

*Water Resources Management (Dam Safety)*

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GOVERNMENT NOTICE No. 237 published on 02/08/2013

THE WATER RESOURCES MANAGEMENT ACT,  
(CAP.331)

**REGULATIONS**

*(Made under sections 94(1) and 111 (1))*

THE WATER RESOURCES MANAGEMENT (DAM SAFETY) REGULATIONS, 2013

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- “successor-in-title” means the new owner of dam after the change of ownership as stipulated under section 90(3); Cap. 331
- “tailings” means fine materials in suspension which are discharged from any ore concentrator or coal washing plant;
- “tailings dam” means a structure constructed to create a tailings pond for storing mining tailings and process water.

## PART II

### APPROVED PROFESSIONAL PERSONS

- 4.-(1) There shall be established and kept by the Director a Register of approved professional person. Register of approved professional person  
Caps 63 and 235
- (2) A person to be registered as approved professional person shall be a person capable undertaking dam safety and risk analysis and is registered in terms of Engineers Registration Act and the Contractors Registration Act.
- (3) The Director shall consult the Engineers Registration Board, the Contractors Registration Board and any other appropriate statutory body before approving any person as Approved Profession Person.
- 5.-(1) The Register shall contain the following particulars of approved professional person: Contents of the Register
- (a) name, age and gender;
  - (b) education level and experience;
  - (c) engineer registration number/professional membership if any;
  - (d) field category;
  - (e) physical and contact address; and
  - (t) any other particulars or information as may be required by the Director.
- (2) The Director may in writing request the particulars prescribed in sub-regulation (1) from the Engineers Registration Board and Contractors Registration Board.
- (3) Notwithstanding anything to the contrary in this regulation, the Director may require such additional information as he may consider fit before registering the approved professional person.

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THE WATER RESOURCES MANAGEMENT ACT.  
(CAP.331)

THE WATER RESOURCES MANAGEMENT (DAM SAFETY)  
REGULATIONS, 2013

*(Made under sections 94(1) and 111 (1))*

PART I  
PRELIMINARY PROVISIONS

|                |  |
|----------------|--|
| Citation       | 1. These Regulations may be cited as the Water Resources Management (Dam Safety) Regulations, 2013.  |
| Application    | 2. These Regulations shall apply to all dams in Mainland Tanzania.   |
| Interpretation | 3. Unless the context otherwise requires:  |
| Cap.331        | “Act” means the Water Resource Management Act;   |
|                | “Approved Professional Person” shall have the meaning ascribed to it by section 86 of the Act;   |
|                | “Basin Water Officer” means an officer appointed under section 24( 1) of the Act;  |
| Cap. 331       | “dam” includes any existing or proposed structure which is capable containing, storing or impounding water, including temporary impoundment or storage, whether that water contains any substance or not;  |
| Cap. 331       | “Director” means the Director of Water Resources appointed under section 15(1) of the Act;   |
|                | “Guidelines” means guidelines regarding dam safety established under Regulation 24 of these Regulations;   |
|                | “rehabilitation or improvement” means repair of structure deterioration to restore original condition, alteration of structures to improve dam stability, enlarge reservoir capacity or increase spillway and outlet works capacity or replacement of equipment; |
|                | “Potential Emergency Situation (PES)” means extreme natural events such as rainfall resulting in extreme flood above the design (MCE);   |

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Use of  
approved  
professional  
person  
services

6.-(1) A person shall not design, construct, modify or rehabilitate any dam without engaging approved professional person registered in accordance with the Act and these Regulations.

(2) An owner of a dam shall engage approved professional person in dam operation, inspection, monitoring, maintenance and decommissioning.

(3) An owner of a dam may request a list of approved professional person from the Director or nominate a person intended to be used as approved professional person and submit to the Director for approval.

(4) The Director shall supply the list requested by the owner of a dam under sub-regulation (3) within seven (7) days or approve the nominated person as approved profession person within thirty days (30) provided that the nominated person meets the requirements as provided in the Act and these Regulations.

Duties of  
approved  
professional  
person

7.-( I) An approved professional person appointed to carry out a task on a dam shall-

(a) ensure that the task is carried out according to acceptable dam engineering practices as prescribed in the guidelines for dam safety;

(b) keep the prescribed records for the owner of a dam during the implementation of the assigned task;

(c) compile and submit to the Director and owner of a dam the prescribed records and reports.

(2) An approved professional person appointed to carry out a dam safety evaluation shall-

(a) consider whether the safety norms pertaining to the design, construction, monitoring, operation, performance and maintenance of the dam satisfy acceptable dam engineering practices as prescribed in the guidelines; and

(b) compile a report on the matters contemplated in sub-regulation (2) (a) according to the prescribed requirements and submit the signed and dated report to the owner of the dam within the prescribed period.

Consider-  
ation of  
other  
appropriate  
professional  
Cap.331

8. The approved professional person shall, in carrying out the provision of section 89 of the Act, have regard to involve other professionals from appropriate disciplines capable of performing the tasks.

PART III

DAMS AND TAILINGS DAMS CONSTRUCTION AND CLASSIFICATION

9.-(1) A person intending to construct a dam or tailings dam shall apply for a construction permit in accordance with these regulations.

(2) Applications for dam or tailings dam construction permit shall be made in accordance with the prescribed forms No.1 and 2 prescribed in the First schedule to these Regulations.

(3) After grant of construction permit, the construction shall be carried out in accordance with approved plans endorsed by the Director.

(4) The installation of mechanical and electrical components shall not commence before detailed drawings, with associated calculations and specifications, applicable to them have been endorsed by the Director.

(5) In case of major installations like mechanical or electrical equipments, a construction site organization plan shall be prepared by the designer and shall define the areas of responsibility and authority of persons involved and endorsed by the Director.

(6) The owner of a dam or Tailings dam shall submit to the Director a construction programme prepared by the designer indicating all the important phases of the work for endorsement.

(7) The Director may provide instructions for routine maintenance, rehabilitation or improvement of a dam or tailings storage facility.

(8) Where the need arise or when instructed by the Director, an owner of a dam or Tailings dam shall prepare a plan for dam or tailing storage facility rehabilitation and improvement and submit to the Director for approval.

(9) Before tailings storage facility expansion, the owner shall submit design report and engineering drawings to the Director for approval.

10.-( I ) All changes to plans, design, construction requirements, drawings and specifications which affect the intended use, safety or durability of the structure shall be submitted to the Director for review and endorsement.

(2) The owner of a dam or tailings dam shall review design, drawings and specifications due to changes in actual conditions as may be instructed by the Director.

Constru-  
ction,  
mainte-  
nance  
and  
rehabili-  
tation of  
dams

Modifi-  
cation of  
plans,  
design,  
specifi-  
cations  
and  
drawings

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(3) The Director may require that the new changes be incorporated in the operation of the facility if new findings or experiences from other installations indicate that the proposed development will not be satisfactory.

Inspection  
and  
facility  
review

11.-(1) The owner of a dam or Tailings dam shall carry out facility review at least once in every five years and submit the report of the review to the Director and a copy to the Basin Water Officer in accordance with the guidelines made under Regulation 24.

(2) Notwithstanding the provisions of sub-regulation (1), owner of a dam shall conduct inspection of a dam annually and submit the report to the Director. The Director may order periodic review at any time if it is necessary so to do.

(3) Copies of the records of the dam operation and maintenance manual shall be maintained and placed in a convenient manner at the dam sites at all times.

(4) The Director may in his own motion or upon advice by the Basin Water Officer give direction to owner of a dam or tailings dam regarding the reports submitted pursuant to this regulation.

Categori-  
zation of  
Dams  
and  
tailings  
dams

12.-(1) Classification of dams and tailings dams into categories shall be done in accordance with the criteria prescribed for in the Second Schedule to these regulations.

(2) The categorization shall be in terms of the following external risks levels:

- (a) very high risk;
- (b) high risk;
- (c) low risk; and
- (d) very low risk.

(3) For purpose of this Regulation, “external risk” means consequences that may occur downstream in case of dam failure or uncontrolled release of water from the reservoir and the categories listed under paragraphs (a) to (d) of sub-regulation 2 shall have the meaning as provided in the Second schedule.

(4) The Director shall publish in the *Gazette* the dams categorised pursuant to these regulations.

PART IV

SAFETY MONITORING AND TECHNICAL AUDIT

13.-(1) The owner of a dam or tailings dam shall prepare a monitoring program which shall include but not limited to inspection, operation and maintenance of completed dam or tailings dam and associated structures such as spillway, diversion or decant works and submit to the Director for endorsement.

Regular monitoring of dam and tailings dam

(2) The monitoring program prepared in accordance with subregulation (1) shall clearly state the following:

- (a) the date the programme is to come into force;
- (b) the approved professional person who is responsible for executing it;
- (c) routine inspection; and
- (d) reporting modality.

(3) The owner of a dam or tailings dam shall conduct monitoring of dam in accordance with the approved program and submit a report to the Director and Basin Water Officer as may be prescribed in guidelines made for that purpose.

(4) The Basin Water Officer in consultation with the Director shall-

- (i) review the monitoring reports and carry out inspection and measurements as may be required; and
- (ii) in accordance with issued guidelines prepare and implement a monitoring program for inspection of completed dams and associated structures such as spillway and diversion works.

(5) The Director shall review the reports and issue directives to the owner of the dam on remedial measures to be taken to remedy any risk

14.-(1) The Director may, where the circumstances so necessitate either based on the information in the monitoring reports or otherwise, order in writing that the owner of a dam or tailing dam shall carry out a technical audit.

Technical Audit

(2) The technical audit shall be undertaken by an approved professional person in accordance with the particulars in the technical audit form as prescribed in the Third Schedule to these regulations.

(3) The approved professional person shall prepare a technical audit report and submit it to the Director within such time as may be prescribed in the terms of reference.



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Submission  
of  
information,  
drawings,  
reports  
and  
manuals  
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15.-(1) The approved professional person appointed to carry out a task on a dam in accordance with section 89 of the Act and these Regulations shall submit information, drawings, reports and manuals based on best dam engineering practices as prescribed in the guidelines.

(2) Without prejudice to the generality of sub-regulation (I), the appointed approved professional person shall submit such documents and information as prescribed in the guidelines.

(3) The information, drawings, reports and manuals under sub- regulations (I) and (2) shall be submitted to the Director and Basin Water Officer for review, and Director may in his own motion or upon advice by the Basin Water Officer directions as the Director may deem appropriate.

Potential  
emergency  
situation

16. The owner of a dam or tailings dam shall immediately inform the Director and other authorities responsible for dam safety management regarding any potential emergency situation requiring an immediate decision for immediate action including evacuation from vulnerable areas.

PART V

REGISTRATION OF DAMS AND TAILINGS DAMS

Registration  
of dam or  
tailings  
dam

17.-( 1) The owner of a dam or tailings dam shall register his dam or tailings dam.

(2) The Director shall keep a Register of dams and tailings dams registered in accordance with these regulations.

Application  
procedures

18.-(1) An application for registration of a dam or tailings dam shall be made within one hundred and twenty days-

- (a) after the date on which the dam becomes capable of containing, storing or impounding water;
- (b) after the date on which an already completed dam or tailing dam is declared to be a dam; or
- (c) after publication of a notice declaring a category of dams to be dams with safety risk as the case may be.

(2) The application shall be as prescribed in form number one in Fourth Schedule to these regulations.

(3) Upon receiving an application, the Director shall determine the application and give his decision. Where necessary, the Director may require the applicant to appear and make representation to his application

or provide such additional information or documents regarding the application.

(4) Without prejudice to the provisions of sub-regulation (3), the Director may, before determining the application, seek information from the respective Basin Water Officer, District Executive Director or District Commissioner's Office of the district within which the dam situate.

19.-(1) Any person having interest with the dam or tailings dam or who may be affected as a result of registration of such dam or tailings dam may lodge an objection to the Director.

Determi-  
nation of  
objection  
to the  
applica-  
tions

(2) The objection shall be lodged at any time before the Director determine the application.

(3) Where an objection to an application is lodged, the Director shall cause to be served upon to the applicant a copy of every objection received by him within a period of fourteen days from the date of deadline for submission of objections.

(4) The Director shall, after expiry of the period specified in sub- regulation (1) and not later than fourteen days, set a date for determining the objection by calling upon the applicant and the objector to make their representation either in writing or orally as he may deem fit.

(5) After affording the applicant and the objector the right to make their representations, the Director shall proceed making his decision and communicate the same to the person concerned as early as possible.

(6) The Director may refuse to consider any objection where it is lodged after expiration of the period provided in Regulation 19(1).

20.-(1) Where there is no objection to the application or the objection raised has been over ruled, the Director shall determine the application in accordance with these Regulations.

Determi-  
nation of  
applica-  
tions

(2) Where the Director is satisfied with the application lodged to him, he shall issue a certificate of registration prescribed in form number two in Fourth Schedule to these regulations.

(3) The Director shall notify the applicant of his decision to grant or refuse registration within fourteen working days from the date of decision.

(4) Any refusal to register a dam or tailing dam under these regulations shall be accompanied by the reasons for such decision and

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*G.N .No. 237 (contd.)*

advise the applicant the measures to be taken in order to register the dam or tailings dam.

Fees for registration and maintenance of a dam or tailings dam

21. An applicant who applies for registration of a dam or tailings dam shall pay to the Director such fees as may be prescribed from time to time by the Minister in regulations made in accordance with section 111 of the Act.

Cap. 331

Change of ownership

22.-(1) Where an owner of a darn or tailings dam registered in accordance with these Regulations transfer the dam to another person, the transferee and the transferor shall jointly notify the Director and Basin Water Officer of such transfer in the form specified in the Fifth Schedule to these Regulations.

(2) The Director or Basin Water Officer, shall, before approving the transfer and issuing a new certificate regarding the ownership of the dam or tailings dam, carry out technical audit of the facility.

(3) The Director shall, upon receiving an application for transfer, issue a new certificate of registration of the dam or tailings dam bearing the name of the new owner within thirty days.

PART VI

GENERAL PROVISIONS

Appeals

23.-( 1) Any person who is aggrieved by the decision of the Director may appeal to the Appellate Authority as may be established by the Minister.

(2) For the purpose of sub regulation 1 the Minister may establish an Appellate Authority which shall be composed of a Chairman, who shall be of or above the rank of Director, Secretary who shall be a Lawyer and two Members from the relevant Private Sectors, provided that the Director shall not be a member of that Authority.

Guidelines on dam safety and reports determination

24.-(1) The Director shall cause to be prepared guidelines for effective operationalization of provisions of these regulations and shall indicate the year, month of publication and revision of the guidelines.

(2) In these regulations, where the Director is required to determine, approve or endorse a report or document and no specific period is provided, he shall do so within fourty five days from the date of receiving such report, document or the issue requiring his determination.

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25. Information regarding decommissioning and other decommissioning related reports shall be submitted to the Director and Basin Water Officer for review. Decomm-  
issioning  
reports

26.-( 1) Any person who contravenes any provision of these regulations commits an offence. Offence  
and  
punishment

(2) Any person who is found guilty of an offence under these regulations shall, where no specific penalty is provided in the Act, be liable to a fine of not less than one million shillings or to imprisonment for a term not exceeding three months.

FIRST SCHEDULE

*(Regulation 9(2))*

FORM NO.1

APPLICATION FOR DAM CONSTRUCTION PERMIT  
*(To be completed in quintuplicate)*

To:       The Director of Water Resources,  
          Ministry of Water  
          P.OBox9153  
          Dar es Salaam

1. Name of applicant.....
2. Postal Address.....
3. Physical Address.....
4. Email .....Telephone .....cell phone.....
5. Particulars of land in respect of which application is made-

The following is a general description of the design, including the various factors involved, the general plans, sections and specifications. Included in the drawings are vicinity maps and curves showing the hydraulic capacities, Items not pertinent to this project are deleted.

LOCATION AND PURPOSE

- (a) Basin.....
- (b) Region:..... District:.....
- (c) Location or Village:.....
- (d) Name of Dam:.....
- (e) Latitudes:..... Longitudes:.....
- (f) Land office no:.....
- (g) Hectarage:.....
- (h) Leasehold/right of Occupancy for ..... years

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- (i) Title of applicant:.....
- (j) Name and address of owner of reversion other than the President (if any):.....
- (k) Stream/River.....
- (l) Purpose.....
- (m) Topographic map (1:5000) (attachment).....

**SUMMARY OF DESIGN**

- 1. Drainage Area ..... Square kilometres .....
- 2. Storage Capacity ..... Million cubic metres.....
- 3. Maximum Height of Dam ..... Metres.....

<sup>1</sup> At dam axis where the measured level as the vertical difference between the lowest downstream ground elevation on the outside of the dam and non-overspill crest level or the general top level of the dam wall is the highest

- 4. Spillway Capacity ..... Cubic metres per second.....
- 5. Top of Dam Elevation ..... Metres a.m.s.l. ....
- 6. Normal Water Surface..... Meters a.m.s.l.....
- 7. Maximum Water Surface..... Metres a.m.s.l.....
- 8. Minimum Water Surface ..... Metres a.m.s.l. ....
- 9. Freeboard Above Maximum Water ..... Metres a.m.s.I .....
- 10. Power Capacity..... Megawatts .....
- 11. General Plans and Sections (Attach one copy)

**DESIGN DATA**

- 1. Geological/geotechnical Site Report, Author and Date (Attach one copy)
- 2. Log of test pits and drill holes (Attach one copy)
- 3. Hydraulic data, capacity requirements
  - (a) Storage (Irrigation .....Mm<sup>3</sup>, Flood .....Mm<sup>3</sup>, Water Supply..... Mm<sup>3</sup>, Power Generation .....Mm<sup>3</sup>, Etc.)
  - (b) Spillway..... m<sup>3</sup>/s
  - (c) Outlet .....m<sup>3</sup>/s
  - (d) Diversion .....m<sup>3</sup>/s
  - (e) Area-Storage Capacity curves for various elevations of water surface.
- 4. Designed by.....
- 5. Hydrological data
  - (a) Hydrographs (attach one copy)
  - (b) Maximum recorded runoff m<sup>3</sup>/s
  - (c) Maximum anticipated m<sup>3</sup>/s
  - (d) Discharges m<sup>3</sup>/s (Probable maximum discharge, 10,000 yr., 1000yr, Etc.) .....
  - (e) Design value and Method.....
- 6. Right of way information.....

**RESERVOIR**

- 1. General dimensions:.....
- 2. Existing structures: .....
- 3. Proposed structures:.....
- 4. Nature of land flooded and clearing required .....
- 5. House elevations and distance from structure or proposed site.....
- 6. Relocation required (Railroad, Highway, Telephone, Power, pipelines Etc.).....
- 7. Geology.....

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*G.N .No. 237 (contd.)*

- (a) General information .....
- (b) Factors relating to reservoir losses .....
- (c) Contributing springs .....
- (d) Deleterious minerals and salt deposits.....

**DAM SITE**

- 1. Geological features, formations:
- 2. Nature of stream bed and abutments:
- 3. Interpretation of test pits and drill holes:
- 4. Percolation tests, groundwater:

**DAM**

- 1. Features governing design and location:
- 2. Water surface elevation, storage capacities, freeboard:
- 3. Grouting requirements:

**SPILLWAY**

- 1. Requirements:
- 2. (a) Factors governing design and location
  - (b) Maximum spillway velocity
- 3. Type
  - (a) Controlled or uncontrolled
  - (b) Lining
  - (c) Dimensions
  - (d) Elevation
- 4. Gates, gate structures
  - (a) Dimensions
  - (b) Operation
- 5. Stilling basin
  - (a) General description
  - (b) Dimensions
- 6. Approaches.....

Owner ..... Date .....

I certify that the above statements are true and correct  
.....

Engineer .....  
Date .....  
PE Number. ....

SEAL

\_\_\_\_\_

FORM NO.2

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APPLICATION FOR TAILINGS DAM CONSTRUCTION PERMIT  
*(To be completed in quintuplicate)*

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G.N.No. 237 (contd.)

To: The Director of Water Resources,  
Ministry of Water  
P.O Box 9153  
Dar es Salaam

1. Name of applicant
2. Postal address
3. Physical address
4. Email .....Telephone .....cell phone.....
5. Particulars of land in respect of which application is made-

The following is a general description of the design, including the various factors involved, the general plans, sections and specifications. Included in the drawings are vicinity maps and curves showing the hydraulic capacities, Items not pertinent to this project are deleted.

### LOCATION AND PURPOSE

- (a) Basin .....
- (b) Region:..... District:.....
- (c) Location or Village:.....
- (d) Name of Dam:.....
- (e) Latitudes:.. Longitudes:.....
- (f) Land Office No:.....
- (g) Purpose.....
- (h) Topographic map (1:5000).....

### SUMMARY OF DESIGN

1. Storage capacity:..... Millioncubicmetres
2. Starter Dam height: ..... Metres
3. Footprint Area: ..... Square Metres
4. Design free Board..... Metres
5. Top of starter Dam elevation: ..... Metres a.m.s.l.
6. Proposed stage one embankment raising ..... Metres<sup>3</sup>
7. General Plans and Sections..... (Attach one copy)

### DESIGN DATA

1. Geological/geotechnical Site report, Author and Date .....(Attach one copy)
2. Site evaluation, Field exploration and Laboratory tests..... (Attach one copy)
3. Geochemical characteristics of tailings:
4. Stability analysis:
5. Seepage flow analysis and control:
6. Liquefaction assessment of tailings:
7. For Upstream Tailings Dam design analysis of:
  - Undrained strength analysis (USA)
  - Effective stress analysis (ESA)
1. Construction method:
2. Raised slope for upstream construction:
3. Hydrometrological data
  - (a) Isohyets
  - (b) Maximum recorded rainfall
  - (c) Maximum anticipated rainfall over 72 hours
  - (d) Rainfall (Probable maximum rainfall, 10,000 yr., 1000yr, Etc.)
  - (e) Design value and Method

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4. Right of way information

TAILINGS RESERVOIR

<sup>2</sup> At dam axis where the measured level as the vertical difference between the lowest downstream ground elevation on the outside of the dam and non-overspill crest level or the general top level of the dam wall is the highest

<sup>3</sup> Subsequent embankments perimeter raising shall require filling the construction permit with updated information on stability analysis, fact of safety and design parameters.

1. General dimensions:
2. Type of Impoundment:
3. Type of deposition:
4. Minimum beach width:
5. Existing structures:
6. Proposed structures:
7. Nature of land flooded and clearing required
8. House elevations and distance from structure or proposed site
9. Relocation required (Railroad, Highway, Telephone, Power, pipelines Etc.)
10. Geology
  - (a) General information
  - (b) Factors relating to tailings reservoir losses
  - (c) Contributing springs
  - (d) Deleterious minerals and salt deposits

TAILINGS DAM SITE

1. Geological features, formations:
2. Nature of footprint area:
3. Interpretation of test pits and drill holes:
4. Percolation tests, groundwater:

TAILINGS DAM

1. Features governing design and location:
2. Storage capacities, freeboard:
3. Liners requirements:
4. Under-drainage materials:

DECANTS

1. General description
2. Dimensions
3. Requirements:
4. Factors governing design and location:

Owner ..... Date .....

I certify that the above statements are true and correct

Engineer.....  
PE Number.....  
Date .....



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G.N.No. 237 (contd.)

SECOND SCHEDULE

(Regulation 11 (1))

CRITERIA FOR CATEGORIZATION OF DAM

| Rating (category) <sup>4</sup> | Loss of life   | Economic and Social loss   | Environmental and Cultural loss   |
|--------------------------------|--|--|---|
| Very high<br>“A”               | Large potential for multiple loss of life involving residents and working, travelling, and/or recreating public. Development within inundation areas (the area that can be flooded if the dam fails) typically included communities, extensive commercial and work areas, main highways, railways, and locations of concentrated recreational activity. Estimated loss of life greater than 100. | Very high economic loss affecting infrastructure, public and commercial facilities in and beyond inundation area. Typically includes destruction of or extensive damage to larger residential areas (cities and municipals), concentrated commercial land uses, highways, railways, power lines, pipelines, and other utilities. Estimated direct and indirect (interruption of services) costs greater than Tshs. 13 billion                    | Loss or significant deterioration of nationally or provincially important fisheries habitat (including water quality), wildlife habitat, rare and/or endangered species, unique landscapes or sites of cultural significance. Feasibility and/or practicality of restoration and/or compensation is low |
| High “B”                       | Some potential for multiple loss of life involving residents and working, travelling, and/or recreating public. Development within inundation area typically includes highways and railways, commercial and work areas, locations of concentrated recreational activity and scattered residences. Estimated fatalities less than 100.  | Substantial economic losses affecting infrastructure, public and commercial facilities in and beyond inundation area. Typically includes destruction of or extensive damage to concentrated commercial land uses, highways, railways, power lines, pipelines, and other utilities. Scattered residences may be destroyed or severely damaged. Estimated direct and indirect (interruption of services) costs are greater than Tshs. 1.5 billion. | Loss or significant deterioration of nationally or provincially important fisheries habitat (including water quality), wildlife habitat, rare and/or endangered species, unique landscapes or sites of cultural significance. Feasibility and practicality of restoration and/or compensation is high.  |

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|              | Rating (category) <sup>4</sup>  | Loss of life   | Economic and Social loss  | Environmental and Cultural loss |
|--------------|---|--|---|---------------------------------|
| Low "C"      | Low potential for multiple loss of life. Inundation area is typically underdeveloped except for minor roads, temporarily inhabited or non-residential farms and rural activities. There must be a reliable element of natural warning if larger development exists. | Low economic losses to limited infrastructure, public and commercial activities. Estimated direct or indirect (interruption of services) costs could exceed Tshs. 14 millions.     | Loss or significant deterioration of regional important fisheries habitat, (including water quality) wildlife habitat, rare and/or endangered species, unique landscapes or sites of cultural significance. Feasibility and practicality of restoration and/or compensation is high, includes situations where recovery would occur with time without restoration |                                 |
| Very low "D" | Minimal potential for any loss of life. Inundation area is typically undeveloped.   | Minimal economic losses typically limited to owners' property and do not exceed Tshs 14 million. Virtually no future development of other land uses within the foreseeable future. | No significant loss or deterioration of fisheries habitant, wildlife habitat, rare and/or endangered species, unique landscapes or site of cultural significance.   |                                 |

<sup>4</sup> Rating category is based on external risks downstream as a consequence of dam failure.

*Water Resources Management (Dam Safety)*

G.N.No. 237 (contd.)

THIRD SCHEDULE

(Regulation 13(2))

TECHNICAL AUDIT FORM

|                              |                                      |  |
|------------------------------|--------------------------------------|--|
| DAM NAME                     |                                      |  |
| REG. NO:                     |                                      |  |
| ALTITUDE IN MASL [M]         |                                      |  |
| COORDINATES IN DEGREES [O]   |                                      |  |
| BASIN NAME                   |                                      |  |
| REGION NAME                  |                                      |  |
| DISTRICT NAME                |                                      |  |
| WARD NAME                    |                                      |  |
| VILLAGE NAME                 |                                      |  |
| EMBANKMENT                   | Embankment settlement                |  |
|                              | Leakage                              |  |
|                              | Erosion of crest                     |  |
|                              | Erosion of downstream slope          |  |
|                              | Availability of Anti-hillis or holes |  |
|                              | Availability of bush                 |  |
|                              | General maintenance                  |  |
| SPILL WAY                    | Concrete crest weir                  |  |
|                              | Bottom protection                    |  |
|                              | Bottom erosion                       |  |
|                              | Bottom disposition                   |  |
|                              | Availability of bush                 |  |
| RESERVOIR                    | Retention capacity                   |  |
|                              | Siltation                            |  |
|                              | Floating weeds                       |  |
| REMARKS                      |                                      |  |
| Approved proffesional person |                                      |  |
| Date                         |                                      |  |

Yes-the process or action exist

None-the process or action does not exist or minimal

Poor-generally no maintenance

Reduced-capacity has been reduced due to siltation or sedimentation

Ok-capacity is least affected

N/A -Not Applicable

Silted -Dam is full of silt or sediment

*Water Resources Management (Dam Safety)*

G.N .No. 237 (contd.)

FOURTH SCHEDULE

(Regulation 16(1))

FORM NO.1  
APPLICATION FOR REGISTRATION OF DAM

(Regulation 18(2))

FOR OFFICIAL USE

Application No:.....  
Region: .....  
Basin:.....  
Catchment: .....  
Dam type:.....

(To be completed in quintuplicate)

To:

The Director of Water Resources,  
Ministry of Water  
P.O Box 9153  
Dar es Salaam

1. Name of applicant.....
2. Postal Address.....
3. Physical Address.....
4. Email .....Telephone .....cellphone.....
5. Particulars of land in respect of which application is made-

LOCATION AND PURPOSE

- (a) Basin
- (b) Region: ..... District:.....
- (b) Location or Village:.....
- (c) Name of Dam:.....
- (d) Latitudes:..... Longitudes:.....
- (e) Land Office No:.....
- (f) Hectarage.....
- (g) Leasehold/right of Occupancy for..... years
- (h) Title of applicant:.....
- (i) Name and address of owner of reversion, if any, other than the President (if none, state none):

*Water Resources Management (Dam Safety)*

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G.N .No. 237 (contd.)

- 6. Water Use Permit number :.....
- 8. Details of land on which a dam is constructed/intended to be constructed: Title No:.....
- 9. Purpose of construction of dam
  - (a) Irrigation:
  - (b) Fish farming:
  - (c) Industrial:
  - (d) Mining:
  - (e) Public supply:
  - (f) Hotels:
  - (g) Waste disposal:
  - (h) Recreation:
  - (i) Power generation
  - (j) Others (specify):Omit which ever inapplicable
- 10. Dam characteristics:
  - (a) Dam height
  - (b) Dam capacity (Mm<sup>3</sup>)
  - (c) If tailings dam, describe the sealing materials
  - (d) Size and capacity of spillway
  - (e) Size and capacity of tailrace
- 11. Particulars of possible pollution:
  - (a) Source of pollution:
  - (b) Measures to be taken to avoid pollution:

Date:..... Signature of Applicant:.....

Fee paid in Tshs. ....Vide ERV No. ....Date. ....

Use a separate paper for a **SKETCH MAP** which must contain the following particulars:-

- (a) The sketch of the property and the adjoining properties;
- (b) Installations for darn safety monitoring;
- (c) Important features on the land where the facility or the property is located;
- (d) The true North.

If possible use a tracing from the plan attached to your title deeds.

<sup>5</sup> At dam axis where the measured level as the vertical difference between the lowest downstream ground elevation on the outside of the dam and non-overspill crest level or the general top level of the dam wall is the highest

NOTE:

- (a) The applicant is required to give the distance in Kilometres and simple description of the road to the property from the turn-off on a main road, or any well-known landmark, to facilitate inspection.
- (b) In case the application is made after the review of the dam, submit the review report.

*Water Resources Management (Dam Safety)*

G.N.No. 237 (contd.)

FORM NO.2  
THE UNITED REPUBLIC OF TANZANIA  
MINISTRY OF WATER



CERTIFICATE OF  
REGISTRATION OF DAM WITH OR WITHOUT SAFETY RISK

Registration No.: .....

Pursuant to sections 90 (1) of the Water Resources Management Act, Cap. 331 this registration is hereby issued

to:

Name: .....

Description:.....

Region: .....

Basin: .....

Catchment: .....

Latitudes: ..... Longitudes:.....

Dam Type: .....

Purpose:.....

Effective Date: From .....to.....

This Registration Certificate is granted subject to the provisions of the Water Resources Management Act, and to conditions in the Dam Safety and Prevention of Flood Risk Regulations of 2010 and special conditions overleaf.

Subject to the following special conditions

.....  
.....  
.....

Date : .....

Director of Water Resources:.....

*Water Resources Management (Dam Safety)*

G.N .No. 237 (contd.)

FIFTH SCHEDULE

(Regulation 22(1))

THE WATER RESOURCES MANAGEMENT ACT, CAP .331  
NOTIFICATION OF TRANSFER OF DAM WITH OR WITHOUT SAFETY RISK

Application Reference No. ....  
Certificate No:.....

FOR OFFICIAL USE

PART A  
DETAILS OF THE DAM

Name of current Owner of a dam.....  
Dam Registration No .....  
Address..... Tel.....  
Fax No..... E-mail.....  
Application No. of current ownership of the dam .....  
Date of issue of dam registration.....

PART B  
DETAILS OF THE TRANSFEREE

Name (Individual/firm).....  
Address .....Tel.....  
Fax No. .... E-mail .....  
Name of contact person .....  
Capacity of transferee to run the dam (financial, technological manpower)  
.....  
.....  
.....

PART C  
REASON(S) TRANSFER OF CERTIFICATE

.....  
.....  
.....

PART D  
DECLARATION BY TRANSFEROR AND TRANSFEREE

It is hereby notified that.....  
of .....on this is day of ..... Transferred Water  
Pemit/Dam with or without safety risksNo..... to .....of.....  
who will assume responsibility for operation, maintenance and monitoring of the dam.

*Water Resources Management (Dam Safety)*

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G.N.No. 237 (contd.)

|              |               |
|--------------|---------------|
| Transferor   | Transferee    |
| Name .....   | Name.....     |
| Address..... | Address ..... |
| Signed.....  | Signed .....  |
| Date.....    | Date. ....    |

PART E  
FOR OFFICIAL USE

Approved/Not approved.....  
.....  
Comments.....  
.....  
.....  
Officer .....Signature .....Date.....

Dar es Salaam,  
18<sup>th</sup> July, 2013

JUMANNE A. MAGHEMBE  
*Minister for Water*