

THE UNITED REPUBLIC OF TANZANIA

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**SUBSIDIARY LEGISLATION**

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THE TANZANIA METEOROLOGICAL AUTHORITY ACT,  
(CAP. 157)

**REGULATIONS**

*(Made under section 54(2)(a))*

THE TANZANIA METEOROLOGICAL AUTHORITY (WEATHER  
AND  
CLIMATE FORECASTING ACTIVITIES) REGULATIONS 2021

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**PART II**  
**REQUIREMENT TO APPLY FOR ENGAGEMENT IN FORECASTING**  
**ACTIVITIES**

Application for provision of meteorological activities

**4.-(1)** A person who intends to engage in any meteorological activity shall apply for a permit to the Authority.

(2) The particulars of the application under subregulation (1) shall be in the form set out under the First Schedule to these Regulations.

(3) The meteorological activities referred to under subregulation (1) include weather and climate forecasting activities or weather modification activities.

Conditions for issuance of permit

**5.** The Authority may issue a permit to a person who fulfils the following conditions-

- (a) own a company dully registered;
- (b) pay all charges, costs and fees as may be determined;
- (c) has complied with the requirements of the laws;
- (d) has an established office premises
- (e) has capacity to carry out activities;
- (f) has no criminal records;
- (g) has complied with guidelines, directions and orders issued by the Authority.

Fees

**6.-(1)** Subject to section 16 of the Act, the permit granted shall be subject to payment of a fee prescribed in the Second Schedule to these Regulations.

(2) Notwithstanding subregulation (1), a special purpose permit may be issued upon payment of a fee prescribed in the Second Schedule to these Regulations.

(3) The permit granted under the Act shall be subject to payment of-

- (a) application fee;
- (b) permit fee; and
- (c) any other fees or charges as may be prescribed by the Director General after consultation with the Board.

Terms and conditions of permits

**7.** The terms and conditions of a permit issued under the Act shall be appended at the back of the permit.

Loss, damage or alter of permit

**8.-(1)** The Director General may, where he is satisfied with the evidence of the permit holder that his permit has been lost, destroyed or defaced, and upon payment of a fee of thirty percent of the value of the permit, issue a duplicate permit.

(2) A person shall not be allowed to temper or alter a permit in any circumstances.

(3) A person who contravenes the provisions of subregulation (2) commits an offence.

Suspension and cancellation of permit

**9.-(1)** The Director General may suspend or cancel a permit for any of the following reasons-

(a) the holder had provided false, misleading or incomplete information in the application;

(b) the holder has contravened the terms and conditions specified in the permit;

(c) there has been a change in material or circumstances affecting the eligibility criteria required for issuance of permit;

(d) failure to submit required reports; and

(e) for such other reasons as may be prescribed by the Director General subject to the laws.

(2) Where a permit holder contravenes the provisions of subregulation (1), the Director General shall, within seven days, require the holder in writing, to show cause why the permit should not be suspended or cancelled.

(3) The Director General shall, after the expiry of the period referred to in subregulation (2) proceeds to suspend or cancel the permit as the case may be.

(4) The Director General shall, where he decides to cancel the permit, notify the holder in writing with reasons.

Reports keeping

**10.-(1)** The Director General shall keep the reports and other information relating to the permits issue under the Act.

(2) The records under subregulation (1) may be

inspected by any person upon payment of fee prescribed in the Second Schedule to these Regulations.

**PART III**  
**ISSUANCE OF PUBLIC WEATHER AND CLIMATE FORECASTS AND WARNINGS**

Provision of weather forecasts and warnings

**11.**-(1) The Authority shall issue to the public-

- (a) weather and climate forecasts services and weather related warnings;
- (b) accurate and timely weather forecast and weather warning; and
- (c) information of tropical cyclones in a timely way, when it moved into the area of latitude 5 – 25 degrees South, and longitude 45 – 60 degrees East.

(2) Without prejudice to subregulation (1) the Authority shall, on request, issue weather warning information to any person for hazard mitigation purpose.

Dissemination of forecasts and warnings

**12.**-(1) The Authority shall issue forecast and warning to the media including radio, television and newspaper for dissemination to the public.

(2) The media shall disseminate to the public-

- (a) regular weather and climate forecasts; and
- (b) the latest weather warning immediately after a warning has been issued by the Authority.

Duty to inform Authority

**13.**-(1) A person who observes a weather event which may affect the locality may, immediately through any available means, inform the Authority.

(2) The Authority shall, upon receipt of information on the occurrence of weather event, analyse such information and provide advice.

Weather modification

**14.**-(1) Subject to section 15 of the Act, a person who intends to modify weather shall be required to make an application for a permit from the Authority in a form set out under the First Schedule to these Regulations.

(2) Subject to subregulation (1), the Authority

may, within thirty days from the date of receipt of an application, approve and issue a permit or refuse a permit.

(3) The Authority shall, upon approval and issuance of permit-

(a) provide guidance and meteorological services for the experiments and operation; and

(b) monitor the work of the applicant.

(4) Where the application under subregulation (1) is refused the Authority shall, within thirty days from the date of receipt of an application, inform the applicant and give the reason of such refusal.

Performance  
award

**15.**(1) A person practicing or designating meteorological services may submit to the Authority his work together with associated documents for award consideration.

(2) The Authority may, upon receipt of submission under subregulation (1), consider such submission.

(3) The Authority shall, when considering the award, base on the following criteria-

(a) promoting meteorological service;

(b) advancing research and development in meteorological related technology; and

(c) engaged in meteorological-related disaster mitigation education.

(4) The Authority shall, annually, give award to the best practicing or disseminating performer for promoting meteorological services.

(5) When considering the award, the Authority shall base on the following criteria-

(a) promoting meteorological service;

(b) advancing research and development in meteorological related technology; and

(c) engaged in meteorological-related disaster mitigation education.

#### PART IV QUALIFICATION OF FORECASTERS

Education of  
forecasters

**16.**(1) A person who intends to deal with provision

of weather forecast or warning shall be required to be a holder of a degree in meteorology from the recognized university.

(2) A person who contravenes this regulation commits an offence.

Competency of weather forecasters

**17.**-(1) The Authority shall, before permitting a person to engage in weather forecasts or warnings, ensure that such person complies with relevant competence standards prescribed under the Third Schedule to these Regulations.

(2) The Authority shall issue a certificate to a competent weather forecaster and maintain records as evidence of conformity.

Register for public weather forecasters

**18.** The Authority shall keep and maintain a register of qualified public weather forecasters.

#### PART V

#### CONSUMERS OF METEOROLOGICAL SERVICES OR PRODUCTS

Provision of meteorological services or products

**19.**-(1) A consumer who is requesting a service provided by the Authority shall specify a type of service required.

(2) The Authority may, upon receipt of a request under subregulation (1), provide meteorological services or products.

(3) The Authority shall, subject to the nature of the service requested provide meteorological services or products in a manner agreed by both parties.

(4) Where the required meteorological services or products are provided by a third party the Authority shall coordinate the availability of such services and products from the reliable and authentic sources.

(5) The services requested may be commercial tailor-made services and product arrangements, including rates, terms and conditions for all services offered to the public.

Protection of  
consumer  
information

**20.** Where a consumer is requested to produce any information to the Authority, such information shall not be disclosed to a third party unless authorized in writing by a consumer.

Training to  
consumers

**21.**-(1) The Authority may, upon request by a customer, provide specialised training on meteorological services.

(2) The training shall be provided subject to the payment of fees or charges as prescribed in the Second Schedule.

Consumer  
Consultative  
forums

**22.** The Authority may, at least once in every two years, conduct consumer consultative forum on meteorological services and products to discuss, share experience and challenges.

Types of  
consumers

**23.** For the purposes of these Regulations consumers of meteorological services or products includes general public, specific sectors and individuals.

#### PART VI OFFENCES AND PENALTIES

General penalty

**24.** A person who contravenes the provisions of these Regulations which no specific penalty has been provided for under the Act, commits an offence and shall, upon conviction, be liable to a fine of not less than one million shillings but not exceeding three million shillings or to imprisonment for a term of not less than six months but not exceeding twelve months or to both.

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#### SCHEDULES

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FIRST SCHEDULE

(Made under regulation 4(2) and 14(1))

PERMIT APPLICATION FORM

A. PERMIT FOR WEATHER AND CLIMATE FORECASTING

<b>1. Particulars of the Applicant</b>			
Name of the Applicant		..... .....	
Location (City/Town)		..... .....	
Postal address	..... .....	Postal Code	..... .....
Physical Address	..... .....	E-mail Address	..... .....
Telephone No.	..... .....	Fax	..... .....
Nationality	..... .....		
Business	..... .....		
Business Tin number/Registration certificate number		..... .....	
Does the Applicant have qualified personnel in Meteorology? YES <input type="checkbox"/> / NO <input type="checkbox"/>		If yes, please specify (attach evidence): ..... ..... ..... ..... ..... .....	

2. Information regarding the requested meteorological activity

(a) Category of Meteorological Activity to be undertaken (Check/tick the appropriate)
i. Weather observation <input type="checkbox"/>
ii. Weather Forecasting <input type="checkbox"/>

(b) For Weather observation activities, select the type of meteorological stations networks involved:

- (i) Synoptic stations
- (ii) Aircraft meteorological stations
- (iii) Automatic weather stations
- (iv) Radar wind profiler stations
- (v) Weather radar stations
- (vi) Aeronautical meteorological stations
- (vii) Research or Training-purpose stations
- (viii) Climatological stations
- (ix) Agricultural meteorological stations
- (x) Rainfall meteorological stations
- (xi) Hydrological meteorological stations
- (xii) Global Climate Observing System (GCOS)
- (xiii) Special meteorological stations
- (xiv) Other

In case of (xiii) or (xiv) please specify

.....  
 .....,  
 .....  
 .....

(c) Are the stations networks already established? YES  / NO

If yes, please mention them:

1. ....,
2. ....,
3. ....,
4. ....,
5. ....

(d) Purpose of engagement in the meteorological activity (ies):

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

(e) Place of meteorological activity
i. Location name (Region) of a meteorological station:.....
ii. District .....
iii. Ward .....
iv. Station name:.....
v. Latitude: .....
vi. Longitude: .....
vii. Altitude.....

3. Declaration

I....., the applicant of the permit hereby declare that all the information contained in this form is in accordance with facts and truth to the best of my knowledge. In this regard, I have carefully read and understood the details of this form and therefore agree to abide with the terms and conditions as appropriate.

Applicant's signature..... Date.....

4. FOR OFFICIAL USE ONLY.

The application for permit is recommended for approval on the following conditions:

1. The meteorological activity to be performed under this permit is:  
.....
2. For weather observations, the type of meteorological stations networks recommended under this permit includes:
  - a. ....,
  - b. ....,
  - c. ....,
  - d. ....,
  - e. ....,
  - f. ....

\_\_\_\_\_  
\_\_\_\_\_  
Name of Reviewing Officer (1)

Signature

\_\_\_\_\_  
\_\_\_\_\_  
Name of Reviewing Officer (2)

Signature

Notice to the Applicant:

1. Dully filled application form to be accompanied by an introduction letter from the applicant's hamlet, street or village leaders, or institution.
2. Payments to be done to the Authority.
3. For Weather observation activities, the applicant shall have dedicated personnel with minimum qualification of at least Certificate in Meteorology (from the recognized institution).
4. For Weather forecasting activities, the applicant shall have dedicated personnel with minimum qualification of at least B.Sc. in Meteorology (from the recognized institution).
5. Qualification evidences referred to in part c and/or d to be attached to this application.

**B. PERMIT APPLICATION FOR WEATHER MODIFICATION**

1. Particulars of the Applicant

Name of the Applicant		..... .....	
Location (City/Town)		..... .....	
Postal address	..... .....	Postal Code	..... .....
Physical Address	..... .....	E-mail Address	..... .....
Telephone No.	..... .....	Fax	..... .....
Nationality	..... .....		
Business	..... .....		
Business Tin number/Registration certificate number		..... .....	

2. Information regarding the requested meteorological activity

(a) Purpose for conducting the weather modification activity? ..... ..... ..... ..... .....		
(b) Describe the location of the proposed targeted area ( <i>include county boundaries, regions/districts, latitudes, longitudes, geographic features, and map of the targeted area</i> ):  (i) Location name: ..... (ii) Station name: ..... (iii) Latitude: ..... (iv) Longitude: ..... (v) Altitude..... .....  ( <i>information on geographical features of the area or nearby</i> ): ..... ..... ..... ..... ..... ..... ..... ..... .....		
(c) Dates for the operation		
Starting: ...../...../.....	Ending: ...../...../.....	
Frequency of operation of the activity		
(d) Are the proposed operations to be conducted under contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

(e) If Yes	<p>(i) provide the name(s) of the person(s) to conduct the operation:                  Name:.....                  Name:.....                  Document attachment?: Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>(ii) Provide evidence that he/she is capable or qualified and experience in performing weather modification activities (<i>attach documents</i>)                  .....                  .....                  .....</p>		
(f) If No	<p>(i) provide the name(s) of the person(s) with evidence of their qualification that they can carry out weather modification activities (<i>attach documents</i>) -                  Name:.....                  Name:.....                  Document attachment?: Yes <input type="checkbox"/> No <input type="checkbox"/></p>		
<p>Attach a complete and detailed description of the project operational plan, which includes the types of seeding agents to be used, the methods and equipment to be employed in seeding operations, and the emergency shutdown procedures, including the conditions under which operations will be suspended:                  .....                  .....                  .....</p>			
<p>3. Declaration</p> <p>I....., the applicant of the permit hereby declare that all the information contained in this form and all attachments are in accordance with facts and truth to the best of my knowledge.</p>			
Name	Title	Signature	Date

SECOND SCHEDULE

*(Made under regulations 6(1) and (2), 10(2) and 22(2))*

Fees and Charges for Permit of Meteorological Activities

1. To conduct weather observation (to operate meteorological station)				
Type of Station/Activity	Class of Observing Station	Application Fee (TZS)	Permit Fee (TZS)	Annual Renewal License Fee (TZS)
Class A: Rainfall Station				
Rainfall Station	Manned	5,000	20,000	Nil
	Automatic	10,000	300,000	200,000
Class B: Manned/ Conventional Stations				
Surface Synoptic Station	Land Station	50,000	800,000	300,000
Aeronautical meteorological station	Manned			
Agricultural Meteorological Station	Manned			
Climatological Station				
Hydro-meteorological stations				
Training purpose				
Research-purpose station				
Training-purpose station				
Special-purpose station				

Class C: AWS Stations				
Automatic Weather Station (AWS)	AWS	300,000	500,000	300,000
Automatic Weather Observing System (AWOS)	AWOS			
Surface Synoptic Station				
Class D: Radar and Special Stations				
Upper-air Synoptic Station	Radiosonde	2,000,000	5,000,000	1,000,000
Weather RADAR Station	S-band			
	C-band			
	X-band			
RADAR Wind Profiler Station				
Aircraft Meteorological Station				
Special meteorological stations	Radiation station			
	Lightning location station			
	Tide-gauge station			
	Other remote-sensing profiler stations			
	Meteorological reconnaissance aircraft station			
	Global Atmosphere Watch (GAW) station			
	Planetary boundary-layer station			
2. To conduct Weather and climatic forecast				
Permit for forecasting activities		2,000,000	5,000,000	3,000,000
3. To conduct weather modification activity				

Weather modification		5,000,000	10,000.000	-
CLASS E. Training Fees				
Short Courses at National Meteorological Training Centre, Kigoma	Per person		1,000,000	
Short Course at other locations	Per person for three days		1,200,000	
	Per person for Five days		1,500,000	

THIRD SCHEDULE

*(Made under regulation 17(1))*

Competence Standards for Public Weather Forecasters

Competence Assessment Areas

Provided hereunder is what is considered as necessary or areas of emphasis for a Meteorological Personnel working as a public weather forecaster:

- 1.0. Chart analysis:
  - 1.1. How to analyze weather charts and techniques to be used, including:
    - smoothing of contours;
    - pressure gradients towards High/Low pressure systems;
    - Geopotential heights especially over the Southern Africa region.
  - 1.2. Identification of synoptic features/systems and associated impacts of-
    - weather in Tanzania like ITCZ (Zonal and Meridional arms);
    - High pressure systems (Mascarine, St Helena, Azores and Siberian);
    - East African ridge, Arabian ridge;
    - Troughs;
    - frontals systems;
    - Tropical Cyclones (If any).
  - 1.3. Locating weather feature on weather chart, including:
    - ITCZ;

- High-pressure systems;
  - East African ridge;
  - troughs, fronts systems;
  - tropical Cyclones.
- 2.0.** Marine forecast
- 2.1.** How to develop marine weather forecast for the coastal areas and over Lakes;
- 2.2.** Introduce the concept of-
- Swell;
  - wind wave;
  - total sea;
  - wave period;
  - wave height;
  - Tsunami.
- 2.3.** Warning and Advisory issuing criteria for-
- strong wind;
  - heavy rain falls; and
  - large waves.
- 3.0.** General weather and climatic forecast
- 3.1.** Introduction to different NWP and climate models available, including;
- 3.2.** Understanding General Atmospheric Circulation patterns;
- 3.3.** Interpretation of different weather parameters like-
- streamline (wind);
  - Moisture (RH);
  - Precipitable water;
  - Vertical velocity;
  - Wind Shear;
  - Convergence and Divergence.
- 3.4.** Satellite Imagery (VIS, WV and IR) interpretations;
- 3.5.** Tephigram- practice to draw (if there is any previous ascent data) and interpretation;
- 3.6.** Instability Indices interpretation-
- Showalter Index; and
  - K Index.
- 3.7.** Ensemble or Deterministic forecasts and interpretation.
- 4.0.** Nowcasting, severe weather and medium range forecasting
- 4.1.** Developing customer tailored forecasts with time leads of hours to three days;
- 4.2.** Understanding Model uncertainties in medium range forecasting and how to incorporate them in the forecast;
- 4.3.** Understanding how to identify cloud types and their associated weather activities;

- 4.4. Development of Impact based forecast.
- 5.0. Aviation forecasting
  - 5.1. Developing Sigwx weather chart for-
    - 100 FLs; and
    - 180 FLs.
  - 5.2. Introducing significant weather phenomena and symbols on chart, including:
    - Precipitation;
    - Thunderstorms;
    - Clouds;
    - Turbulence;
    - Icing;
    - Volcano.
  - 5.3. Developing Sigwx from synergy by using available tools.
  - 5.4. Understanding of weather Codes, Symbols and their interpretation and presentation.
  - 5.5. Use of AerometWeb and MAIS in prevision of Aeronautical forecasts and warnings.
- 6.0. Other duties, including:
  - 6.1. Preparation of Power Point Presentations for weather conference;
  - 6.2. Editing and dissemination of weather products to end-users;
  - 6.3. Adequate awareness and understanding of forecasting process as per QMS standards;
  - 6.4. Uploading weather products on the TMA website;
  - 6.5. Participate fully in weather discussions during Weather Conferences at CFO;
  - 6.6. Use of Synergy system in Analysis and visualization;
  - 6.7. Understanding the Service Delivery Strategy and competency requirement for Forecasters, Presenters and Advisors including:
    - Weather and climate services or products issued;
    - Dissemination and communication tools.

Dodoma,  
23<sup>th</sup> June, 2021

LEONARD M. CHAMURIHO  
*Minister for Works and Transport*