950.0	PL 75-761
Dewey Lake	CELRD	KY/Floyd	Johns Creek	F FCR	81.0 (93.3)	686.0 650.0	650.0 645.0	3,340.0 1,100.0	1,100.0 880.0	PL 75-761
Dillon Lake	CELRD	OH/Muskingum	Licking River	F FCR	260.9 (274.0)	790.0 737.0	737.0 734.0	10,280.0 1,560.0	1,560.0 1,330.0	PL 75-761
Dover Dam	CELRD	OH/Tuscarawas	Tuscarawas River	F	203.0(203.0)	916.0	858.0	10,100.0	0.0	PW 1933
East Lynn Lake	CELRD	WV/Wayne	East Fork of Twelvepole Creek	F FCR	70.8 (82.5)	701.0 662.0	662.0 656.0	2,351.0 1,005.0	1,005.0 823.0	PL 75-761
Fishtrap Lake	CELRD	KY/Pike	Levisa Fork, Big Sandy River	F FCAR	153.9 (164.4)	825.0 757.0	757.0 725.0	2,681.0 1,131.0	1,131.0 569.0	PL 75-761
Gallipolis L&D	CELRD	OH/Gallia WV/Mason	Ohio River	N	0.0	538.0	515.0	0.0	0.0	RHA 1935
Grayson Lake	CELRD	KY/Carter	Little Sandy River	F FCAR	100.3 (118.9)	681.0 645.0	645.0 637.0	3,633.0 1,509.0	1,509.0 1,159.0	PL 86-645
Greenup L&D	CELRD	KY/Greenup, OH/Scioto	Ohio River	NR	0.0 (351.7)	515.0	485.0	0.0	0.0	RHA 1909
John W Flannagan Dam & Reservoir	CELRD	VA/Dickenson	Pound River	F FMRC	95.1 (145.7)	1,446.0 1,396.0	1,396.0 1,380.0	2,098.0 1,143.0	1,143.0 310.0	PL 75-761
Leesville Lake	CELRD	OH/Carroll	McGuire Creek, Conotton Creek	F FCR	23.4 (37.4)	997.5 963.0	963.0 957.0	1,470.0 1,000.0	1,000.0 829.0	PW 1933
London L&D	CELRD	WV/Kanawha	Kanawha River	N	0.0 (15.8)	614.0	590.0	700.0	0.0	RHA 1930
Marmet L&D	CELRD	WV/Kanawha	Kanawha River	N	0.0 (30.6)	590.0	566.0	0.0	0.0	RHA 1930
Mohawk Dam	CELRD	OH/Coshocton	Walhonding River	F	285.0 (285.0)	890.0	799.2	7,950.0	0.0	PW 1933
Mohicanville Dam	CELRD	OH/Ashland	Lake Fork of Mohican River, Walhonding River	F	102.0 (102.0)	963.0	932.0	8,800.0	0.0	PW 1933
North Branch Kokosing River Lake	CELRD	OH/Knox	North Branch Kokosing River	FRC	13.9 (14.8)	1,146.0	1,121.0	1,140.0	154.0	PL 87-874
North Fork of Pound River Lake	CELRD	VA/Wise	North Fork of Pound River	F FMCR	9.3 (11.3)	1,644.0 1,611.0	1,611.0 1,601.0	349.0 154.0	154.0 106.0	PL 86-645
Paint Creek Lake	CELRD	OH/Ross OH/Highland	Paint Creek	F FMCR	136.1 (145.0)	845.0 798.0	798.0 787.5	4,761.0 1,190.0	1,190.0 770.0	PL 75-761
Paintsville Lake	CELRD	KY/Johnson	Paint Creek	F FCAR	69.1 (73.5)	731.0 709.0	709.0 650.0	1,867.0 1,139.0	1,139.0 261.0	PL 89-298
Piedmont Lake	CELRD	OH/Harrison	Stillwater Creek	F FCR	40.8 (66.7)	924.6 913.0	913.0 909.0	3,170.0 2,310.0	2,310.0 1,987.0	PW 1933
Pleasant Hill Lake	CELRD	OH/Ashland	Clear Fork, Mohican River	F FCR	79.7 (87.7)	1,065.0 1,020.0	1,020.0 1,012.5	2,600.0 850.0	850.0 627.0	PW 1933
R D Bailey Lake	CELRD	WV/Mingo WV/Wyoming	Guyandotte River	F FCAR	181.7 (203.7)	1,155.0 1,035.0	1,035.0 1,012.0	2,850.0 630.0	630.0 440.0	PL 87-874
Racine L&D	CELRD	OH/Megis WV/Mason	Ohio River	NR	0.0 (153.7)	560.0	538.0	0.0	0.0	RHA 1909
Robert C Byrd L&D	CELRD	WV/Mason	Ohio River	NR	390.6 (390.6)	538.0	515.0	12,600.0		RHA 1935
Senecaville Lake	CELRD	OH/Guernsey	Seneca Fork, Wills Creek	F FCR	57.9 (88.5)	842.5 832.2	832.2 828.2	5,170.0 3,550.0	3,550.0 2,912.0	PW 1933
Summersville Lake	CELRD	WV/Nicholas	Gauley River	F FRCA	383.7 (413.4)	1,710.0 1,652.0	1,652.0 1,535.0	4,913.0 2,790.0	2,790.0 514.0	PL 75-761
Sutton Lake	CELRD	WV/Braxton	Elk River	FCAR	60.0(265.3)	925.0	850.0	1,520.0	270.0	PL 75-761

Project Name	USACE Division	State/County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Upper	Lower	Upper	Lower	Authorizing Legislation
Tappan Lake	CELRD	OH/Harrison	Little Stillwater Creek	F	37.9	909.0	899.3	3,100.0	2,350.0	PW 1933
				FCR	(61.6)	899.3	894.0	2,350.0	1,960.0	
Tom Jenkins Dam	CELRD	OH/Athens	East Branch of Sunday Creek, Hocking River	F	23.4	740.0	721.0	1,192.0	664.0	FCA 1944
				FRM	(26.9)	721.0	710.0	664.0	394.0	PL 78-534
Willow Island L&D	CELRD	OH/Washington WV/Pleasants	Ohio River	N	0.0 (177.6)	602.0	582.0	0.0	0.0	RHA 1909
Wills Creek Lake	CELRD	OH/Coshockton	Wills Creek, Muskingum River	FRC	190.0 (196.0)	779.0	742.0	11,450.0	900.0	PW 1933
Winfield L&D	CELRD	WV/Putnam	Kanawha River	NR	0.0 (79.1)	566.0	538.0	0.0	0.0	RHA 1935
Yatesville Lake	CELRD	KY/Lawrence	Blaine Creek	FRC	38.1(83.3)	645.0	624.0	3,805.0	1,745.0	FCA 1965
Jacksonville District										
Lake Rousseau (Inglis Lock)	CESAD	FL/Levy FL/Marion FL/Citrus	Withlacoochee River (CFBC)	N	13.0	27.5	24.0	4,030.0	2,040.0	PL 77-675
Lake Okeechobee	CESAD	FL/Okeechobee FL/Glades FL/Hendry FL/Palm Beach FL/Martin	Kissimmee River, Fisheating Creek Taylor Creek	FNIMC	2,859.0	17.5	10.5	454,900.0	326,000.0	PL 71-520, PL 75-392, PL 79-14, PL 80-858, PL 83-780, PL 90
Rodman Reservoir, Lake Ocklawaha	CESAD	FL/Marion FL/Putman	Oklawaha River (CFBC)	N	48.0	23.2	20.0	17,350.0	12,950.0	PL 77-675
S-10 & Water Conservation Area 1	CESAD	FL/Palm Beach	Central and Southern Florida	F	181.9	18.3	17.0	141,250.0	141,250.0	PL 80-858
				FIMC	273.2	17.0	14.0	141,250.0	26,000.0	
S-11 & Water Conservation Area 2A	CESAD	FL/Palm Beach FL/Broward	Central and Southern Florida	F	263.3	16.6	14.5	110,500.0	110,500.0	PL 80-858
				FIMC	165.0	14.5	13.0	110,500.0	107,500.0	PL 83-780
W. P. Franklin Lock	CESAD	FL/Myers	Caloosahatchee	FNMR	26.4 (32.3)			800.0		
Kansas City District										
Birds Point- New Madrid Diversion Floodway	CENWD	MO/New Madrid	Mississippi River	F	0.0	330.5	328.5	131,000.0	71,000.0	FCA 1928
Blue Springs Lake	CENWD	MO/Jackson	East Fork, Little Blue River	FR	10.8 (27.0)	820.0	802.0	982.0	722.0	PL 90-483
				F	110.4 (368.7)	903.4	875.5	12,891.0	7,006.0	PL 87-874
Clinton Dam & Lake	CENWD	KS/Douglas	Wakarusa River	FMCAR		820.0	820.0	7,006.0	0.0	SD 122-87
Drinkwater PS	CENWD	MO/Mississippi	Drinkwater Sewer	F	20.6	315.0	307.0	4,000.0	700.0	FCA 1950 PL 516
Grove Lake	CENWD	KS/Morris	Soldier Creek	FMR	48.7(346.7)	1,294.0	1,240.0			
				F	825.7	1,973.5	1,946.0	23,064.0	13,249.0	PL 77-228
Harlan County Lake	CENWD	NE/Harlan	Republican River	FIR		1,946.0	1,875.0	13,249.0	0.0	HD 892-76 PL 78-534
				F		739.6	706.0	209,300.0	55,600.0	PL 83-780
Harry S Truman Dam & Reservoir	CENWD	MO/Benton	Osage River	FPCR	5,202.0	706.0	635.0	55,600.0	0.0	HD 549-81 PL 87-874 HD 578-87
				F		931.0	917.0	7,410.0	4,580.0	PL 83-780
Hillsdale Lake	CENWD	KS/Miami	Big Bull Creek	FNMCAR	160.0	917.0	852.4	4,580.0	0.0	HD 642-81
				F	5.7	1,266.0	1,242.4	410.0	100.0	PL 85-500
Holmes Lake	CENWD	NE/Lancaster	Antelope Creek	FCR	0.8	1,242.4	1,218.0	100.0	3.0	HD 396-84
				F		1,508.0	1,463.0	13,999.0	3,560.0	PL 75-761
Kanopolis Lake	CENWD	KS/Ellsworth	Smoky Hill River	FIMR	433.0	1,463.0	1,425.0	3,560.0	0.0	PL 78-534 HD 842-76
				F	24.8	909.0	891.0	1,960.0	930.0	PL 90-483
Longview Lake	CENWD	MO/Jackson	Little Blue River	FCAR	22.1	891.0	810.0	930.0	0.0	HD 169-90
				F	65.0	801.0	791.1	3,670.0	2,429.0	PL 89-298
Long Branch Lake	CENWD	MO/Randolph	Little Chariton River	FCAR		791.0	751.1	2,429.0	0.0	HD 238-89
				F		1,057.0	1,036.0	13,948.0	6,928.0	PL 83-780
Melvern Lake	CENWD	KS/Osage	Marais Des Cygnes River	FNMCAR	363.0	1,036.0	960.0	6,928.0	0.0	PL 75-761 HD 549-81
				F	1,145.0	1,176.2	1,144.4	27,255.0	17,270.0	PL 83-780
Milford Lake	CENWD	KS/Geary	Republican River	FNMCAR		1,144.4	1,080.0	15,709.0	0.0	HD 642-81 PL 75-761
				F	770.0	920.6	891.5	25,342.0	12,202.0	PL 83-780
Perry Lake	CENWD	KS/Jefferson	Delaware River	FN		891.5	825.0	122	0.0	HD 642-81
				F		874.0	839.0	15,980.0	7,890.0	PL 75-761
Pomme De Terre Lake	CENWD	MO/Polk	Pomme De Terre River	FNPCAR	650.0	839.0	750.0	7,890.0	0.0	HD 549-81 PL 83-780
				F		1,003.0	974.0	8,520.0	4,000.0	PL 83-780 HD 549-81
Pomona Lake	CENWD	KS/Osage	Marais des Cygnes River	FNMR	254.6	974.0	912.0	4,000.0	0.0	
				F		926.0	904.0	20,948.0	11,013.0	PL 83-780
Rathbun Lake	CENWD	IA/Appanoose	Chariton River	FNMR	552.0	904.0	844.0	11,013.0	0.0	HD 561-81
				F		876.2	864.2	9,995.0	7,192.0	PL 89-289
Smithville Lake	CENWD	MO/Clay	Little Platte, Platte River	FMCAR	246.5	864.2	799.0	7,192.0	0.0	HD 262-89

Project Name	USACE Division	State/County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Stockton Lake	CENWD	MO/Cedar MO/Dade MO/Polk	Sac River	F FARPN	1,674.0	892.0 867.0	867.0 760.0	38,288.0 24,900.0	24,777.0 0.0	PL 83-780 HD 549-89
Treasure Island PS	CENWD	MO/Dunklin	Little River	F	23.4	5,635.5	5,558.0	718.0	109.0	PL 90-483
Tuttle Creek Lake	CENWD	KS/Riley	Big Blue River	F FN	2,257.0	1,136.0 1,075.0	1,075.0 1,061.0	54,179.0 14,875.0	14,875.0 0.0	PL 75-761 HD 842-76
Wilson Lake	CENWD	KS/Russell	Saline River	F FRIC	736.0	1,554.0 1,516.0	1,516.0 1,440.0	19,980.0 9,040.0	9,040.0 0.0	PL 78-534 SD 191-78, SD 247-78
Little Rock District										
Beaver Lake	CESWD	AR/Carroll AR/Benton	White River	F PMR	1,224.7 (1,952.0)	1,130.0 1,120.0	1,120.0 1,077.0	31,700.0 28,220.0	28,220.0 15,540.0	PL 83-780 PL 85-500
Big Lake Ditch #81 CS	CESWD	AR/Mississippi	Ditch 81 Extension	C	0.0	0.0	230.0	0.0	0.0	FCA 1965
Big Lake Diversion CS	CESWD	AR/Mississippi	Little River	C	0.0	0.0	230.0	0.0	0.0	FCA 1965
Big Lake North End CS	CESWD	AR/Mississippi	Little River	C	0.0	0.0	230.0	0.0	0.0	FCA 1965
Big Lake North South CS	CESWD	AR/Mississippi	Little River	C	0.0	0.0	230.0	0.0	0.0	FCA 1965
Blue Mountain Lake	CESWD	AR/Yell, Logan	Petit Jean River	FMR	233.3(258.0)	419.0	384.0	11,000.0	2,910.0	PA 75-761
Bull Shoals Lake	CESWD	AR/Baxter AR/Marion AR/Boone	White River	F PFMR	3,363.0 (5,408.0)	695.0 654.0	654.0 628.5	71,240.0 45,440.0	45,440.0 33,800.0	PL 77-228
Calion L&D	CESWD	AR/Union	Ouachita	N	0.0	77.0	77.0	12,200.0	12,200.0	RHA 1950
Clearwater Lake	CESWD	MO/Reynolds MO/Wayne	Black River	FR	391.8 (413.0)	567.0	494.0	10,400.0	1,630.0	PL 75-761
Connerly CS	CESWD	AR/Chicot	Connerly Bayou	FCR	0.0	116.0	106.0	0.0	0.0	FCA 1968
Dequeen Lake	CESWD	AR/Servier	Rolling Fork River	F FMCRQ	126.8 (370.6)	473.5 437.0	437.0 415.0	4,050.0 1,680.0	1,680.0 710.0	PL 85-500
Dierks Lake	CESWD	AR/Servier AR/Howard	Saline River	F FMCR	82.2 (159.5)	557.5 526.0	526.0 512.0	2,970.0 1,360.0	1,360.0 810.0	PL 85-500
Ditch Bayou Dam	CESWD	AR/Chicot	Ditch Bayou	FCR	0.0	106.0	93.0	0.0	0.0	FCA 1968
Drainage Distribution #17 PS	CESWD	AR/Mississippi	Ditch 71	F	3.0	236.0	228.0	4,100.0	0.0	FCA 1968 PL 90-483
Felsenthal L&D	CESWD	AR/Union	Ouachita	N	32.5	70.0	65.0	46,500.0	17,500.0	RHA 1950
Gillham Lake	CESWD	AR/Howard, Polk	Cossatot River	F FMCRQ	218.0 (221.8)	569.0 502.0	502.0 454.5	4,680.0 1,370.0	1,370.0 310.0	PL 85-500
Graham Burke PS	CESWD	AR/Phillips	White	F	2,805.0	174.8	140.0	149,000.0	1,500.0	FCA 1928 PL 85-500
Greers Ferry Lake	CESWD	AR/Cleburne AR/Van Buren	Little Red River	F IPMRC	1,650.5 (2,844.0)	487.0 461.0	461.0 435.0	40,480.0 31,460.0	31,460.0 23,740.0	PL 75-761 PL 83-780
Huxtable PS	CESWD	AR/Lee	St. Francis	F	2,863.0	207.2	165.0	18,500.0	1,400.0	FCA 1950
Lake Chicot PS	CESWD	AR/Chicot	Macon Lake	FCR	0.0	118.2	90.0	0.0	0.0	FCA 1968
L&D No.1, Nimrod Lake (MCKARNS)	CESWD	AR/Perry, Yell	Fourche LaFave River	FMR	307.0(336.0)	373.0	342.0	18,300.0	3,550.0	FCA 1938
L&D No. 2 Wilbur D. Mills (MCKARNS)	CESWD	AR/Desha	Arkansas River	N	18.7	162.3	160.5	10,700.0	9,400.0	HD 758-79 RHA 1946
L&D No. 3 (MCKARNS)	CESWD	AR/Jefferson AR/Lincoln	Arkansas River	NR	8.3 (50.4)	182.3	180.0	3,750.0	3,180.0	HD 758-79 RHA 1946
L&D No. 4 (MCKARNS)	CESWD	AR/Jefferson	Arkansas River	NR	12.9 (77.0)	196.3	194.0	5,820.0	5,200.0	HD 758-79 RHA 1946
L&D No. 4, Emmett Sanders (MCKARNS)	CESWD	AR/Jefferson	Arkansas River	NR	70.4 (77.0)			96.5		PL 100-202 PL 79-525
L&D No. 5 (MCKARNS)	CESWD	AR/Jefferson	Arkansas River	INR	14.4 (68.5)	213.3	211.0	6,900.0	5,550.0	HD 758-79 RHA 1946
L&D No. 6, David D. Terry (MCKARNS)	CESWD	AR/Pulaski	Arkansas River	NR	9.6(59.6)	231.3	229.0	4,830.0	4,130.0	HD 758-79
L&D No. 7, Murray, (MCKARNS)	CESWD	AR/Pulaski	Arkansas River	PNR	24.7 (108.5)	249.7	247.0	10,350.0	8,100.0	RHA 1946
L&D No. 8, Toad Suck Ferry (MCKARNS)	CESWD	AR/Faulkner AR/Perry	Arkansas River	NR	8.7 (37.3)	265.3	263.0	4,130.0	3,600.0	RHA 1946
L&D No. 9 - Arthur V. Ormond & Winthrop Rockefeller Lake (MCKARNS)	CESWD	AR/Conway	Arkansas River	N	48.8(70.4)	287.0	284.0	5,660.0	4,910.0	HD 758-79
L&D No. 10, Dardanelle Lake (MCKARNS)	CESWD	AR/Pope AR/Yell	Arkansas River	PNMR	72.3 (486.2)	338.2	336.0	34,700.0	31,140.0	HD 758-79, RHA 1946
L&D No. 12, Ozark - Jeta Taylor (MCKARNS)	CESWD	AR/Franklin	Arkansas River	NPR	25.3 (148.4)	372.5	370.0	11,100.0	8,800.0	HD 758-79 RHA 1946
L&D No. 13, James W. Trimble L&D - John Paul Hammerschmidt Lake (MCKARNS)	CESWD	AR/Sebastian AR/Crawford	Arkansas River	PNR	18.1(59.1)	392.0	389.0	6,820.0	5,200.0	RHA 1946
Marked Tree Siphon	CESWD	AR/Poinsett	St. Francis	F	0.0	229.0	198.3	0.0	0.0	FCA 1930
Millwood Lake	CESWD	AR/Hempstead AR/Howard AR/Little River AR/Sevier	Little River	F MR	1,803.3 (1,854.9)	287.0 259.2	259.2 252.0	95,200.0 29,200.0	29,200.0 13,100.0	PL 79-526 HD 785-79
Montgomery Point L&D (MCKARNS)	CESWD	AR/Desha	White River	N	7.5 (10.6)			613.0		RHA 1946

Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Norfolk Lake	CESWD	AR/Baxter, Fulton	North Fork River	F PMRC	1,438.8 (1,983.0)	580.0 552.0	552.0 510.0	30,700.0 21,990.0	21,990.0 12,320.0	PL 75-761 FCA 1941
Norrell L&D	CESWD	AR/Arkansas	Arkansas River	NR	0.0 (1.5)	142.0	142.0	140.0	140.0	HD 758-79 RHA 1946
St. Francis Lake CS	CESWD	AR/Poinsett	Oak Donnick Floodway	C	0.0	0.0	210.0	0.0	2,240.0	FCA 1965
Table Rock Lake	CESWD	MO/Barry	White River	F	1,941.5 (3,462)	931.0	915.0	52,250.0	43,070.0	PL 77-228
		MO/Stone MO/Taney		IPMRC		915.0	881.0	43,070.0	27,300.0	FCA 1938
Los Angeles District										
Alamo Lake	CESPD	AZ/Mohave AZ/La Paz	Bill Williams River	F	1,046.2 (1,409.0)	1,235.0	1,174.0	13,307.0	7,045.0	PL 78-534
Brea Dam (Brea Reservoir)	CESPD	CA/Orange	Brea Creek	F	4.0 (7.4)	279.0	208.0	163.0	0.0	FCA 1936
Carbon Canyon Dam (Carbon Creek Dam)	CESPD	CA/Orange	Carbon Canyon Creek	F	6.6 (12.1)	475.0	403.0	225.0	0.0	PL 74-738
Fullerton Dam	CESPD	CA/Orange	East Fullerton Creek	F	0.8 (1.3)	290.0	261.0	62.0	0.0	FCA 1936
Hansen Dam	CESPD	CA/Los Angeles	Tujunga Wash	F	25.4(44.9)	1,060.0	990.0	781.0	0.0	FCA 1936
Lopez Lake	CESPD	CA/San Luis Obispo	Arroyo Grande Creek	F	0.4 (1.3)	1,272.9	1,253.7	40.0	0.0	FCA 1936
Mathews Canyon Dam	CESPD	NV/Lincoln	Mathews Canyon River	F	6.3(12.4)	5,461.0	5,420.0	300.0	0.0	PL 81-516
Mojave River Dam & Reservoir	CESPD	CA/San Bernardino	Mojave River	F	89.7 (179.4)	3,134.0	2,988.0	1,978.0	0.0	PL 86-645
Painted Rock Dam	CESPD	AZ/Maricopa	Gila River	F	2,491.5 (4,831.5)	661.0	524.0	53,200.0	0.0	PL 81-516
Pine Canyon Dam	CESPD	NV/Lincoln	Pine Canyon Wash	F	7.8(10.7)	5,675.0	5,604.0	254.0	0.0	PL 81-516
Prado Dam	CESPD	CA/Riverside	Santa Ana River	F	196.2 (295.6)	543.0	460.0	6,630.0	0.0	FCA 1936
San Antonio Dam	CESPD	CA/Los Angeles	San Antonio Creek	F	7.7(11.9)	2,238.0	2,125.0	145.0	0.0	FCA 1936
Santa Fe Dam	CESPD	CA/Los Angeles	San Gabriel River	F	32.1 (45.4)	496.0	421.0	1,084.0	0.0	FCA 1936 FCA 1941
Sepulveda Dam	CESPD	CA/Los Angeles	Los Angeles River	F	17.4(27.6)	710.0	668.0	1,335.0	0.0	FCA 1936
Whitlow Ranch Dam	CESPD	AZ/Pinal	Queen Creek	F	35.6(64.9)	2,166.0	2,056.0	828.0	0.0	PL 79-526
Whittier Narrows Dam	CESPD	CA/Los Angeles	San Gabriel River	F	34.9 (66.7)	228.5	184.0	2,411.0	0.0	FCA 1936
Louisville District										
Barren River Lake	CELRD	KY/Allen KY/Barren	Barren River	F	749.1 (815.2)	590.0	552.0	20,150.0	10,000.0	PL 75-261
				FMR		552.0	525.0	10,000.0	4,340.0	
Brookville Lake	CELRD	IN/Franklin	East Fork Whitewater River	FMR	128.4 (359.6)	748.0	713.0	5,260.0	2,430.0	PL 75-761
Buckhorn Lake	CELRD	KY/Leslie	Middle Fork Kentucky River	F	157.6 (167.9)	840.0	782.0	3,610.0	1,230.0	PL 75-761
				FR		782.0	757.0	1,230.0	550.0	
Caesar Creek Lake	CELRD	OH/Warren	Caesar Creek	F	228.9 (242.2)	883.0	849.0	6,110.0	2,830.0	PL 75-761
				FMAR		849.0	800.0	2,830.0	700.0	
Cagles Mill Lake	CELRD	IN/Putman	Mill Creek, Eel River	F	201.0(228.1)	704.0	636.0	4,840.0	1,400.0	PL 75-761
Cannelton L&D	CELRD	IN/Perry	Ohio River	NMR	0.0(95.4)	383.0	358.0	0.0	0.0	RHA 1909
Carr Creek Lake	CELRD	KY/Knott	Carr Fork	F	35.9 (47.7)	1,055.0	1,027.0	1,120.0	710.0	PL 87-874
				FAR		1,027.0	1,009.0	710.0	530.0	
Cave Run Lake	CELRD	KY/Rowan	Licking River	F	466.8 (614.1)	765.0	730.0	14,870.0	8,270.0	PL 74-738
				FAR		730.0	720.0	8,270.0	6,790.0	
Cecil M Harden Lake	CELRD	IN/Parke	Raccoon Creek	F	116.6 (132.8)	690.0	661.0	3,910.0	2,060.0	PL 75-761
				FAR		661.0	640.0	2,060.0	1,100.0	
Clarence J. Brown Dam & Reservoir	CELRD	OH/Clark	Buck Creek	FR	26.8 (63.7)	1,023.0	1,012.0	2,720.0	2,120.0	PL 87-874
Green River Lake	CELRD	KY/Taylor	Green River	F	560.6 (723.2)	713.0	675.0	19,100.0	8,210.0	PL 75-761
				FAR		675.0	664.0	8,210.0	6,650.0	
Huntington Lake	CELRD	IN/Huntington	Wabash River	F	140.6 8.4	798.0	749.0	7,900.0	900.0	PL 85-500
				FR		749.0	737.0	900.0	500.0	
J Edward Roush Lake	CELRD	IN/Huntington	Wabash River	FR	12.5(153.1)			153,100.0	8,400.0	PL 85-500
John T. Myers L&D	CELRD	IN/Posey KY/Union	Ohio River	N	0	342.0	324.0	0	0	RHA 1958 PL 104-303
Lake #9 CS & PS	CELRD	KY/Fulton	Mississippi River	F	6.5	286.0	282.0	0.0	0.0	FCA 1965
L&D No. 1 -Carrollton	CELRD	KY/Carroll	Kentucky River	N	0.0	430.0	421.8	0.0	0.0	RHA 1879
L&D No. 2, Lockport	CELRD	KY/Henry KY/Owen	Kentucky River	N	0.0	444.0	430.0	0.0	0.0	RHA 1879
L&D No. 3, Monterey	CELRD	KY/Henry KY/Owen	Kentucky River	N	0.0	457.0	444.0	0.0	0.0	RHA 1879
L&D No. 4, Frankfort	CELRD	KY/Franklin	Kentucky River	N	0.0	470.4	457.1	0.0	0.0	RHA 1879
L&D No. 1, Barren River	CELRD	KY/Barren	Barren River	N	.05 (9.3)					
L&D No. 1, Henderson	CELRD	KY/Henderson	Green River	NRC	0.0 (62.4)	349.1	337.3	0.0	0.0	RHA 1888
L&D No. 52, Brookport	CELRD	IL/Massac	Ohio River	NMR	80.0 (339.6)	302.0	290.0	7,620.0	0.0	PL 60-317
L&D No. 53, Cario	CELRD	IL/Pulaski	Ohio River	NR	118.0 (338.2)	290.0	276.0	11,280.0	0.0	PL 60-317
Markland L&D	CELRD	KY/Gallatin	Ohio River	PNMRC	0.0 (640.7)	455.0	420.0	0.0	0.0	RHA 1909
McAlpine L&D	CELRD	KY/Jefferson	Ohio River	PNMRC	0.0 (525.3)	420.0	383.0	0.0	0.0	RHA 1909

Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Mississinewa Lake	CELRD	IN/Miami	Mississinewa River	F	345.1	779.0	737.0	12,830.0	3,180.0	PL 85-500
				FR	(368.4)	737.0	712.0	3,180.0	1,280.0	
Monroe Lake	CELRD	IN/Brown IN/Monroe	Salt Creek	F	418.7	556.0	538.0	18,450.0	10,750.0	FCA 1958
				FMAR	(441)	538.0	515.0	10,750.0	3,280.0	
Newburgh L&D	CELRD	IN/Warrick	Ohio River	NMR	0.0 (581.6)	358.0	342.0	0.0	0.0	RHA 1909
Nolin Lake	CELRD	KY/Edmonson	Nolin River	F	439.2	560.0	515.0	14,530.0	5,790.0	PL 75-761
				FR	106.4	515.0	490.0	5,790.0	2,890.0	
Patoka Lake	CELRD	IN/DuBois	Patoka River	F	288.4	548.0	536.0	11,300.0	8,880.0	PL 89-298
				FMCAR	(301.6)	536.0	506.0	8,880.0	2,010.0	
Rough River Lake	CELRD	KY/Breckinridge KY/Grayson KY/Hardin	Rough River	F	304.6	524.0	495.0	10,260.0	5,100.0	PL 75-761
				FMR	(334.4)	495.0	470.0	5,100.0	2,180.0	
Salamonie Lake	CELRD	IN/Wabash	Salamonie River	F	250.5	793.0	755.0	9,340.0	2,860.0	PL 85-500
				FR		755.0	730.0	2,860.0	976.0	
Smithland Locks & Dam	CELRD	IL/Pope KY/Livingston	Ohio River	NMRC	0.0 (738.7)	324.0	302.0	0.0	0.0	RHA 1909
Taylorville Lake	CELRD	KY/Spencer	Salt River	FR	86.4(291.7)	547.0	545.0	3,050.0	2,930.0	FCA 1966
West Hickman PS	CELRD	KY/Fullon	Mississippi River	F	0.0	302.0	296.0	9.0	4.0	FCA 1948
William H. Harsha Lake	CELRD	OH/Clermont	East Fork, Little Miami River	F	275.8	795.0	733.0	4,600.0	2,160.0	PL 75-761
				FMCAR	(294.8)	733.0	683.0	2,160.0	820.0	
Memphis District										
Ascalmore-Tippo FG	CEMVD	MS/Tallahatchie	Ascalmore	F	0.0	136.0	118.0	0.0	0.0	FCA 1936
Cario 10 th & 28 th Street Pump Station	CEMVD	IL/Pulaski	Ohio River	F	0.0	310.5	299.0	0.0	0.0	PL 90-483
Mobile District										
Aberdeen L&D	CESAD	MS/Monroe	Tennessee-Tombigbee Waterway	NR	3.9 (31.6)	190.5	189.5	4,359.0	3,883.0	PL 79-525
Aliceville L&D & Reservoir	CESAD	AL/Pickens	Tombigbee River	N	7.6	136.5	135.5	8,655.0	7,945.0	PL 79-525
Alligator-Catfish FG	CESAD	MS/Issaquena	Little Sunflower	F	0.0	0.0	0.0	0.0	0.0	FCA 1936
Allatoona Lake	CESAD	GA/Bartow	Etowah River	F	587.2	860.0	840.0	19,201.0	11,862.0	PL 77-228
				PMARC	(670.1)	840.0	800.0	11,862.0	3,251.0	
Amory L&D	CESAD	MS/Monroe	Tennessee-Tombigbee Waterway	NR	4.4 (4.4)		220.0			RHA 1946
Armistead I. Selden L&D	CESAD	AL/Hale	Black Warrior & Tombigbee	N	9.1 (58.7)	95.5	94.0	8,200.0	6,900.0	PL 60-317
Bay Springs L&D & Reservoir	CESAD	MS/Tishomingo	Tombigbee River	N	37.0	414.0	408.0	6,700.0	5,740.0	PL 79-525
Buford Dam, Lake Sidney Lanier	CESAD	GA/Dawson GA/Forsyth GA/Gwinnett GA/Hall GA/Lumpkin	Chattahoochee River	F	1,686.4	1,085.0	1,071.0	47,182.0	38,542.0	PL 79-14
				PNMRC	(2,554.0)	1,071.0	1,035.0	38,542.0	22,442.0	
Carters Lake Dam	CESAD	GA/Murray	Coosawattee River	F	130.6	1,099.0	1,074.0	3,880.0	3,275.0	PL 79-14
Claiborne L&D	CESAD	AL/Monroe	Alabama River	PNMARC	(472.8)	1,074.0	1,022.0	3,275.0	2,196.0	PL 79-14
				N	16.6(96.4)	35.0	32.0	5,930.0	5,210.0	
Coffeeville L&D	CESAD	AL/Clark AL/Choctaw	Tombigbee River	N	19.9 (190.8)	32.5	30.0	8,500.0	7,500.0	PL 60-317
Collins Creek	CESAD	MS/Warren	Collins Creek	F	0.0	84.0	67.0	0.0	0.0	FCA 1941
Columbus L&D & Reservoir	CESAD	MS/Lowndes	Tombigbee River	N	8.5	163.5	162.5	9,400.0	8,500.0	PL 79-525
Demopolis L&D	CESAD	AL/Sumter AL/Marengo	Tombigbee River	N	0.0	73.0	73.0	10,000.0	10,000.0	PL 60-317
					(150.0)					
Fulton L&D	CESAD	MS/Itawamba	Tennessee-Tombigbee Waterway	NR	13.2 (13.2)			13,220.0	1,642.0	RHA 1946
G.V. "Sonny" Montgomery L&D	CESAD	MS/Itawamba	Tennessee-Tombigbee Waterway	N	6.9 (7.7)			851.0		RHA 1946
George W. Andrews L&D	CESAD	AL/Houston	Chattahoochee River	N	8.2 (18.2)	102.0	96.0	1,540.0	1,190.0	PL 79-14
Glover Wilkins L&D	CESAD	MS/Monroe	Tennessee-Tombigbee Waterway	NR	19.0 (19.0)	245.0		2,718.0		RHA 1946
Holt L&D	CESAD	AL/Tuscaloosa	Black Warrior River	ENR	3.3(118.0)	187.0	186.0	3,296.0	3,252.0	PL 60-317
Howell Heflin L&D	CESAD	AL/Sumter	Tombigbee River	N	5.8	109.5	108.5	6,920.0	5,900.0	PL 79-525
Jamie Whitten L&D	CESAD	MS/Tishomingo	Tennessee-Tombigbee Waterway	N	180.0 (180.0)		414.0	6,700.0		RHA 1946
Jim Woodruff L&D, Lake Seminole	CESAD	FL/Gadsden FL/Jackson	Apalachicola River	PFNR	20.0 (406.2)	77.5	76.5	38,850.0	36,000.0	PL 79-14
John Hollis Bankhead L&D (formerly Lock 17)	CESAD	AL/Tuscaloosa	Black Warrior River	ENR	27.1 (296.0)	255.0	252.0	9,245.0	8,730.0	PL 60-168
John Rankin L&D	CESAD	MS/Itawamba	Tennessee-Tombigbee Waterway	N	24.9 (27.0)		300.0	1,992.0		RHA 1946
Little Sunflower CS	CESAD	MS/Issaquena	Little Sunflower	F	0.0	85.0	60.0	0.0	0.0	FCA 1941

Project Name	USACE Division	State/County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Millers Ferry L&D - William Bill Dannelly Lake	CESAD	AL/Wilcox	Alabama River	PNR	16.7 (331.8)	80.0	79.0	17,201.0	16,160.0	PL 79-14
Muddy Bayou CS	CESAD	MS/Warren	Muddy Bayou	FC	30.0	76.9	70.0	4,350.0	2,860.0	FCA 1965
Okatibbee Lake	CESAD	MS/Lauderdale	Okatibbee Creek	F RMA	80.8 (59.4)	352.0 343.0	343.0 328.0	6,580.0 3,800.0	3,800.0 1,275.0	PL 87-874
Robert F Henry L&D	CESAD	AL/Autauga AL/Lowndes	Alabama River	NP	44.6 (234.2)	125.0	124.0	13,300.0	10,470.0	PL 79-14
S-12 & Water Conservation Area 3A	CESAD	FL/Broward FL/Dade	Central & Southern Florida	F FIMC	1,661.0 465.0	14.5 10.5	10.5 9.5	487,200.0 385,000.0	385,000.0 316,000.0	PL 80-859 PL 83-781
Steele Bayou CS	CESAD	MS/Issaquena	Steele Bayou	F	0.0	68.5	60.0	0.0	0.0	FCA 1941
Stennis L&D (Columbus Lake)	CESAD	MS/Lowndes	Tennessee-Tombigbee Waterway	NR	59.5 (59.5)		163.0	8,910.0		RHA 1946
Tom Beville L&D	CESAD	AL/Pickens	Tennessee-Tombigbee Waterway	N	60.4 (60.4)		136.0	8,300.0		RHA 1946
Tchula Lake Lower FG	CESAD	MS/Humphreys	Tchula Lake	F	0.0	110.0	84.0	0.0	0.0	FCA 1936
Tchula Lake Upper FG	CESAD	MS/Humphreys	Tchula Lake	F	0.0	108.0	92.0	0.0	0.0	FCA 1936
Walter F George L&D, Lake Eufaula	CESAD	GA/Clay AL/Henry	Apalachicola River Chattahoochee River Flint River	PNR	244.0	190.0	184.0	45,181.0	36,375.0	PL 81-516
Wasp Lake	CESAD	MS/Humphreys	Beer Creek	F	0.0	111.6	88.5	0.0	0.0	FCA 1936
West Point Lake	CESAD	GA/Troup	Apalachicola River Chattahoochee River Flint River	PFRNMA	306.1 (605.0)	635.0	620.0	25,864.0	15,512.0	PL 87-874
William Bacon Oliver L&D	CESAD	AL/Tuscaloosa	Black Warrior River	N	0.0 (13.8)	122.9	122.9	790.0	790.0	PL 60-317
Yazoo City PS	CESAD	MS/Yazoo	Yazoo	F	0.0	96.0	69.0	0.0	0.0	FCA 1936
Nashville District										
Barkley Dam, Lake Barkley	CELRD	KY/Lyon	Cumberland River	F	2,082.0 (2,082)	375.0	359.0	93,430.0	57,920.0	PL 79-525
				FPR		359.0	354.0	57,920.0	45,210.0	
				N		354.0	233.0	45,210.0	0.0	
Center Hill Lake	CELRD	TN/DeKalb	Caney Fork	F	1,254.0 (2,092.0)	685.0	648.0	23,060.0	18,220.0	PL 75-761
				PR		648.0	618.0	18,220.0	14,590.0	
Cheatham L&D	CELRD	TN/Cheatham	Cumberland River	PR	104.0 (104.0)	385.0	382.0	7,450.0	5,630.0	RHA 1946
				N		382.0	345.0	5,630.0	0.0	PL 396
Cordell Hull Dam & Reservoir	CELRD	TN/Smith	Cumberland River	FPR	17.8 (310.9)	504.5	499.0	12,200.0	9,820.0	RHA 1946
				NR		499.0	424.0	9,820.0	0.0	
Dale Hollow Lake	CELRD	TN/Clay	Obey River	F	849.0 (1,706.0)	663.0	651.0	30,990.0	27,700.0	PL 75-761
				PR		651.0	631.0	27,700.0	21,880.0	
Finley Street PS	CELRD	TN/Dyer	Forked Deer	F	0.5	269.0	257.0	94.0	22.0	FCA 1948 PL 85-500
J Percy Priest Dam & Reservoir	CELRD	TN/Davidson	Stones River	F	267.0 (652.0)	504.5	490.5	22,720.0	14,400.0	PL 75-761
				FR		490.5	489.5	14,400.0	14,000.0	
				FPR		489.5	483.0	14,000.0	11,630.0	
				PR		483.0	480.0	11,630.0	10,570.0	
Laurel River Lake	CELRD	KY/Laurel KY/Whitley	Laurel River	FP	435.6 (435.6)	1,018.5	982.0	6,060.0	4,200.0	PL 86-645
				R		982.0	760.0	4,200.0	0.0	
Martins Fork Lake	CELRD	KY/Harlan	Martins Fork	F	21.1 (21.1)	1,341.0	1,310.0	578.0	340.0	PL 89-298
				FAR		13,100.0	1,300.0	340.0	274.0	
				R		1,300.0	1,265.0	274.0	0.0	
Old Hickory L&D	CELRD	TN/Davidson TN/Sumner	Cumberland River	PF	420.0 (545)	445.0	442.0	22,500.0	19,550.0	RHA 1946
				NR		442.0	375.0	19,550.0	0.0	
Wolf Creek Dam, Lake Cumberland	CELRD	KY/Russell	Cumberland River	P	2142.0 2094.0	760.0	723.0	63,530.0	50,250.0	PL 75-761
				F		723.0	673.0	50,250.0	35,820.0	
New England District										
Ball Mountain Lake	CENAD	VT/Windham	West River	F	52.4 (54.7)	1,017.0	830.5	810.0	20.0	PL 78-534 PL 83-780
Barre Falls Dam	CENAD	MA/Worcester	Ware River	F	24.0 (63.0)	807.0	761.0	1,400.0	0.0	PL 78-228
Birch Hill Dam	CENAD	MA/Worcester	Millers River	F	49.9 (76.0)	852.0	815.0	3,200.0	0.0	PL 75-761
Black Rock Lake	CENAD	CT/Litchfield	Branch Brook	F	8.5 (8.5)	520.0	437.0	190.0	21.0	PL 86-45
Blackwater Dam	CENAD	NH/Merrimack	Blackwater River	F	46.0 (93.4)	566.0	515.0	3,280.0	0.0	PL 75-111
Buffumville Lake	CENAD	MA/Worcester	Little River	F	11.3 (12.7)	524.0	492.5	530.0	200.0	PL 77-228
Colebrook River Lake	CENAD	CT/Litchfield MA/Bershire	West Branch, Farmington River	F	50.2 (137.0)	761.0	708.0	1,185.0	750.0	PL 86-645
Conant Brook Dam	CENAD	MA/Hampden	Conant Brook	F	3.7 (5.4)	757.0	694.0	158.0	0.0	PL 86-645
East Brimfield Lake	CENAD	MA/Hampden MA/Worcester	Quinebaug River	FR	29.9 (71.0)	653.0	632.0	2,300.0	360.0	PL 77-228
Edward MacDowell Lake	CENAD	NH/Hillsborough	Nubanusit Brook	FR	12.8 (31.6)	946.0	911.0	840.0	165.0	PL 75-111
Everett Lake	CENAD	NH/Hillsborough	Piscataquog River	FR	91.5 (131.0)	418.0	340.0	2,900.0	130.0	PL 75-761
Franklin Falls Dam	CENAD	NH/Merrimack	Pemigewasset River	F	150.6 (222.0)	389.0	307.0	2,800.0	440.0	PL 75-111
Hancock Brook Lake	CENAD	CT/Litchfield	Hancock Brook	F	3.9 (8.7)	484.0	460.0	266.0	40.0	PL 86-645
Hodges Village Dam	CENAD	MA/Worcester	French River	F	13.3 (26.0)	501.0	465.5	740.0	0.0	PL 77-228
Hop Brook Lake	CENAD	CT/New Haven	Hop Brook	FR	6.9 (23.0)	364.0	310.0	270.0	21.0	PL 86-645
Hopkinton Lake	CENAD	NH/Merrimack	Contoocook River	FR	70.1 (128.0)	416.0	380.0	3,700.0	220.0	PL 75-761
Knightville Dam	CENAD	MA/Hampshire	Westfield River	F	49.0 (64.0)	610.0	480.0	960.0	0.0	PL 75-761
Littleville Lake	CENAD	MA/Hampden MA/Hampshire	Middle Branch, Westfield River	FM	23.0 (40.6)	576.0	518.0	510.0	275.0	PL 85-500
Mansfield Hollow Lake	CENAD	CT/Tolland	Natchaug River	F	49.2 (76.0)	257.0	205.5	1,880.0	200.0	PL 77-228
New Bedford - Fairhaven Hurricane Barrier	CENAD	MA/Bristol	New Bedford Harbor	F	0.0	0.0	0.0	0.0	0.0	PL 85-500

Project Name	USACE Division	State/County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
North Hartland Lake	CENAD	VT/Windsor	Ottawaquechee River	FR	68.8(94.6)	546.5	425.0	1,100.0	215.0	PL 75-761
North Springfield Lake	CENAD	VT/Windsor	Black River	FR	50(94.6)	545.5	467.0	1,200.0	100.0	PL 75-761
Northfield Brook Lake	CENAD	CT/Litchfield	Northfield Brook	FR	2.4(3.2)	576.0	500.0	67.0	7.0	PL 86-645
Otter Brook Lake	CENAD	NH/Cheshire	Otter Brook	FR	17.6(24.8)	781.0	701.0	374.0	70.0	PL 84-780
Stamford Hurricane Barrier	CENAD	CT/Fairfield	Stamford Harbor	F	0.0	0.0	0.0	0.0	0.0	PL 86-645
Surry Mountain Lake	CENAD	NH/Cheshire	Ashuelot River	FR	31.7(44.0)	550.0	500.0	970.0	260.0	PL 75-761
Thomaston Dam	CENAD	CT/Litchfield	Naugatuck River	F	42.0(63.0)	494.0	380.0	960.0	0.0	PL 78-534
Townshend Lake	CENAD	VT/Windham	West River	FR	32.9 (54.3)	553.0	478.0	735.0	95.0	PL 78-534 PL 83-780
Tully Lake	CENAD	MA/Worcester	East Branch Tully River	F	20.5(35.8)	668.0	636.0	1,130.0	78.0	PL 75-761
Union Village Dam	CENAD	VT/Orange	Ompompanoosuc River	F	38.0(49.6)	564.0	420.0	740.0	0.0	PL 74-738
West Hill Dam	CENAD	MA/Worcester	West River	FR	12.4(29.5)	264.0	234.0	1,025.0	0.0	PL 78-534
West Thompson Lake	CENAD	CT/Windham	Quinebaug River	FR	25.6(47.8)	342.5	305.0	1,250.0	200.0	PL 86-645
Westville Lake	CENAD	MA/Worcester	Quinebaug River	FR	11.0(24.0)	572.0	525.0	913.0	23.0	PL 77-228
New Orleans District										
Atchafalaya Basin Floodway System	CEMVD	LA/St. Martin Parish	Atchafalaya River	F	0.0					FCA 1928
Bayou Sorrel Lock	CEMVD	LA/Iberville Parish	GIWW	N	0.0	29.7	3.5	0.0	0.0	FCA 1928
Bienvenue FG	CEMVD	LA/St. Bernard Parish	Bayou Bienvenue	F	0.0	2.0	2.0	0.0	0.0	PL 298-89
Bonnet Carre Diversion Spillway	CEMVD	LA/St Charles Parish	Mississippi River Lake Pontchartrain	F	0.0	24.0	20.0	0.0	0.0	FCA 1928
Calumet FG East & West	CEMVD	LA/St. Mary Parish	Wax Lake Outlet Bayou Teche	FN	0.0	3.0	3.0	0.0	0.0	FCA 1936
Caernarvon Diversion Outfall Management (CWPPRA)	CEMVD	LA/ Plaquemines Parish	Louisiana Coastal	C	0.0			0.0	0.0	FCA 1965
Calcasieu Lock	CEMVD	LA/St Bernard Parish	GIWW	I	0.0	1.2	1.2	0.0	0.0	RHA Oct 62
Catahoula Lake CS	CEMVD	LA/LaSalle Parish	Catahoula Diversion	CR	118.0	34.0	27.0	25,000.0	94.0	RHA 1960
Catfish Point CS	CEMVD	LA/Cameron Parish	Mermentau River	FN	0.0	1.2	1.2	0.0	0.0	FCA 1941 RHA 1964
Charenton FG	CEMVD	LA/St. Mary Parish	Grand Lake	FN	0.0	0.0	0.0	0.0	0.0	RHA 1946 FCA 1928
Cocodrie FG	CEMVD	LA/Concorida Parish	Bayou Cocodrie	F	0.0	46.0	13.0	0.0	0.0	FCA 1941
Comite River Diversion	CEMVD	LA/Livingston Parish	Comite River	F	0.0					WRDA 1986
Courtableau Drainage CS	CEMVD	LA/St. Landry Parish	Bayou Courtableau	F	0.0	18.0	16.0	0.0	0.0	FCA 1928 PL 391-70
Darbonne CS	CEMVD	LA/St. Landry Parish	Bayou Darbonne	FI	0.0	18.0	16.0	0.0	0.0	FCA 1928 PL 391-70
Delta Building Diversion North Of Fort St. Philip (CWPPRA)	CEMVD	LA/Plaquemines Parish	Mississippi River	C	0.0					FCA 1965
Dupre FG	CEMVD	LA/St. Bernard Parish	Bayou Dupre	F	0.0	2.0	2.0	0.0	0.0	PL 298-89
Empire FG Hurricane Prot & Lock	CEMVD	LA/ Plaquemines Parish	Mississippi River	F	0.0	5.0	5.0	0.0	0.0	PL 874-87
Freshwater Lock	CEMVD	LA/Vermillion Parish	Freshwater Bayou	NI	0.0	0.0	0.0	0.0	0.0	PL 86-645
Jonesville L&D	CEMVD	LA/Catahoula Parish	Black	N	0.0	34.0	34.0	7,120.0	7,120.0	RHA 1950
Keystone Lock Bayou Teche	CEMVD	LA/St. Martin Parish	Vermilion River	NR	0.0			6,697.0		PL 101-646
Larose to Golden Meadow Hurricane Prot FG	CEMVD	LA/Lafourche Parish	Bayou Lafourche	F	0.0	3.0	3.0	0.0	0.0	FCA 1965 PL 89-289
Leland Bowman Lock (Replacement)	CEMVD	LA/Vermilion Parish	GIWWW	INR	0.0	1.2	1.2	0.0	0.0	PL 79-14
L&D #1 L.C. Boggs	CEMVD	LA/Bossier Parish	Red River	NR	100.0 (100.0)	40.0	40.0	0.0	0.0	PL 90-483
L&D #2 John Overton	CEMVD	LA/Rapides Parish	Red River	NR	67.5 (67.5)	71.2	64.0	0.0	0.0	PL 90-483
L&D #3 W.W.	CEMVD	LA/Rapides Parish	Red River	NR	1.1(108.5)	95.0	91.5	0.0	0.0	PL 90-483
L&D #4 Russell B. Long	CEMVD	LA/Natchitoches Parish	Red River	NR	70.5 (70.5)	120.0	119.6	0.0	0.0	PL 90-483
L&D #5 Joe D. Waggoner	CEMVD	LA/Catahoula Parish	Red River	NR	43.0 (59.9)	145.0	140.2	0.0	0.0	PL 90-483
Long Branch DS	CEMVD	LA/Catahoula Parish	Catahoula Diversion	F	0.0	32.5	32.5	0.0	0.0	FCA 1950
Morganza Diversion CS	CEMVD	LA/Point Coupee Parish	Morganza Floodway	F	0.0	59.5	49.0	0.0	0.0	FCA 1928
Old River Diversion CS	CEMVD	LA/W. Feliciana Parish	Old River	F	0.0	70.0	5.0	0.0	0.0	PL 83-780
Old River Lock	CEMVD	LA/W. Feliciana Parish	Old River	N	0.0	65.4	10.0	0.0	0.0	FCA 1954 PL 780-83
Port Allen Lock	CEMVD	LA/W. Baton Rouge Parish	GIWW	N	0.0	46.1	2.6	0.0	0.0	RHA 1946
Rapides-Boeuf Diversion Canal CS	CEMVD	LA/Rapides Parish	Bayou Rapides	F	0.0	66.0	62.2	0.0	0.0	FCA 1941 GD 359-77
Schooner Bayou CS & Lock	CEMVD	LA/Vermilion Parish	Schooner Bayou	I	0.0	1.2	1.2	0.0	0.0	FCA 1941
Teche-Vermillion PS & CS	CEMVD	LA/St. Mary Parish	Atchafalaya River	MI	0.1	18.0	16.0	0.0	0.0	FCA 1928 PL 89-789
Tensa-Cocodrie PS	CEMVD	LA/Concordia Parish	Cocodrie Bayou	F	0.0	37.0	23.0	0.0	0.0	FCA 1965

Project Name	USACE Division	State/County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Norfolk District										
Gathright Dam & Lake Moomaw	CENAD	VA/Alleghany VA/Bath	Jackson River	F	79.9 (421.5)	1,610.0	1,582.0	3,160.0	2,530.0	PL 79-526
				AR	60.7	1,582.0	1,554.0	2,530.0	1,780.0	
Philpott Dam & Lake	CENAD	VA/Henry	Smith River	F	34.2	985.0	974.0	3,370.0	2,880.0	PL 78-534
				FP	111.2	974.0	920.0	2,880.0	1,350.0	
Omaha District										
Bear Creek Lake	CENWD	CO/Jefferson	Bear Creek	F	28.8	5,635.5	5,558.0	718.0	109.0	PL 90-483
				FCR	1.9	5,558.0	5,528.0	109.0	17.0	SD 87-90
Big Bend Dam & Lake Sharpe	CENWD	SD/Lyman	Missouri River	F	61.0	1,423.0	1,422.0	61,000.0	60,000.0	PL 78-534
				FNPIMCAR	117.0	1,422.0	1,420.0	60,000.0	57,000.0	SD 247-78
Blue Stem Lake & Dam	CENWD	NE/Lancaster	Salt Creek, Olive Branch	F	7.2	1,322.5	1,307.4	660.0	315.0	PL 85-500
				FCR	3.0	1,307.4	1,277.0	315.0	1.0	HD 396-84
Bowman-Haley Lake	CENWD	ND/Bowman	North Fork Grand River	F	72.7	2,777.0	2,754.8	5,131.0	1,732.0	PL 87-874
				FMCR	15.5	2,754.8	2,740.0	1,732.0	565.0	HD 574-87
Branched Oak Lake & Dam	CENWD	NE/Lancaster	Salt Creek, Oak Creek	F	71.6	1,311.0	1,284.0	3,640.0	1,780.0	PL 85-500
				FCR	26.0	1,284.0	1,250.0	1,780.0	0.0	HD 396-84
Bullhook & Scott Coulee Dams	CENWD	MT/Hill	Bullhook Creek Scott Coulee	F	6.5	2,593.0	2,540.0	283.0	0.0	PL 78-534
Cedar Canyon Dam	CENWD	SD/Pennington	Dead Man Gulch	F	0.1	3,545.0	3,526.0	11.0	2.0	PL 80-858
Chatfield Dam & Reservoir	CENWD	CO/Douglas CO/Jefferson	South Platte River	F	204.7	5,500.0	5,432.0	4,742.0	1,412.0	PL 81-516
				FQ	26.7	5,432.0	5,385.0	1,412.0	12.0	HD 699-80
Cherry Creek Dam & Reservoir	CENWD	CO/Arapahoe	Cherry Creek, South Platte River	F	80.0	5,598.0	5,550.0	2,637.0	852.0	PL 77-228
				FR	14.0	5,550.0	5,504.0	852.0	0.0	HD 426-76 PL 76-534
Coldbrook Dam & Lake	CENWD	SD/Fall River	Cold Brook Creek	F	6.7	3,651.4	3,585.0	198.0	36.0	PL 77-228
				FR	0.5	3,585.0	3,548.0	36.0	0.0	HD 655-76
Conestoga Lake & Dam	CENWD	NE/Lancaster	Salt Creek, Holmes Tributary	F	8.0	1,252.0	1,232.9	620.0	230.0	PL 85-500
				FCR	2.6	1,232.9	1,197.0	230.0	0.0	HD 396-84
Cottonwood Dam & Reservoir	CENWD	SD/Fall River	Cottonwood Springs Creek	F	7.7	3,936.0	3,875.0	214.0	44.0	PL 77-228
				FR	0.2	3,875.0	3,868.0	44.0	30.0	HD 655-76
Fort Peck Dam & Lake	CENWD	MT/Garfield MT/Valley	Missouri River	F	977.0	2,250.0	2,246.0	249,000.0	240,000.0	PL 73-409
				FNPIMCAR	13,649.0	2,246.0	2,160.0	240,000.0	92,000.0	PL 75-529 HD 238-73 PL 78-534 SD 247-78
Fort Randall Dam - Lake Francis Case	CENWD	SD/Gregory	Missouri River	F	985.0	1,375.0	1,365.0	102,000.0	95,000.0	PL 78-534
				FNPIMCAR	3,021.0	1,365.0	1,320.0	95,000.0	41,000.0	SD 247-78
Garrison Dam - Lake Sakakawea	CENWD	ND/Mercer	Missouri River	F	1,494.0	1,854.0	1,850.0	382,000.0	365,000.0	PL 78-534
				FNPIMCAR	17,440.0	1,850.0	1,775.0	365,000.0	129,000.0	SD 247-78
Gavins Point Dam - Lewis & Clark Lake	CENWD	SD/Yankton NE/ Knox	Missouri River	F	61.0	1,210.0	1,208.0	32,000.0	29,000.0	PL 78-534
				FNPIMCAR	95.0	1,208.0	1,204.5	29,000.0	25,000.0	SD 247-78
Glenn Cunningham Lake & Dam	CENWD	NE/Douglas	Little Papillion Creek	F	14.0	1,142.0	1,121.0	922.0	392.0	PL 90-483
				FRCA	3.9	1,121.0	1,085.0	392.0	0.0	HD 349-90
Kelly Road Dam	CENWD	CO/Arapahoe	Westerly Creek	F	0.3	5,362.0	5,342.0	38.0	0.0	PL 80-858 PL 84-99
Oahe Dam & Lake	CENWD	ND/4 Counties SD/8 Counties	Missouri River	F	23,600.0	1,620.0	1,617.0	373,000.0	359,000.0	PL 78-534
				FNPIMCAR		1,617.0	1,540.0	359,000.0	117,000.0	SD 247-78
Olive Creek Lake & Dam	CENWD	NE/Lancaster	Salt Creek Olive Branch	F	4.0	1,350.0	1,335.0	355.0	174.0	HD 396-84
				FCR	1.4	1,335.0	1,314.0	174.0	4.0	PL 85-500
Papio Dam Site #18 & Lake	CENWD	NE/Douglas	Boxeider Creek Papio Creek	F	7.1	1,128.2	1,110.0	595.0	255.0	PL 90-483
				FCAR	3.4	1,110.0	1,060.5	255.0	0.0	HD 349-90
Papio Dam Site #20 & Lake	CENWD	NE/Sarpy	Papio Creek Trib South Branch	F	6.1	1,113.1	1,096.0	493.0	246.0	PL 90-483
				FCAR	2.7	1,096.0	1,069.0	246.0	10.0	HD 349-90
Pawnee Lake & Dam	CENWD	NE/Lancaster	Salt Creek, Middle Creek	F	21.0	1,263.5	1,244.3	1,470.0	728.0	PL 85-500
				FCR	8.5	1,244.3	1,206.0	728.0	1.0	HD 396-84
Pipestem Lake	CENWD	ND/Stutsman	Pipestem Creek	F	181.7	1,496.3	1,442.4	4,754.0	885.0	PL 89-298
				FRC		1,442.4	1,415.0	885.0	62.0	HD 266-89
Snake Creek Dam - Lake Audubon	CENWD	ND/McLean	Snake Creek	F	346.4 (396)			19,095.0		PL 79-732 PL 78-534
Spring Gulch Embankment	CENWD	CO/Douglas	Spring Gulch	F	1.8	5,600.0	5,535.0	88.0	0.0	PL 81-516 HD 669-80
Stagecoach Lake & Dam	CENWD	NE/Lancaster	Salt Creek Hickman Branch	F	4.7	1,285.0	1,271.1	490.0	196.0	PL 85-500
				FCR	1.9	1,271.1	1,246.0	196.0	0.0	HD 396-84
Standing Bear Lake	CENWD	NE/Douglas	Trib Big Papillion Creek	F	3.7	1,121.0	1,104.0	302.0	137.0	PL 90-483
				FRC	1.5	1,104.0	1,060.0	137.0	0.0	HD 349-90
Twin Lakes & Dam	CENWD	NE/Seward	Salt Creek Middle Creek	F	5.3	1,355.0	1,341.0	505.0	255.0	PL 85-500
				CFR	2.8	1,341.0	1,306.0	255.0	1.0	HD 396-84
Wagon Trail Lake & Dam	CENWD	NE/Lancaster	Salt Creek Hickman Branch	F	6.8	1,302.0	1,287.8	660.0	303.0	PL 85-500
				FCR	2.5	1,287.8	1,260.0	303.0	4.0	HD 396-84
Wehrspann Lake & Dam	CENWD	NE/Sarpy	Trib South Branch Papio	F	6.1	1,113.1	1,096.0	493.0	246.0	PL 90-483
				FCAR	2.7	1,096.0	1,069.0	246.0	10.0	HD 349-90
Yankee Hill Lake & Dam	CENWD	NE/Lancaster	Salt Creek Cardwell Branch	F	5.6	1,262.0	1,244.9	475.0	208.0	PL 85-500
				FCR	2.0	1,244.9	1,218.0	208.0	0.0	HD 396-84
Philadelphia District										
Beltzville Lake	CENAD	PA/Carbon PA/Monroe	Pohopoco Creek	F	68.3 (103.6)	651.0	628.0	1,411.0	947.0	PL 87-874
				FMR		628.0	537.0	947.0	113.0	
Blue Marsh Lake	CENAD	PA/Lebanon PA/Berks	Tulpehocken Creek	F	50.0 (129.9)	307.0	290.0	2,159.0	1,147.0	PL 87-874
				FMRA		290.0	261.0	1,147.0	323.0	

Project Name	USACE Division	State/County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Francis E Walter Dam	CENAD	PA/Carbon PA/Monroe PA/Luzerne	Bear Creek, Lehigh River	F	107.8 (160.3)	1,450.0	1,300.0	1,830.0	80.0	PL 79-526
General Edgar Jadwin Dam & Reservoir	CENAD	PA/Wayne	Dyberry Creek	F	24.5 (47.3)	1,053.0	973.0	659.0	0.0	PL 80-858
Prompton Lake	CENAD	PA/Wayne	Lackawaxen River	F	48.5 (72.8)	1,205.0	1,125.0	910.0	290.0	PL 80-858
Pittsburgh District										
Berlin Lake	CELRD	OH/Mahoning OH/Portage	Mahoning River	F FMCAR	94.9 (140.0)	1,032.0 1,024.7	1,024.7 1,016.5	5,500.0 3,590.0	3,590.0 2,200.0	PL 75-761
Braddock L&D	CELRD	PA/Allegheny	Monongahela River	N	13.7(13.7)	718.7	710.0	1,190.0		RHA 1902
C.W. Bill Young L&D, PA (Pool 5)	CELRD	PA/Armstrong	Allegheny River	N	9.8 (9.8)			660.0		RHA 1935
Conemaugh River Lake	CELRD	PA/Indiana	Conemaugh River	FR	270.0 (335.0)	975.0	880.0	6,820.0	300.0	PL 74-738 PL 75-761
Crooked Creek Lake	CELRD	PA/Armstrong	Crooked Creek	FR	89.4 (132.0)	920.0	840.0	1,940.0	350.0	PL 74-738 PL 75-761
Dashields L&D	CELRD	PA/Allegheny	Ohio River	N	0.0(17.0)	692.0	682.0	0.0	0.0	RHA 1909
East Branch Clarion River Lake	CELRD	PA/Elk	East Branch Clarion River	F FCAR	38.8 (103.0)	1,685.0 1,670.0	1,670.0 1,651.0	1,370.0 1,160.0	1,160.0 920.0	PL 78-526
Emsworth L&D	CELRD	PA/Allegheny	Ohio River	N	0.0(42.7)	710.0	692.0	0.0	0.0	RHA 1909
Grays Landing L&D	CELRD	PA/Fayette	Monongahela River	N	12.5 (12.5)	778.0	763.0	796.0		SAA 1985
Hannibal L&D	CELRD	WV/Wetzel	Ohio River	N	0.0(130.0)	623.0	602.0	0.0	0.0	RHA 1909
Hildebrand L&D	CELRD	WV/Monongalia	Monongahela River	N	0.0(7.6)	835.0	814.0	0.0	0.0	RHA 1950
Kinzua Dam & Allegheny Reservoir	CELRD	PA/Warren	Allegheny River	F PFNCAR	1,156.0 (1,300.0)	1,365.0 1,328.0	1,328.0 1,240.0	21,180.0 12,080.0	12,080.0 1,900.0	PL 74-738
L&D No. 2, Allegheny River	CELRD	PA/Allegheny	Allegheny River	N	0.0	721.0	710.0	0.0	0.0	RHA 1935
L&D No. 4, Allegheny River, PA	CELRD	PA/Allegheny	Allegheny River	N	0.0	745.0	734.5	0.0	0.0	RHA 1912
L&D No. 5, Allegheny River	CELRD	PA/Allegheny	Allegheny River	N	0.0	756.8	745.0	0.0	0.0	RHA 1912
L&D No. 6, Allegheny River	CELRD	PA/Allegheny	Allegheny River	N	0.0	769.0	756.8	0.0	0.0	RHA 1912
L&D No. 7, Allegheny River, PA	CELRD	PA/Allegheny	Allegheny River	N	0.0	782.1	769.0	0.0	0.0	RHA 1912
L&D No. 8, Allegheny River	CELRD	PA/Allegheny	Allegheny River	N	0.0	800.0	782.1	0.0	0.0	RHA 1912 RHA 1935
L&D No. 9, Allegheny River	CELRD	PA/Allegheny	Allegheny River	N	0.0	822.0	800.0	0.0	0.0	RHA 1935
L&D No. 2, Monongahela River	CELRD	PA/Allegheny	Monongahela River	N	0.0	718.0	710.0	0.0	0.0	RHA 1902
L&D No. 3, Monongahela River	CELRD	PA/Allegheny	Monongahela River	N	0.0 (16.3)	726.9	718.7	0.0	0.0	RHA 1905
L&D No. 4, Monongahela River	CELRD	PA/Washington	Monongahela River	N	0.0	743.5	726.9	0.0	0.0	RHA 1909
Loyalhanna Lake	CELRD	PA/Westmoreland	Loyalhanna Creek	F	93.3	975.0	910.0	3,280.0	210.0	PL 74-738
West Fork of Mill Creek Lake (Winton Woods Lake)	CELRD	OH/Hamilton	Mill Creek	FR	9.8	702.0	675.0	557.0	183.0	FCA 1946
Mahoning Creek Lake	CELRD	PA/Armstrong	Mahoning Creek	F FCR	69.8 (94.0)	1,162.0 1,098.0	1,098.0 1,075.0	2,370.0 280.0	280.0 170.0	PL 74-738 PL 75-761
Maxwell L&D	CELRD	PA/Monongahela	Monongahela River	N	0.0(30.9)	763.0	743.5	0.0	0.0	RHA 1909
Michael J Kirwan Dam & Reservoir	CELRD	OH/Portage	West Branch Mahoning River	F FCAR	74.9 (124)	993.0 985.5	985.5 951.0	3,240.0 2,650.0	2,650.0 570.0	PL 74-738 PL 75-761
Montgomery L&D	CELRD	PA/Beaver	Ohio River	N	0.0 (57.5)	682.0	664.5	0.0	0.0	RHA 1909
Morgantown L&D	CELRD	WV/Monongalia	Monongahela River	N	0.0 (6.2)	814.0	797.0	0.0	0.0	RHA 1909
Mosquito Creek Lake	CELRD	OH/Trumbull	Mosquito Creek	F FMCAR	102.0 (180.0)	904.0 901.4	901.4 899.9	8,900.0 7,850.0	7,850.0 7,220.0	PL 75-761
New Cumberland L&D	CELRD	OH/Jefferson WV/Hancock	Ohio River	N	0.0 (74.0)	664.5	664.0	0.0	0.0	RHA 1909
Opekiska L&D	CELRD	WV/Monongahela	Monongahela River	N	0.0(14.4)	857.0	835.0	0.0	0.0	RHA 1950
Pike Island L&D	CELRD	OH/Belmont WV/Ohio	Ohio River	N	0.0 (89.3)	644.0	623.0	0.0	0.0	RHA 1909
Point Marion L&D No. 8	CELRD	PA/Fayette	Monongahela River	N	11.5 (11.5)	797.0	778.0	0.0	0.0	RHA 1922 RHA 1950 RHA 1973
Shenango River Lake	CELRD	PA/Mercer	Shenango River	F FCAR	180.9 (351)	919.0 896.0	896.0 885.0	11,090.0 3,560.0	3,560.0 1,910.0	PL 75-761
Tionesta Lake	CELRD	PA/Forest	Tionesta Creek Allegheny River	FR	125.6 (180.0)	1,170.0	1,085.0	2,770.0	480.0	PL 74-738 PL 75-761
Tygart Lake	CELRD	WV/Taylor	Tygart River	F FMNACR	278.0 (355)	1,167.0 1,094.0	1,094.0 1,010.0	3,430.0 1,740.0	1,740.0 620.0	PWA 1934
Union City Lake	CELRD	PA/Erie	French Creek	F	47.6(94.0)	1,278.0	1,210.0	2,290.0	0.0	PL 87-874
Woodcock Creek Lake	CELRD	PA/Crawford	Woodcock Creek	F FCAR	20.0 (31.5)	1,209.0 1,181.0	1,181.0 1,162.5	775.0 325.0	325.0 100.0	FCA 1962
Youghiogheny River Lake	CELRD	PA/Fayette	Youghiogheny River	F FCAR	248.8 (300)	1,470.0 1,439.0	1,439.0 1,419.0	3,570.0 2,840.0	2,840.0 2,300.0	FCA 1938
						Elev Limits Feet MSL		Area in Acres		

Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Upper		Lower		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Portland District										
Applegate Dam,	CENWD	OR/Jackson	Applegate River	FIR	75.2 (89.3)	1,987.0	1,854.0	988.0	221.0	PL 87-874 FCA 1962
Blue River Dam & Reservoir	CENWD	OR/Lane	Blue River	F	85.3 (89.0)	1,357.0	1,350.0	975.0	940.0	HD 531
				FNI		1,350.0	1,180.0	940.0	133.0	PL 81-516
Bonneville L&D	CENWD	OR/Multnomah WA/Skamaniam	Columbia River	PNR	138 (537)	77.0	70.0	20,800.0	19,850.0	RHA 1935
Cottage Grove Dam & Reservoir	CENWD	OR/Lane	Willamette River	FIR	29.8 (50.0)	791.0	750.0	1,155.0	295.0	HD 544 PL 75-761
Cougar Dam & Reservoir	CENWD	OR/Lane	McKenzie River	F	155 (219)	1,699.0	1,690.0	1,280.0	1,235.0	HD 531
				FNMP		1,690.0	1,532.0	1,235.0	635.0	PL 81-516
				P		1,532.0	1,516.0	635.0	602.0	PL 83-870
Big Cliff Dam	CENWD	OR/Marion OR/Linn	North Santiam River	P	3.5 (5.9)	1,206.0	1,182.0	130.0	98.0	HD 544 PL 75-761 PL 87-874
				F		1,569.0	1,563.0	3,490.0	3,455.0	HD 544
Detroit Reservoir	CENWD	OR/Marion	North Santiam River	FNPIR	341.0 (455.0)	1,563.5	1,450.0	3,455.0	1,725.0	HD 544 PL 75-761
				P		1,450.0	1,425.0	1,725.0	1,415.0	
Dexter Lake	CENWD	OR/Lane	Willamette River	FNPI	4.8 (29.9)	695.0	690.0	990.0	940.0	HD 544 PL 75-761
Dorena Dam & Reservoir	CENWD	OR/Lane	Row River	F	70.5 (131.0)	835.0	832.0	1,885.0	1,815.0	HD 544
				FNIR		832.0	770.5	1,815.0	520.0	PL 75-761
Elk Creek Lake	CENWD	OR/Jackson	Elk Creek	F	0.0(0.5)					
Fall Creek Dam & Reservoir	CENWD	OR/Lane	Fall Creek	F	115.0 (125.0)	834.0	830.0	1,865.0	1,760.0	HD 531
				FINR		830.0	728.0	1,760.0	460.0	PL 81-516
Fern Ridge Dam & Reservoir	CENWD	OR/Lane	Long Tom River	F	109.6 (121.0)	375.1	373.5	10,305.0	9,340.0	HD 544
				FRNI		373.5	353.0	9,340.0	1,515.0	PL 75-761
Foster Dam	CENWD	OR/Linn	South Santiam River	F	29.8 (61.0)	641.0	637.0	1,260.0	1,195.0	HD 544
				FRMINP		637.0	613.0	1,195.0	895.0	PL 86-645
Green Peter Dam & Lake	CENWD	OR/Linn	Middle Fork, Santiam River	F	268.2 (430.0)	1,015.0	1,010.0	3,705.0	3,605.0	HD 531
				FNPIR		1,010.0	992.0	3,605.0	2,072.0	PL 81-516 PL 83-780
Hills Creek Dam & Reservoir	CENWD	OR/Lane	Willamette River	F	200.2 (356.0)	1,543.0	1,541.0	2,850.0	2,710.0	HD 531
				FIMPR		1,541.0	1,448.0	2,710.0	1,575.0	PL 81-516
John Day L&D	CENWD	OR/Sherman	Columbia River	F	500.0 (2530.0)	268.0	265.0	55,000.0	52,000.0	HD 531
				IPNRC		265.0	262.0	52,000.0	49,000.0	PL 81-516
				P		262.0	257.0	49,000.0	42,000.0	
Lookout Point Lake	CENWD	OR/Lane	Willamette River	F	348.4 (565.2)	825.0	819.0	2,090.0	1,860.0	HD 544
				FPINR		926.0	825.0	4,255.0	2,090.0	PL 75-761
Lost Creek Dam	CENWD	OR/Jackson	Rogue River	PFMRI	315.0 (500.0)	1,872.0	1,751.0	3,430.0	1,800.0	HD 566 PL 87-874
McNary L&D	CENWD	OR/Umatilla	Columbia River	NP	185.0	340.0	335.0	38,800	36,000	HD 704 PL 79-14
The Dalles L&D	CENWD	OR/Wasco	Columbia River	IPNR	52.5 (330.0)	160.0	155.0	11,200.0	10,350.0	HD 531 PL 81-516
Willow Creek Lake	CENWD	OR/Morrow	Willow Creek	FR	11.6(14.1)	2,113.5	2,047.0	269.0	96.0	PL 89-298
Rock Island District										
Brandon Road L&D, (Illinois Waterway L&D)	CELRD	IL/Will	Des Plaines River	N	4.5	539.0	539.0	300.0	250.0	PL 71-126
Coralville Lake	CELRD	IA/Johnson	Iowa River	FR	492.0 (20.0)	712.0	680.0	24,800.0	3,580.0	PL 75-761
				C		680.0	652.0	3,580.0	0.0	
De Pere L&D	CELRD	WI/Brown	Fox River	NHFM	9.4(10.8)	591.0	586.7	926.0	0.0	PL 71-126
Dresden Island L&D, (Illinois Waterway L&D)	CELRD	IL/Grundy	Illinois River	N	1.0 (12.0)	505.0	504.0	1,690.0	1,550.0	FCA 1958
LaGrange L&D, (Illinois Waterway L&D)	CELRD	IL/Brown	Illinois River	N	0.0	429.0	429.0	10,500.0	10,500.0	PL 73-184
Lake Red Rock Dam & Reservoir	CELRD	IA/Marion	Des Moines River	F	1,670.0	780.0	728.0	65,400.0	8,000.0	PL 75-761
				R		728.0	690.0	8,000.0	0.0	PL 75-761
Little Kaukauna L&D	CELRD	WI/Brown	Fox River	N	3.6	601.0	592.8	447.0	42.0	RHA 1882 RHA 1885
Lockport L&D, (Illinois Waterway L&D)	CELRD	IL/Will	CSSC	FNP	2.7 (2.5)	579.0	577.5	1,850.0	1,800.0	RHA 1930
L&D 11, Dubuque, IA	CELRD	IA/Dubuque	Mississippi River	N	19.1(170.0)	603.1	602.0	21,100.0	20,000.0	PL 71-520
L&D 12, Bellevue, IA	CELRD	IA/Jackson	Mississippi River	N	12.2(92.0)	592.1	591.0	13,000.0	12,400.0	PL 71-520
L&D 13, Fulton, IL	CELRD	IL/Whiteside	Mississippi River	N	24.2(192.0)	583.1	582.0	30,000.0	28,500.0	PL 71-520
L&D 14, Pleasant Valley, IA	CELRD	IA/Scott	Mississippi River	N	9.0 (82.0)	572.1	571.0	10,500.0	9,980.0	PL 71-520
L&D 15, Rock Island, IL	CELRD	IL/Rock Island	Mississippi River	NP	5.5(30.0)	561.1	559.0	3,725.0	3,540.0	PL 71-520
L&D 16, Illinois City, IL	CELRD	IL/Rock Island	Mississippi River	N	12.1(88.0)	545.1	544.0	13,000.0	12,400.0	PL 71-520
L&D 17, New Boston, IL	CELRD	IL/Mercer	Mississippi River	N	7.5(50.0)	537.1	536.0	7,580.0	7,200.0	PL 71-520
L&D 18, Gladstone, IL	CELRD	IL/Henderson	Mississippi River	N	11.0(90.0)	529.1	528.0	13,300.0	12,600.0	PL 71-520
L&D 19, Keokuk, IA	CELRD	IA/Lee	Mississippi River	NP	55.0(292.0)	518.2	517.2	33,500.0	31,800.0	PL 71-520
L&D 20, Canton, MO	CELRD	MO/Lewis	Mississippi River	N	5.8(58.0)	481.5	476.5	7,960.0	7,550.0	PL 71-520
L&D 21, Quincy, IL	CELRD	IL/Adams	Mississippi River	N	8.6(62.0)	470.1	469.6	9,390.0	8,910.0	PL 71-520
L&D 22, Saverton, MO	CELRD	MO/Polk	Mississippi River	N	8.4(80.0)	459.6	459.1	8,660.0	8,230.0	PL 71-520
Marseilles L&D, (Illinois Waterway L&D)	CELRD	IL/LaSalle	Illinois River	N	0.7 (14)	483.0	482.8	1,400.0	1,320.0	PL 71-126
Peoria L&D, (Illinois Waterway L&D)	CELRD	IL/Peoria	Illinois River	N	0.0	440.0	440.0	27,800.0	27,800.0	PL 73-784
Saylorville Dam & Reservoir	CELRD	IA/Polk	Des Moines River	F	586.0	890.0	836.0	16,700.0	5,950.0	FCA 1936
				P		836.0	810.0	5,950.0	0.0	

Project Name	USACE Division	State/County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Starved Rock L&D, (Illinois Waterway L&D)	CELRD	IL/LaSalle	Illinois River	N	1.0	459.0	458.0	1,155.0	1,020.0	PL 69-100
Thomas J. O'Brien L&D, (Illinois Waterway L&D)	CELRD	IL/Cook	Calumet River, Lake Michigan	N	0.3 (10.7)	581.9	578.2	50.0	50.0	RHA 1946
Sacramento District										
Bear Dam	CESPD	CA/Mariposa	Bear Creek	F	7.7	413.5	344.0	265.0	0.0	PL 78-534
Black Butte Lake & Dam	CESPD	CA/Tehema	Stony Creek, Sacramento River	IPFR	137.1 (143.7)	473.5	414.6	4,453.0	577.0	PL 78-534
Buchanan Dam - H.V. Eastman Lake	CESPD	CA/Madera	Chowchilla River	F	185.0 (150.0)	587.0	559.0	1,785.0	1,482.0	PL 78-874
Burns Dam	CESPD	CA/Merced	Burns Creek	F	6.8	300.0	266.0	662.0	0.0	PL 78-534
Coyote Valley Dam - Lake Mendocino	CESPD	CA/Mendocino	East Fork, Russian River	F	122.4 (155.5)	764.8	737.5	1,922.0	1,740.0	PL 75-761
Dry Creek (Warm Springs) Lake & Channel	CESPD	CA/Sonoma	Dry Creek	PFMIR	361.0 (449.0)	495.0	451.1	3,600.0	2,600.0	PL 87-874
Englebright Lake & Dam (Sacramento River & Tributaries)	CESPD	CA/Yuba, Nevada	Yuba River & North Fork of the American River	PR	70.0 (70.0)			815.0		FCA 1936
Farmington Dam	CESPD	CA/San Joaquin CA/Stanislaus	Littlejohn Creek	F	52.0 (52.0)	156.5	120.0	4,107.0	0.0	PL 78-534
Hidden Dam, Hensley Lake	CESPD	CA/Madera	Fresno River	F	85.0 (90.0)	540.0	485.8	1,567.0	811.0	PL 87-874
Isabella Dam	CESPD	CA/Kern	Kern River	IPFR	568.1(568.0)	2,605.5	2,470.0	11,454.0	26.0	PL 78-534
Mariposa Dam	CESPD	CA/Mariposa	Mariposa Creek	F	15.0	439.5	370.0	512.0	0.0	PL 78-534
Martis Creek Lake	CESPD	CA/Nevada	Martis Creek	F	19.6	5,838.0	5,780.0	762.0	61.0	PL 87-874
New Hogan Lake	CESPD	CA/Calaveras	Calaveras River	F	165.0	713.0	666.2	4,333.0	2,818.0	PL 78-534
New Hogan Dam & Lake	CESPD	CA/Calaveras	Calaveras River	FI	302.2	713.0	586.0	4,333.0	702.0	
New Hogan Dam & Lake	CESPD	CA/Calaveras	Calaveras River	IFR	317.1 (317.1)			4,400.0		FCA 1944
Owens Dam	CESPD	CA/Mariposa	Owens Creek	F	3.6	407.5	347.0	174.0	0.0	PL 78-534
Pine Flat Lake & Dam	CESPD	CA/Fresno	Kings River	IPFR	1,000.0 (1,000.0)	951.5	565.5	5,956.0	0.0	PL 78-534
Success Lake	CESPD	CA/Tulare	Tule River	IPFR	75.0(82.3)	652.5	588.9	2,477.0	409.0	PL 78-534
Terminus Dam, Lake Kaweah	CESPD	CA/Tulare	Kaweah River	IPFR	136.1 (143)	694.0	570.0	1,913.0	276.0	PL 78-534
Savannah District										
Clarks Hill Dam & Lake	CESAD	GA/Columbia	Savannah River	F	390.0	335.0	330.0	78,500.0	71,100.0	PL 78-534
				FP	1,045.0	330.0	312.0	71,100.0	45,000.0	
Hartwell Lake & Dam	CESAD	GA/Hart	Savannah River	F	1,709.0 (3,438.7)	665.0	660.0	61,400.0	55,950.0	PL 81-516
				FPR		660.0	625.0	55,950.0	27,650.0	
J. Strom Thurmond Lake & Dam	CESAD	GA/Columbia	Savannah River	PFR	2,510.0 (3,820.0)			71,000.0		FCA 1944
Richard B. Russell Lake & Dam	CESAD	GA/Elbert SC/Abbeville	Savannah River	F	266.8	480.0	475.0	29,340.0	26,653.0	PL 89-789
				FP	1,488.2	475.0	470.0	26,653.0	24,117.0	
Seattle District										
Albeni Falls Dam, (Flood Control)	CENWD	ID/Bonner	Pend Oreille River	FP	1,155.0 (1,155)	2,062.5	2,049.7	95,000	86,000	PL 81-516
Chief Joseph Dam	CENWD	WA/Douglas	Columbia River	PR	192.3 (593.0)	956.0	930.0	8,400.0	6,800.0	HD 693 PL 79-525
Howard A. Hanson Dam & Reservoir	CENWD	WA/King	Green River	F	65.6 (136.7)	1,206.0	1,141.0	1,750.0	763.0	HD 531
				FCA		1,141.0	1,040.0	763.0	13.0	PL 81-516
H. M. Chittin L&D, Lake Washington	CENWD	WA/King	Lake Washington	NR	458.0 (458.0)			25,000.0		PL 84-779
Libby Dam, Lake Koocanusa	CENWD	MT/Lincoln	Kootenai River	PFR	4,979.5	2,459.0	2,287.0	46,365.0	14,391.0	HD 531 PL 81-516
Mud Mountain Dam	CENWD	WA/King WA/Pierce	White River	F	106.3	1,215.0	895.0	963.0	0.0	PL 74-738
Wynoochee Dam & Lake	CENWD	WA/Grays WA/Harbor	Wynoochee River	FMCA	65.4	800.0	700.0	1,170.0	193.0	HD 601 PL 93-251
St. Louis District										
Carlyle Lake	CEMVD	IL/Clinton	Kaskaskia River	F	699.0	462.5	445.0	57,500.0	26,000.0	SD 44
				NMCA	233.0	445.0	429.5	0.0	7,100.0	
Clarence Cannon De-Regulation Dam	CEMVD	MO/Ralls	Salt River	PCA	5.8	528.0	521.0	1,020.0	460.0	HD 507
Columbia Bottoms L&D	CEMVD	LA/Caldwell	Ouachita River	N	0.0	52.0	52.0	7,070.0	7,070.0	RHA 1950
East St. Louis PS	CEMVD	IL/St. Clair		F	0.0	0.0	0.0	0.0	0.0	FCA 1936
Farmdale Dam	CEMVD	IL/Tazwell	Farm Creek	F	11.3	616.0	551.0	385.0	0.0	PL 78-534
Fondulac Dam	CEMVD	IL/Tazwell	Fondulac Creek	F	2.3	579.0	530.0	97.0	0.0	PL 78-534
Kaskaskia River L&D	CEMVD	IL/Randolph	Kaskaskia River	N	1.1	368.0	363.0	1,300.0	1,200.0	SD 44
Lake Shelbyville	CEMVD	IL/Shelby	Kaskaskia River	F	474.0	626.5	599.7	25,300	11,100.0	HD 322
				NMCA	180.0	599.7	573.0	11,100	3,000	
L&D No. 24, Mississippi River	CEMVD	IL/Pike	Mississippi River	NR	125.4 (125.4)	449.0	445.0	13,000.0	12,000.0	RHA 1930
L&D No. 25, Mississippi River	CEMVD	MO/Lincoln	Mississippi River	NR	176.0 (176.0)	434.0	429.7	18,000.0	16,600.0	RHA 1930
Mark Twain Lake	CEMVD	MO/Ralls	Salt River	F	894.0	638.0	606.0	38,400	18,600	HD 507
				PMCA	457.0	606.0	567.2	18,600	16,600	
Melvin Price L&D (Replaced #26)	CEMVD	IL/ Madison	Mississippi River	NR	238.0 (238.0)	419.0	414.0	30,000.0	27,700.0	RHA 1930

Prairie Dupont PS	CEMVD	IL/St. Clair	IDD	F	0.0	0.0	0.0	0.0	0.0	FC Act 62
Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Rend Lake	CEMVD	IL/Franklin	Big Muddy River	F MA	109.0 160.0	410.0 405.0	405.0 391.3	24,800.0 18,900.0	18,900.0 5,400.0	HD 541
Wappapello Lake	CEMVD	MO/Wayne	St. Francis River	F	1,034.2	410.2	354.8	30,200.0	5,200.0	HD 159
Wood River PS	CEMVD	IL/Madison	IDD	F	0.0	0.0	0.0	0.0	0.0	FCA 1938
St. Paul District										
Badhill Dam & Reservoir	CEMVD	ND/Barnes	Sheyenne River	FM	68.6	1,266.0	1,257.2	5,430.0	4,430.0	FCA Dec1944
Cedars L&D	CEMVD	WI/Outagamie	Fox River	N	1.8	703.6	698.7	255.0	140.0	RHA 1882 RHA 1885
Eau Galle Dam & Reservoir	CEMVD	WI/Pierce	Eau Galle River	FCR	1.6	940.0	938.5	1,500.0	1,350.0	PL 78-534
Gull Lake Dam & Reservoir	CEMVD	MN/Cass	Gull River	N	70.4	1,194.0	1,192.7	13,100.0	12,700.0	RHA 1899
Highway 75 Dam & Reservoir	CEMVD	MN/Bigstone MN/Lacqui MN/Parle	Minnesota River	FC	11.1	952.3	947.3	2,790.0	910.0	FCA 1965
Homme Lake & Dam	CEMVD	ND/Walsh	Park River	FMR	3.7(7.0)	1,080.0	1,074.0	190.0	176.0	FCA 1944
Lac qui Parle	CEMVD	MN/Chippewa MN/Swift	Lac Qui Parle River	FRC	119.0 (122.8)	941.1	931.2	13,500.0	6,400.0	FCA 1936
Leech Lake Dam & Reservoir	CEMVD	MN/Cass	Leech River	N	300.2	1,295.7	1,293.2	139,000.0	107,200.0	RHA 1882 RHA 1885
Little Chute L&D	CEMVD	WI/Outagamie	Fox River	N	0.4	694.2	688.9	74.0	67.0	RHA 1882 RHA 1885
L&D No. 1, Mississippi River	CEMVD	MN/Hennepin	Mississippi River	PNR	13.0 (9.3)	725.1	722.8	5,800.0	5,500.0	RHA 1910
L&D No. 2, Mississippi River	CEMVD	MN/Dakota	Mississippi River	NR	82.0 (787.0)	687.2	686.5	11,810.0	11,000.0	RHA 1927
L&D No. 3, Mississippi River	CEMVD	MN/Goodhue, Pierce	Mississippi River	NR	17.8 (11,100.0)	675.0	674.0	17,950.0	17,650.0	RHA 1930
L&D No. 4, Mississippi River	CEMVD	WI/Buffalo	Mississippi River	NR	18.0 (878.0)	667.0	666.5	38,820.0	36,600.0	RHA 1930
L&D No. 5, Mississippi River	CEMVD	MN/Winona	Mississippi River	NR	6.2 (106.6)	660.0	659.5	12,680.0	12,000.0	RHA 1930
L&D No. 5a, Mississippi River	CEMVD	MN/Winona	Mississippi River	NR	7.2 (260.0)	651.0	650.0	7,500.0	7,000.0	RHA 1930
L&D No. 6, Mississippi River	CEMVD	WI/Trempleleau	Mississippi River	NR	8.4 (180.0)	645.5	644.5	8,870.0	8,000.0	RHA 1930
L&D No. 7, Mississippi River	CEMVD	MN/Winona	Mississippi River	NR	2.6 (105.0)	639.0	639.0	13,440.0	13,440.0	RHA 1930
L&D No. 8, Mississippi River	CEMVD	WI/Vernon	Mississippi River	NR	20.4 (260.0)	631.0	630.0	20,800.0	20,000.0	RHA 1930
L&D No. 9, Mississippi River	CEMVD	WI/Crawford	Mississippi River	NR	28.7 (470.0)	620.0	619.0	29,125.0	28,300.0	RHA 1930
L&D No. 10, Mississippi River	CEMVD	IA/Clayton	Mississippi River	NR	16.8 (212.0)	611.0	61.0	17,070.0	16,500.0	RHA 1930
Marsh Lake	CEMVD	MN/Swift MN/Lacqui MN/Parle	Minnesota River	FC	23.9 (91.0)	941.1	937.6	8,650.0	5,150.0	FCA 1936
Lower Appleton L&D	CEMVD	WI/Outagamie	Fox River	N	0.2	710.9	706.3	43.0	40.0	RHA 1882 RHA 1885
Menasha Dam, Lake Winnebago	CEMVD	WI/Winnebago	Fox River	FN	452.0	746.8	743.5	181,120.0	168,500.0	
Orwell Lake	CEMVD	MN/Otter Tail	Otter Tail	FMRC	8.1(20.6)			805.0		FCA 1948
Pine Dam & Reservoir	CEMVD	MN/Crow Wing	Pine River	N	40.4	1,230.3	1,227.3	13,900.0	13,000.0	RHA 1899
Pokegama Dam & Reservoir	CEMVD	MN/Itasca	Mississippi River	N	52.4	1,274.4	1,270.3	13,700.0	12,000.0	RHA 1899
Rapid Croche L&D	CEMVD	WI/Outagamie	Fox River	N	3.4	608.5	602.1	568.0	0.0	RHA 1885
Red Lake Dam & Reservoir	CEMVD	MN/Clearwater	Red Lake River	FA	1,810.0	1,174.0	1,173.5	288,800.0	287,300.0	FCA 1944
Reservation Control Reservoir	CEMVD	MN/Traverse		FC	58.8	981.0	976.0	12,400.0	10,950.0	FCA 1936
Sandy Lake Dam & Reservoir	CEMVD	MN/Aitkin	Sandy River	N	37.5	1,218.3	1,214.3	10,600.0	8,200.0	RHA 1899
St. Anthony Falls Upper L&D	CEMVD	MN/Hannepin	Mississippi River	N	17.4	801.0	799.0	8,800.0	8,600.0	RHA 1937 RHA 1945
Upper Appleton L&D	CEMVD	WI/Outagamie	Fox River	N	7.4	738.7	735.4	1,171.0	1,040.0	RHA 1882 RHA 1885
Upper Kaukauna L&D	CEMVD	WI/Outagamie	Fox River	N	1.1	656.8	652.8	134.0	115.0	RHA 1882 RHA 1885
White Rock Dam & Reservoir	CEMVD	MN/Traverse	Bois De Souix	FC	78.6	981.0	972.0	10,500.0	4,000.0	FCA 1936
Winnibigoshish Lake & Dam	CEMVD	MN/Cass MN/Itasca	Mississippi River	N	98.7	1,300.9	1,296.9	98,700.0	62,000.0	RHA 1899
Tulsa District										
Arcadia Lake	CESWD	OK/Oklahoma	Deep Fork River	F	91.8	1,029.5	1,006.0	3,820.0	1,820.0	PL 91-611
				FMCR	(190.7)	1,006.0	970.0	1,820.0	20.0	
Birch Lake	CESWD	OK/Osage	Birch Creek	F		774.0	750.5	2,340.0	1,140.0	PL 87-874 HD 563-87-2
				FMCAR	54.8 (111.1)	750.5	730.0	1,140.0	384.0	
Broken Bow Lake	CESWD	OK/McCurtain	Mountain Fork River	F	920.0	627.5	599.5	18,000.0	14,200.0	PL 85-500
				FRPMAC	(1,599.0)	599.5	559.5	14,200.0	9,200.0	
						Elev Limits Feet MSL		Area in Acres		

Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Upper		Lower		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Canton Lake	CESWD	OK/Blain	North Canadian River	F FMI	363.0 (383.8)	1,638.0 1,615.4	1,615.4 1,596.5	15,710.0 7,910.0	7,910.0 2,710.0	PL 75-761 HD 56-75-3
Chouteau L&D	CESWD	OK/Wagoner	Verdigris River	N	0.0 (23.3)	511.0	511.0	2,270.0	2,270.0	PL 79-525, HD 758-79-2
Copan Lake	CESWD	OK/Washington	Little Caney River	F MRCA	227.1 (338.0)	732.0 710.0	710.0 687.5	13,380.0 4,850.0	4,850.0 110.0	PL 87-874 HD 563-87-2
Council Grove Lake	CESWD	KS/Morris	Neosho River	F MAR	112.3 (346.7)	1,289.0 1,274.0	1,274.0 1,240.0	5,400.0 3,230.0	3,230.0 42.0	PL 81-516
El Dorado Lake	CESWD	KS/Butler	Walnut River	F FMAR	79.2 154.0	1,347.5 1,339.0	1,339.0 1,296.0	10,740.0 8,000.0	8,000.0 420.0	PL 89-298 HD 232-89-1
Elk City Lake	CESWD	KS/Montgomery	Elk River	F MAR	284.3 (850.4)	825.0 796.0	796.0 764.0	13,150.0 4,450.0	4,450.0 64.0	HD 440-76-1
Eufaula Lake	CESWD	OK/McIntosh OK/Pittsburg OK/Haskell	Canadian River	F PMR	2,973.9 (3,825.4)	597.0 585.0	585.0 565.0	147,960.0 105,480.0	105,480.0 48,120.0	PL 79-525
Fall River Lake	CESWD	KS/Greenwood	Fall River	F A	249.5 (256.4)	987.5 948.5	948.5 940.0	10,400.0 2,350.0	2,350.0 1,170.0	HD 440-76-1
Fort Gibson Lake	CESWD	OK/Wagoner	Neosho River	F FP	973.1 (1,284.4)	582.0 554.0	554.0 551.0	51,000.0 19,100.0	19,900.0 16,950.0	FEC 1941 RHA 1946
Fort Supply Lake	CESWD	OK/Woodward	Wolf Creek	F FRM	100.7 (100.7)	2,028.0 2,004.0	2,004.0 1,988.0	5,690.0 1,820.0	1,820.0 0.0	PL 74-738
Great Salt Plains Lake	CESWD	OK/Alfalfa	Salt Fork, Arkansas River	F FC	271.4 (990.2)	1,138.5 1,125.0	1,125.0 1,115.0	27,730.0 8,690.0	8,690.0 0.0	PL 74-738
Heyburn Lake	CESWD	OK/Creek	Polecat Creek	F MR	52.2 (55.4)	784.0 761.5	761.5 55.5	3,700.0 917.0	917.0 394.0	PL 79-526
Hugo Lake	CESWD	OK/Choctaw	Kiamichi River	F MCAR	936.3 (1,274.1)	437.5 404.5	404.5 390.0	34,490.0 13,250.0	13,250.0 4,500.0	PL 79-526
Hulah Lake	CESWD	OK/Osage	Caney River	F MA	289.0 (289.0)	765.0 733.0	733.0 710.0	13,000.0 3,570.0	3,570.0 0.0	PL 74-738 PL 84-843
John Redmond Dam & Reservoir	CESWD	KS/Coffee	Grand (Neosho) River	F MAR	629.8 (626.0)	1,068.0 1,039.0	1,039.0 1,020.0	31,700.0 9,300.0	9,300.0 108.0	PL 81-516
Kaw Lake	CESWD	OK/Kay OK/Osage	Arkansas River	F PMCAR	1,262.9 (1,327.2)	1,044.5 1,010.0	1,010.0 978.0	38,020.0 17,040.0	17,040.0 5,590.0	PL 87-874
Keystone Lake	CESWD	OK/Tulsa	Arkansas River	F PMNCR	1,476.7 (1,672.6)	754.0 723.0	723.0 706.0	54,300.0 23,600.0	23,600.0 13,300.0	PL 81-516
Lake Texoma - Denison Dam	CESWD	TX/Marshall	Red River	F PFM	4,281.0 (5,194.0)	640.0 617.0	617.0 590.0	144,000.0 88,000.0	88,000.0 41,000.0	PL 75-761
Marion Reservoir	CESWD	KS/Marion	Cottonwood River	F MR	143.5 (189.2)	1,358.5 1,350.5	1,350.5 1,320.0	9,050.0 6,200.0	6,200.0 170.0	PL 81-516
Newt Graham L&D No. 18	CESWD	OK/Wagoner	Verdigris River	N	0.0 (23.5)	532.0	532.0	1,490.0	1,490.0	PL 97-525
Oologah Lake	CESWD	OK/Rogers	Verdigris River	F MNR	1,509.7 (1,559.3)	661.0 638.0	638.0 592.0	56,800.0 29,460.0	29,460.0 1,120.0	PL 75-761
Optima Lake	CESWD	OK/Texas	North Canadian River	F MRC	218.2 (618.5)	2,779.0 2,763.5	2,763.5 2,726.0	7,640.0 5,340.0	5,340.0 1,335.0	PL 74-738
Pat Mayse Lake	CESWD	TX/Lamar	Sanders Creek	F MCR	184.5 (457.8)	460.5 451.0	451.0 415.0	7,680.0 5,993.0	5,993.0 996.0	PL 87-874 HD 88-71
Big Hill Lake (Pearson - Skubitz)	CESWD	KS/Labette	Big Hill Creek	F FMR	40.3 (39.5)	867.5 858.0	858.0 814.0	1,520.0 1,240.0	1,240.0 70.0	PL 87-874 HD 572-87-2
Pine Creek Lake	CESWD	OK/McCurtain	Little River	F MCRA	465.7 (968.2)	480.0 443.5	443.5 414.0	17,230.0 4,980.0	4,980.0 700.0	PL 85-500 HD 170-85
Robert S Kerr L&D & Reservoir	CESWD	OK/Sequoyah	Arkansas River	F	84.7(525.7)	460.0	458.0	43,800.0	40,760.0	PL 79-525
Sardis Lake	CESWD	OK/Pushmataha	Jackfork Creek	F MR	396.8 (735.8)	607.0 599.0	599.0 542.0	16,960.0 13,610.0	13,610.0 40.0	HD 602-79-2
Skiatook Lake	CESWD	OK/Osage	Hominy Creek	F MRAC	489.6 (893.0)	729.0 714.0	714.0 657.0	13,960.0 10,190.0	10,190.0 1,430.0	HD 563-87
Tenkiller Ferry Lake	CESWD	OK/Cherokee	Illinois River	F P	947.7 (1,230.8)	667.0 632.0	632.0 594.5	20,800.0 12,900.0	12,900.0 7,370.0	RHA 1946
Toronto Lake	CESWD	KS/Woodson	Verdigris River	F MA	190.5 (318.9)	931.0 901.5	901.5 896.7	11,470.0 2,660.0	2,660.0 1,720.0	HD 440-76-1
W.D. Mayo L&D	CESWD	OK/Sequoyah OK/Le Flore	Arkansas River	N	0.0(15.8)	413.0	0.0	1,600.0	0.0	PL 79-525
Waurika Lake	CESWD	OK/Jefferson	Beaver Creek	F IFMCAR	340.1 (935.5)	962.5 951.4	951.4 910.0	15,000.0 10,100.0	10,100.0 830.0	PL 88-253
Webbers Falls L&D	CESWD	OK/Muskogee	Arkansas River	NP	32.4 (170.1)	490.0	487.0	10,900.0	9,300.0	PL 79-525
Wister Lake	CESWD	OK/Le Flore	Poteau River	FM	387.0(427.5)	502.5	474.6	23,070.0	5,000.0	PL 75-761
Vicksburg District										
Blakely Mountain Dam - Lake Ouachita	CEMVD	AR/Garland	Ouachita River	P	617.0	592.0	535.0	49,300.0	20,900.0	FCA 1944
Bodcau Lake	CEMVD	LA/Bossier	Bayou Bodcau	F	35.3	199.5	157.0	21,000.0	110.0	PL 74-839
Caddo Lake	CEMVD	LA/Caddo	Caddo Lake	N	128.6	176.0	168.5	59,000.0	26,800.0	FCA 1965
Degray Lake	CEMVD	AR/Clark	Caddo River	FNPMPRA	881.9	423.0	367.0	17,000.0	6,400.0	RHA 1950 WSA 1958
DeGray Re-Regulation Stream	CEMVD	AR/Clark	Caddo River	NMRA	3.6	221.0	209.0	430.0	90.0	RHA 1950
Narrows Dam - Lake Greeson	CEMVD	AR/Pike	Little Missouri River	P FP	0.0 407.9	563.0 563.0	436.9 504.0	0 9800	0 2500	FCA 1941

Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation
						Upper	Lower	Upper	Lower	
Wallace Lake	CEMVD	LA/Caddo	Red River	F	96.1	158.0	142.0	9,300.0	2,300.0	RHA 1945 PL 75-761
Yazoo Basin, Arkabutla Lake	CEMVD	MS/Desoto	Coldwater River	F	493.8	238.3	209.3	33,400.0	5,100.0	FCA 1936
Yazoo Basin, Enid Lake	CEMVD	MS/Yalobusha	Yocona River	FR	57.6(1,213.5)	268.0	230.0	28,000.0	6,100.0	PL 74-678
Yazoo Basin, Grenada Lake	CEMVD	MS/Grenada	Yalobusha River Skuna River	F	1,357.4	231.0	193.0	64,600.0	9,800.0	FCA 1936
Yazoo Basin, Sardis Lake	CEMVD	MS/Panola	Little Tallahatchie River	FR	108.0 (3,016.0)			10,700.0		PL 74-678
Walla Walla District										
Dworshak Dam & Reservoir	CENWD	ID/Clearwater	North Fork Clearwater River	FMRNCP	2,016.0 (3,560.0)	1,600.0	1,445.0	17,090.0	9,050.0	HD 403 PL 87-874
Ice Harbor L&D -Lake Sacajawea	CENWD	WA/Walla Walla	Snake River	IPNRC	24.9(406.5)	440.0	437.0	8,370.0	8,210.0	HD 704 PL 79-14
Little Goose L&D -Lake Bryan	CENWD	WA/Columbia	Snake River	PNRC	49.0(565.2)	638.0	633.0	10,030.0	9,620.0	HD 704 PL 79-14
Lower Granite L&D	CENWD	WA/Whitman	Snake River	PNRCI	43.6(485.0)	738.0	733.0	8,900.0	8,540.0	HD 704 PL 79-14
Lower Monumental L&D -Lake Herbert G. West	CENWD	WA/Walla Walla	Snake River	PNRC	20.0(432.0)	540.0	537.0	6,700.0	6,550.0	HD 704 PL 79-14
Lucky Peak Lake	CENWD	ID/Ada	Boise River	F FIPR	278.3 (307.0)	3,060.0 3,055.0	3,055.0 2,905.0	2,817.0 2,817.0	2,745.0 802.0	PL 79-526
McNary L&D - Lake Wallula	CENWD	WA/Benton	Columbia River	IPFNRC	185.0 (1,350.0)	340.0	335.0	38,800.0	36,000.0	HD 704 PL 79-14
Mill Creek, Bennington Lake	CENWD	WA/Walla Walla	Mill Creek	FR	7.5 (8.3)	1,265.0	1,205.0	225.0	53.0	HD 578 PL 75-761
Wilmington District										
B Everett Jordan Dam & Lake	CESAD	NC/Chatham	Haw River	F FMCAR	678.8 (1,646.5)	240.0 216.0	216.0 202.0	31,811.0 13,942.0	13,942.0 6,658.0	PL 88-253
Falls Lake	CESAD	NC/Wake	Neuse River	F FMCAR	310.6 (1,021.0)	264.0 250.1	250.1 236.5	20,810.0 11,310.0	11,310.0 2,600.0	PL 89-298
John H Kerr Lake	CESAD	VA/Mecklenburg	Roanoke River	F PMRC	2,308.4 (3,363.5)	320.0 300.0	300.0 268.0	83,200.0 48,900.0	48,900.0 19,700.0	PL 78-534
W Kerr Scott Dam & Reservoir	CESAD	NC/Wilkes	Yadkin River	F MR	145.0	1,075.0 1,030.0	1,030.0 1,000.0	4,000.0 1,475.0	1,475.0 675.0	PL 79-526

General Abbreviations:

- CFBC - Cross Florida Barge Canal
- Cr - Creek
- CS - Control Structure
- CSSC - Chicago Sanitary & Ship Canal
- Div - Diversion
- DS - Drainage Structure
- FG - Floodgate
- Fk - Fork
- GIWW - Gulf Intercoastal Waterway
- Lk - Lake
- L&D - Lock & Dam
- MCKARNS - McClellan-Kerr Arkansas River Navigation System
- ORMNS - Ohio River Mainstem Navigation System
- PS - Pump Station
- PW - Public Works
- R - River
- Res - Reservoir

Project Purposes Abbreviations:

A - Low Flow Augmentation or Pollution Abatement
C - Fish and Wildlife Conservation
E - Non-USACE Hydropower
F- Flood Control
G - Groundwater
I - Irrigation
M- Municipal and/or Industrial Water Supply
N - Navigation
P - USACE Hydropower
Q - Water Quality or Silt Control
R - Recreation

Authorizing Legislation Abbreviations:

FCA - Flood Control Act
FERC - Federal Energy Regulatory Commission
HD - House Document
NID - National Inventory of Dams
PL - Public Law
RHA - River & Harbor Act
SD - Senate Document
USA - Water Supply Act

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Appendix D

Non-USACE Projects Addressed by this Regulation

This list is provided for informational purposes only; for more specific information interested parties should contact the respective USACE District office

Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation	Project Owner
						Upper	Lower	Upper	Lower		
Albuquerque District											
Brantley Dam & Reservoir	CESPD	NM/Eddy	Pecos River	FIRQ	348.5	3,283.0	3,210.7	21,294.0	38.0	PL 92-515	USBR
Navajo Dam & Reservoir	CESPD	NM/San Juan NM/Rio Arriba	San Juan River	FEIRQ	1,036.1	6,085.0	5,990.0	15,610.0	7,400.0	PL 84-485	USBR
Platoro Dam & Reservoir	CESPD	CO/Conejos	Conejos River	F	6.0	10,034.0	10,027.5	947.0	920.0	PL 76-640	USBR
				IR	54.0	10,027.5	9,911.0	920.0	0.0		
Pueblo Dam & Reservoir	CESPD	CO/Pueblo	Arkansas River	F	93.0	4,898.7	4,880.5	5,671.0	4,640.0	PL 87-590	USBR
				IR	261.4	4,880.5	4,764.0	4,640.0	421.0		
Summer Dam & Lake	CESPD	NM/De Baca	Pecos River	FI	51.4	4,261.0	4,200.0	2,835.0	0.0	PL 83-780	USBR
Baltimore District											
George B Stevenson Dam	CENAD	PA/Cameron	1st Fork Sunnemaehoning Creek	FR	75.8	1,026.0	890.0	1,470.0	0.0	FCA 1954	PA DCNR
Savage River Dam & Reservoir	CENAD	MD, Garrett	Savage River	FMA	20.0	1,468.5	1,317.0	366.0	0.0	PL 78-534	Ptmc Comm
Fort Worth District											
Arbuckle Dam & Reservoir	CESWD	OK/Murray	Rock Creek	F	36.4	885.3	872.0	3,130.0	2,350.0	PL 594	USBR
				MRC	62.5	872.0	827.0	2,350.0	606.0		
Marshall Ford Dam & Reservoir	CESWD	TX/Travis	Colorado River	F	779.8	714.0	681.0	29,060.0	18,955.0	PL 73-392	USBR
				NEIM	810.5	681.0	618.0	18,955.0	8,050.0		
Twin Buttes Dam & Lake	CESWD	TX/Tom Green	Concho River	F	454.4	1,969.1	1,940.2	23,510.0	23,510.0	PL 85-152	USBR
				IM	150.0	1,940.2	1,885.0	670.0	670.0		
Kansas City District											
Bonny Dam & Reservoir	CENWD	CO/Yuma	South Fork Republican River	F	128.2	3,710.0	3,672.0	5,036.0	2,042.0	PL 78-534	USBR
				ICR	39.2	3,672.0	3,638.0	2,042.0	331.0		
Cedar Bluff Dam & Reservoir	CENWD	KS/Trego	Smoky Hill River	F	191.9	2,166.0	2,144.0	10,790.0	6,869.0	PL 78-534	USBR
				IMCR	149.8	2,144.0	2,107.8	6,869.0	2,086.0		
Glen Elder Dam & Waconda Lake	CENWD	KS/Mitchel	Solomon River	F	722.3	1,488.3	1,455.3	33,682.0	12,602.0	PL 78-534	USBR
				IM	204.8	1,455.6	1,428.0	12,602.0	3,341.0		
Kirwin Dam & Reservoir	CENWD	KS/Phillips	W Fork Solomon River	F	215.1	1,757.3	1,729.3	10,640.0	5,080.0	PL 78-534	USBR
				ICR	89.6	1,729.3	1,697.0	5,080.0	1,010.0		
Lowell Dam & Reservoir	CENWD	KS/Jewell	White Rock Creek	F	50.5	1,595.3	1,582.6	5,025.0	2,986.0	PL 78-534	USBR
				ICR	24.9	1,582.6	1,571.7	2,986.0	1,704.0		
Medicine Creek Dam Harry Strunk Lake	CENWD	NE/Frontier	Medicine Creek	F	52.7	2,386.2	2,366.1	3,483.0	1,840.0	PL 78-534	USBR
				ICR	26.8	2,366.1	2,343.0	1,840.0	701.0		
Norton Dam & Keith Sebelius Lake	CENWD	KS/Norton	Prairie Dog Creek	F	98.8	2,331.4	2,304.3	5,316.0	2,181.0	PL 78-534	USBR
				IMRC	30.7	2,304.3	2,280.4	2,181.0	587.0		
Red Willow Dam Hugh Butler Lake	CENWD	NE/Frontier	Red Willow Creek	F	48.9	2,604.9	2,581.8	3,682.0	1,629.0	PL 78-534	USBR
				IRC	27.3	2,581.8	2,558.0	1,929.0	787.0		
Trenton Dam & Reservoir	CENWD	NB/Hitchcock	Republican River	F	134.1	2,773.0	2,752.0	794.0	4,922.0	PL 78-534	USBR
				IRC	99.8	2,752.0	2,720.0	49,220.0	1,572.0		
Webster Dam & Reservoir	CENWD	KS/Rocks	S Fork Solomon River	F	183.4	1,923.7	1,892.5	3,772.0	3,772.0	PL 78-534	USBR
				IRC	72.1	1,892.5	1,860.0	906.0	906.0		
Little Rock District											
Bear Creek Dam	CEMVD	MO/Marion MO/Rails	Bear Creek	F	8.7	546.5	520.0	540.0	0.0	PL 83-780	Hannibal, MO
Los Angeles District											
Hoover Dam & Lake Mead	CESPD	NV/Clark AZ/Mohave	Colorado River	F	1,500.0	1,229.0	1,219.6	162,700.0	156,500.0	PL 70-642	USBR
Modified Theodore Roosevelt Dam & Lake	CESPD	AZ/Maricopa AZ/Gila	Salt River	F	556.2	2,175.0	2,151.0	24,978.0	21,493.0	PL 95-578	USBR
				EIMR	1,643.4	2,151.0	1,902.0	21,493.0	0.0		
Seven Oaks Dam & Reservoir	CESPD	CA/San Bernardino	Santa Ana River	F	147.9	2,580.0	2,200.0	787.0	76.0	PL 99-662	San Bern, OCFC, Riverside
TAT Momolikit Dam & Lake	CESPD	AZ/Pinal	Stanto Rosa Wash	FICR	198.5	1,539.0	1,480.0	11,790.0	0.0	PL 89-298	BIA
Twitchell Dam & Reservoir	CESPD	CA/Santa Barbara	Cuyama River	F	89.8	651.5	623.0	2,556.0	2,556.0	PL 83-774	USBR
				IM	135.6	623.0	504.0	0.0	0.0		

Mobile District											
Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Project Name	USACE Division
						Upper	Lower	Upper	Lower		
H Neely Henry Dam & Reservoir	CESAD	AL/Calhoun AL/St. Claire	Coosa River	FE	49.7	408.0	502.5	11,235.0	7,632.0	PL 83-436, FERC 2146	Alabama Power
Harris Dam & Reservoir	CESAD	AL/Randolph	Tallapoosa River	FE	215.0	793.0	785.0	10,661.0	9,012.0	PL 89-789, FERC 2628	Alabama Power
Lewis M Smith Dam & Reservoir	CESAD	AL/Walker AL/Culman	Sipsey Fork Black Warrior River	F E	280.6 394.3	522.0 510.0	510.0 488.0	25,700.0 21,200.0	21,200.0 15,097.0	FPA FERC 2165	Alabama Power
New England District											
Bear Swamp - Fife Brook (Lower)	CENAD	MA/Franklin	Deerfield River	E	6.9	870.0	830.0	152.0	115.0	FERC 2669	NEPC
Bear Swamp PS (Upper)	CENAD	MA/Franklin	Deerfield River Tributary	E	8.9	1,600.0	1,550.0	118.0	102.0	FPA	NEPC
Bellows Falls Dam & Lake	CENAD	NH/Cheshire	Connecticut River	E	7.5	291.6	273.6	2,804.0	836.0	FERC 1885	NEPC
Northfield Mt PS (Upper)	CENAD	MA/Franklin	Connecticut River	E	14.0	965.0	938.0	196.0	134.0	FERC 2485	First Light Hydr
Rocky River PS Lake Candlewood	CENAD	CT/Litchfield	Housatonic River	E	142.5	430.0	418.0	5,608.0	4,692.0	FERC 2576	CLPC
Shepaug Dam & Lake	CENAD	CT/Litchfield	Housatonic River	E	5.0	200.0	172.0	1,882.0	1,125.0	FERC 2576	CLPC
Stevenson Dam Lake Zoar	CENAD	CT/Litchfield	Housatonic River	E	5.0	108.0	80.0	1,148.0	516.0	FERC 2576	CLPC
Turners Falls (Low) Dam & Lake	CENAD	MA/Franklin	Connecticut River	E	8.7	185.0	176.0	2,110.0	1,880.0	FERC 1889	WMEC
Vernon Dam & Lake	CENAD	NH/Windham	Connecticut River	E	18.3	220.1	212.1	1,980.0	1,980.0	FERC 1904	NEPC
Waterbury Dam & Reservoir	CENAD	VT/Washington	Little River	FPMCAR	27.7	617.5	592.0	890.0	890.0	PL 78-534	VT
Wilder Dam & Lake	CENAD	NH/Windsor	Connecticut River	E	13.3	385.0	380.0	2,240.0	2,240.0	FERC 1893	NEPC
Omaha District											
Boysen Dam & Reservoir	CENWD	WY/Fremont	Wild River	F FEIQ	150.4 146.1	4,732.2 4,725.0	4,725.0 4,717.0	22,170.0 19,560.0	19,560.0 16,960.0	PL 78-534	USBR
Canyon Ferry Dam & Lake	CENWD	MT/Lewis Clark	Missouri River	F FEIQ	99.5 795.1	3,800.0 3,797.0	3,797.0 3,770.0	33,535.0 32,800.0	32,800.0 24,125.0	PL 78-534	USBR
Clark Canyon Dam & Reservoir	CENWD	MT/Beaverhead	Beaverhead River	F FI I	79.1 50.4 126.1	5,560.4 5,546.1 5,535.7	5,516.1 5,535.7 5,470.6	5,900.0 5,160.0 4,495.0	5,160.0 4,495.0 220.0	PL 78-534	USBR
Enders Dam Reservoir	CENWD	NE/Chase	Frenchman Creek	F ICR	30.0 34.5	3,127.0 3,112.3	3,112.3 3,082.4	2,405.0 1,707.0	1,707.0 658.0	PL 78-534	USBR
Glendo Dam & Reservoir	CENWD	WY/Platte	North Platte River	F EIM	271.9 454.3	4,653.0 4,635.0	4,635.0 4,570.0	17,990.0 12,370.0	12,370.0 3,130.0	PL 78-534	USBR
Heart Butte Dame & Lake Tschida	CENWD	ND/Grant	Heart River	F IQ	147.9 69.0	2,094.5 2,064.5	2,064.5 2,030.0	6,580.0 3,400.0	3,400.0 810.0	PL 78-534	USBR
Jamestown Dam & Reservoir	CENWD	ND/Stutsman	James River	F IQ	185.4 28.1	1,454.0 1,429.8	1,429.8 1,400.0	13,210.0 2,090.0	2,090.0 160.0	PL 78-534	USBR
Keyhole Dam & Reservoir	CENWD	WY/Crook	Belle Fourche River	F IQ	140.5 185.8	4,111.5 4,099.3	4,099.3 4,051.0	13,730.0 9,410.0	9,410.0 820.0	PL 76-476	USBR
Pactola Dam & Reservoir	CENWD	SD/Pennington	Rapid Creek	F IM	43.1 55.0	4,621.5 4,580.2	4,580.2 4,456.1	1,230.0 860.0	860.0 100.0	PL 78-534	USBR
Shadehill Dam & Reservoir	CENWD	SD/Perkins	Grand River	F IQ	218.3 80.9	2,302.0 2,271.9	2,271.9 2,250.8	9,900.0 4,800.0	4,800.0 4,800.0	PL 78-534	USBR
Tiber Dam & Reservoir	CENWD	MT/Liberty MT/Toole	Marias River	F FIQ IQ	400.9 268.0 121.7	3,012.5 2,993.0 2,976.0	2,993.0 2,979.0 2,966.4	23,150.0 17,890.0 13,790.0	17,890.0 13,790.0 11,710.0	PL 78-534	USBR
Yellowtail Dam & Bighorn Lake	CENWD	MT, Big Horn	Bighorn River	F FEIQ EIQ	258.3 240.3 336.1	3,657.0 3,640.0 3,614.0	3,640.0 3,614.0 3,547.0	12,600.0 6,915.0 4,150.0	12,600.0 6,915.0 4,150.0	PL 78-534	USBR PUD
Portland District											
Emigrant Dam & Reservoir	CENWD	OR/Jackson	Emigrant Creek	FIR	39.0	2,241.0	2,131.5	801.0	80.0	PL 81-83	USBR
Galesville Dam	CENWD	OR/Douglas	Cow Creek	FEMCR	42.2	1,881.5	1,780.0	760.0	150.0	FERC No. 7161001	Douglas County
Mayfield Dam & Reservoir	CENWD	WA/Lewis	Cowlitz River	FER	21.4	425.0	415.0	2,250.0	2,030.0	FPC Number 2016-A	Tac WN
Mossyrock Dam Davisson Lake	CENWD	WA/Lewis	Cowlitz River	FER	1,397.0	778.5	600.0	11,830.0	4,250.0	FERC Number 2016-A	Tac WN
Ochoco Dam & Reservoir	CENWD	OR/Crook	Ochoco Creek	FICR	52.5	3,136.2	0.0	1,130.0	130.0	PL 84-992	USBR
Prineville Dam & Reservoir	CENWD	OR/Crook	Crooked River	FIRC	233.0	3,257.9	3,114.0	3,997.0	140.0	PL 84-992	USBR
Scoggins Dam Henry Hagg Lake	CENWD	OR/Washington	Soggins Creek	FIR	56.3	305.8	235.3	116.0	4.0	PL 89-596	USBR

Rock Island District											
Alpine Dam	CENWD	IL/Winnebago	Keith Creek	F	0.6	796.0	760.0	52.0	0.0	PWA Proj	Rockford, IL
Sacramento District											
Big Dry Creek & Diversion	CEPSD	CA/Fresno	Big Dry Creek & Dog Creek	F	30.3	432.7	393.0	2,151.0	0.0	PL 77-228	Reclamation Board CA
Blue Mesa Dam & Reservoir	CEPSD	CO/Gunnison	Gunnison River	FERM	748.5	7,519.4	7,393.0	9,180.0	2,790.0	PL 84-485	USBR
				ERM	192.3	7,393.0	7,358.0	2,790.0	1,870.0		
Boca Dam & Reservoir, CA	CEPSD	CA/Nevada	Little Truckee River	FI	8.0	5,605.0	5,596.4	980.0	893.0	PL 61-289	USBR
				I	33.1	5,596.4	5,521.0	893.0	52.0	PL 68-292	
Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Project Name	USACE Division
						Upper	Lower	Upper	Lower		
Camanche Dam & Reservoir	CEPSD	CA/San Joaquin	Mokelumne River	FRIE	200.0	235.5	205.1	7,600.0	5,507.0	PL 86-645	East Bay MUD
				RIE	230.9	205.1	98.6	5,507.0	41.0		
Don Pedro Dam & Lake	CEPSD	CA/Tuolumne	Tuolumne River	FEIR	340.0	830.0	802.0	12,900.0	11,260.0	PL 78-534	M&T Irrigation
				EIR	1,381.0	802.0	600.0	11,260.0	3,520.0		
				IR	308.0	600.0	342.0	3,620.0	29.0		
East Canyon Dam & Reservoir	CEPSD	UT/Morgan	East Canyon Creek	FEIM	48.0	5,705.5	5,578.0	684.0	130.0	PL 81-273	USBR
Echo Dam & Reservoir	CEPSD	UT/Summit	Weber River	FEIM	74.0	5,560.0	5,450.0	1,455.0	0.0	PL 81-83	USBR
Folsom Dam Lake	CEPSD	CA/Sacramento	American River	FEIM	400.0	466.0	427.0	11,450.0	9,040.0		USBR
Friant Dam & Millerton Lake	CEPSD	CA/Fresno	San Joaquin River	EIM	610.0	427.0	210.0	9,040.0	0.0		USBR
				FEIM	390.5	578.0	466.3	4,850.0	2,101.0	PL 75-392, PL 76-868	
Indian Valley Dam & Reservoir	CEPSD	CA/Lake	N.F. Cache Creek	FIRC	40.0	1,485.0	1,474.7	3,975.0	3,749.0	PL 84- 984	Yolo FC&W
				IRC	256.6	1,474.7	1,334.0	3,749.0	308.0		
Jordanelle Dam & Reservoir	CEPSD	UT/Wasatch	Provo River	FIMRC	100.0	6,166.4	6,129.3	3,024.0	2,389.0	70 Stat. 105 (11 Apr 56)	USBR
					214.0	6,129.3	5,902.0	2,389.0	80.0	(CO River Stor Proj)	
Lemon Dam & Reservoir	CEPSD	CO/La Plata	Florida River	FIM	39.0	8,148.0	9,023.0	622.0	62.0	PL 84-485	USBR
Little Dell Dam & Reservoir	CEPSD	UT/Salt Lake	Dell Creek	FM	3.0	5,798.0	5,785.0	249.0	237.0	PL 90-483	MWD SLC
				M	17.5	5,785.0	5,668.2	237.0	50.0		
Los Banos Dam & Detention	CEPSD	CA/Merced	Los Banos Creek	FR	14.0	353.5	327.8	619.0	467.0	PL 86-488	USBR
Lost Creek Dam & Reservoir	CEPSD	UT/Morgan	Lost Creek	R	20.6	327.8	296.0	467.0	297.0		USBR
				FEIM	20.0	6,005.0	5,912.0	365.0	93.0	PL 81-273	
Mountain Dell Dam & Reservoir (operated as part of Little Dell Project)	CEPSD	UT/Salt Lake	Parley's Creek	FM	1.0	5,526.0	5,512.0	83.0	65.0	PL 90-483	City of Salt Lake
				M	2.2	5,512.0	5,468.0	65.0	15.0		
New Bullards Bar Dam & Reservoir	CEPSD	CA/Yuba	Yuba River	FEIMR	170.0	1,955.0	1,916.8	4,790.0	4,201.0	PL 89-298	YCWA
				EIMR	556.4	1,916.8	1,732.0	4,201.0	1,910.0		
New Exchequer Dam & Lake	CEPSD	CA/Tuolumne	Merced River	FEIR	233.6	1,732.0	1,395.0	1,910.0	25.0	PL 86-645	Merced Irrigation
				EIR	451.6	799.0	660.0	4,849.0	1,900.0		
				IR	171.0	661.0	467.0	1,900.0	150.0		
New Melones Dam & Lake	CEPSD	CA/Tuolumne CA/Calaveras	Stanislaus River	FEIMR	450.0	1,088.0	1,049.5	12,500.0	10,900.0	PL 87-874	USBR
				EIMR	1,670.0	1,049.5	808.0	10,900.0	3,440.0		
				IMR	300.0	808.0	540.0	3,440.0	0.0		
Oroville Dam & Lake	CEPSD	CA/Butte	Feather River	FEIMAR	750.0	900.0	848.5	15,800.0	13,346.0	PL 85-500	CA
				EIMAR	1,935.8	848.5	640.0	13,346.0	5,838.0		
				IMAR	852.2	640.0	228.0	5,838.0	40.0		
Paonia Dam & Reservoir	CEPSD	CO/Gunnison	Muddy Creek	FIR	15.0	6,447.5	6,373.0	327.0	42.0	PL 80-177	USBR
				IR	1.0	6,373.0	6,358.0	42.0	32.0	PL 84-485	
Pineview Dam & Reservoir	CEPSD	UT/Weber	Ogden River	FEIM	110.0	4,900.0	4,818.0	2,871.0	0.0	PL 81-273	USBR
Prosser Creek Dam & Reservoir	CEPSD	CA/Nevada	Prosser Creek	C	8.6	5,703.7	5,660.6	334.0	86.0	PL 84-858	USBR
				FC	20.0	4,741.2	5,703.7	745.0	334.0	PL 85-706	
Red Fleet Dam & Reservoir	CEPSD	UT/Unitah	Big Bruch Creek	FIMRC	18.0	5,608.3	5,561.5	520.0	261.0	PL 87-483	USBR
				IMRC	4.0	5,561.5	5,543.7	261.0	187.0		
				C	4.0	5,543.7	5,506.0	187.0	42.0		
Ridgeway Dam & Reservoir	CEPSD	CO/Ouray	Umcompahgre River	FIMCR	59.4	6,871.1	6,794.9	1,065.0	539.0	PL 90-537	USBR
				IMCR	25.0	6,794.9	6,720.0	539.0	85.0		
Shasta Dam Lake	CEPSD	CA/Shasta	Sacramento River	FEIA	1,300.0	1,067.0	1,018.6	29,570.0	43,894.0	PL 75-392	USBR
				EIA	3,241.0	1,018.6	735.8	23,894.0	2,200.0		
Stampede Dam & Reservoir	CEPSD	CA/Sierra	Little Truckee River	FEM	22.1	5,948.7	5,942.1	3,430.0	3,230.0	PL 84-858	USBR
				EM	199.4	5,942.1	5,798.3	323.0	210.0		
Starvation Dam & Reservoir	CEPSD	UT/Duchesne	Strawberry River	FIM	152.3	5,712.0	5,624.8	3310	689	PL 84-485	USBR
				IM	15.0	5,624.0	5,595.0	689.0	199.0		
Tulloch Dam & Reservoir (operated as part of New Melones Project)	CEPSD	CA/Calaveras	Stanislaus River	FEIMR	10.0	510.0	501.5	1,450.0	1,100.0	FERC 2067	South San, Oak Irr
				EIMR	57.0	501.5	431.0	1,100.0	320.0		
Vallecito Dam & Reservoir	CEPSD	CO/La Plata	Los Pinos River	FEI	125.4	7,665.0	7,600.0	2,720.0	695.0	PL 61-288	USBR
				EI	13.3	7,600.0	7,582.5	695.0	378.0	PL 68-292	
Wanship Dam & Rockport Lake	CEPSD	UT/Summit	Weber River	FEIM	61.0	6,037.0	5,930.0	121.0	121.0	PL 81-273	USBR

San Francisco District											
Del Valle Dam & Reservoir	CESPD	CA/Alameda	Alameda Creek	F	37.0	745.0	703.1	1,060.0	710.0	PL 87-874	DWR, CA
				FIM	1.0	703.1	702.2	710.0	700.0		
				IMR	29.0	702.2	635.0	700.0	275.0		
Savannah District											
Jocassee Dam & Reservoir	CESAD	SC/Pickens	Keowee River	PRFC	1,160.0	1,110.0	1,080.0	7,565.0	6,815.0	FERC 2503	USBR Power
Keowee Dam & Lake, SC	CESAD	SC, Pickens	Keowee River	FPMCAR	392.0	800.0	775.0	18,372.0	13,072.0	FERC 2503	Duke Power
Stevens Creek Dam & Reservoir	CESAD	GA/Columbia	Savannah River	P	10.5	187.5	183.0	4,300.0	0.0	FERC 2535	SCE&G
Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation	Project Owner
						Upper	Lower	Upper	Lower		
Seattle District											
Grand Coulee Dam Fdr Lake	CENWD	WA/Okanogan & Grant	Columbia River	FEI	5,185.5	1,290.0	1,208.0	82,280.0	45,592.0	PL 89-561	USBR
Hungry Horse Dam & Reservoir	CENWD	MT/Flathead	S Fork Flathead River	FEI	2,982.0	3,560.0	3,336.0	23,800.0	5,400.0	PL 78-329	USBR
Kerr Dam Flathead Lake	CENWD	MT/Lake	Flathead River	FER	1,219.0	2,893.0	2,993.0	125,560.0	120,000.0	FERC 5	Montana Power
Priest Rapids Dam & Reservoir	CENWD	WA/Grant	Columbia River	FER	43.0	488.0	481.5	7,200.0	5,900.0	FERC 2114-A	Grant PUD
Rocky Reach Dam Lake Entiat	CENWD	WA/Chelan	Columbia River	FER	38.0	707.0	703.0	10,000.0	9,000.0	FERC 2145	Chelan PUD
Ross Dam & Reservoir	CENWD	WA/Whatcom	Skagit River	FE	1,052.0	1,602.5	1,475.0	11,700.0	4,450.0	FERC 553	Sttl
Upper Baker Dam Baker Lake	CENWD	WA/Whatcom	Baker River	FE	184.6	724.0	674.0	2,375.0	2,375.0	PL 89-298, FERC 21508	Puget Sound Energy
Wanapum Dam & Reservoir	CENWD	WA/Grant	Columbia River	FER	149.5	571.5	560.0	13,500.0	15,000.0	FERC 2114-8	Grant PUD
Wells Dam Lake Pateros	CENWD	WA/Douglas	Columbia River	FER	97.0	781.0	771.0	12,000.0	8,000.0	FERC 2149	Douglas PUD
Wynoochee Dam	CENWD	WA/Grays Harbor	Wynoochee River	FEIM	65.4	800.0	700.0	1,122.0	227.0	FERC 6842	City of Aberdeen
Tulsa District											
Altus Dam & Reservoir	CESWD	OK/Jackson	North Fork Red River	F	19.6	1,562.0	1,559.0	6,800.0	6,260.0	PL 761	USBR
				INR	132.6	1,559.0	1,517.5	6,260.0	735.0		
Cheney Dam & Reservoir	CESWD	KS/Sedgwick	West Fork Winnescah River	F	80.9	1,429.0	1,421.6	12,420.0	9,540.0	PL 86-787	USBR
				MC	151.8	1,421.6	1,392.9	9,540.0	1,970.0		
Fort Cobb Dam & Reservoir	CESWD	OK/Caddo	Pond (Cobb) Creek	F	63.7	1,354.8	1,342.0	5,980.0	4,100.0	PL 419	USBR
				IMCR	78.3	1,342.0	1,300.0	4,100.0	337.0		
Foss Dam & Reservoir	CESWD	OK/Custer	Washita River	F	180.6	1,668.6	1,652.0	13,140.0	8,800.0	PL 419	USBR
				IMRC	243.8	1,652.0	1,597.2	8,800.0	1,360.0		
Kerr Dam & Lake Hudson (Markham Ferry Project)	CESWD	OK/Mayes	Grand Neosho River	F	244.2	636.0	619.0	18,800.0	10,900.0	PL 76-476	GRD Authority
				E	48.6	619.0	599.0	10,900.0	4,500.0	FERC 2183	
Lake Thunderbird (Norman Reservoir)	CESWD	OK/Cleveland	Little River	F	196.2	1,064.7	1,039.0	13,850.0	8,800.0	PL 86-529	USBR
				M	0.0	0.0		0.0	0.0		
Lake Kemp Dam & Reservoir	CESWD	TX/Wichita	Wichita River	F	234.9	1,156.0	1,144.0	23,830.0	15,590.0	SD 144	WF&C
				MI	268.0	1,144.0	1,114.0	15,590.0	3,350.0		WID2
McGee Creek Dam & Reservoir	CESWD	OK/Atoka	McGee Creek	F	85.3	595.5	577.1	5,540.0	3,810.0	PL 94-423	USBR
				MCR	108.0	577.7	515.1	3,810.0	370.0		
Mt Park Dam Tom Steed Reservoir	CESWD	OK/Kiowa	W Otter Creek	F	20.3	1,414.0	1,411.0	7,130.0	6,400.0	PL 90-503	USBR
				MRC	89.0	1,411.0	1,386.3	6,400.0	1,270.0		
Pensacola Dam Grand Lake O' the Cherokees	CESWD	OK/Mayes	Grand (Neosho) River	F	525.0	755.0	745.0	59,200.0	46,500.0	PL 77-228	GRD Authority
				E	1,192.0	745.0	705.0	46,500.0	17,000.0	FERC 1494	
Sanford Dam & Lake Meredith	CESWD	TX/Hutchison	Canadian River	F	462.1	2,965.0	2,971.3	21,640.0	17,320.0	PL 81-898	USBR
				IMCRG	761.3	2,941.3	2,860.0	17,320.0	4,500.0		
Walla Walla District											
Agency Dam & Reservoir	CENWD	OR/Malheur	North Fork Malheur River	FICR	60.0	3,340.0	3,263.0	1,900.0	0.0	PL 68-292	USBR
Anderson Ranch Dam & Reservoir	CENWD	ID/Elmore	South Fork Boise River	FEI	423.2	4,196.0	4,039.6	4,740.0	1,150.0	Act of 1939, 53 Stat 1187	USBR
Arrowrock Dam & Reservoir	CENWD	ID/Elmore	Boise River	FI	286.6	3,216.0	2,974.0	3,100.0	200.0	Act of 1902 32 Stat 388	USBR
Brownlee Dam & Reservoir	CENWD	OR/Baker ID/Washington	Snake River	FE	975.3	2,077.0	1,976.0	13,840.0	6,650.0	FERC No. 1971-C	Idaho Power
Bully Creek Dam & Reservoir	CENWD	OR/Malheur	Bully Creek	FI	31.6	2,516.0	2,456.8	1,082.0	140.0	PL 86-248	USBR
Hells Canyon Dam & Reservoir	CENWD	OR/Wallowa; ID/Adams	Snake River	EN	11.7	1,688.0	1,683.0	2,380.0	2,280.0	FERC Number 1971-A	Idaho Power
Jackson Lake Dam	CENWD	WY/Teton	Snake River	FIC	877.0	6,769.0	6,727.0	25,540.0		PL 57-161	USBR
Little Wood	CENWD	ID/Blain	Little Wood River	FI	30.0	5,237.3	5,128.4	572.0	0.0	PL 84-993	USBR
Mason Dam	CENWD	OR/Baker	Powder River	FI	95.6	4,070.5	3,975.0	2,235.0		PL 87-706	USBR
Palisades Dam & Reservoir	CENWD	ID/Bonneville	Snake River	FIE	1,202.0	5,620.0	5,452.0	16,100.0	2,170.0	PL 81-864	USBR

Ririe Dam & Reservoir	CENWD	ID/Bonneville	Willow Creek	FIRC	99.0	5,119.0	5,023.0	150.0	360.0	PL 87-874	USBR
Warm Springs Dam & Reservoir	CENWD	OR/Malheur	Middle Fork Malheur River	FICR	191.0	3,406.0	3,327.0	90.0	90.0	PL 78-534	Vale, USBR

Project Name	USACE Division	State/ County	Watershed	Project Purposes	Storage 1,000 AF (NID Max Values)	Elev Limits Feet MSL		Area in Acres		Authorizing Legislation	Project Owner
						Upper	Lower	Upper	Lower		
Wilmington District											
Gaston Dam & Reservoir	CESAD	NC/Halifax NC/Northampton	Roanoke River	FE	63.0	203.0	200.0	22,500.0	20,300.0	FPA	Virginia Power
Leesville Dam & Reservoir	CESAD	VA/Campbell; VA/Pittsylvania; VA/Bedford	Roanoke River	EQ	37.8	613.0	600.0	3,235.0	2,400.0	FPA	Appalachian Power
Roanoke Rapids Dam & Reservoir	CESAD	NC/Halifax	Roanoke River	EC	16.8	132.0	128.0	4,600.0	4,100.0	FPC 2009	Virginia Power
Smith Mountain Dam & Reservoir	CESAD	VA/Bedford; VA/Franklin; VA/Roanoke; VA/Pittsylvania	Roanoke River	E	40.8	795.0	793.0	20,600.0	20,200.0	FPC, FERC 2210	Appalachian Power

Project Owner Abbreviations:

DWR- Department of Water Resources
MUD - Municipal Utility District
NEPC - New England Power Company
USBR - U.S. Bureau of Reclamation

Project Purposes Abbreviations:

A - Low Flow Augmentation or Pollution Abatement
C - Fish and Wildlife Conservation
E - Non-USACE Hydropower
F- Flood Control
G - Groundwater
I - Irrigation
M- Municipal and/or Industrial Water Supply
N - Navigation
P - USACE Hydropower
Q - Water Quality or Silt Control
R - Recreation

Authorizing Legislation Abbreviations:

CLPC - Connecticut Light & Power Company
FCA - Flood Control Act
FERC - Federal Energy Regulatory Commission
FPA - Federal Power Act
FPC - Federal Power Commission
GRD - General Requirements Document
PL - Public Law
PUD - Public Utility District
PWA - Public Works Agency

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Appendix E

USACE Environmental Operating Principles

E-1 Environmental Operating Principles.

USACE has reaffirmed its commitment to the environment by formalizing a set of "Environmental Operating Principles" applicable to all its decision-making and programs.

The Environmental Operating Principles relate to the human environment and apply to all aspects of business and operations. They apply across Military Programs, Civil Works, Research and Development, and across the Corps. The Principles require a recognition and acceptance of individual responsibility from senior leaders to the newest team members. Re-committing to these principles and environmental stewardship will lead to more efficient and effective solutions, and will enable the Corps of Engineers to further leverage resources through collaboration. This is essential for successful integrated resources management, restoration of the environment and sustainable and energy efficient approaches to all Corps of Engineers mission areas. It is also an essential component of the Corps of Engineers' risk management approach in decision making, allowing the organization to offset uncertainty by building flexibility into the management and construction of infrastructure. These include:

- a. Foster sustainability as a way of life throughout the organization.
- b. Proactively consider environmental consequences of all Corps activities and act accordingly.
- c. Create mutually supporting economic and environmentally sustainable solutions.
- d. Continue to meet our corporate responsibility and accountability under the law for activities undertaken by the Corps, which may impact human and natural environments.
- e. Consider the environment in employing a risk management and systems approach throughout the life cycles of projects and programs.
- f. Leverage scientific, economic and social knowledge to understand the environmental context and effects of Corps actions in a collaborative manner.
- g. Employ an open, transparent process that respects views of individuals and groups interested in Corps activities

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APPENDIX F

Terms and Abbreviations

F.1 Terms.

Storage. The retention of water or delay of runoff either by planned operation, as in a reservoir, or by temporary filling of overflow areas, as in the progression of a flood wave through a natural stream channel. Definitions of specific types of storage that may be included in USACE reservoirs are:

a. **Active storage.** The volume of the reservoir that is available for authorized purposes such as power generation, irrigation, flood control, water supply, etc. The bottom elevation is the minimum operating level or the top of inactive storage (where present).

b. **Dead storage.** The storage that lies below the invert of the lowest outlet and that, therefore, cannot readily be withdrawn from the reservoir.

c. **Flood surcharge.** The storage volume that may be available between the top of the active storage and the design water level.

d. **Inactive storage.** The storage volume (if any) of a reservoir between the crest of the invert of the lowest outlet and the minimum operating level.

e. **Live storage.** The sum of the active-and the inactive storage (if any).

f. **Reservoir capacity.** The sum of the dead and live storage of the reservoir.

Continuity of Operations (COOP). Emergency relocation and reconstitution of a USACE activity as a result of either a natural or a man-made (caused) disaster.

Corps Water Management System (CWMS). An integrated system of hardware, software, and communication resources supporting the USACE real-time water control mission.

Design Water Level. The maximum water elevation including flood surcharge that a dam is designed to withstand.

Deviation. An operation that departs from the approved water control plan or manual or operations prescribed by the approved water control plans or manual constitutes a deviation. This could include a planned, unplanned, or emergency deviation. An allowable deviations is a risk-informed and temporary operation consistent with the project authorization, all other applicable laws and policies, and the objectives for system and project operations. A deviation may be made in order to respond to unforeseen circumstances, alleviate temporary problems or realize opportunities to increase project benefits (both direct and incidental) on a temporary basis.

Drought. A deficiency of moisture or lack of storage that results in adverse impacts on people, animals, or vegetation over a sizeable area. Determination of drought conditions, in relation to

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the conditions of streamflow, is usually based on the most critically severe sequence of low-water conditions as determined from the historical period of record of streamflow for a particular river system. Inasmuch as the period of record of streamflow data varies widely between river systems, this criterion does not yield a consistent measure of drought severity. Hydrologic low-flow analysis utilizing historical data may be necessary to yield consistent probabilities of low-water sequences.

Environmental Flow. The quality, quantity, and timing of water flows required to maintain the components, functions, processes, and resilience of aquatic ecosystems.

Guide Curve. The dividing line between part of the reservoir pool that is designated as flood control and that part that is designated as conservation.

Letter of Understanding. As used herein, a statement that consummates this regulation for any given project and defines the general provisions or conditions of the local sponsor or owner, cooperation agreed to in the authorizing legislative document, and the requirements for compliance with Section 7 of the Flood Control Act of 1944, the Federal Power Act, or other special act of Congress. The letter of understanding will be signed by a duly authorized representative of the Chief of Engineers and the project owner. A "field working agreement" may be substituted for a letter of understanding, provided that the specified minimum requirements of the latter, as stated above, are met.

Master Water Control Manual. A water control manual prepared for a system of projects rather than an individual project. **Operation.** The physical manipulation of spillway gates, outlet works, or instrumentation associated with projects. Operations prescribed by a water control plan shall include the operational flexibility necessary to accomplish the authorized purposes of the project under foreseeable conditions, according to the approved water control plan or manual. The approved water control plan or manual is a result of intensive study and includes the hydrologic, hydraulic, and reservoir regulation analyses of the historical period of record. These analyses cover a wide range of hydrologic conditions. The water control plan which could include guide curves, physical constraints, and operational constraints is tested against this range of conditions. The resulting simulated operations depict what could be represented as normal, high or low flows and a range of operations to respond to those conditions. Operations within the range contemplated or prescribed by a water control plan reflect the operational flexibility of the water control plan or manual and are not considered deviations.

Project. Any water resource impoundment project constructed or modified, including natural lakes, these could include reservoirs, locks, dams and other water control projects

Project Owner. The entity responsible for maintenance, physical operation, and safety of the project, and for carrying out the water control plan in the interest of flood control or navigation as prescribed by USACE. Special arrangements may be made by the project owner for "operating agencies" to perform these tasks.

Real Time. As used herein, real time denotes the processing of current information or data in a sufficiently timely manner to influence a physical response in the system being monitored or controlled. The term includes information on the analyses for and execution of water control decisions for both minor and major flood events and for navigation and low water regulation

based on prevailing hydro-meteorological and other conditions and constraints, to achieve efficient management of water resource systems.

Reregulation. In a multi-dam system, regulating the dramatic peak flows generated by upstream dams through the measured release of water from the dam farthest downstream.

Reservoir. Any dam-and-reservoir project surveyed, planned, and constructed, or to be planned, surveyed, constructed, and operated by the U.S. Army Corps of Engineers, that is intended to contain storage to be jointly managed and operated for multiple purposes under federal law. The terms “reservoir” and “project” may comprise a single dam-and-reservoir facility or a system of improvements, depending on how the project is ultimately authorized by Congress, and may include lock and dam projects, if such lock and dam projects contain storage that was authorized by Congress and is managed for multiple purposes in accordance with congressional intent.”

Reservoir Regulation Schedule. A compilation of operating criteria, guidelines, guide curves, and specifications that govern the storage and release functions of a reservoir. In general, schedules indicate limiting rates of reservoir releases required during various seasons of the year to meet all Congressionally authorized purposes of the particular project, acting separately or in combination with other projects in a system. Schedules are usually expressed in the form of graphs and tabulations, supplemented by concise specifications.

Surcharge. Any storage above the full pool.

Water Control Agreement. A compilation of water control criteria, guidelines, diagrams, release schedules, guide curves, and specifications that basically govern the use of reservoir storage space for flood control or navigation, and other authorized purposes. In general, they indicate controlling or release functions of a water control project for these purposes. In general, they indicate controlling or limiting rates of discharge and storage space required for flood control or navigation, based on the runoff potential during various seasons of the year.

Water Control Manual. A document that provides guidance and instruction for project personnel and a reference source for others who may be involved with, responsible for, or affected by project regulation. It includes all water control management activities as they relate to hydraulic and hydrologic aspects of the project, such as descriptions of physical components, operating procedures, historical facts, and other pertinent data.

Water Control Plan. A document that includes coordinated regulation schedules for project/system regulation and such additional provisions as may be required to collect, analyze, and disseminate basic data, prepare detailed operating instructions, assure project safety, and carry out regulation of projects in an appropriate manner. For the purpose of this regulation, the term “water control plan” refers to the plan of regulation for a water resources project in the interest of flood control, navigation, and other authorized purposes.

Water Control Regulation. The regulation of water control projects according to regulation schedules in the water control plan and any other criteria in the water control manual. Either (1) water control procedures and decisions that normally are determined by regulating engineers, or (2) provisions governing water control resource management found in legal rules, agreements, contracts, FERC licenses, interstate compacts, and the like.

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Water Quality. The physical, chemical, biological, and radiological characteristics of surface and ground water affecting abiotic and biotic interrelationships.

Water Quality Management. The management of water resources to improve, restore, conserve, and protect the physical, chemical, biological, and radiological quality of the water for natural and human use.