DAM SAFETY REGULATIONS, 2016

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SCHEDULES

IN exercise of the power conferred on the Commission by section 35(1 *)(b),*
(d) and *(k)* of the Water Resources Commission Act, 1996 (Act 522), these Regulations are made this 11th day of March, 2016.

Preliminary

Application

1. These Regulations apply to an existing dam or a proposed dam that is determined by the Commission to have a safety risk.

Establishment and structure of the Dam Safety Unit

Establishment of the Dam Safety Unit

2. (1) There is established by these Regulations, a division of the Commission to be known as the "Dam Safety Unit".

(2) The Unit shall implement these Regulations on behalf of the Commission.

Functions of the Unit

3. The Unit shall

(a) review and approve,
  (i) procedures and guidelines, and
  (ii) the Operation and Maintenance Manual prepared by each owner or operator of a dam and submitted to the Commission;
(b) inspect dams and classify dams to which these Regulations apply;
(c) investigate any report on dam safety;
(d) co-ordinate consultations on the formulation of dam safety policy within the Commission;
(e) co-ordinate inter-agency consultations on dam safety policy;
(f) develop technical materials on dam safety;
(g) create public awareness on dam safety and related matters; and
(h) perform other functions determined by the Commission.

Head of the Unit

4. (1) The President shall, in accordance with section 10 of the Act, appoint a Dam Safety Officer for the Unit.

(2) A person may be appointed as a Dam Safety Officer if that person qualifies to be appointed to the post of a Principal Officer of the Commission or a higher rank.

(3) The Dam Safety Officer shall hold office in accordance with the terms and conditions specified in the letter of appointment.

(4) The Dam Safety Officer shall be removed from office for incapacity, malfeasance or incompetence.

Other officers of the Unit

5. (1) The President shall in accordance with section 10 of the Act appoint other staff of the Unit that are necessary for the proper and effective performance of its functions.

(2) Other public officers may be transferred or seconded to the Unit or may otherwise give assistance to it.

Consultants

6. (1) The Commission may with the approval of the Board appoint consultants to carry out any of its functions under these Regulations.

(2) Without limiting the generality of subregulation (1), the Commission shall not engage a person as a consultant to carry out an inspection of a dam or to conduct investigations relating to a dam, unless that person has attained the requisite educational qualification and work experience specified in the First Schedule.

(3) A consultant appointed under this regulation may with the approval of the Dam Safety Officer, co-opt other persons to assist in the carrying out of an assigned function.

(4) A person other than an employee of the Commission co-opted by the consultant shall, hold office in accordance with the terms of the letter by which the person is appointed.

(5) A person

(a) appointed by the Commission as a consultant, or

(b) co-opted by a consultant under subregulation (3),

shall disclose to the Dam Safety Officer, any interest that person has in an activity or a practice involving dams.

(6) The Commission shall, with the approval of the Board, terminate the appointment of a consultant if that consultant contravenes subregulation (5).

(7) The Dam Safety Officer shall, through the Executive Secretary, notify the chairperson of the Board of any vacancy resulting from a

termination of appointment under subregulation (6).

Registration and classification of dams

Registration of dams

7. (1) A person who owns a dam or operates a dam shall, apply to the Commission for the registration of that dam.

(2) The application shall be made in writing, as set out in the Second Schedule, within three months after the date on which the dam is capable of containing, storing and impounding water.

(3) A person who fails or neglects to register a dam in accordance with these Regulations commits an offence and is liable on summary conviction to a fine of not less than five hundred penalty units and not more than seven hundred and fifty penalty units and a further fine of two hundred penalty units for each month that the offence continues.

(4) For purposes of this regulation, a successor in title to the owner of a dam or a successor in title to the operator of a dam shall, inform the Commission of any change in the ownership of that dam or control of that dam within three months after assuming the ownership of that dam or control of that dam, and the Commission shall effect the necessary changes in the register.

Register of dams

8. The Commission shall keep and maintain a register of dams.

Classification of dams

9. (1) The Commission shall, in accordance with the classification set out in the Third Schedule, classify each existing dam or proposed dam determined by the Commission to have a safety risk.

(2) For purposes of these Regulations, the established classifications for dams are “Class One”, “Class Two”, “Class Three” and “Class Four”.

(3) The Dam Safety Officer or an officer designated by the Dam Safety Officer shall inspect each dam to determine the risk potential of each dam for the purpose of classifying a dam.

(4) The Dam Safety Officer or the officer designated by the Dam Safety Officer shall, in determining the risk potential of a dam, consider

(a) the type of dam;

(b) the purpose for which the dam

(i) has been constructed; or

(ii) is being constructed;

(c) the name of the dam;

(d) the location of the dam, including the description as contained in the title deed of the land, the District in which the dam is located, and the nearest settlement;

(e) the maximum height of the dam or the proposed maximum height of the dam;

(f) the gross storage capacity of the reservoir and surface area of the reservoir when filled to capacity;

(g) the maximum depth of water at full capacity;

(h) in the case of an alteration or repair of an existing dam, a description of the nature and the extent of the alteration or repair; and

(i) other information determined by the Commission to be reasonably necessary in the circumstances.

Reclassification of a dam

10. The Commission shall reclassify a dam if

(a) the Dam Safety Officer or an officer designated by the Dam Safety Officer recommends in an inspection report to the Commission that that dam should be reclassified;

(b) the Commission receives information from a licensee who is constructing a dam, that there has been a deviation from

(i) the expected condition of the foundation of the dam;

(ii) the expected quality of materials used for the construction of the dam; or

(iii) the design of the dam as was submitted to the Commission; or

(c) in the opinion of the Commission, a condition of the dam is hazardous.

Procedure for obtaining a Dam Safety Licence

Application for a licence

11. (1) A person shall not

(a) construct a dam,
(b) alter a dam,
(c) operate a dam,
(d) conduct maintenance on a dam, or
(e) decommission a dam,

unless

(f) the dam, whether constructed or to be constructed,is registered,
(g) the class of that dam has been determined in accordance with regulation 9, and
(h) that person holds a Dam Safety Licence issued by the Commission.

(2) A person may apply to the Commission for a Dam Safety Licence by completing the application form set out in the Fourth Schedule and submitting the form to the Commission together with

(a) a report on the design of the dam, containing information on
(i) the hydrological components of the dam;
(ii) the hydraulic components of the dam; and
(iii) the structural components of the dam as prescribed by the Commission;
(b) the engineering drawings of the dam;
(c) an evaluation report on the impact of
(i) the construction of the dam;
(ii) any alteration made to the dam; or
(iii) any repair of the
dam, on existing
developments;
(d) the prescribed application fee; and
(e) other information that the Commission may require.

(3) Despite subregulation (2*)(a),* the Dam Safety Officer may as a result of new information available to the Commission at the date of submitting an application, require an applicant to adjust the design of a dam as the Commission considers appropriate.

(4) The Dam Safety Officer shall, in writing, acknowledge receipt of an application within fifteen days from the date of receipt of the application.

(5) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine of not less than five hundred penalty units and not more than seven hundred and fifty penalty units or to a term of imprisonment of not less than one year and not more than two years or to both the fine and imprisonment.

Grant or refusal of a licence

12. (1) The Dam Safety Officer may grant or refuse to grant a Dam Safety Licence after considering an application and shall communicate the decision of the Commission in writing to the applicant within forty-five days from the date of receipt of the application.

(2) Where the Commission refuses to grant a Dam Safety Licence to an applicant, the Commission shall state the reasons for the refusal in the communication of that decision to the applicant.

Non-transferability of a licence

13. (1) A person licensed under regulation 12(1) shall not transfer the licence to another person.

(2) Despite subregulation (1), a person may, with the prior written approval of the Commission, transfer a licence issued under these Regulations.

(3) A person who transfers a licence otherwise than in accordance with this regulation commits an offence and is liable on summary conviction to a fine of not less than five hundred penalty units and not more than seven hundred and fifty penalty units or to a term of imprisonment of not less than one year and not more than two years or to both the fine and imprisonment.

(4) The Commission shall conduct a due dilligence on the person to whom a licence is being transferred before the transfer is effected.

(5) The Commission shall take the following into consideration in deciding whether or not to approve a transfer:

(a) the age and condition of the dam;

(b) the intended use to which the prospective owner will put the dam;

(c) the technical capacity and the financial capacity, of the prospective owner to operate and conduct periodic maintenance of the dam in an efficient manner; and

(d) other requirements that the Commission considers appropriate.

Renewal of a licence

14. (1) A licence issued under regulation 12(1) is valid for a period of two years and is subject to renewal.

(2) A licensee who wishes to renew a licence shall submit an application to the Commission not later than three months before the licence expires.

(3) The requirement for the renewal of a licence is the same as that for the grant of the original licence and is subject to the payment of a renewal fee.

Suspension and revocation of a licence

15. (1) The Commission shall suspend a licence after giving the holder of that licence not less than thirty working days written notice, if the holder of that licence fails to comply with a condition of the licence.

(2) Where the Commission suspends a licence, the Commission shall require the holder of that licence to remedy the breach that caused the suspension within the period specified in the notice of suspension.

(3) Where the Commission is satisfied that the holder of the licence has remedied the breach, the Commission shall restore the licence.

(4) The Commission shall revoke the licence if the Commission is satisfied that the holder of that licence has not remedied the breach.

Dam safety procedures and guidelines

16. A person granted a licence under regulation 12(1) shall prepare dam safety procedures and guidelines as determined by the Commission and submit the procedures and guidelines to the Commission for approval.

Construction, operation and maintenance of a dam that has a safety risk

Construction, operation and maintenance of dams

17. (1) A person granted a licence under regulation 12(1) shall construct the dam, alter the dam, operate the dam or cause the maintenance of the dam to be conducted in accordance with

(a) the Act;
(b) these Regulations;
(c) the terms and conditions of the licence;
(d) the Operations and Maintenance Manual;
(e) an Emergency Preparedness and Response Plan prepared by the licensee and approved by the Commission; and
(f) directives and technical guidelines given by the Commission.

(2) The licensee shall, before commencing the construction of the dam, alteration of the dam or the maintenance of the dam, submit to the Commission

(a) a schedule of works indicating in detail,

(i) the various phases of work to be undertaken;

(ii) how responsibilities and tasks have been divided; and

(iii) the duration of each of the works; and

(b) a detailed programme of implementation of quality control during the various phases of constructing the dam, altering the dam or maintaining the dam.

(3) The owner of the dam or the operator of the dam shall secure the dam to prevent unauthorised operation of the dam by an unauthorised person.

(4) The owner of the dam or the operator of the dam shall, in accordance with the Operation and Maintenance Manual, assign an employee to conduct a routine inspection of the dam.

(5) The owner of the dam or the operator of the dam shall cause the maintenance of the dam to be conducted in accordance with the Operation and Maintenance Manual for the dam.

(6) A person who contravenes subregulation (2), (3) or (5) commits an offence and is liable on summary conviction to a fine of not less than two hundred penalty units and not more than seven hundred and fifty penalty units or to a term of imprisonment of not less than one year and not more than two years or to both the fine and the imprisonment.

Operation and Maintenance Manual

18. (1) The owner of a dam or the operator of a dam shall, before commencing the operation of the dam, prepare an Operation and Maintenance Manual and submit that manual to the Commission for approval.

(2) The owner of the dam or the operator of the dam shall specify in the Operation and Maintenance Manual,

(a) the name, address and telephone number of the person responsible for regular assessment of the instrument used for monitoring readings at the dam;

(b) the person responsible for routine inspections of the dam;

(c) the methods proposed by the owner of the dam or the operator of the dam as a means to warn the communities living downstream of the dam, in a timely manner, of emergencies arising at the dam;

(d) the site plan showing the reservoir, dam and access routes to the dam;

(e) a set of engineering drawings of the general layout of the dam and basic details of outlet works and spillway gates, where applicable;

(f) instructions for the maintenance of the civil engineered components of the dam, including drainage systems, slope protection, hydraulic structures and other parts that require maintenance;

(g) instructions for the operation and maintenance of the mechanical components of the dam and electrical components of the dam, used for the control of floodwaters or used in an emergency to lower the level of water in the reservoir;

(h) particulars of a regular inspection programme to check the condition and serviceability of the various components of the dam, including an item list to serve as a guide for inspections by the Commission; and

(i) other particulars published by the Commission from time to time in the technical guidelines of the Commission.

(3) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine of not less than two hundred penalty units and not more than seven hundred and fifty penalty units or to a term of imprisonment of not less than one year and not more than two years or to both the fine and imprisonment.

Suspension of operations for maintenance

19. (1) The owner of a dam or the operator of a dam shall, give the Commission at least thirty days written notice before suspending the operation of the dam, where suspension of the operation is to last for more than six months.

(2) The owner of the dam or the operator of the dam shall,

(a) before suspending operations in accordance with subregulation

(1) , submit a plan of activity during the suspension, to the Commission for approval;

(b) notify the Commission of the commencement date for the implementation of the plan approved, at least fourteen days before commencing to implement the plan; and

(c) submit to the Commission, a report on planned activities to be undertaken during the period of suspension of normal operations.

Inspection of a dam and emergency preparedness and response

Inspection of a dam by the Commission

20. (1) The Dam Safety Officer may designate a person as an inspector of a dam if that person possesses the qualification specified in the Fifth Schedule.

(2) The Dam Safety Officer or an inspector designated under subregulation (1) may, inspect a dam registered under these Regulations.

(3) In furtherance of subregulation (2), the Dam Safety Officer or an inspector may inquire into the condition of

(a) the dam or part of that dam; and

(b) structures appurtenant to the dam.

(4) The Dam Safety Officer or an inspector shall give ten working days notice to the owner of the dam or the operator of the dam before entering the premises of the dam to conduct an inspection of the dam.

(5) Despite subregulation (4), a Dam Safety Officer or an inspector shall have unrestricted access to a dam in the case of an emergency.

(6) The Dam Safety Officer or the inspector shall, be admitted by the owner of the dam or the operator of the dam into the premises of the dam, after presenting an identification to the owner- of the dam or the operator of the dam.

(7) The Dam Safety Officer or the inspector may, for purposes of this regulation,

(a) direct the owner of the dam or the operator of the dam to

(i) conduct an inspection of the dam or install instruments for monitoring the dam;

(ii) supply to the Commission, information on a matter that affects the safety of the dam or the protection of human life, animal life, property or natural resources;

(iii) carry out maintenance work considered by the Commission as necessary for improving the safety of the dam, under the supervision of the Dam Safety Officer or a person designated by the Dam Safety Officer;

(b) take samples of water and materials from the dam for purposes of testing or for use as evidence in connection with an offence committed under these Regulations;

(c) order an investigation into potential defects found with respect to the dam, after conducting a safety evaluation of the dam;

(d) record a statement obtained from a witness regarding accidents and dangerous occurrences at the dam and conduct inquiries into those accidents and dangerous occurrences;

(e) receive complaints regarding any non-compliance with these Regulations; and

(f) take measures reasonably necessary to ensure an effective inspection of the dam.

(8) Despite any regulation to the contrary and without limiting subregulation (1), the Dam Safety Officer or the inspector may inspect a dam which is owned or operated by

(a) the Volta River Authority;

(b) the Ghana Irrigation Development Authority;

(c) the Ghana Water Company Limited; and

(d) the Bui Power Authority.

(9) The Dam Safety Officer or an inspector may, by a written notice to the owner of the dam or the operator of the dam, order the owner of the dam or the operator of the dam to cease to operate the dam, where the Dam Safety Officer or the inspector considers that the continued operation of the dam is not safe until the owner of the dam or the operator of the dam has taken appropriate corrective measures.

(10) An operator or owner of a dam who contravenes subregulation (6) or acts contrary to an order given under subregulation (9) commits an offence and is liable on summary conviction to a fine of not less than two hundred penalty units and not more than seven hundred and fifty penalty units or to a term of imprisonment of not less than one year and not more than two years or to both the fine and imprisonment.

Inspection report

21. (1) An inspector shall, after an inspection, submit a report in a form and within a time specified by the Dam Safety Officer.

(2) The inspector shall state in the report,

(a) the results of the inspection carried out;

(b) the results of any test or measurement taken, including instrumentation readings and analysis, visual records or observations, drawings, soil aggregate and concrete test results; and

(c) other results requested by the Commission.

Conduct of administrative inquiry

22. The Commission may conduct an administrative inquiry after an inspection of a dam, and may call witnesses for purposes of that enquiry.

Emergency preparedness and response

23. (1) The owner of a dam or the operator of a dam shall not construct a dam, alter a dam, operate a dam or maintain a dam unless that owner or operator has in place an Emergency Preparedness and Response Plan for that dam.

(2) The owner of the dam or the operator of the dam shall specify in the Emergency Preparedness and Response Plan,

(a) a detailed description of the dam, the catchment area of the dam and the downstream developments at the dam;

(b) a description of circumstances at the dam considered by the owner of the dam or the operator of the dam as conditions that affect the safety of the dam;

(c) guidelines for evaluating the conditions mentioned in paragraph ***(b)*** and the procedure to be followed in the conduct of the evaluation;

(d) particulars of persons and organisations to be notified in the event of an emergency;

(e) a description of any action to be taken to limit or mitigate the effect of a dam failure; and

(f) other information or particulars determined by the Com-, mission in consultation, with the National Disaster Management Organisation.

(3) The owner of a dam or the operator of a dam shall

(a) modify the operation of the dam or any part of the dam to be in conformity with the Emergency Preparedness and Pesponse Plan;

(b) prompdy notify the Commission of the nature of an existing condition at the dam, any anticipated condition at the dam and any remedial measures taken by the owner or operator;

(c) inform the National Disaster Management Organisation of the nature of the condition; and

(d) take any hazard response action as directed by the National Disaster Management Organisation where a condition at the dam

(i) is hazardous to the dam or is likely to be hazardous to the dam; or

(ii) may reasonably be anticipated to cause a dam or a part of a dam to be potentially hazardous to public safety, property or the environment.

(4) The National Disaster Management Organisation shall, in the event of a dam failure, provide leadership and technical assistance based on the Emergency Preparedness and Response Plan for the dam.

(5) The Commission shall publish in the *Gazette* and a newspaper of national circulation technical guidelines on emergency preparedness and response procedures to be adhered to by a person who owns or operates a dam.

(6) A person who contravenes subregulation (1) or (3) commits an offence and is liable on summary conviction to a fine of not less than two hundred penalty units and not more than five hundred penalty units or to a term of imprisonment of not less than one year and not more than two years or to both the fine and imprisonment.

Review of dam safety by owner or operator

24. (1) The owner of a dam or the operator of a dam may undertake a dam safety review of the dam or cause a dam safety review of the dam to be undertaken.

(2) The owner of the dam or the operator of the dam shall keep a record of each dam safety review undertaken and shall submit a report on the review in the prescribed form to the Commission within the time specified by the Commission in a written directive, for inspection.

(3) The owner of the dam or the operator of the dam shall, on the request of the Commission, submit to the Commission a copy of any record on dam safety review kept by that owner or operator. »

(4) A person shall not undertake a dam safety review or prepare a report on a dam safety review unless that person possesses the qualification and experience specified in the Fifth Schedule.

(5) A person who contravenes subregulation (2) or (3) commits an offence and is liable on summary conviction to a fine of not less than one hundred penalty units and not more than five hundred penalty units or to a term of imprisonment of not less than six years and not more than two years or to both the fine and imprisonment.

Decommissioning of a dam

Decommissioning of a dam

25. (1) The owner of a dam or the operator of a dam shall not alter that dam or alter the operation of that dam with an intention to decommission the dam, unless the owner or operator holds a Decommissioning Licence granted by the Commission.

(2) The owner of a dam or the operator of a dam may apply to the Commission for a Decommissioning Licence by completing the application form set out in the Sixth Schedule and submitting the form to the Commission together with

(a) general details of the decommissioning project;

(b) engineering drawings indicating:

(i) the location of the dam;

(ii) the contour plan of the reservoir;

(iii) the proposed changes to the hydraulic components of the dam to release water that could be dammed up by the remaining structure;

(iv) the proposed structural changes to the dam;

(v) works required to deal with sediments deposited in the reservoir;- and ' > . •

(vi) disposal sites for materials removed from the dam during the decommissioning of the dam; and

(c) other information determined by the Commission.

(3) The owner of the dam or the operator of the dam shall, in addition to the information submitted under subregulation (2), submit to the Commission and the Environmental Protection Agency, a social and environmental impact assessment report in accordance with the Environmental Impact Assessment Regulations, 1999 (L. I. 1652).

(4) Despite subregulations (2) and (3), the Dam Safety Officer may as a result of new information available to the Commission at the date of submitting an application, require an applicant to provide further information on the dam as the Commission considers appropriate.

(5) The Dam Safety Officer shall, in writing, acknowledge receipt of an application within fifteen days from the date of receipt of the application.

(6) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine of not less than five hundred penalty units and not more than seven hundred and fifty penalty units or to a term of imprisonment of not less than one year and not more than two years or to both the fine and the imprisonment.

Grant or refusal of a Decommissioning Licence

26. (1) The Dam Safety Officer may grant or refuse to grant a Decommissioning Licence after considering an application and shall communicate the decision of the Commission in writing to the applicant within forty-five days from the date of receipt of the application.

(2) Where the Commission refuses to grant a Decommissioning Licence to an applicant, the Commission shall state the reasons for the refusal in the communication of that decision to the applicant.

Alterations necessary for the decommissioning of a dam

27. (1) The owner of the dam or the operator of the dam shall employ the services of an engineer to design the alterations necessary for the decommissioning of the dam before commencing with the decommissioning.

(2) A person shall not be appointed as an engineer under subregulation (1) unless that person possesses the qualifications specified in the Seventh Schedule.

Abandonment of a dam

28. (1) The owner of a dam or the operator of a dam shall not abandon a dam unless the owner or operator decommissions the dam in accordance with these Regulations.

(2) An owner of a dam or the operator of a dam who contravenes

subregulation (1) commits an offence and is liable on summary conviction to a fine of not less than five hundred penalty units and not more than seven hundred and fifty penalty units or to a term of imprisonment of not less than one year and not more than two years or to both the fine and the imprisonment and to the cost of decommissioning the dam.

Appeals against decision

28. A person who is aggrieved by a decision of the Unit under these Regulations may appeal to the Board against the decision.

Miscellaneous provisions

Inter-Agency co-operation

29. (1) The Commission may for purposes of enforcing these Regulations, act in conjunction with relevant agencies, and the agencies shall co-operate fully with the Commission.

(2) For purposes of subregulation (1), the agencies shall at the request of the Commission in writing, submit to the Commission records, information and data on dam safety that is in their possession.

(3) The agencies may assign some of their staff to the Commission to assist the Commission in the execution of its mandate under these Regulations.

Establishment of Inter-Agency Committee

31. (1) In accordance with section 7 of the Act, there is established by these Regulations, the Inter-Agency Committee on Dam Safety.

(2) The Board shall appoint members of the Committee comprising of

(a) the Dam Safety Officer;

(b) one representative of the Environmental Protection Agency not below the rank of Deputy Director;

(c) one representative of the Minerals Commission not below the rank of Deputy Manager;

(d) one representative of the Volta River Authority who is a civil engineer not below the rank of a Manager;

(e) one representative of the Bui Power Authority who is a civil engineer not below the rank of a Manager;

(f) one representative of the Ghana Irrigation Development

Authority who is a civil engineer not below the rank of a Manager;

(g) one representative of the Ghana Water Company Limited who is a civil engineer not below the rank of a Manager;

(h) one representative of the Ghana Institute of Engineers who is not below the rank of a Fellow;

(i) one representative of the Water Research Institute of the Council for Scientific and Industrial Research who is not below the rank of a Principal Research Scientist;

(j) one representative of the National Disaster Management Organisation who is not below the rank of a Deputy Chief Disaster Control Officer;

(k) one representative of the Ghana Meteorological Agency who is not below the rank of a Principal Officer;

(l) one representative of the Hydrological Services Department who is not below the rank of Deputy Director; and

(e) two other persons whose knowledge and expertise the Commission considers necessary.

(3) The Dam Safety Officer shall preside at meetings of the Committee and in the absence of the Dam Safety Officer, the members shall elect a member from their number to preside.

(4) The Dam Safety Officer shall designate an employee of the Commission as the secretary to the Committee.

(5) The Committee shall determine the procedure for its meetings.

Functions of the Committee

32. The Committee shall,

(a) through co-ordination and information exchange among agencies, advise the Commission on programmes, policies and technical guidelines for the purpose of enhancing dam safety;

(b) in the case of agencies vested with statutory control and management of dams, make available to the Commission, reports and information in respect of those dams; and

(c) perform any other functions determined by the Commission.

Tenure of office of members

33. (1) A member of the Committee shall hold office for a period as determined by the letter of appointment.

(2) A member of the Committee may at any time resign from office in writing addressed to the chairperson of the Board.

(3) A member of the Committee who is absent from three consecutive meetings of the Committee without sufficient cause ceases to be a member of the Committee.

(4) The Board may at anytime revoke the appointment of a member.

(5) Where a member of the Committee is for sufficient reason, unable to act as a member, the Chairperson of the Board shall determine whether the inability would result in the declaration of a vacancy.

(6) Where there is a vacancy

(a) under subregulation (2) or (3) or regulation 35(2),

(b) as a result of a declaration under subregulation (5), or

(c) by reason of the death of a member the Board

shall appoint a person to fill the vacancy.

Meetings of members of the Committee

34. (1) The Committee shall meet at least once every three months for the despatch of business at the times and in the places determined by the chairperson.

(2) The chairperson shall at the request in writing of not less than one third of the membership of the Committee convene an extraordinary meeting of the Committee at the place and time determined by the chairperson.

(3) The quorum at a meeting of the Committee is eight members of the Committee.

(4) The chairperson shall preside at meetings of the Committee and in the absence of the chairperson, a member of the Committee elected by their members present from among their number shall preside.

(5) Matters before the Committee shall be decided by a majority of the members present and voting and in the event of an equality of votes, the person presiding shall have a casting vote.

(6) The Committee may co-opt a person to attend, a Committee meeting but that person shall not vote on a matter for decision at the meeting.

Disclosure of interest

35. (1) A member of the Committee who has an interest in a matter for consideration

(a) shall disclose the nature of the interest and the disclosure shall form part of the record of the consideration of the matter; and

(b) shall not participate in the deliberations of the Committee in respect of the matter.

(2) A member ceases to be a member of the Committee if that member has an interest in a matter before the Committee and

(a) fails to disclose that interest, or

(b) participates in the deliberations of the matter.

Allowances

36. In accordance with section 8 of the Act, members of the Committee shall be paid the allowances approved by the Minister in consultation with the Minister responsible for Finance.

Fees

37. (1) The fee for each class of licence is as specified in the Schedule to the Fees and Charges (Miscellaneous Provisions) Act, 2009 (Act 793).

(2) The fees may be reviewed periodically by the Commission.

(3) Subject to the Ministries, Departments and Agencies (Retention of Fees) Act, 2007 (Act 735), the Commission is authorised to retain moneys realised in the performance of its functions under these Regulations and use them to hind dam safety activities.

Settlement of dispute

38. (1) The Commission shall, by negotiation, settle any dispute between the Commission and the owner of a dam or the operator of a dam.

(2) Where the parties to a dispute are unable to reach a negotiated settlement, the dispute shall be referred to arbitration under the Alternative Dispute Resolution Act, 2010 (Act 798).

Interpretation

39. In these Regulations, unless the context otherwise requires,

"abandonment" in relation to a dam, means the termination of

(a) operations of a dam,

(b) maintenance of a dam, or

(c) responsibility for a dam without decommissioning and notifying the Commission;

"alter" in relation to dam safety, means to undertake a significant construction work that will substantially change the components of the dam in a manner that would affect the safety of the dam, but excludes routine work for purposes of maintaining the dam;

"appurtenant structures" means special purpose structures of significance which are built and maintained in connection with dams, for example spillways, water intake works, diversion works, hydraulic power generating works, water conduits such as tunnels, pipelines, penstocks and other ancillary works like roads;

"Committee" means the Inter-Agency Committee on Dam Safety established under regulation 31(1);

"dam" means an artificial barrier to impound water;

"decommissioning" in relation to a dam, means taking measures to remove the dam in a manner that would not make the remaining structure have an adverse impact on human life, property and the environment;

"emergency" means an urgent event or a sudden event that poses an immediate risk to health, life, property or the environment, and which requires immediate action;

"Emergency Preparedness and Response Plan" means the plan prepared in accordance with regulation 23 to identify the potential emergency conditions at a dam and specify the actions to be taken in the event of a dam failure to mitigate or prevent the effect of those conditions on life, property and the environment;

"hazard potential" means an indication of a potential loss to life, property and the environment, that may be occasioned by a dam failure;

"inspector" means a person designated by the Dam Safety Officer under regulation 20(2) for purposes of conducting an inspection of a dam;

"licence" means a Dam Safety Licence granted under regulation 12(1);

"maintain" or "maintenance" in relation to a dam, means the performance of a task required to keep a dam in good and safe operating condition;

"major repairs" means

(a) a change in the surface or cross-section of an existing dam and structures appurtenant to the dam;

(b) a change in the surface or cross-section of a structure appurtenant to an existing dam;

(c) a modification that leads to a complete overhaul or substantial replacement of parts of an existing dam; or

(d) a modification that leads to a complete overhaul or substantial replacement of parts of a structure appurtenant to an existing dam;

"Operation and Maintenance Manual" means the document that describes the operation and maintenance procedures of a dam;

"owner" in relation to a dam, means the person granted a water right under the Act to construct and own the dam;

"safety" means relative freedom from danger, risk, threat of harm to personnel, injury to personnel, loss to personnel or loss to property, whether caused deliberately or by accident; and

"Unit" means the Dam Safety Unit established under regulation 2.

FIRST SCHEDULE

Qualification for construction site manager and person responsible for coordinating the implementation of the work
(,regulation 6(2))

Class	Education	Experience
4 and 3	Education equivalent to that required for a degree from University or College as a civil engineer within the relevant professional discipline	A minimum of ten years relevant work experience
2	Education equivalent to that required for an examination from a Technical College as a construction technician within the relevant professional discipline	A minimum of three years relevant experience
1	HND Civil Engineering	A minimum of five years relevant experience
0	Do not require those personnel	Does not require experience

DAM SAFETY REGULATIONS, 2016

SECOND SCHEDULE
Application for registration and classification of a dam
(*regulation 7(2)*)

Water Resources Commission

Dam Safety Unit (DSU)

DAM SAFETY UNIT
P.O.BOX CT 5630, CANTOMENT, ACCRA

REGISTRATION OF DAM

1. DETAILS OF THE DAM OWNER/OPERATOR

1.1 Name of Dam Owner
1.2 Contact Person
1.3 Owner's Postal Address
1.4 E -mail address of owner
1.5 Telephone number of owner
1.6 Contact Person's postal address
1.7 Tel. no. of Contact Person
1.8 E-mail Address of Contact Person
1.9 Name and Postal Address of operator (if applicable)

1.10 Tel. no. of operator

1.11 E-mail address of operator

2.0 LOCATION OF DAM

2.1 River Basin

2.2 Name of River

2.3 Tributary of

2.4 Region

2.5 District

2.6 Town

2.7 Village

Latitude

Longitude

3.0 GENERAL INFORMATION

3.1 Name of Dam

3.2 Type of structure

Dam

Dug out

Weir

3.3 Purpose of dam (*mark all applicable with X*)

Domestic water supply

Irrigation

Industrial use

Flood control

Livestock watering

Fisheries

Pollution Control

Hydropower

Other (specify below)

Describe "other"

3.4 Date of completion of the dam

3.5 Name of designer or consultant (if applicable)

3.6 E-mail Address of Designer or consultant (if applicable)

3.7 Name of contractor (if applicable)

Earth fill ☐ Rockfill ☐

Concrete ☐ Dug out ☐

Other (specify) ☐

4.2 Maximum height

4.3 Length of dam

4.4 Maximum storage capacity

4.5 Width of crest

4.6 Downstream Angle

4.7 Upstream Angle

4.8 Height of crest a.m.s.l

4.9 Size of Gate

5. PARTICULARS OF DEVELOPMENT DOWNSTREAM OF THE DAM

Describe with the aid of a 1:50 000 scale map the nature and situation of development downstream of a dam that would be threatened by a failure of the dam. Development means any houses, settlement, other buildings, roads, bridges, farm lands

5.1 Development downstream of the dam (houses, settlements and other similar structures)

Type of Development	Distance Downstream (km)	Distance from River (m)	Number of Inhabitants or Users

1) Type of road or railway- Use one of the following abbreviations

INRD = International Road *MRD = Main Road* *SRD = Secondary Road*

FRD = Feeder Road

STR = Single Track Railway *MTR = Multi-Track Railway*

Explain other abbreviations ☐☐☐ — ☐☐☐☐☐☐☐☐☐☐☐

5.2 Other development downstream of the dam not covered by 5.1

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

6. DECLARATION BY APPLICANT

I declare that the information given by me for the Registration and Classification of the above dam is true and correct to the best of my knowledge.

Signature : _____ Date:

NB! Remember to attach a clear copy of the relevant topographical map (see 2.6)

THIRD SCHEDULE
Consequence classification
(regulation 9(1))

Consequence class	Households (= 7 pers.)	Infrastructure and property	Environment and socio-economic
4	More than 150	Extreme national/ international impact	Extreme national or international impact
3	51-150	Very important major road or railway or other structures important for life and health or especially large damage to property	Extensive and irreversible damage to, especially important environmental resources
2		Major roads, railways or other structures important for life, health and property	Extensive damage to important environmental resources
1		Minor roads or other structures important for life, health and property	Damage to environmental resources
0		Minimal	Minimal

DAM SAFETY REGULATIONS, 2016

FOURTH SCHEDULE
Application form for a Dam Safety Licence
(regulation 11(2))

Water Resources Commission
Dam Safety Unit (DSU)

APPLICATION FORM FOR A LICENCE TO OPERATE OR CONSTRUCT OR ALTER A CLASS I, II, III OR IV DAM

GENERAL PARTICULARS AND INSTRUCTION

Any person who intends to operate or build a class I, II, III or IV dam or to change or enlarge an existing dam in such a way that the completed dam would be classified as a class I,II ,III or IV dam should submit the information required in this form.

Complete the form in block letters or type in the particulars and submit it with the project specifications, engineering plans and design report of the dam.

GENERAL PARTICULARS OF THE DAM

Date of Classification Class

Name Of Dam

(If the proposed work has not been classified yet a registration and classification form must be completed first)

Name of Owner

Telephone Number

Postal Address of Owner

Name of Contact Person

Email of Contact Person

Region

District

Town

Name of Water Course in which the Dam is situated

Latitude Longitude

Purpose of the Dam

The Type of Wall

Quantities of construction material (in cubic metres)

Concrete

Rollcrete

Rockfill

Earthfill

Nature and extent of proposed alterations in the case of an existing dam.

_____

_____

HYDROLOGICAL PARTICULARS OF THE PROJECT

Size of the catchment area (km^2) _____

Maximum Storage capacity(m^3) _____

Size of the design flood and the expected recurrence interval thereof (m^3/s) _____

Size of the expected regional maximum flood (m^3/s) _____ and the expected possible maximum

flood (m^3/s)

PARTICULARS OF THE HYDRAULIC STRUCTURE AND COMPONENTS

Type of spillway and dimensions

Amount of free board (the vertical difference between the level of the crest and the level of the design) (m)

Relative levels of the river bed immediately downstream of the structure (m), spillway crest (m)

And non-spillway crest (m) _____

Tailwater Level during design flood (m)

Discharge capacity of the spillway with "no" free board (m^3/S)

Description of any spillway gates

_____

_____

What type of energy dissipator was prescribed and what are the important dimensions

_____

_____

Description of the outlet works

Location of control point

Location of emergency gate _____

Size and number of conduit _____

Control mechanism _____

Description of any auxiliary spillway _____

Location _____

Control Level _____

Nature _____

Crest length (m) _____

Number of days needed to draw water-level of the dam from full supply level to different levels with no inflow as follows:

Percentage of full supply level	Number of days
90	_____
80	_____
60	_____
10	_____

PARTICULARS OF THE STABILITY OF THE PROPOSED DAM

Maximum height of wall (m) _____

Wall thickness at the foundation at the maximum cross-section (m) _____

Width of crest (m) _____

Gradient of the upstream side _____

Gradient of the downstream side _____

Total crest length of the wall (m) _____

A general engineering description of the construction materials for the use in different zones of the wall, with reference to the composition, nature, grading and geological origin.

_____

_____

_____

_____

_____

A BRIEF GEOLOGICAL DESCRIPTION OF THE GENERAL NATURE OF THE MATERIALS FORMING THE FOUNDATION OF THE DAM

_____

_____

_____

PARTICULARS OF THE CONSTRUCTION OF THE WORKS

Planned date of commencement of the construction work

Expected duration of the construction work

Name of contractor

SITE SUPERVISORS DURING CONSTRUCTION BY THE APPROVED PROFESSIONAL PERSON AND HIS REPRESENTATIVES

Will there be full-time (daily) supervision?

If not, planned frequency of site inspections

_____

What construction work may not start before the preparatory work has been inspected?

_____

_____

_____

Estimated number of site inspections by the approved professional person

Estimated number of site inspections by the representatives of the approved professional person

COST ESTIMATES

Construction cost

Cost of site supervision by consulting engineer

DOCUMENTATION

The following reports or drawings are included:

Title of report, plan or project specification	Number	Date

SIGNATURE DATE

FIFTH SCHEDULE

Required experience for professionally responsible officers and officers responsible for overall safety of a dam

(regulations 20 (1) and 24(4))

Function	Class 4 and 3	Class 2	Class 1
Professionally responsible officer within:			
Professional discipline I, II, III	8 years	6 years	4 years
Professional discipline IV	8 years	6 years	4 years
Officer responsible for overall safety	8 years	6 years	4 years

NOTE: For the purpose of this Schedule:

Professional Discipline I is in relation design

Professional Discipline II is in relation to construction supervision

Professional Discipline III is in relation to reassessment

Professional Discipline IV is in relation to flood calculations and flood discharge

DAM SAFETY REGULATIONS, 2016

SIXTH SCHEDULE

Application form for a Decommissioning Licence

(*regulation 25 (2)*)

Water Resources Commission
Dam Safety Unit (DSU)

APPLICATION FORM FOR A LICENCE TO DECOMMISSION A DAM

GENERAL PARTICULARS AND INSTRUCTIONS

Any person in control of a dam who intends decommissioning a dam with safety risk shall apply for a decommission licence by furnishing the information required in this form. The following procedure shall be followed:

For a class I dam:

☐ Fully complete this form.

For a Class II, III and IV

☐ Fully complete this form

☐ Provide copies of engineering plans wherein the proposed alteration with regard to hydraulic components of the dam to re-lease water and proposed structural changes are indicated; and

☐ Provide a written report by the approved professional person in which the standards and principles for the proposed alterations are set out.

GENERAL PARTICULARS OF THE DAM

Name of Dam
Name of Owner
Postal Address of Owner
District
Town
Village/Community
Longitude and Latitude Position

Name of Operator
Postal Address of Operator

Name of Approved Professional Person _____

DESCRIPTION OF PROPOSED ALTERATIONS OF DAM WITH REFERENCE TO DECOMMISSION [ATTACH DETAILS AS APPENDIX I]

_____

_____

_____

REASON(S) FOR THE DECOMMISSIONING OF THE DAM

_____

_____

_____

_____

_____

_____

ADDITIONAL INFORMATION

The following reports/plans are included: (see paragraph 1)

Title of reports/plans	Number	Date

SIGNATURE DATE

DAM SAFETY REGULATIONS, 2016

SEVENTH SCHEDULE
Qualification for an Engineer
(*regulation 27(2)*)

Class	Education	Experience
4	Graduate education at the University level as an Engineer (Civil/Hydrological/ Geotechnical) or equivalent degree with relevant technical subjects.	A minimum of seven years relevant experience on safety aspects of dams and other watercourse structures.
3	A graduate in mechanical engineering may be acceptable if this is relevant to the task at hand	A minimum of five years relevant experience on safety aspects of dams and other water course structures.
2	Education which corresponds to the requirements of a University as a civil engineer, with relevant technical subjects. A graduate in mechanical engineering may be acceptable if this is relevant to the task in hand	A minimum of three years (degree) or five years (HND) relevant experience on safety aspects of dams and other watercourse structures.
1	Education which corresponds to the requirements for an exams at a University	Senior High School qualification and basic training on dam safety. Experience is an advantage.
0	Do not require those personnel	Does not require any experience.

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PROF. (AGYEWODIN) ADU GYAMFI AMPEM
Chairperson of the Commission

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