

VOLUME I

PHASE I

DAM SAFETY INSPECTION REPORT

APPENDIX A

- **AGREEMENT FOR PROFESSIONAL SERVICES CONTRACT**
 - **AN OVERVIEW OF DAM SAFETY HISTORY**
 - **THE NATIONAL DAM SAFETY ACT OF 2014**

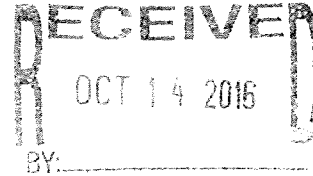
MARKS ENTERPRISES of NC, PLLC

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Tel: 828-231-7424 Fax: 828-681-8909

October 14, 2016

**Town of Lake Lure
Town Hall
2948 Memorial Highway
Post Office Box 255
Lake Lure, North Carolina 28746**



**Attention: Mr. Donnie McCraw
Dam & Power Plant Operator**

**Reference: PROPOSAL FOR PROFESSIONAL SERVICES
Part I: 2017 Dam Safety Evaluation & Report
Lake Lure Dam, Power Plant, and Appurtenances
NCID No. RUTHE-003
Lake Lure, Rutherford County, North Carolina
Marks Enterprises Proposal No. P-16-004**

Dear Mr. McCraw:

Marks Enterprises of NC, PLLC (Marks Enterprises) appreciates the opportunity to continue to work with the Town of Lake Lure to establish an Agreement (Contract) for Professional Services associated with evaluation of the current structural integrity, stability, and overall safety of Lake Lure Dam. This cooperative effort began over two (2) years ago when Marks Enterprises submitted a Proposal for Professional Services associated with a dam safety inspection. The original proposal was revised and resubmitted earlier this year with a significantly expanded scope of work and associated budget to address observed evidence of accelerated deterioration of the dam and appurtenances. In both instances, the dam and appurtenances experienced structural deficiencies at the same time that the proposals for dam safety inspections and evaluations were being reviewed for budget allocations. Unfortunately, but rightly so, the proposals for inspections, investigations, analyses, and evaluations were set aside in order to fund needed remediations of the dam and its appurtenances. In response to these

recurrent conflicts between dam safety evaluations and reoccurring remediation requirements, Marks Enterprises has developed a Two-Part Dam Safety Inspections, investigations, Analyses, and Evaluations Plan that incorporates two (2) significantly reduced budgets to be completed over the next ten (10) to twelve (12) months. The primary concept of the Plan is to allow more time for the overall project so that assigned Levels of Effort (LOE) during any one of the identified Project Task can be adjusted as needed without disruption or stoppage of the progression of the project. However, there must be a commitment of both parties to the Agreement for Professional Services Contract to complete both Part I and Part II of the Project in order to properly evaluate the current safety and potential needs and costs to prolong the life of Lake Lure Dam and associated hydroelectric generation capabilities.

This proposal presents a detailed scope of work, a detailed budget, and a detailed schedule for Part I of the project; an overview of the scope of work, an estimated budget, and a proposed schedule for Part II of the project; a Proposal Acceptance Signature Sheet; and a Closure containing a recommended implementation of the findings of the Two (2) - Part Dam Evaluation Project. Marks Enterprises will require a retainer for both Part I and Part II of the project at the time of signing of the Agreement for Services Contracts (Proposal Acceptance Signature Sheets). The retainers will be twenty-five (25) percent of the estimated project budget amounts and will be credited in equal amounts to each submitted invoice. As indicated in the previously submitted document some preliminary work has been done and will continue to be done to take advantage of the winter lake drawdown scheduled to begin on December 1, 2016. A portion of the retainage will be used to reimburse Marks Enterprises for these activities with the remainder used to pay subcontractors for work prior to submittal of our first invoice.

PROPOSED SCOPE OF WORK FOR PART I

The author of this proposal will be the Project Engineer for both Part I and Part II of the 2017 Dam Safety Inspection, Investigation, Stability Analyses, and Structural Integrity Evaluations for Lake Lure Dam, the Power Plant, and other appurtenances of the facility.

As such, Dr. Marks, P.E. will be present during critical project activities and conduct the visual dam safety inspections, structural stability analyses, render all final evaluations of the structural integrity, and prepare both the Part I and Part II 2017 Dam Safety Investigation Reports. Although not presented as a project task or activity, Dr. Marks, P.E. will be happy to present a PowerPoint presentation to the Town Council and Invited Guests at the completion of Part I and/or both phases of the Project.

The proposed scope of work for Part I of the project has been defined by ten (10) tasks that are described below. Some of these tasks consist of site activities that will overlap or be conducted simultaneously. As such, the time allocated to some overlapping tasks will be shown as zero or an unusually low amount of time so that the time required to complete certain tasks is not doubled or counted twice in the overall schedule. We anticipate that subcontractors retained to complete beginning project activities will mobilize no later than November 14, 2016.

<u>TASK</u>	<u>DESCRIPTION</u>	<u>ESTIMATED COMPLETION</u>
1.	Inspection-Level Vegetation Clearing	December 1, 2016
2.	Field Measurements and Surveys	December 1, 2016
3.	Installation of Seepage Monitoring Weirs	November 21, 2016
4.	Review & Synthesis of All Dam Safety Files	November 21, 2016
5.	Monitoring Seepage at Normal Pool Elev.	December 1, 2016
6.	Dam Plans, Sections, & Details	December 23, 2016
7.	Visual Dam Safety Inspection	January 20, 2017
8.	Monitoring Seepage During Lake Drawdown	April 1, 2017
9.	Analyses of Uplift from Seepage Data	April 15, 2017
10.	Part I 2017 Dam Safety Investigation Report	April 30, 2017

RECOMMENDED PROJECT BUDGET

The recommended budget presented herein is not to be considered an itemized or line-item budget but shall be considered a financial management budget for the project so that the project can be completed within the total not-to-exceed budget amount. Marks Enterprises has gone to great extent to develop the presented budget that sets forth our best estimate of budget allocations by project task or activity. However, as one might expect it is often difficult to predict what conditions might be encountered during the inspection of a structure that is the age of Lake Lure Dam and its appurtenances. As such, invoicing for the project will be based upon actual time spent on each activity and not on a lump sum amount in accordance with the estimated distribution of the not-to-exceed budget. Marks Enterprises will not exceed the recommended not-to-exceed budget without prior written approval based upon a review of conditions that are associated with and that have resulted in the expenditure of time and monies in excess of the not-to-exceed budget.

We anticipate that invoices will be submitted on a monthly basis and/or at the completion of major project task. Completed work product will be presented with invoices where the work product is in a presentable form. Project status reports will be submitted in lieu of finished work product when completed items are not conducive to submittal as a stand-alone report or comprehensive document. For example; field measurements, notes, and survey data will be of little use if presented as raw data; however, the development of drawings, plans, sections, and details from these data would be a viable submittal once they are completed and available for distribution. As previously mentioned in the introductory information, the retainage fee shall be credited to each invoice as an equal amount until the retainage amount is totally reimbursed. Marks Enterprises has a "Due-Upon-Receipt" invoice payment policy which is in reality a ten (10)-day payment policy. Invoices that are not paid within thirty (30) days will be subject to a two (2) percent late fee or a lump sum of \$100.00, whichever is less.

ESTIMATED PART I BUDGET ALLOCATIONS

<u>Task</u>	<u>Description</u>	<u>Estimated Allocation</u>
1.	Inspection-Level Vegetation Clearing	
2.	Field Measurements and Surveying	
3.	Installation of Seepage Monitoring Weirs	
4.	Review & Synthesis of All Dam Safety Files	
5.	Monitoring Seepage at Normal Pool Elevation	
6.	Dam Plans, Sections, & Details	
7.	2017 Visual Dam Safety Inspections	
8.	Monitoring Seepage During Lake Drawdown	
9.	Analyses of Uplift from Seepage Data	
10.	Part I 2017 Dam Safety Investigation Report	

Recommended Part I Not-To-Exceed Budget =

PART II SCOPE OF WORK OVERVIEW

The scope of work for the Part II 2017 Dam Safety Investigation Project that will commence immediately following completion of Part I of the 2017 Dam Safety Investigation Project will be dependent to a large extent upon findings and evaluations of Part I of the overall project. However, there are some activities that will be conducted in the Part II portion of the project that will be independent of findings of the Part I portion of the project. These activities are presented herein so that the extent of the overall project can be reviewed as a part of the detailed review of the presented proposal for the Part I Dam Safety Inspection Project.



Dam Safety History

- 1972 Failure of Buffalo Creek Dam, West Virginia; 125 deaths
- 1972 PL 92-367 the National Dam Inspection Act of 1972
- 1976 Teton Dam Failure; \$1 Billion in losses and 14 deaths
- 1977 Kelly Barnes Dam Failure; 39 deaths
- 1978 Corps of Engineers begins the National Inspection Program
- 1979 Federal Guidelines for Dam Safety prepared
- 1979 Executive Order 12148 from President Carter created FEMA; FEMA Director to coordinate Federal Dam Safety efforts
- 1979 Memorandum from President Carter requiring the head of each Federal dam safety agency to implement the Federal Guidelines
- 1982 The National Program of Inspection of Non-Federal Dams completed and National Inventory updated by USACE; Final Report to Congress
- 1985 The Interagency Committee on Dam Safety (ICODS) publishes Charter and Operating Rules
- 1986 Water Resources Development Act of 1986 includes National Dam Safety Program administered by the Secretary of the Army: Never implemented due to lack of appropriations. Provided for
 - National Dam Safety Review Board (7 members)
 - State dam safety program assistance (\$13 million)
 - Maintain and update the NID (\$500,000)
 - Research (\$2 million)
- 1996 National Dam Safety Program Act included in the 1996 Water Resources Development Act (PL 104- 303): Administered by the Director of FEMA:
 - National Dam Safety Review Board (11 members)
 - State dam safety program assistance (\$4 million)
 - Maintain and update the NID (\$500,000)
 - Research (\$1 million)
 - Training (\$500,000)
- 2002 National Dam Safety and Security Act of 2002 (PL 107-310): Reauthorizes the NDSP
 - National Dam Safety Review Board (11 members)
 - State dam safety program assistance (\$6 million)
 - Maintain and update the NID (\$500,000)
 - Research (\$1.5 million)
 - Training (\$500,000)
 - Adds security to critical dams safety issues



Association of State Dam Safety Officials
239 S. Limestone St.
Lexington, KY 40508 - www.damsafety.org

2006 -- National Dam Safety Program reauthorized as P.L. 109-460.

2014 -- National Dam Safety Program reauthorized in the Water Resources Reform and Development Act of 2014.
Conference Report to HR 3080 passed on May 20.



THE NATIONAL DAM SAFETY ACT OF 2006 (P.L. 109-460) 2014 **(Title III, Subtitle A of the Conference Report to HR 3080, the** **Water Resources Reform and Development Act)**

2006 Amendments in Red
2014 Amendments in Blue

SEC. 215. NATIONAL DAM SAFETY PROGRAM.

- (a) **PURPOSE.**-The purpose of this section is to reduce the risks to life and property from dam failure in the United States through the establishment and maintenance of an effective national dam safety program to bring together the expertise and resources of the Federal and non-Federal communities in achieving national dam safety hazard reduction. It is not the intent of this section to preempt any other Federal or State authorities nor is it the intent of this section to mandate State participation in the grant assistance program established under this section.
- (b) **EFFECT ON OTHER DAM SAFETY PROGRAMS.**-Nothing in this section (including the amendments made by this section) shall preempt or otherwise affect any dam safety program of a Federal agency other than the Federal Emergency Management Agency, including any program that regulates, permits, or licenses any activity affecting a dam.
- (c) **DAM SAFETY PROGRAM.**-This Act entitled "An Act to authorize the Secretary of the Army to undertake a national program of inspection of dams," approved August 8, 1972 (33 U.S.C. 467 *et seq.*) is amended [as follows.]
- (d) **CONFORMING AMENDMENT.**-Section 3(2) of the Indian Dams Safety Act of 1994 (25 U.S.C. 3802(2); 108 Stat. 1560) is amended by striking "the first section of Public Law 92-367 (33 U.S.C. 467)" and inserting "section 2 of the National Dam Safety Program Act."

SEC. 1. SHORT TITLE; AMENDMENT OF NATIONAL DAM SAFETY PROGRAM ACT.

- (a) **SHORT TITLE.**- This Act may be cited as the 'Dam Safety and Security Act of 2006.'
- (b) **AMENDMENT OF NATIONAL DAM SAFETY PROGRAM ACT.**-Except as otherwise expressly provided, whenever in this Act an amendment or repeal is expressed in terms of an amendment to, or a repeal of, a section or other provision, the reference shall be considered to be made to a section or other provision of the National Dam Safety Program Act (33 U.S.C. 467d *et seq.*)

SEC. 2. DEFINITIONS.

In this Act, the following definitions apply:

- (1) **BOARD.**-The term 'Board' means a National Dam Safety Review Board established under section 8(f)."
- (2) **DAM.**-The term 'dam'-
- (A) means any artificial barrier that has the ability to impound water, wastewater, or any liquid-borne material, for the purpose of storage or control of water, that-
- (i) is 25 feet or more in height from-
- (I) the natural bed of the stream channel or watercourse measured at the downstream toe of the barrier; or
- (II) if the barrier is not across a stream channel or watercourse, from the lowest elevation of the outside limit of the barrier; to the maximum water storage elevation; or
- (ii) has an impounding capacity for maximum storage elevation of 50 acre-feet or more; but
- (B) does not include-
- (i) a levee; or



- (ii) a barrier described in subparagraph (A) that-
 - (I) is 6 feet or less in height regardless of storage capacity; or
 - (II) has a storage capacity at the maximum water storage elevation that is 15 acre-feet or less regardless of height; unless the barrier, because of the location of the barrier or another physical characteristic of the barrier, is likely to pose a significant threat to human life or property if the barrier fails (as determined by the ~~Director~~).
- (3) **DIRECTOR, ADMINISTRATOR.**-The term '~~Director~~' 'Administrator' means the ~~Director~~ Administrator of FEMA.
- (4) **FEDERAL AGENCY.**-The term 'Federal agency' means a Federal agency that designs, finances, constructs, owns, operates, maintains, or regulates the construction, operation, or maintenance of a dam.
- (5) **FEDERAL GUIDELINES FOR DAM SAFETY.**-The term 'Federal Guidelines for Dam Safety' means the FEMA publication, numbered 93 and dated June 1979, that defines management practices for dam safety at all Federal agencies.
- (6) **FEMA.**-The term 'FEMA' means the Federal Emergency Management Agency.
- (7) **HAZARD REDUCTION.**-The term 'hazard reduction' means the reduction in the potential consequences to life and property of dam failure.
- (8) **ICODS.**-The term 'ICODS' means the Interagency Committee on Dam Safety established by section 7.
- (9) **PROGRAM.**-The term 'Program' means the national dam safety program established under section 8.
- (10) **STATE.**-The term 'State' means each of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other territory or possession of the United States.
- (11) **STATE DAM SAFETY AGENCY.**-The term 'State dam safety agency' means a State agency that has regulatory authority over the safety of non-Federal dams.
- (12) **STATE DAM SAFETY PROGRAM.**-The term 'State dam safety program' means a State dam safety program approved and assisted under section 8(e).
- (13) **UNITED STATES.**-The term 'United States,' when used in a geographical sense, means all of the States.

SEC. 3. INSPECTION OF DAMS

- (a) **IN GENERAL.**-As soon as practicable, the Secretary of the Army, acting through the Chief of Engineers, shall carry out a national program of inspection of dams for the purpose of protecting human life and property. All dams in the United States shall be inspected by the Secretary except (1) dams under the jurisdiction of the Bureau of Reclamation, the Tennessee Valley Authority, or the International Boundary and Water Commission, (2) dams which have been constructed pursuant to licenses issued under the authority of the Federal Power Act, (3) dams which have been inspected within the twelve-month period immediately prior to the enactment of this Act by a State agency and which the Governor of such State requests be excluded from inspection, and (4) dams which the Secretary of the Army determines do not pose any threat to human life or property. The Secretary may inspect dams that have been licensed under the Federal Power Act upon request of the Federal Power Commission and dams under the jurisdiction of the International Boundary and Water Commission upon request of such Commission.
- (b) **STATE PARTICIPATION.**-On request of a State dam safety agency, with respect to any dam the failure of which would affect the State, the head of a Federal agency shall-
 - (1) provide information to the State dam safety agency on the construction, operation, or maintenance, condition or provisions for emergency operations of the dam; or



- (2) allow any official of the State dam safety agency to participate in the Federal inspection of the dam.

SEC. 4. INVESTIGATION REPORTS TO GOVERNORS.

As soon as practicable after inspection of a dam, the Secretary shall notify the Governor of the State in which such dam is located of the results of such investigation. The Secretary shall immediately notify the Governor of any hazardous conditions found during the inspection. The Secretary shall provide advice to the Governor, upon request, relating to the timely remedial measures necessary to mitigate or obviate any hazardous condition found during an inspection.

SEC. 5. DETERMINATION OF DANGER TO HUMAN LIFE AND PROPERTY.

For the purpose of determining whether a dam (including the waters impounded by such dam) constitutes a danger to human life or property, the Secretary shall take into consideration the possibility that the dam might be endangered by overtopping, seepage, settlement, erosion, sediment, cracking, earth movement, earthquakes, failure of bulkheads, flashboards, gates on conduits, or other conditions which exist or which might occur in any area in the vicinity of the dam. [Section 5]

SEC. 6. NATIONAL DAM INVENTORY.

~~The Secretary of the Army, acting through the Chief of Engineers, may maintain and periodically publish updated information on the inventory of dams in the United States.~~ The Secretary of the Army shall maintain and update information on the inventory of dams in the United States. Such inventory of dams shall include any available information assessing each dam based on inspections completed by either a Federal agency or a State dam safety agency.

SEC. 7. INTERAGENCY COMMITTEE ON DAM SAFETY.

- (a) **ESTABLISHMENT.**-There is established an Interagency Committee on Dam Safety-
 - (1) comprised of a representative of each of the Department of Agriculture, the Department of Defense, the Department of Energy, the Department of Interior, the Department of Labor, FEMA, the Federal Energy Regulatory Commission, the Nuclear Regulatory Commission, the Tennessee Valley Authority, and the United States Section of the International Boundary and Water Commission; and
 - (2) chaired by the ~~Director~~ Administrator.
- (b) **DUTIES.**-ICODS shall encourage the establishment and maintenance of effective Federal programs, policies, and guidelines to enhance dam safety for the protection of human life and property through coordination and information exchange among Federal agencies concerning implementation of the Federal Guidelines for Dam Safety.

SEC. 8. NATIONAL DAM SAFETY PROGRAM.

- (a) **IN GENERAL.**-The ~~Director~~ Administrator, in consultation with ICODES and State dam safety agencies, and the Board shall establish and maintain, in accordance with this section, a coordinated national dam safety program. The Program shall-
 - (1) be administered by FEMA to achieve the objectives set forth in subsection (c);
 - (2) involve, to the extent appropriate, each Federal agency; and
 - (3) include-
 - (A) each of the components described in subsection (d);
 - (B) the strategic plan described in subsection (b); and
 - (C) assistance for State dam safety programs described in subsection (e).
- (b) **DUTIES.**-The ~~Director~~ Administrator shall prepare a strategic plan--
 - (1) to establish goals, priorities, ~~and target dates to~~ performance measures, and target dates toward effectively administering this Act in order to improve the safety of dams in the United States; and
 - (2) to the extent feasible, to establish cooperation and coordination with, and assistance to, interested governmental entities in all States.



- (c) **OBJECTIVES.**-The objectives of the Program are to:
- (1) ensure that new and existing dams are safe through the development of technologically and economically feasible programs and procedures for national dam safety hazard reduction;
 - (2) encourage acceptable engineering policies and procedures to be used for dam site investigation, design, construction, operation and maintenance, and emergency preparedness;
 - (3) encourage the establishment and implementation of effective dam safety programs in each State based on State standards;
 - (4) ~~develop and encourage public education and awareness projects to increase public acceptance and support of State dam safety programs;~~
develop and implement a comprehensive dam safety hazard education and public awareness initiative to assist the public in preparing for, mitigating, responding to, and recovering from dam incidents;
 - (5) develop technical assistance materials for Federal and State dam safety programs;
 - (6) develop mechanisms with which to provide Federal technical assistance for dam safety to the non-Federal sector; and
 - (7) develop technical assistance materials, seminars, and guidelines to improve security for dams in the United States.
- (d) **COMPONENTS.**-
- (1) **IN GENERAL.**-The program shall consist of-
 - (A) a Federal element and a non-Federal element; and
 - (B) leadership activity, technical assistance activity, and public awareness activity.
 - (2) **ELEMENTS.**-
 - (A) **FEDERAL.**-The Federal element shall incorporate the activities and practices carried out by the Federal agencies under section 7 to implement the Federal Guidelines for Dam Safety.
 - (B) **NON-FEDERAL.**-The non-Federal element shall consist of-
 - (i) the activities and practices carried out by States, local governments, and the private sector to safety build, regulate, operate, and maintain dams; and
 - (ii) Federal activities that foster State efforts to develop and implement effective programs for the safety of dams.
 - (3) **FUNCTIONAL ACTIVITIES.**-
 - (A) **LEADERSHIP.**-The leadership activity shall be the responsibility of FEMA and shall be exercised by chairing the Board to coordinate national efforts to improve the safety of dams in the United States.
 - (B) **TECHNICAL ASSISTANCE.**-The technical assistance activity shall consist of the transfer of knowledge and technical information among the Federal and non-Federal elements described in paragraph (2).
 - (C) **PUBLIC AWARENESS.**-Public awareness activities shall provide for the education of the public, including State and local officials, in the hazards of dam failures and related matters.
- (e) **ASSISTANCE FOR STATE DAM SAFETY PROGRAMS.**-
- (1) **IN GENERAL.**-To encourage the establishment and maintenance of effective State dam safety programs, to protect human life and property, and to improve State dam safety programs, the ~~Director~~ Administrator shall provide assistance with amounts made available under section 13 to assist States in establishing, maintaining, and improving dam safety programs in accordance with the criteria specified in paragraph (2).



- (2) **CRITERIA AND BUDGETING REQUIREMENT.**-For a State to be eligible for assistance under this subsection, a State dam safety program must be working toward meeting the following criteria and budgeting requirement:
- (A) **CRITERIA.**-A State dam safety program must be authorized by State legislation to include ~~substantially~~, at a minimum-
- (i) the authority to review and approve plans and specifications to construct, enlarge, modify, remove, and abandon dams;
 - (ii) the authority to perform periodic inspections during dam construction to ensure compliance with approved plans and specifications;
 - (iii) a requirement that, on completion of dam construction, State approval must be given before the operation of the dam;
 - (iv) the authority to require or perform periodic evaluations of all dams and reservoirs to determine the extent of the threat to human life and property in case of failure;
 - ~~(iv)~~(v) (I) the authority to require or perform the inspection, at least once every 5 years, of all dams and reservoirs that would pose a significant threat to human life and property in case of failure to determine the continued safety of the dams and reservoirs; and (II) a procedure for more detailed and frequent safety inspections;
 - ~~(v)~~(vi) a requirement that all inspections be performed under the supervision of a State-registered professional engineer with related experience in dam design and construction;
 - ~~(vi)~~(vii) the authority to issue notices, when appropriate, to require owners of dams to perform necessary maintenance or remedial work, install and monitor instrumentation, improve security, revise operating procedures, or take other actions, including breaching dams, when necessary;
 - ~~(vii)~~(viii) regulations for carrying out the legislation of the State described in this subparagraph;
 - ~~(viii)~~(ix) provisions for necessary funds-
 - (I) to ensure timely repairs or other changes to, or removal of, a dam in order to protect human life and property; and
 - (II) if the owner of the dam does not take action described in subclause (I), take appropriate action as expeditiously as practicable;
 - ~~(ix)~~(x) a system of emergency procedures to be used if a dam fails or if the failure of a dam is imminent; and
 - ~~(x)~~(xi) an identification of-
 - (I) each dam the failure of which could be reasonably expected to endanger human life;
 - (II) the maximum area that could be flooded if the dam failed; and
 - (III) necessary public facilities that would be affected by the flooding.
- (B) **BUDGETING REQUIREMENT.**-For a State to be eligible for assistance under this subsection, State appropriations must be budgeted to carry out the legislation of the State under subparagraph (A).
- (3) **WORK PLANS.**-The ~~Director~~ Administrator shall enter into an agreement with each State receiving assistance under paragraph (2) to develop a work plan necessary for the State dam safety program to reach a level of performance specified in the agreement.
- (4) **MAINTENANCE OF EFFORT.**-Assistance may not be provided to a State under this subsection for a fiscal year unless the State enters into such agreement with the ~~Director~~ Administrator as the ~~Director~~ Administrator requires to ensure that the State



will maintain the aggregate expenditures of the State from all other sources for programs to ensure dam safety for the protection of human life and property at or above a level equal to the average annual level of such expenditures for the 2 fiscal years preceding the fiscal year.

(5) **APPROVAL OF PROGRAMS.-**

- (A) **SUBMISSION.**-For a State to be eligible for assistance under this subsection, a plan for a State dam safety program shall be submitted to the ~~Director~~ Administrator for approval.
- (B) **APPROVAL.**-A State dam safety program shall be deemed to be approved 120 days after the date of receipt by the ~~Director~~ Administrator unless the ~~Director~~ Administrator determines within the 120-day period that the State dam safety programs fails to meet the requirements of paragraph (1) through (3).
- (C) **NOTICE OF DISAPPROVAL.**-If the ~~Director~~ Administrator determines that a State dam safety program does not meet the requirements for approval, the ~~Director~~ Administrator shall immediately notify the State in writing and provide the reasons for the determination and the changes that are necessary for the plan to be approved.

- (6) **REVIEW OF STATE DAM SAFETY PROGRAMS.**-Using the expertise of the Board, the ~~Director~~ Administrator may periodically review State dam safety programs. If the Board finds that a State dam safety program has proven inadequate to reasonably protect human life and property and the ~~Director~~ Administrator concurs, the ~~Director~~ Administrator shall revoke approval of the State dam safety program, and withhold assistance under this subsection, until the State dam safety program again meets the requirements for approval.

(f) **BOARD.-**

- (1) **ESTABLISHMENT.**-The ~~Director~~ Administrator shall establish an advisory board to be known as the 'National Dam Safety Review Board' to monitor the safety of dams in the United States, to monitor State implementation of this section, and to advise the ~~Director~~ Administrator on national dam safety policy.
- (2) **AUTHORITY.**-The Board may use the expertise of Federal agencies and enter into contracts for necessary studies to carry out this section.
- (3) **VOTING MEMBERSHIP.**-The Board shall consist of 11 voting members selected by the ~~Director~~ Administrator for expertise in dam safety, of whom-
 - (A) 1 member shall represent the Department of Agriculture
 - (B) 1 member shall represent the Department of Defense
 - (C) 1 member shall represent the Department of Interior
 - (D) 1 member shall represent FEMA
 - (E) 1 member shall represent the Federal Energy Regulatory Commission
 - (F) 5 members shall be selected by the ~~Director~~ Administrator from among State dam safety officials; and
 - (G) 1 member shall be selected by the ~~Director~~ Administrator to represent the private sector.
- (4) **NONVOTING MEMBERSHIP.**-The ~~Director~~ Administrator, in consultation with the Board, may invite a representative of the National Laboratories of the Department of Energy and may invite representatives from Federal or State agencies, representatives from nongovernmental organizations, or dam safety experts, as needed, to participate in meetings of the Board.
- (5) **DUTIES-**
 - (A) **IN GENERAL.**-The Board shall encourage the establishment and maintenance of effective programs, policies, and guidelines to enhance dam safety for the protection of human life and property throughout the United States.
 - (B) **COORDINATION AND INFORMATION EXCHANGE AMONG AGENCIES.**-In carrying out subparagraph (A), the Board shall encourage coordination and



information exchange among Federal and State dam safety agencies that share common problems and responsibilities for dam safety, including planning, design, construction, operation, emergency action planning, inspections, maintenance, regulation or licensing, technical or financial assistance, research, and data management.

- (6) **WORK GROUPS**-The ~~Director~~ Administrator may establish work groups under the Board to assist the Board in accomplishing its goals. The work groups shall consist of members of the Board and other individuals selected by the ~~Director~~ Administrator.
- (7) **COMPENSATION OF MEMBERS.**-
 - (A) **FEDERAL EMPLOYEES.**-Each member of the Board who is an officer or employee of the United States shall serve without compensation in addition to compensation received for the services of the member as an officer or employee of the United States.
 - (B) **OTHER MEMBERS.**-Each member of the Board who is not an officer or employee of the United States shall serve without compensation.
- (8) **TRAVEL EXPENSES.**-
 - (A) **REPRESENTATIVES OF FEDERAL AGENCIES**-To the extent amounts are made available in advance in appropriations Acts, each member of the Board who represents a Federal agency shall be reimbursed of appropriations for travel expenses by his or her agency, including per diem in lieu of subsistence, at rates authorized for an employee of an agency under subchapter 1 of chapter 57 of title 5, United States Code, while away from home or regular place of business of the member in the performance of services for the Board.
 - (B) **OTHER INDIVIDUALS**-To the extent amounts are made available in advance in appropriations Acts, each member of the Board who represents a State agency, the member of the Board who represents the private sector, and each member of a work group created under paragraph (1) shall be reimbursed for travel expenses by FEMA, including per diem in lieu of subsistence, at rates authorized for an employee of an agency under subchapter 1 of chapter 57 of title 5, United States Code, while away from home or regular place of business of the member in performance of services for the Board.
- (9) **APPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT.**-The Federal Advisory Committee Act (5 U.S.C.App.) shall not apply to the Board.

SEC.9. RESEARCH.

- (a) **IN GENERAL.**-The ~~Director~~ Administrator, in cooperation with the Board, shall carry out a program of technical and archival research to develop and support-
 - (1) improved techniques, historical experience, and equipment for rapid and effective dam construction, rehabilitation, and inspection;
 - (2) devices for the continued monitoring of the safety of dams;
 - (3) development and maintenance of information resources systems needed to support managing the safety of dams; and
 - (4) initiatives to guide the formulation of effective public policy and advance improvements in dam safety engineering, security, and management.
- (b) **CONSULTATION.**-The ~~Director~~ Administrator shall provide for State participation in research under subsection (a) and periodically advise all States and Congress of the results of the research.

SEC. 10. DAM SAFETY TRAINING.

At the request of any State that has or intends to develop a State dam safety program, the ~~Director~~ Administrator shall provide training for State dam safety staff and inspectors.



SEC. 11. PUBLIC AWARENESS AND OUTREACH FOR DAM SAFETY

The Administrator, in consultation with the other Federal agencies, State and local governments, dam owners, the emergency management community, the private sector, nongovernmental organizations and associations, institutions of higher education, and any other appropriate entities shall, subject to the availability of appropriations, carry out a nationwide public awareness and outreach initiative to assist the public in preparing for, mitigating, responding to, and recovering from dam incidents.

SEC. 121. REPORTS.

Not later than 90 days after the end of each odd-numbered fiscal year, the ~~Director~~ Administrator shall submit a report to Congress that-

- (1) describes the status of the Program;
- (2) describes the progress achieved by Federal agencies during the 2 preceding fiscal years in implementing the Federal Guidelines for Dam Safety;
- (3) describes the progress achieved in dam safety by States participating in the Program; and
- (4) includes any recommendations for legislative and other action that the ~~Director~~ Administrator considers necessary.

SEC. 132. STATUTORY CONSTRUCTION.

Nothing in this Act and no action or failure to act under this Act shall-

- (1) create any liability in the United States or its officers or employees for the recovery of damages caused by such action or failure to act;
- (2) relieve an owner or operator of a dam of the legal duties, obligations, or liabilities incident to the ownership or operation of the dam; or
- (3) preempt any other Federal or State law.

SEC. 143. AUTHORIZATION OF APPROPRIATIONS.

(a) NATIONAL DAM SAFETY PROGRAM.-

- (1) **ANNUAL AMOUNTS.**-There are authorized to be appropriated to FEMA to carry out sections 7, 8, and 11 (in addition to any amounts made available for similar purposes included in any other Act and amounts made available under subsections (b) through (e)), \$6,000,000 for each of fiscal years 2003 through 2006 \$6.5 million for FY07, \$7.1 million for FY08, \$7.6 million for FY09, \$8.3 million for FY10, and \$9.2 million for FY11, \$9,200,000 for each of fiscal year 2015 through 2019 to remain available until expended.

(2) ALLOCATION.-

- (A) **IN GENERAL.**-Subject to subparagraphs (B) and (C), for each fiscal year, amounts made available under this subsection to carry out section 8 shall be allocated among the states as follows:
 - (i) One-third among States that qualify for assistance under section 8(e).
 - (ii) Two-thirds among States that qualify for assistance under section 8(e), to each State in proportion to-
 - (I) the number of dams in the State that are listed as State-regulated dams on the inventory of dams maintained under section 6; as compared to
 - (II) the number of dams in all States that are listed as State-regulated dams on the inventory of dams maintained under section 6.
- (B) **MAXIMUM AMOUNT OF ALLOCATION.-**
 - (i) **IN GENERAL.** -- The amount of funds allocated to a State under this paragraph may not exceed 50 percent of the reasonable cost of implementing the State dam safety program.



(ii) FISCAL YEAR 2015 AND SUBSEQUENT YEARS. – For fiscal year 2015 and each subsequent fiscal year, the amount of funds allocated to a State under this paragraph may not exceed the amount of funds committed by the State to implement dam safety activities.

(C) **DETERMINATION.**–The ~~Director~~ Administrator and the Board shall determine the amount allocated to States.

- (b) **NATIONAL DAM INVENTORY.**–There is authorized to be appropriated to carry out section 6 ~~\$500,000 for each fiscal year \$650,000 for FY07, \$700,000 for FY08, \$750,000 for FY09, \$800,000 for FY10, and \$850,000 for FY11~~ \$500,00 for each of fiscal years 2015 through 2019.
- (c) **PUBLIC AWARENESS.**–There is authorized to be appropriated to carry out section 11 \$1,000,000 for each of fiscal years 2015 through 2019.
- (e)(d) **RESEARCH.**–There is authorized to be appropriated to carry out Section 9 ~~\$1,500,000 for each of fiscal years 2003 through 2006 \$1.6 million for FY07, \$1.7 million for FY08, \$1.8 million for FY09, \$1.9 million for FY10, and \$2 million for FY11~~ \$1,450,000 for each fiscal years 2015 through 2019, to remain until expended.
- (d)(e) **DAM SAFETY TRAINING.**–There is authorized to be appropriated to carry out section 10 ~~\$500,000 for each of fiscal years 2003 through 2006 \$550,000 for FY07, \$600,000 for FY08, \$650,000 for FY09, \$700,000 for FY10, and \$750,000 for FY11~~ \$750,000 for each of fiscal years 2015 through 2019.
- (e)(f) **STAFF.**–There is authorized to be appropriated to FEMA for the employment of such additional staff personnel as are necessary to carry out sections 8 through 10 ~~\$600,000 for each of fiscal years 2003 through 2006 \$700,000 for FY07, \$800,000 for FY08, \$900,000 for FY09, \$1,000,000 for FY10 and \$1,100,000 for FY11~~ \$1,000,000 for each of fiscal years 205 through 2019.
- (f)(g) **LIMITATION ON USE OF AMOUNTS.**– Amounts made available under this Act may not be used to construct or repair any Federal or non-Federal dam.