



**MEGHALAYA POWER GENERATION**

**CORPORATION LIMITED**



**GUIDELINES FOR  
RELEASE OF WATER  
THROUGH THE  
GATES OF THE  
UMIAM –UMTRU,  
STAGE-IV DAM**

2026



**GUIDELINES FOR RELEASE OF WATER THROUGH  
THE GATES OF THE UMIAM-UMTRU STAGE-IV CONCRETE DAM**

**1.0- Introduction**

1.1- *Dams have been constructed across the Rivers to create artificial Lakes/Reservoirs for storing of water which is being utilized for generation of electricity, irrigation, drinking water and others. Water stored in the Reservoir during rainy seasons, is also utilized during dry/lean seasons. Sometimes due to heavy rain during rainy season, the discharge in the River can be so high that the water level in the Reservoir, if not controlled, can rise beyond F.R.L. In such cases the excess water from the Reservoir has to be released in a gradual and regulated manner through the Radial Gates provided in the Dams, to ensure that people at downstream are not affected by the sudden surge of river water, at the same time to safeguard the Dams from being overtopped, thereby, endangering the abutments from being washed out, and causing loss of lives and properties due to flooding.*

*Water from the Reservoir may also be required to be released through the Radial Gates at any time of the year as may be required by the owner or due to emergency/crisis that may arise due to many reasons.*

*In view of this, all Radial Gates of Dams are required to be in operational mode 24x7.*

**2.0- Requirement of Guidelines for Radial Gates**

2.1- *The Guidelines for Operation of Radial Gates is needed by all entity/owner of Dams and Reservoirs as it is the guiding instrument at any time whenever Gates are required to be operated to release water from the Reservoir due to Flood, Sabotage, Natural disaster or any other crisis. The Guidelines for Operation of Gates also guides the Operator of the Radial Gate the process of releasing of water from the Reservoir in such a manner that;*

- (i) The Dams and other related Hydraulics Structure are not put in any danger.*
- (ii) The Reservoir is allowed to retain optimum quantity of water for economic generation of electricity.*
- (iii) It mitigates the damage of flood downstream of the Dams.*

2.2- *The Guidelines help the owner to maintain the Radial Gates in operational mode 24x7.*

2.3- *The Guidelines for Operation of Radial Gates provide;*

- (i) Technical details of the Dams, the Reservoir and the Radial Gates.*
- (ii) Guidelines for inspection, monitoring and reporting of the healthiness of the Dams, Reservoir and Radial Gates.*

- (iii) *Guidelines to the in charge in regard to maintenance of the Gates, including Operation of the Gates to facilitate release of water from the Reservoir whenever required.*
- (iv) *It also contains names, addresses and contacts of all stakeholders of the Dams.*

**3.0- Nongkhylllem Reservoir and requirement for Control Release of Water through the Gates:-**

*The Nongkhylllem Reservoir received water from the catchment of the Umtru River and Tail Race of Umiam Stage-II Power Station through the Tail Race of Stage-III Power Station, and excess water through the Radial Gates of Stage-III Dam and Nongmahir Spillway. It has one Concrete Dam and is linked to the Stage-IV Power Station by the underground Tunnel of about 7Km. Nongkhylllem Reservoir is a small manmade Lake in the State of Meghalaya and can store about 1.81 Million Cubic Meter of water. Downstream of the Concrete Dam, the River runs through Ravines of about 33.5 Km consisting mostly the Reserve Forest and other private Forest before it reach the Umtru Pondage at Dehal. On its way there are human activities like road, cultivation and other. It is for this reason that any release of water from the Umiam-Umtru Stage-IV Concrete Dam has to be properly planned, estimated, and regulated so as to avoid any untoward incidents.*

*Since the Reservoir capacity is very small, and the requirement of frequent release of water through the Gates during Monsoon as well as during Non-Monsoon period, issuing the notification for release of water is not practicable; however warnings in the form of blowing the Siren, Telephone/SMS may be issued to stake holder to avoid untoward incidents.*

#### 4.0- Name, Address & Contacts of the Owners of the Dams

4.1-Name & Address: Meghalaya Power Generation Corporation Limited,  
Lumjingshai, Shillong-793001,  
East Khasi Hills District, Meghalaya.

4.2-Contacts of responsible Persons:-

**Proforma-1**

Sl. No	Names & Designation	Address		Telephone No.	Mobile No.	E-mail ID
		Office	Residence	Office	Residence	
1	2	3	4	5	6	7
1.	Shri. Sanjay Goyal, IAS, Chairman-cum-Managing Director	Me.E.C.L, Lumjingshai, Shillong793001.	-	0364-2590367 0364-2590638(F)		sanjaygoyal.ias@gmail.com
2.	Shri Richard Yanthan, IAS, Director Corporate Affairs	Me.E.C.L, Lumjingshai, Shillong793001.	-	0364-2591992		
3.	Shri.K.Thangkhiew, Director(Generation), MePGCL, Shillong.	Me.P.G.C.L, Lumjingshai, Shillong793001.	-	0364-2591406	7005093571 9856370407	pce_meecl@yahoo.co.in
4.	Smti.A.Sunn, Chief Engineer(C), HP&HC, MePGCL, Shillong.	Me.P.G.C.L, Lumjingshai, Shillong793001.	-	0364-2590113	9402309525	cehphc.mepgcl@gmail.com
5.	Shri.E. Marap Chief Security Officer	Me.E.C.L, Lumjingshai, Shillong793001.	-	-	8974158543	-
6.	Smti. L.M.Kharkamni, Executive Engineer(C), Dam Safety Cell, MePGCL, Shillong.	O/o Chief Engineer(C), HP&HC, Me.P.G.C.L, Shillong 793001	-	0364-2590226	9774820349	eedamsafety msh@gmail.com

#### 5.0- SALIENT FEATURES:-

##### 5.1- DAMS:-

Type of Dam:	CONCRETE GRAVITY
Height of Dam:	43.00m
Length of Dam:	159.20m
F.R.L:	503.00m
Maximum Water Level:	503.00 m
M.D.D.L:	496.00m
Crest Level:	491.00m
Spillway capacity:	75,000.00cusec

## 5.2-RESERVOIR:-

Catchment Area: 52.00Sq.Km

Water Spread Area at FRL: 0.15Sq.Km

Storage Capacity:

(i) Live Storage: 0.81MCUM

(ii) Dead Storage: 0.99MCUM

(iii) Overall Storage: 1.81MCUM

## 5.3- RADIAL GATES:-

No. of Gates: 3Nos.

Types: Radial Gates (Tainter)

Size: 14M X 12M (eachgate)

Mode of operation: Electrically operated  
(Provision available for Hand operation in emergency cases)

Brake:- Solenoid operated brake

Company made: TEXMACO

Gate Operation:-

Minimum: 1gate and 1.00ft. Opening:

Maximum: 3gates and 46.00 ft. Opening each:

## 6.0- Inspection, Testing of Radial Gates including Gate Reporting

### 6.1-Components of Radial Gates

#### I).GATES:

a) Gate leaf: Curve face plate

b) Seal seat: Stainless Steel

#### II) HOISTING ARRANGEMENT:

a) Drum Hoist : Worm gear arrangements with drum

b) Ropes : 38mm

c) Capacity of motor : 7.5hp each

d) Type of brake : Hydraulic operated brake

6.2- All the Radial Gates including its components and accessories are to be inspected and tested at least once in a month.

6.3- All the Radial Gates are to be operated at least once in a month. If stoplog gate is available then lifting of gates can also be carried out.



**8.1.2- Outgoing Message:-**

**Proforma-3**

<b>Sl. No.</b>	<b>Date</b>	<b>Time</b>	<b>To whom sent Including Contact No.</b>	<b>Content of the Message</b>	<b>Name &amp; Signature of sender</b>	<b>Remarks</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1.						
2.						
3.						
4.						
5.						

The messages both incoming and outgoing are to be compiled and forwarded to the higher authority on daily basis.

**9.0- Contact Persons for Umiam-Umtru, Stage-IV Reservoir, Nongkhyllem:-**

The following persons are to be contacted through telephone, SMS, E-mail before the release of water from the Reservoir.

**9.1- In-charge of the Dams:-**

**Proforma-4**

<b>Sl. No.</b>	<b>Names &amp; Designation</b>	<b>Address</b>		<b>Telephone No.</b>	<b>MobileNo.</b>	<b>E-mailID</b>
		<b>Office</b>	<b>Residence</b>	<b>Office</b>		
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1.	Shri. C. Pariat, Superintending Engineer(C),HSM, Me.P.G.C.L,Shillong.	SE,(C), HSM Circle,MePGCL, Lumkshaid, Shillong-793002	-	0364-2547878	8731096843	hcmshp16@gmail.com
2.	Shri. C. Myria Executive Engineer(C), HSMD, Me.P.G.C.L, Umiam	EE,HSMD, MePGCL,Umiam	-	-	7085950790	eehsmd@gmail.com
3.	Shri.S.Lyngdoh, AEE, HSMSD, Kyrdemkulai	AEE,HSMSD, MePGCL, Kyrdemkulai	-	-	6909089 788	aee.hsmsdkdm@gmail.com
4.	Shri.H.Kharkongor, AE,HSMSD, Kyrdemkulai	AEE,HSMSD, MePGCL, Kyrdemkulai	-	-	9615028103	-
5.	Shri.Pyrton Manner JE,HSMSD, Kyrdemkulai	JE,HSMSD, MePGCL, Kyrdemkulai	-	-	9863126663	-
5.	Shri. P. Momin Security In-charge of Zero Point	Stage-III Dam	-	-	9862696681	-

9.2- **Contacts of important State Government, Officials including Police & Other Stakeholders.**

**Proforma-5**

Sl. No.	Names & Designation	Address		Telephone No.	Mobile No.	E-mail ID
		Office	Residence	Office		
1	2	3	4	5	6	7
1.	Dr. Shakil P. Ahammed, IAS, Chief Secretary and State Vigilance Commissioner	Meghalaya Secretariat Building Shillong 793001		0364-2224801 S-2250		Cso-meg@nic.in
2.	Shri Abhilash Baranwal, IAS, Deputy Commissioner & Chairperson (DDMA)	O/o the Deputy Commissioner, Ri-Bhoi District, Nongpoh		03638-299960 Fax 03638-232503		dc-rb-meg@nic.in
3.	Smt. B. Ranee, MCS, Addl. Deputy Commissioner & CEO (DDMA)	O/o the Deputy Commissioner, Ri-Bhoi District, Nongpoh		Fax 03638-232503	-	dc-rb-meg@nic.in
4.	Shri. Giri Prasad M, IPS Superintendent of Police	O/O the Superintendent of Police :: Ri-Bhoi District HQ : Nongpoh, Meghalaya Pin Code-793102		03638-232304 Fax 03638-232230	-	sp.rb-meg@nic.in
5.	Shri. Eric Kevin Dkhar, BDO Umling C&RD Block	Umling C&RD Block		03638-264234	9362548336	megumlingblock@gmail.com
6.	Shri. Andrew Myrthong, BDO Umsning C&RD Block	Umsning C&RD Block		03638-262213	7085288959/ 8259074759/ 9402191280	meg-umsning@nic.in
7.	Dr. R. Talang, BDO Bhoirymbong C&RD Block	Bhoirymbong, C&RD Block			7085123373/ 8837360822	bhoirymbong.crd.block@gmail.com
8.	Directorate Information and Public relations,	Lower Lachumiere, Shillong-793003		0364-2224617		diprmeg@gmail.com
9.	Shri. Derrick P. Pariat, Head of the Programme	Laitkor, NH44, Shillong, Meghalaya 793010, India.		0364-2580319	9436105194	ddkshillong@gmail.com
10.	All India Radio, Shillong -793001	Lower Lachumiere, Shillong-793003		0361-2224153 Fax 0361-2224153		airshill@gmail.com airshill@air.rg.in
11.	The DC/Adjutant For Commandant 1 <sup>st</sup> Bn NDRF, Ministry of Home Affairs,	Patgaon, PO: Azara, Guwahati, Assam-781017		0361-2840284	9435545949 (official mobile number) Control room no.- 7637011337 9435417246	assam01-ndrf@nic.in

**9.3-Contacts of Prominent Persons residing along the River Downstream of the Stage- IV Dam who may be affected due to release of excess water through the Gates of the Dam. (Area under Kyrdemkulai & Nongkhylllem Reserve Forest)**

**Proforma-6**

<b>Sl.No</b>	<b>Name of the Villages</b>	<b>Designation</b>	<b>Contact No.</b>
1.	Nongdiengngan	Rangbah Shnong	8413070269
2.	Umdiker	Rangbah Shnong	9862153368
3.	Umshorshor	Rangbah Shnong	9862174456
4.	Nongmahir	Rangbah Shnong	8414807415
5.	Mawpyrhut	Rangbah Shnong	8118939463
6.	Umtham	SecretaryShnong	9856293863
7.	Wahlakhar	Rangbah Shnong	9366792978
8.	Nongkseh	Rangbah Shnong	8787389042
9.	Sohjarang	Rangbah Shnong	8118937928

**10.0- Preparation, Warning & Release of Water:-**

*Preparation, Warning and release of water from the Reservoir may be done under two conditions i.e., Normal condition and emergency/crisis condition.*

**10.1- Under Normal condition:-** *Under this condition the water may have to be released during Monsoon Period due to high flood or during Non - Monsoon Period as may be required.*

**10.1.1-During Monsoon Period:-**

- (a) When the Water Level of Nongkhylllem Reservoir is between the Level 502 m to 502.50 m, warning of likely release of the excess water should be issued.*
- (b) All materials, equipment required for Gate Operation are to be checked and made ready for operation.*
- (c) 24 hours operational duty is to be enforced during the Monsoon period or as soon as the Water Level reached 502 m, and whenever water need to be release from the Gates.*
- (d) Preparation for release of excess Water when water level reaches 502 m.**
  - (i) The inflow of the water into the reservoir is to be calculated every hour and the same is to be informed to the higher authority through SMS, Whatsapp, Phone etc.*
  - (ii) If the inflow is very high, the inflow calculation should be done in half hourly basis.*

**(e) Release of Excess Water:-**

*When the concerned authority authorized release of water through the Gates the following actions are to be taken:*

- (i) The decision to release water shall be taken at least one hour before the actual operation of the Radial Gates and actual release of water. The initial decision to release water through the Gates is to be taken by the Executive Engineer Incharge with in consultation with the controlling Officer, Chief Engineer (C), HP&HC, Me.P.G.C.L, Shillong and the Director (Generation), Me.P.G.C.L, Shillong.*
- (ii) The Siren installed on the deck of the gates is to be blown for a duration not less than 30 (thirty) minutes.*
- (iii) Simultaneously, information of release of water should be sent through Telephone, SMS, Whatsapp, etc. to all concerned and stake holders as recorded in **Performa 1, 4, 5& 6** and record the same as indicated in **Performa 2 & 3**.*
- (iv) Half an hour after blowing the Siren, initially one gate can slowly be opened and may be raised upto the maximum height of 0.3 m.*
- (v) In case, there is requirement to enhance the release of water due to high inflow, another gate may be opened. The Gates may be increased by 0.3 m. one gate every half an hour or hourly as the case may be and as decided by the concerned authority.*
- (vi) In case of the decrease of inflow into the Reservoir, the size of opening of the Gates should be reduced accordingly.*
- (vii) The decision to increase or decrease the size of opening of the gates or closing the gates may be taken by the Officers in charge of the Dams in the consultation with the higher authority.*
- (viii) In all circumstances, water should not be allowed to overtop the Radial Gate or the Dams.*
- (ix) The water level of the Reservoir should not be allowed to go beyond the maximum water level of the Reservoir.*
- (x) In all circumstances the water level in the reservoir should always **maintain at FRL ie 503.00** except when **the inflow is very high the water level may be kept 1 (one) ft below FRL***

**10.1.2- During Non - Monsoon Period:-Non-Monsoon Period means the period when the water level of the Reservoir is below (503m)and the inflow of water into the Reservoir is less than 60 cumecs and not threatening to over top the Dams.**

**10.1.2.1- Under Normal condition the water is usually not required to be release through the gates during Non-Monsoon Period. However, there maybe times that release of water**

*may have to be done during this period to enable the owner to take up necessary repairs of Machines and Hydraulic Structures or any other reasons. Such release needs the approval of the higher authority, and in consultation with the Chief Engineer (Generation) and SLDC.*

*When the authority concerned decided to release water through the Gates under any of these conditions, the following action is to be taken:-*

- (a) The quantity of water to be release, including the rate of discharge through the gates and the time period of release are to be properly calculated and planned to avoid unwanted submergence along the river course in the downstream of the Dam.*
- (b) The warning for release of water will be notified by the In-charge through sms and in writing to the District authorities and stakeholders.*
- (c) The copy of the notification of the warning for likely release of water should be send to all Officers concerned within Me.E.C.L, Me.P.D.C.L, Me.P.G.C.L, Me.P.T.C.L and also to (1) Deputy Commissioner, Nongpoh (2) Superintendent of Police, Nongpoh (3) BDO, Umsning, Jirang ,Umling (4) DIPR (5) Print & Electric Media, and(6) All Concerned and stake holder residing or having activities along the Umtrew River downstream of the New Umtru Dam to provide information and to restraint from any activities along the bank of the Umtrew river.*
- (d) All materials, equipment required for Gate Operation are to be checked and made ready for operation.*
- (e) One hour before release of water through the Gates, a warning is to be sounded by blowing the siren installed on the Deck of the Gates. Simultaneously information of release of water should be sent through Telephone, SMS, Whatsapp, etc. to all concerned and stake holders as recorded in **Performa 1, 4, 5& 6** and record the same as indicated in **Performa 2 & 3**. The copy of the notification of the warning should be send to all Officers concerned within Me.E.C.L, Me.P.D.C.L, Me.P.G.C.L, Me.P.T.C.L and also to (1) Deputy Commissioner, Nongpoh (2) Superintendent of Police, Nongpoh (3) BDO, Umsning (4) DIPR and (5) Print & Electric Media.*
- (f) Half an hour after blowing the siren, initially one gate can slowly be opened and maybe raised upto the maximum of 0.3 m.*
- (g) After the initial release of one hour, another gate may be opened. The size of opening of the Gate may be increase by 0.3 m for 1 (one) Gate everyone hour upto the required size of opening as per schedule.*
- (h) All Gates should be closed as soon as the targeted quantity of water is released or the required water level of water in the Reservoir is achieved.*
- (i) In all circumstances the water level in the reservoir should always maintain at FRL ie 503.00m during non-monsoon period. **The office of the Assistant Executive Engineer (C), HSMSD, MePGCL, Kyrdemkulai which directly deals with maintenance of***

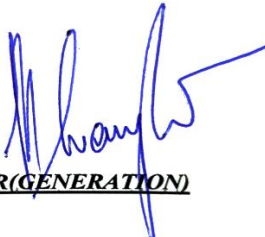
*water level shall strictly adhere to the Guidelines.*

**10.2.0- Under Crisis/Emergency condition: - Water may be released at anytime of the year in case of the emergency/crisis situation that may arise due to;**

- (a) *Sudden and unprecedented heavy and very heavy rainfall in the catchment causing very high and unexpected flooding of the Reservoir.*
- (b) *Breaking of the Dam due to structural failure, earthquake, sabotage and others.*
- (c) *Failure of other hydraulic structures like Tunnel, Dykes and other.*
- (d) *Any other reasons that require urgent release of water.*

**10.2.1- The Engineer in charge, after satisfying his/her self that the crisis/emergency condition warranted urgent release of water through the Gates of the Dams will immediately inform the controlling Officers and Chief Engineer (C), HP&HC, who will order for immediate release of water and inform the same to the higher authority of the Corporation. When the decision to release water is communicated (verbally or officially) the following steps are to be taken;**

- (i) *The Siren installed on the deck of the gates is to be blown for duration not less than half an hour.*
- (ii) *Simultaneously information of release of water should be sent through Telephone, SMS, Whatsapp, etc. to all concerned and stake holders as recorded in **Performa 1, 4, 5 & 6** and record the same as indicated in **Performa 2 & 3***
- (iii) *At the end after blowing the siren, initially one gate can be opened and may be raised upto the maximum of 0.3 m.*
- (iv) *Depending on the situation of emergency/crisis the size of opening of the Gates, the number of gates and the Discharge of water to be released will be decided by the Chief Engineer (C), HP&HC, Me.P.G.C.L, in consultation with Director (Generation) Me.P.G.C.L, Shillong and to accordingly intimate the CMD, Me.P.G.C.L.*
- (v) *During emergency/crisis situation the in charge and other higher official are to be present at the place/site of event (Ground Zero).*

  
**DIRECTOR(GENERATION)**