অসম চৰকাৰ

सत्यमेव जयते

GOVERNMENT OF ASSAM

Power Department

Departmental Disaster Management Plan
2020-2021

Contents

1 Section 1- Introduction

Definitions

A disaster is a serious disruption, occurring over a relatively short time, of the functioning of a community or a society involving widespread human, material, economic or environmental loss and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

The United Nations Office for Disaster Risk Reduction (UNISDR) which was created in December 1999, ensures the implementation of the International Strategy for Disaster Reduction (General Assembly (GA) resolution 54/219 [1]). UNISDR's mandate has been defined by a number of United Nations General Assembly Resolutions, the most notable of which is "to serve as the focal point in the United Nations system for the coordination of disaster reduction and to ensure synergies among the disaster reduction activities of the United Nations system and regional organizations and activities in socio-economic and humanitarian fields" (UN General Assembly Resolution 56/195).

The UNISDR (2009) defines the terminology "Disaster" as:

"A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources."

Disaster Management Act 2005 defines disaster as-
"Disaster" means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area."

Types of disaster -A disaster, Natural or Man-made are seen as the consequence of inappropriately managed risk. These risks are the product of a combination of both hazard/s and vulnerability.

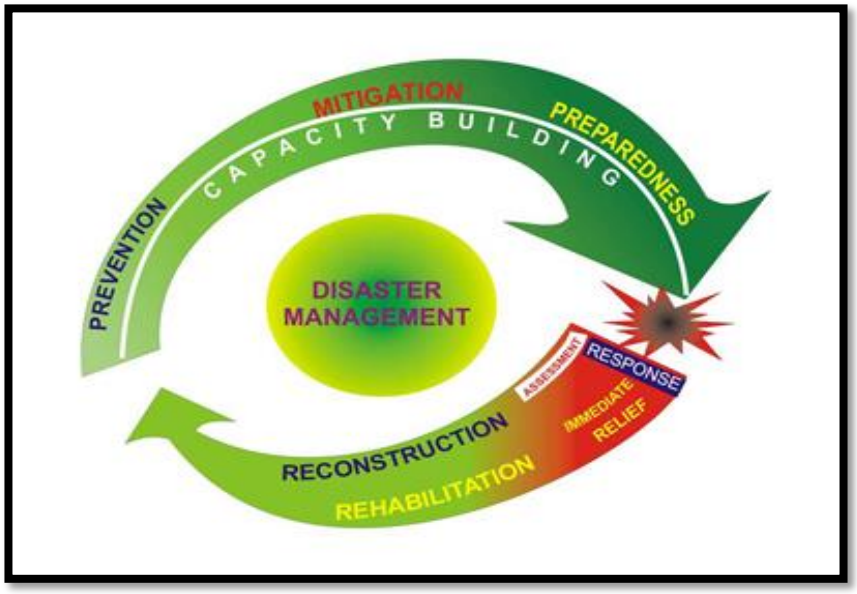
Disasters are of Two Types:

1. Natural- A natural disaster is an event that is caused by the natural forces of the Earth where great damage and, sometimes, loss of life occurs
2. Secondary Disaster –(Internal), secondary (External)-riots, strike-A disaster that is started by a first disaster and happens after the initial disaster. Such as a fire that occurs after an earthquake. It can be divided into two forms Secondary Disaster – (Internal), secondary (External), e.g riots, strike
3. Man-made- Human-made disaster is disaster resulting from man-made hazards as opposed to natural disasters resulting from natural hazards as a result of war or civil strife. The cause of a human-made disaster can be either intentional or unintentional human actions

Disaster Management refers to manage disaster response in the country. India has been traditionally vulnerable to the natural disasters on the account of its unique geo-climatic conditions

Section 2 of the Disaster Management Act 2005 defines disaster management as
"Means a continuous and integrated process of planning, organising, coordinating and implementing measures which are necessary or expedient for-
(i) Prevention of danger or threat of any disaster;
(ii) Mitigation or reduction of risk of any disaster or its severity or consequences;
(iii) capacity-building;
(iv) Preparedness to deal with any disaster;
(v) Prompt response to any threatening disaster situation or disaster; (vi) assessing the severity or magnitude of effects of any disaster;
(vii) Evacuation, rescue and relief;
(viii) Rehabilitation and reconstruction;

Disaster Management Cycle



The above figure is a pictorial representation of the disaster management process.

The Process involves the following stages-

Mitigation: Measures that prevent or reduce the impact of disasters.

Preparedness: Planning, training, & educational activities for things that can't be mitigated.

Response: The immediate aftermath of a disaster, when business is not as usual.

Recovery: The long-term aftermath of a disaster, when restoration efforts are in addition to regular services.

1.1 Legal Ground and Basis

A. Disaster Management Act 2005-

An Act to provide for the effective management of disasters and for matters connected therewith or incidental thereto .It was enacted by Parliament in the Fifty-sixth Year of the Republic of India. And it extends to the whole of India

B. Legal Mandate of the Plan

Section 40(1) of the DM act 2005 mandates that -

Every department of the State Government, in conformity with the guidelines laid down by the State Authority, shall-

(a) Prepare a disaster management plan which shall lay down the following :-

(i) The types of disasters to which different parts of the State are vulnerable;

(ii) Integration of strategies for the prevention of disaster or the mitigation of its effects or both with the development plans and programmes by the department;

(iii) the roles and responsibilities of the department of the State in the event of any threatening disaster situation or disaster and emergency support function it is required to perform;

(iv) Present status of its preparedness to perform such roles or responsibilities or emergency support function under sub-clause (iii);

(v) The capacity-building and preparedness measures proposed to be put into effect in order to enable the Ministries or Departments of the Government of India to discharge their responsibilities under section37;

(b) Annually review and update the plan referred to in clause (a); and

(c) Furnish a copy of the plan referred to in clause (a) or clause (b), as the case may be, to the State Authority.

Section 40 (2) of the act in regards to Finance defines that-

Every department of the State Government, while preparing the plan under sub-section (1), shall make provisions for financing the activities specified therein.

Section 40(3) Defines that –

Every department of the State Government shall furnish an implementation status report to the State Executive Committee regarding the implementation of the disaster management plan referred to in subsection (1).

c. Assam State Policy on Disaster Management

The Government of Assam has released the *State Policy on Disaster Management* in 2010 . Aligned with the *National Policy on Disaster Management* 2009, the State Policy has the vision to create "A State Prepared" and build " A Safer Assam" by developing a holistic and integrated approach with emphasis on building strategic partnership at various levels.

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1.2 Role of State Disaster Management Authority in Preparation of Departmental Disaster Management Plan

Section 18 of the Act requires the State Disaster Management Authority inter alia to:

- Approve the Disaster Management plans prepared by the Departments of the Government of the State
- Lay down guidelines to be followed by the State Department for the purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance therefore and
- Review the developments plans of the different departments of the state and ensure that prevention and mitigation are integrated therein.

1.3 Need for Departmental Disaster Management Plan –

- To Pre-identity the capacity and resources of Government Departments .to be prepared for and to respond to any disaster or calamity.
- To pre-identify roles of each stakeholder in a crisis situation, in order to manage smoothly.
- To decrease the time for response.
- To reduce the duplication of efforts.
- To prepare in advance for different crisis scenarios.
- To mainstream disaster risk reduction measures into regular departmental activities.

1.4. Penalty in the Case of Failure to abide by

- Section 51 of the Act provides for punishment up to One year in case of refusal to comply with the direction given by the state government or State Executive Authority if the refusal results in loss of life or imminent danger thereof.

1.5 Disaster Risk Profile

A. Hazard Profile Of Assam

Assam is a multihazard State prone to floods, earthquake, storms and landslide besides manmade disasters. Also the State faces acute flood & erosion problem. Assam has a history of disasters ranging from large earthquakes to severe floods.

Earthquake- As per the plate tectonics, Assam is in the eastern-most projection of the Indian Plate, where the plate is thrusting underneath the Eurasian Plate creating a seduction zone and the Himalayas. This led the state of Assam fall under the seismic zone V making the entire State prone to earthquake of moderate to very high intensity

Flood-All the rivers in Assam are liable to floods, mainly because they receive heavy rainfall within a short time. These rivers are in their early stage of maturity and are very active agents of erosion. The river waters collect a tremendous amount of silt and other debris and raise the level of the river beds. Therefore, it becomes impossible for the main channel to cope with the vast volume of water received during the rains.

Extreme Wind-The approach of the South West Tropical Monsoon is usually marked by strong winds, overcast skies accompanied by occasional thundershowers, hailstorms and at times by cyclones between April and May. Thunderstorms known as "***Bordoicila"*** are frequent during the afternoons. Heavy downpour starts from June. At times these cyclones are devastating bringing colossal loss of human lives and damage to property.

Landslide -continued deforestation and demand for more and more agricultural land has also led to the destabilization of hill slopes which during the monsoons come down as landslides. In the recent past Guwahati city has witnessed a number of devastating landslides in its hilly belt. This is mainly because of inadequate urban land-use planning and the demand for land becomes such that communities build houses in areas which are environmentally unstable with risks of landslides.

Erosion- Every year flooding and riverbank erosion cause devastating impacts. Riverbank erosion is a serious problem in Assam leading to displacement of people due

to the disappearance of villages year after year. Huge urban population combined with poor quality and ill-maintained infrastructure, low quality building stock, and lower resilience of the high-density society also increases the risks in the urban centres.

1.6 Vulnerability Of Power Sector at times of Disaster

Electricity is one of the most *important* blessings that science has given to mankind. Any interruption in the supply of electricity causes not only loss to a nation, but also creates hardship to human beings, as it has become a part a parcel of modern life.. As such, any crisis situation in the power sector has great impact and needs special attention.

Power sector is always the first sector to be affected during any disaster it, therefore, becomes extremely important to evolve crisis & disaster management plan to restore the generation, transmission, and distribution of power in the affected areas in the shortest possible time. Crisis in power sector is an event of acute danger which can cause sudden disruption of power supply. Such events are caused due to human error, equipment failure or sabotage by anti-social elements.

Thus formulation of a strategy and a comprehensive disaster management plan to meet any disaster and responding to it in the shortest possible time and making it available in the vital location is most essential in carrying out any evacuation plan, rescue and relief operations.

Illustration- - Pictures showing effects of natural disasters in power sector)

1.7 Present Power Scenario

Assam Power Distribution Company Limited (APDCL) is mandated to supply electricity to all consumers of the state of Assam. The company has made all out endeavor to improve power supply position of the state and is now supplying power to the extent of 95% to 100% during Off- peak hours and to 90 to 95 % during Peak (evening) hours. However, the company expresses its regret to its esteemed consumers for occasional power shortage situation faced due to reasons beyond the reasonable control of the company. It is a fact that there has been a steep increase of demand for power during the last 3-4 years in the state. In Guwahati alone in the past five years, there has been a threefold increase in demand for power. In recent times 100 % rural households were electrified, under the Saubhagya Scheme of Govt. of Assam as there has been a great increase in demand for power in the rural as well as urban areas.

Also with the increased development and better economic activities during the last few years, this year, Assam has been experiencing an average peak demand for power to the tune of 1400 MW. This is approximately2 (two) times what it was five years ago. It is a matter of cheer that the 726 MW OTPC power project located at Palatana in Tripura has now been commissioned to generate and Assam is getting its share to a tune of 200MW which has contributed in reducing demand supply gap. Further, to tide over this shortfall due to increasing demand APDCL is exploring different sources of power. In this endeavor, APDCL has managed to procure power from DVC and NTPC to avoid inconvenience of loads shading to the esteemed consumers.

Till now, Assam is mainly dependent on hydro generations. This is about 60% of the total existing availability. Most of these hydro generators are sourced through Run of the River (RoR) which are solely dependent on the rainfall in the respective catchments areas. It was expected that these hydro generators would pick up to 100% of its capacity during this monsoon. Also, the gas based thermal power stations are generating far below their full capacity due to inadequate supply of gas etc. The total availability of power, at present, is around 1200 MW including State's own generations of about 260 MW.

APDCL is making efforts to minimize this 200 MW deficit by procuring 100-150 MW from the open market.

Assam Electricity Grid Corporation Limited, a vibrant growth oriented Public Sector Company registered under 'Company Act, 1956'. It was formed out of restructured Assam State Electricity Board in 2003 and was notified as the State Transmission Utility (STU). Its core business is to efficiently transport electrical power from electrical power bulk heads to the distribution company networks in the state of Assam. Assam Electricity Grid Corporation Limited inherited 3862 circuit kms of EHV lines above 66 kV voltage class and 38 numbers of EHV sub-stations having a total transformation capacity of 1636.50 MVA at its birth in 2003.

After 2003 with the inclusion of new sub stations and transmission lines its transmission capacity is increased upto 6951 MVA , line length 5707 Ckt kilometer and no. of substation 67 nos, which includes 1 no. 400KV, 12 nos. of 220KV, 54 nos of 132KV substations as on march 2020.

Assam Electricity Grid Corporation Limited has consistently maintained the transmission system availability over 99% which is at par with other National Transmission Utilities.
AEGCL has proposed a scheme "Enhancement of Intra State Transmission System of Assam (AIIB)" which would meet the forecasted load demand up to the year 2026-27 as well as strengthen the existing power network of the state for supply reliable and alternative mode of importing power from outside the region/central utility to meet the inadequate generation of power in the state, which will be funded by the International Funding Institution Asian Infrastructure Investment Bank (AIIB). The loan agreement and project agreement has already been signed.

This project will benefit the state of Assam in the following ways:

1. As per the Nineteenth Electric Power Survey Report of India (conducted by Central Electricity Authority of India) the maximum electricity demand in the state of Assam forecasted upto the year 2026-27 will be 4272MW. The Department of Industries, GoA

projected additional industrial load of 1112 MW in view of the Govt. Of India's vision of Look East policy where extensive promotion of industrial growth will be facilitated.

2. On successful completion of the project Assam Intra State Transmission System Enhancement Project, the power infrastructure of Assam will be able to handle the power demand up to 6160MW against the total projected demand of 5278 MW(4272+1112MW) which will be expected to benefit more than 60 Lakhs consumers of the state ensuring enhancement of availability and reliability of power.
3. This project give emphasis on Govt. of India vision for "24X7 Power for all the people of the country" and sustainable Development goal of the State (access to affordable and reliable power). It would also reduce the transmission loss from 3.375% to 2.81% complying Sustainable Development Goal.
4. These projects would meet the high peak demand of the industries, tea estate, irrigation and small scale industries etc as per the vision of The Govt. of Assam for construction of industrial belt on both side to NH31 & NH 37 which run throughout the state.

1.8 Guidelines on how to use this document

Power department has laid down the frame work, put forth guidelines and lists official rules and directives to be followed by the three companies and inspectorate office of Power Dept. viz APDCL,APGCL,AEGCL &O/o Chief Electrical Inspector, Assam in the event of a natural or man- made disaster. Therefore in the event of declaration of a disaster by the district administration, this plan will be in effect and all the directives, rules and Standards Operation Procedures (SOPs) it refers to must be followed.

The document is divided into 2 Section. Section 1 presents the introduction part, definitions of some commonly used terms and Legal Frame work under the disaster management act 2005.

Section 2, Chapter 2 is introductory chapter of power department and its sub ordinate offices. The chapter has listed out the Organizational structure of the department (Organogram), Research or training facilities, Acts and rules the department implements,

Annual plan budget of the department, Schemes and programmes being implemented by the department., History of disasters faced by the department etc. in details.

Chapter 3, Entitled 'Impact of disasters in the departmentdescribes the Areas Likely to be Affected within Department like Infrastructure and Physical facilities, Connectivity, Communication, Strain on Coping Resources, Governance and Coordination.

Chapter 4summarizes the different strategies involved in Prevention and Mitigation (DRR) activities of the department.

Chapter 5 presents the effective response used for testing the reliability and operability of the preventive and mitigation mechanisms.

Chapter 6 entitled "Rehabilitation" gives a picture about any rehabilitation effort that is being undertaken by power department based on the felt needs of the people.

Chapter 7 "Capacity-building of departmental functionaries" emphasised on the Training Needs Assessment, Structured long-term or short-term training programmes necessary to build capacity, On-line knowledge-sharing platforms like blog sites, solution exchange groups etc.

Chapter 8 "Citizen Engagement"reflects on the objectives of public involvement, and describes key stakeholders and interested citizens and the means of involving them.

Chapter 9 describes Standard Operating Procedures of the Department personnel and their role and responsibilities in curbing any kind of Disaster and minimizing its Impact on the Department.

Chapter 10 is about supervision of the knowledge management activities of the Power Department.

In the plan a Road MAP with tentative time frame is also provided as a guiding principle and approaches to implement the specific action. The Road map not only deals with

strategies for preparedness for effective response and recovery' but also help towards building a **"Safer Assam in Power Sector".**

At the end some of the important details are attached as Annexures.

2 Section 2- Department Profile

The Department of Power, Government of Assam is primarily responsible for providing adequate and quality power to the people of the State. To achieve this objective, the Department formulates policies and programmes and monitors implementation thereof to achieve the objective of providing power to the state. The Department provides a legal and policy framework for smooth functioning of the delivery system and coordinated development of the power sector in the state.

2.1 Organizational Structure

The Department of Power is under the overall incharge of the Minister for Power, Government of Assam. Principal Secretary is the administrative head of the Department. He is assisted by Commissioner Secretary, Joint Secretaries, Deputy Secretary, Superintendent and other government staff in discharging the functions of the Department.

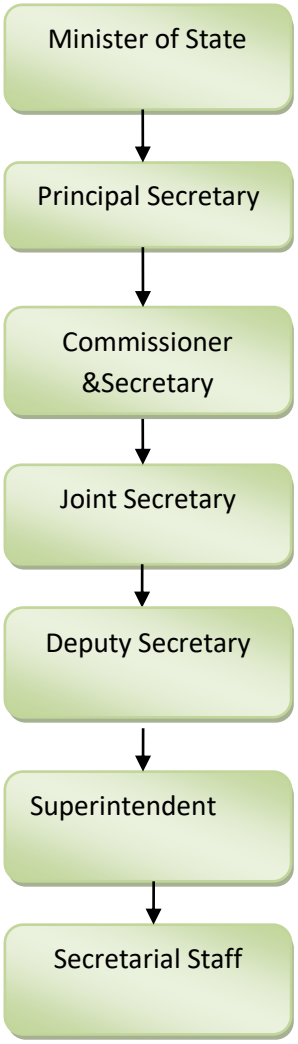
The Department carries out its responsibility in the field through the Assam State Electricity Board and its successor companies i.e.,

a. Assam Power Generation Co. Ltd.,
b. Assam Electricity Grid Corporation Ltd
c. Assam Power Distribution Co. Ltd.,

The power safety and power conservation measures are implemented through ***Directorate of Electricity headed by Chief Electrical Inspector -cum- Adviser to the State Government***. To regulate the power generation, transmission and distribution as per the provisions of the Electricity Act, 2003, Assam Electricity Regulatory Commission has been constituted which carries out its functions as envisaged in the Act.

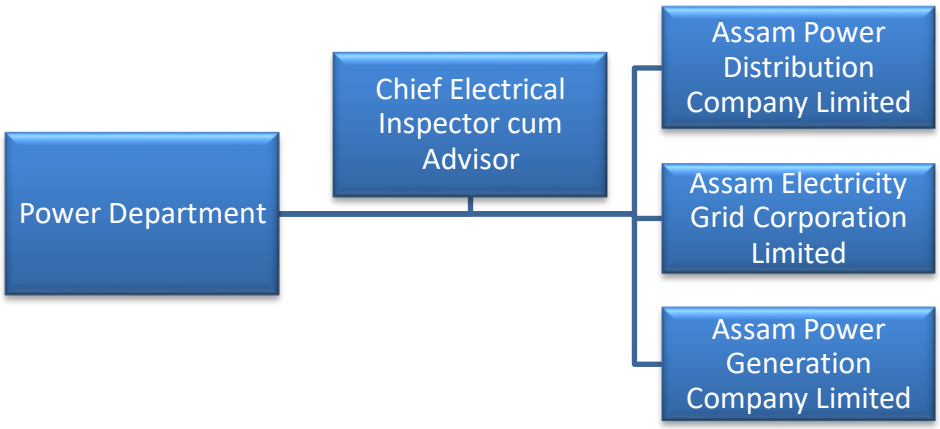
Source(http://assam.gov.in/web/power-department)

2.2 Organ gram of Power Department*



*(Structure as on April 2021)

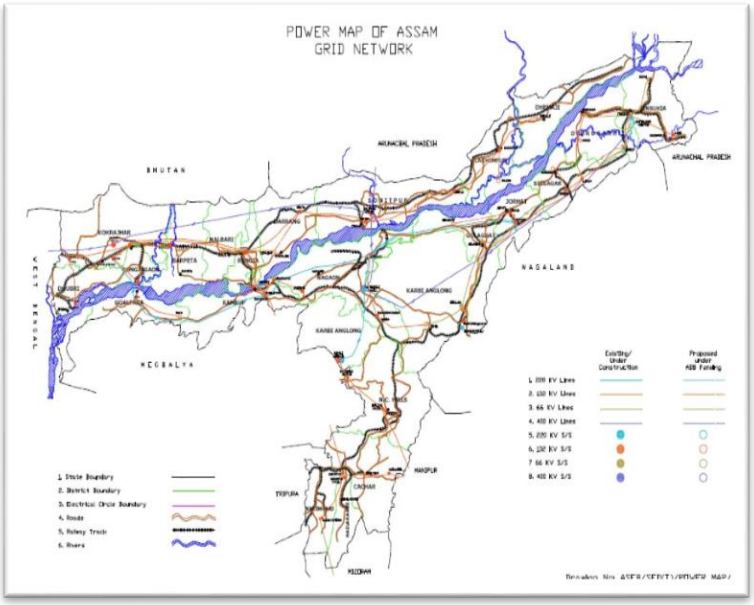
2.3 Structure of Power Department

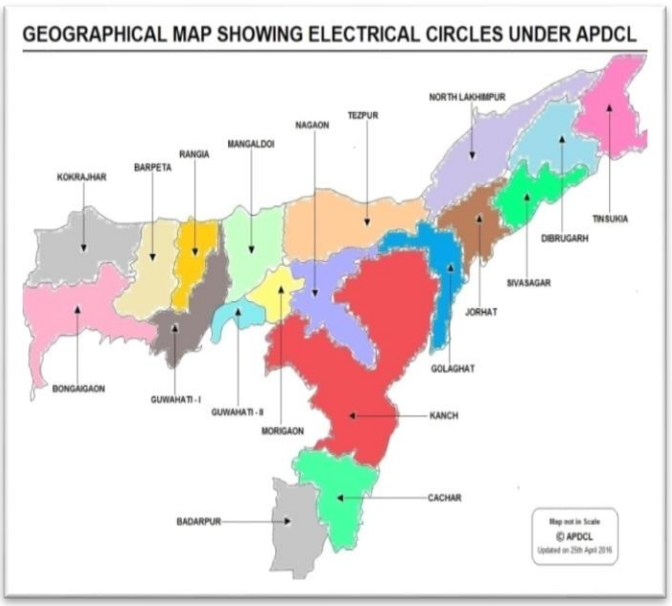


2.4 Introduction-Assam Power Distribution Company Limited (APDCL)

As per " Indian Electricity Act 2003" the erstwhile ASEB was unbundled into three distinct entities as 1)AEGCL,2)APDCL & 3)APGCL entrusting with the responsibilities of power transmission ,distribution and generation respectively.

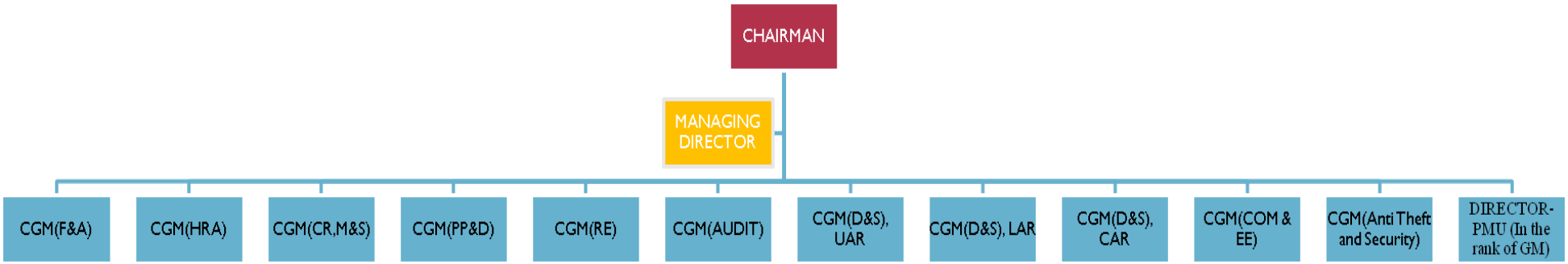
The Head Office of APDCL is situated at Bijulee Bhawan, Paltan Bazar,Guwahati-781001. The



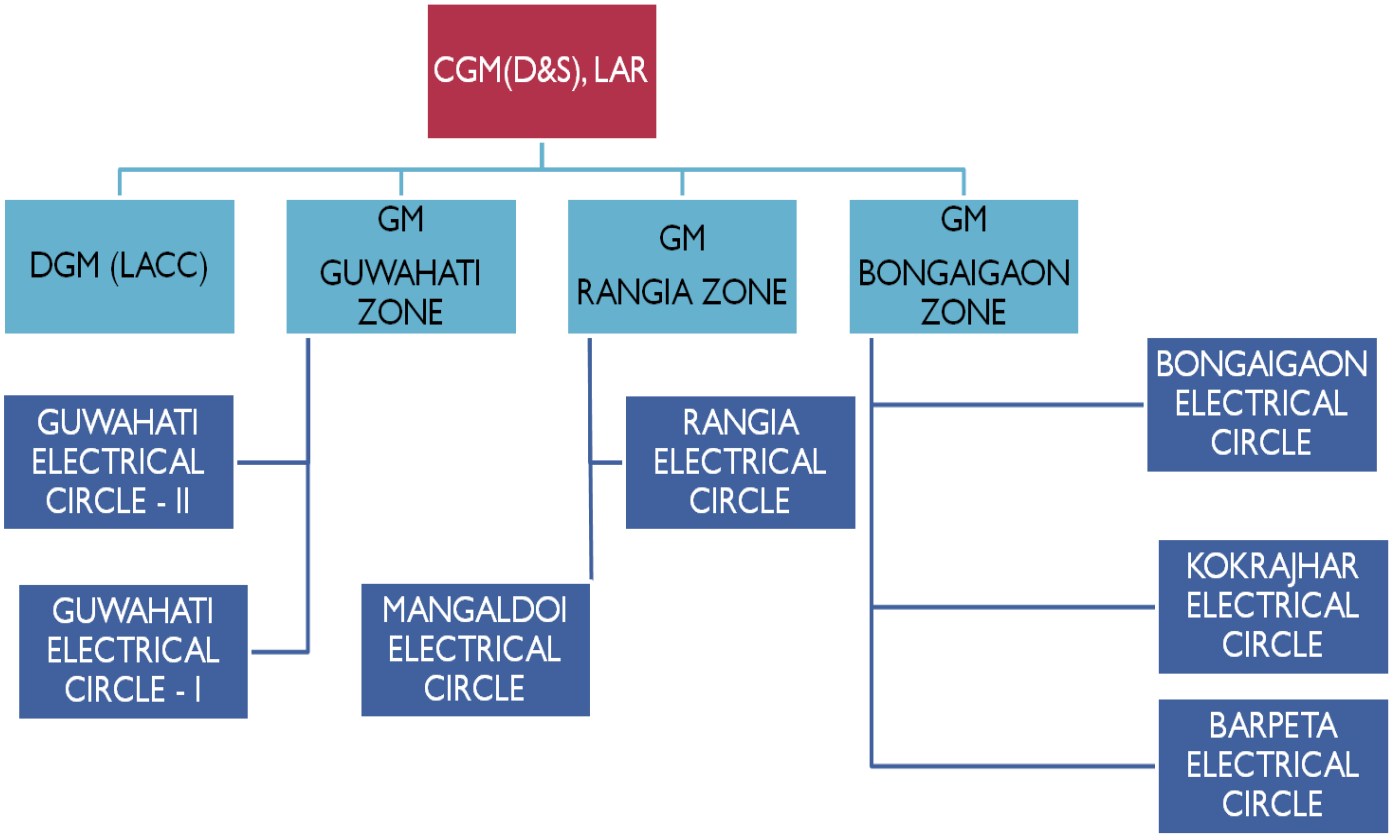


company is headed by the Chairman and the Managing Director. The functional jurisdiction of APDCL has been divided into three regions as i) Upper Assam Region, ii) Lower Assam Region and iii) Central Assam Region .Each region is headed by a Chief General Manager. Under each region there are few zones which are headed by the General Managers. Dibrugarh has a zone consisting of two electrical circles (Dibrugarh & Tins

Corporate organizational structure

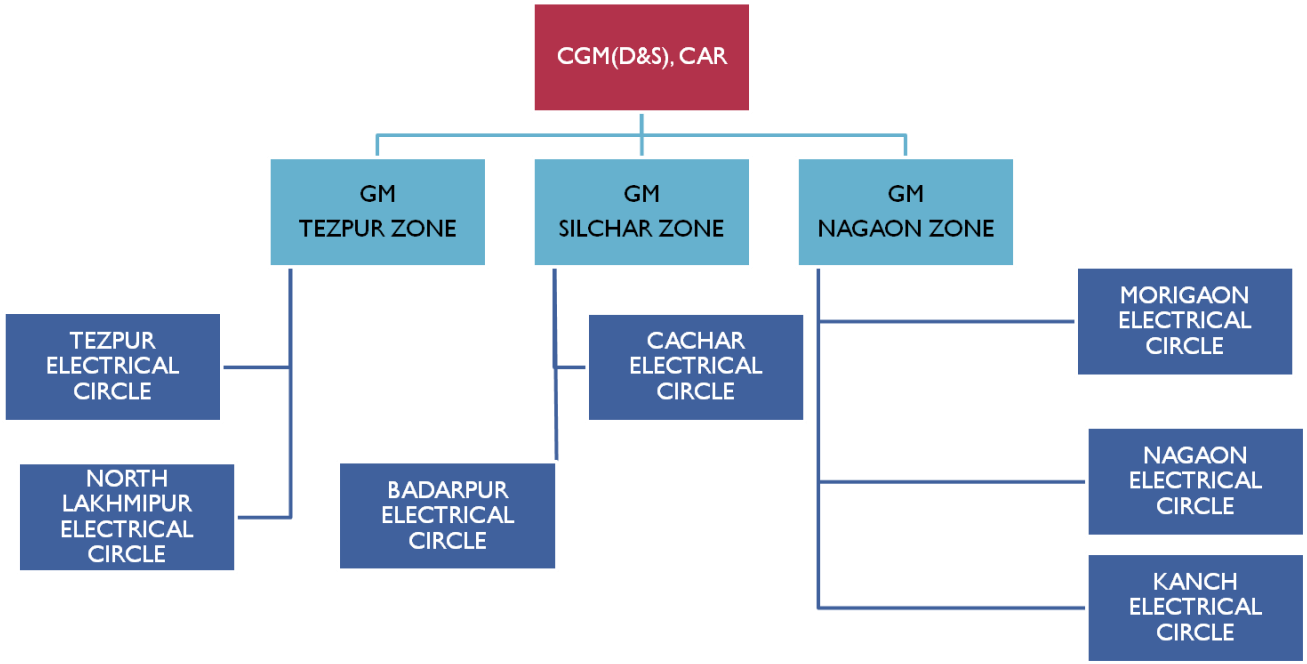


DISTRIBUTION WING – LOWER ASSAM REGION (LAR)

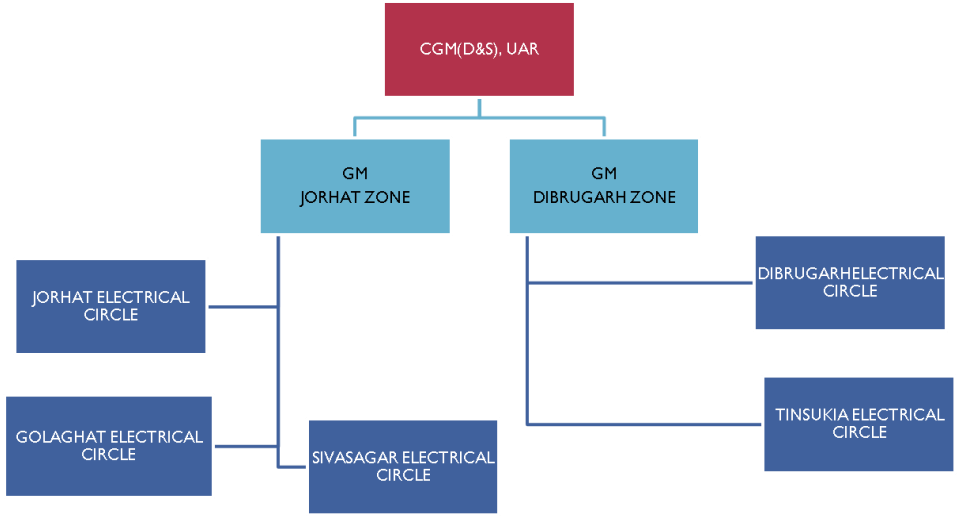


DISTRIBUTION WING – LAR oversees all the matters related to transmission , distribution, maintenance and revenue collection in LAR, APDCL

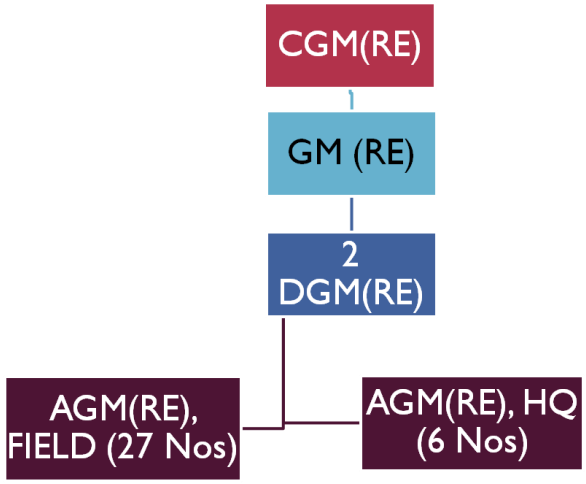
DISTRIBUTION WING – CENTRAL ASSAM REGION (CAR)



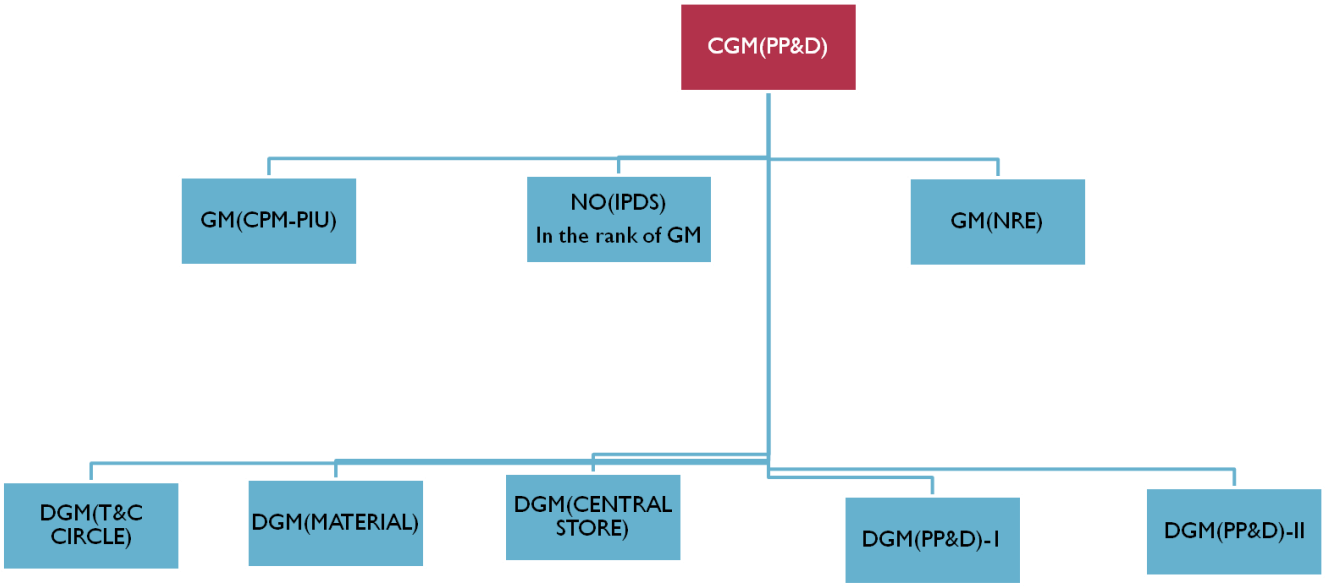
DISTRIBUTION WING – UPPER ASSAM REGION (UAR)



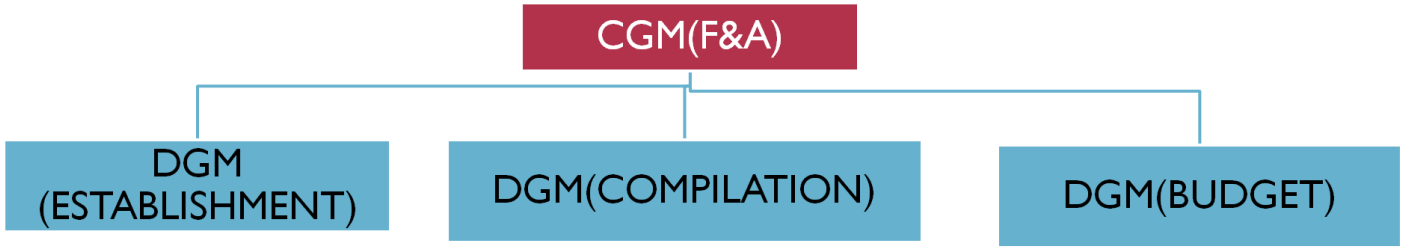
RURAL ELECTRIFICATION WING



PROJECT PLANNING & DEVELOPMENT WING

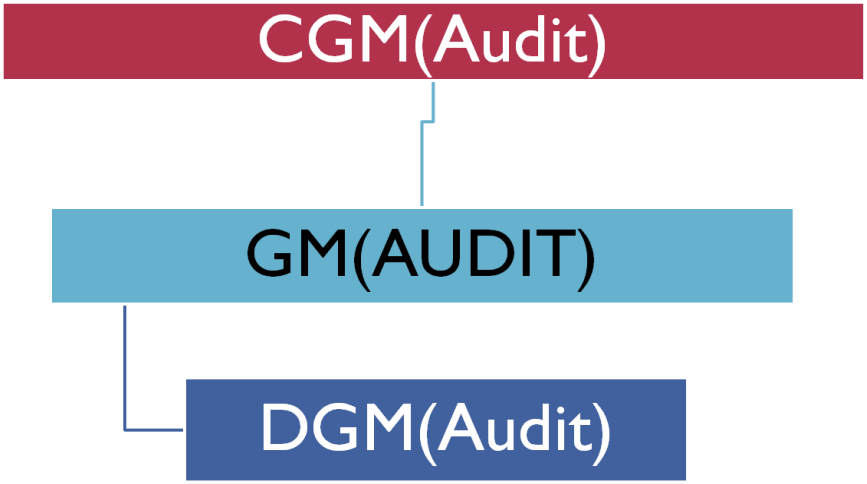


FINANCE AND ACCOUNTS WING



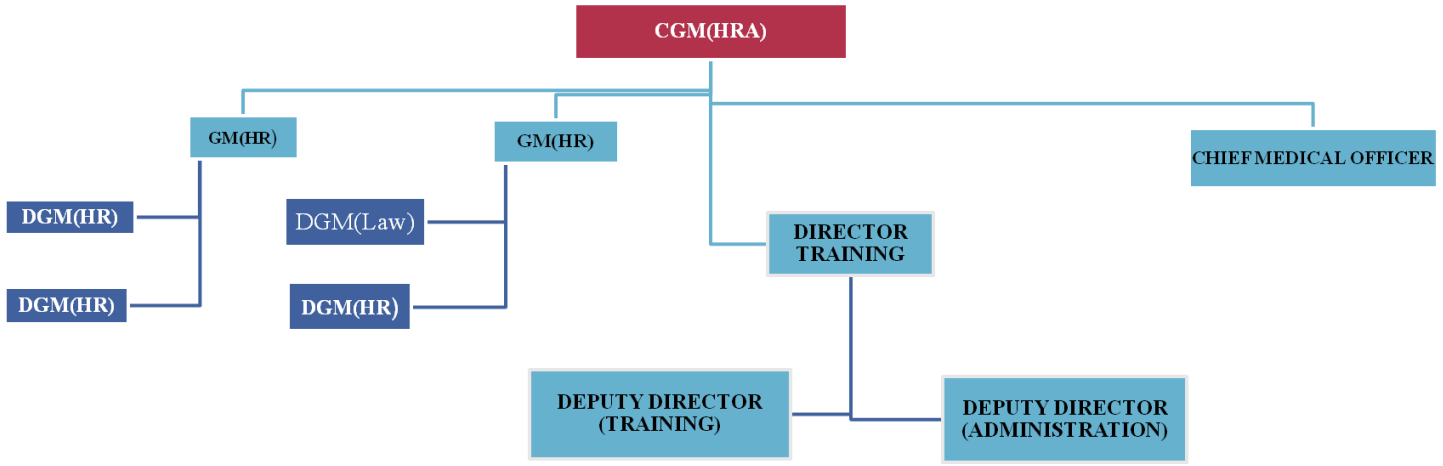
F&A Wing oversees all the functions related to the Financial & Accounting functionaries of APDCL and their manpower is being posted in almost all the establishments of APDCL

Audit WING



Audit Wing oversees all the functions related to the Internal Audit of APDCL

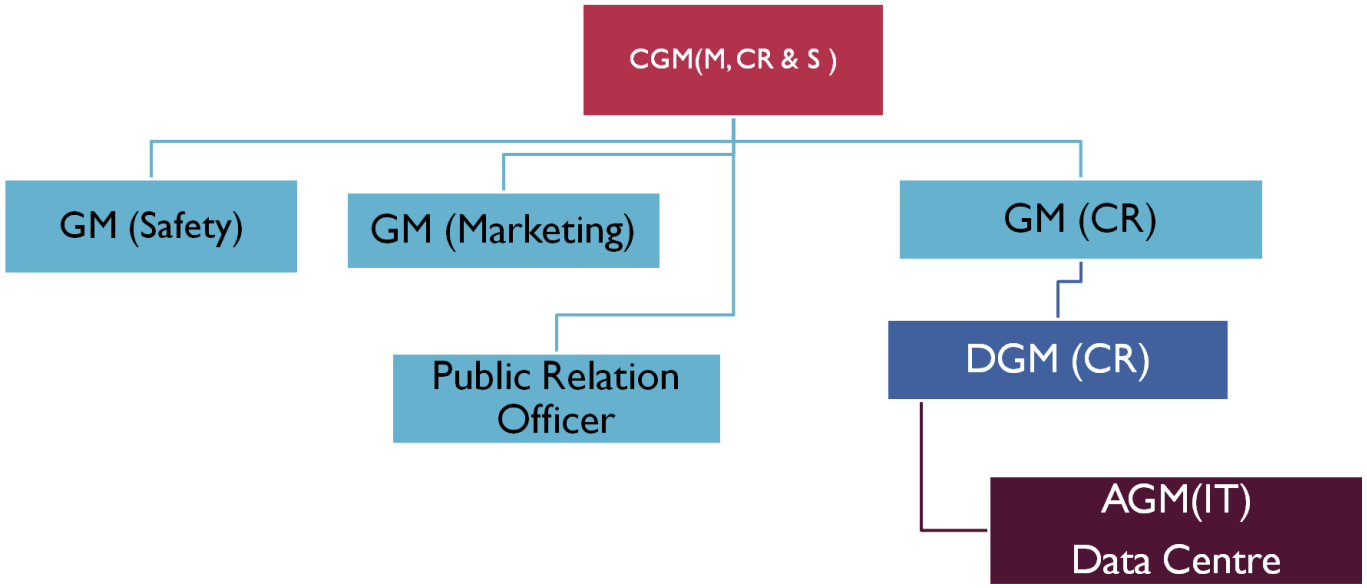
Human resources WING



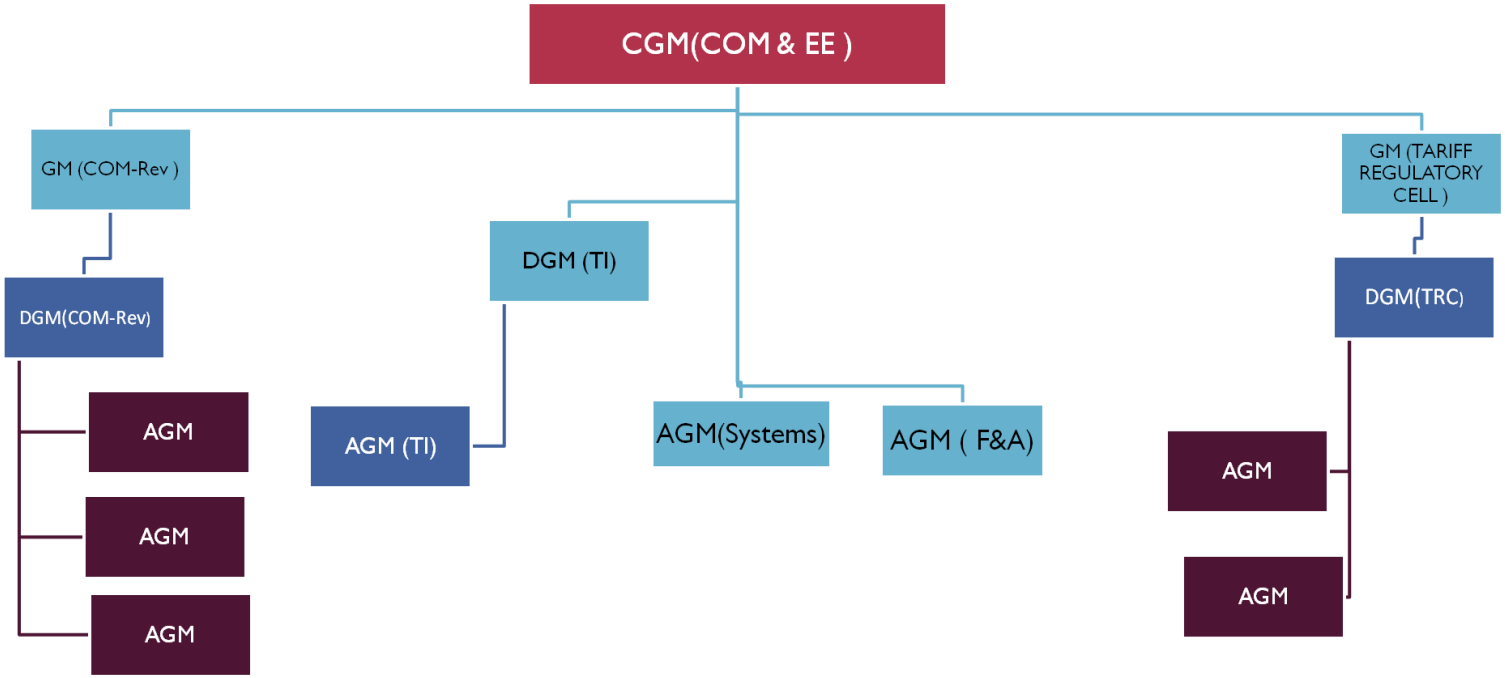
Human Resource Wing oversees all the matters related to the Employee Welfare, administration, development, growth as well as Legal, industrial Relation, Establishment Matters, Employee

DIRECTOR TRAINING OVERSEES ALL THE MATTERS RELARTED TO IN-HOUSE TRAINING OF APDCL

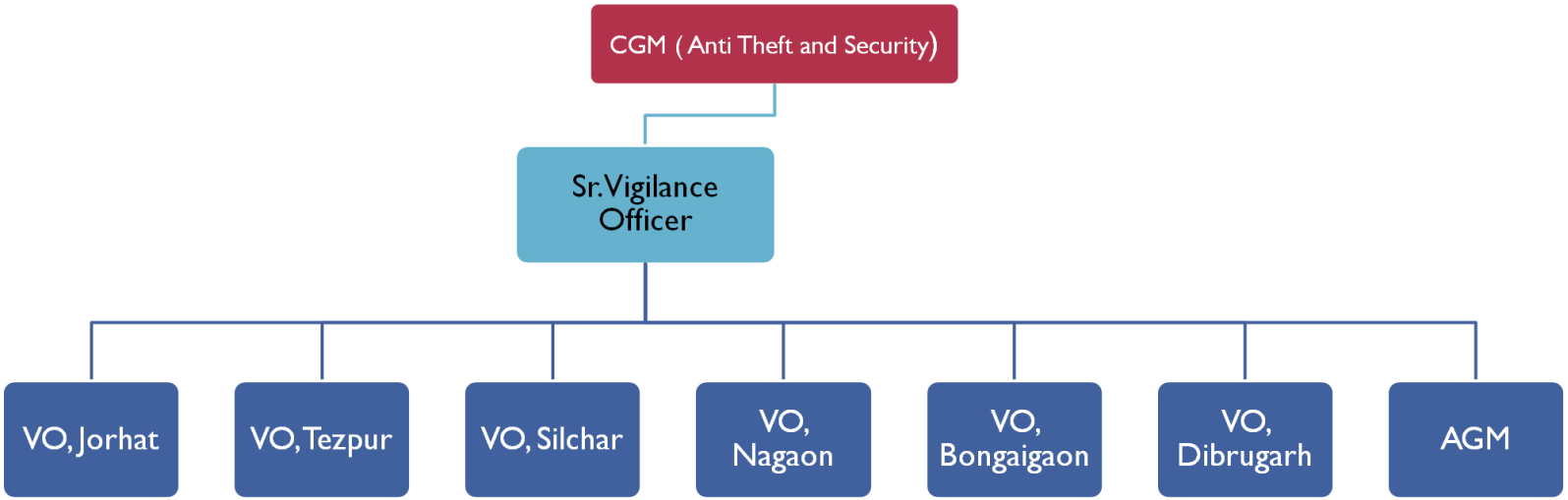
Customer relations, marketing and safety WING



COMMERCIAL WING



VIGILANCE WING



ASEB Special Police station

1. **KOKRAJHAR**
2. **DHUBRI**
3. **NALBARI**
4. **GUWAHATI**
5. **MANGALDOI**
6. **SILCHAR**
7. **NAGAON**
8. **GOLAGHAT**
9. **JORHAT**
10. **DIBRUGARH**
11. **TEZPUR**
12. **LAKHIMPUR**

2.5 Introduction- Assam Electricity Grid Corporation Limited (AEGCL)

Assam Electricity Grid Corporation Limited, a vibrant growth oriented Public Sector Company registered under 'Company Act, 1956'. It was formed out of restructured Assam State Electricity Board in 2003 and was notified as the State Transmission Utility (STU). Its core business is to efficiently transport electrical power from electrical power bulk heads to the distribution company networks in the state of Assam. Assam Electricity Grid Corporation Limited inherited 3862 circuit kms. of EHV lines above 66 kV voltage class and 38 numbers of EHV sub-stations having a total transformation capacity of 1636.50 MVA at its birth in 2003. Since its inception, it has added 1584 circuit kms of EHV lines and has added 4125 MVA transformation capacity by way of commissioning 17 new EHV sub-stations and augmenting existing sub-stations. It has also added Reactive Power Compensation at 33 kV bus to the tune of 285 MVAR. Assam Electricity Grid Corporation Limited had also added one 400/220 kV Grid Substation and One 220/33 kV GIS Sub Station during the preceding years.Assam Electricity Grid Corporation Limited is playing a strategic role as it is the largest 'STU' in NE region. It also understands its responsibility towards the entire North East India and is always extending a helping hand by way of transporting a fair share of power to the other sister states of the region.

Assam Electricity Grid Corporation Limited has consistently maintained the transmission system availability over 99% which is at par with other National Transmission Utilities.Assam Electricity Grid Corporation Limited vows to ever strive till all transmission bottlenecks get eradicated. It pledges to deliver unrelenting brilliance in performance, deliver power efficiently but economically, show high safety standards and is committed to respect environmental and heritage issue Assam Electricity Grid Corporation Limited inherited 3862 circuit kms. of EHV lines above 66 kV voltage class and 38 numbers of EHV sub-stations having a total transformation capacity of 1636.50 MVA at its birth in 2003. Since its inception, it has added 1584 circuit kms of EHV lines and has added 4125 MVA transformation capacity by way of commissioning 17 new EHV sub-stations and augmenting existing sub-stations. It has also added Reactive Power Compensation at 33 kV bus to the tune of 285 MVAR. Assam Electricity Grid Corporation Limited had also added one 400/220 kV Grid Substation and One 220/33 kV GIS Sub Station during the preceding years.

Mission:

1. Transmission of power in large quantity with affordable price as per the expectation of customers, Government of Assam and AERC.

2. Increase transmission network need based to meet demand of the State in 2022.

3. Adoption of best Construction and O&M practices supported by system driven processes enabled by cutting age IT solutions

4. Diversification of business in providing consultancy on construction and maintenance services and entering business in Telecommunication and other emerging areas so as to achieve optimum utilization of assets and generation of additional revenue

5. Develop skilled and satisfied human resources, fostering a service oriented attitude to its stake holders and empowered to meet need in the changing scenarios.

6. Building Research and Development wing for adoption of new technology.

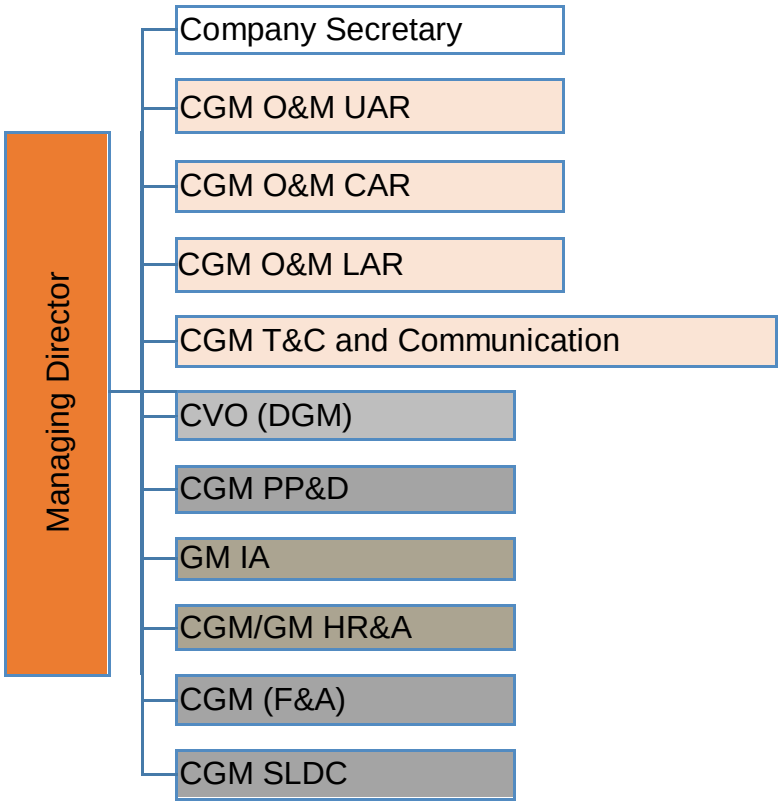
7. Discharge the social responsibility with commitment on Environment Protection, Health, Safety, Energy conservation and Community Development.

8. To establish as one of the transparent entity in the Country with total honour to Whistle Blower Policy.

Organizational structure of AEGCL

APPROVED ORGANIZATION STRUCTURE OF AEGCL IN THE 82THMEETING OF THE BOARD OF DIRECTORS OF THE COMPANY HELD ON FRIDAY, THE 22ND DAY OF JANUARY 2021

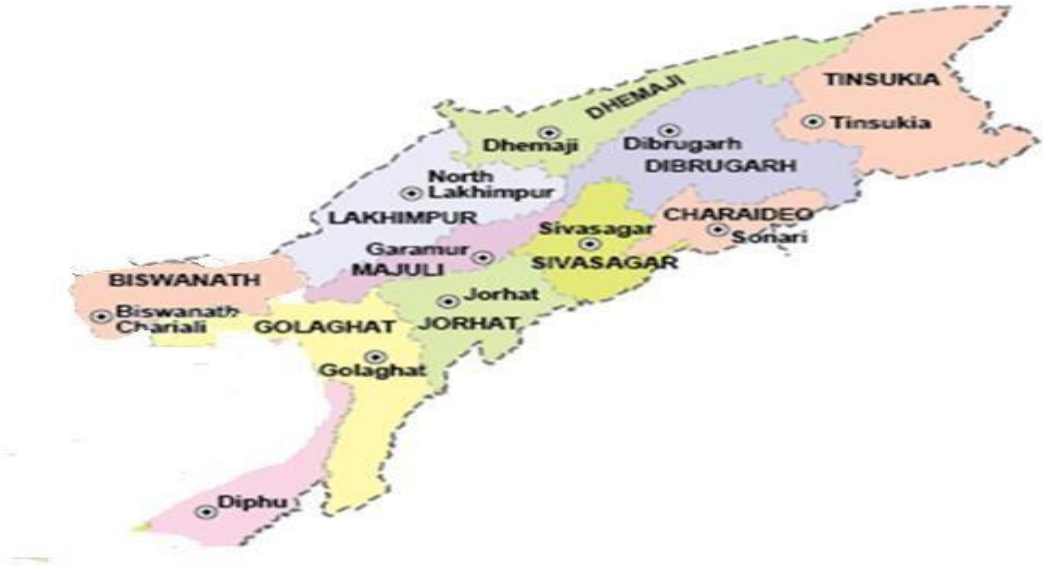
1. CORPORATE STRUCTURE



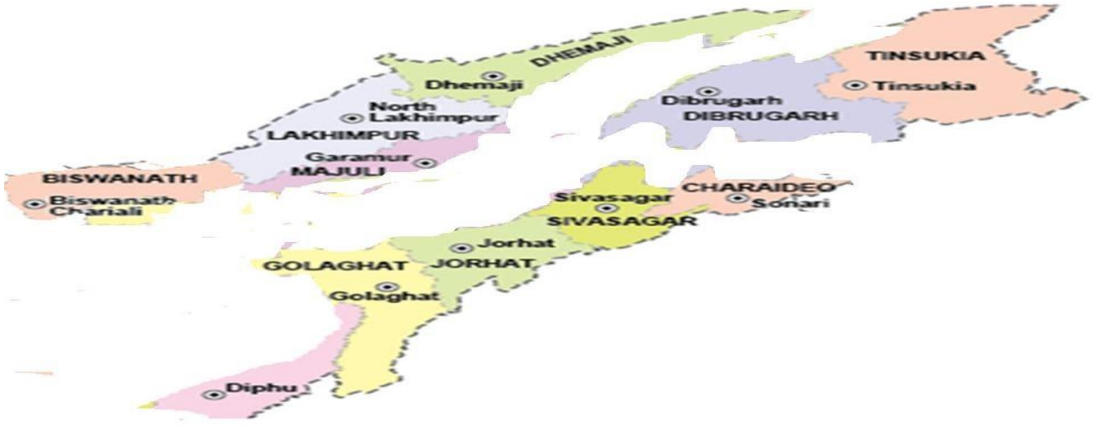
2. OPERATION & MAINTENANCE WING:

a. STRUCTURE OF OPERATION & MAINTENANCE, UAR:

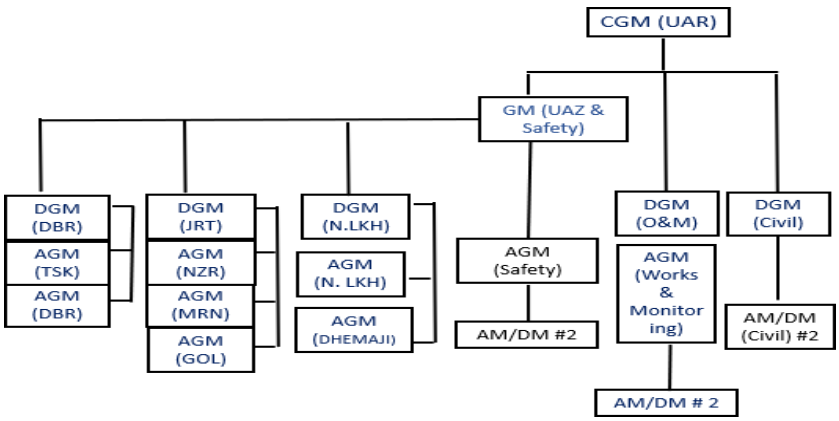
i. Jurisdiction of CGM (O&M), UAR in the Map:



ii. Circles under CGM, O&M, UAR in the Map:



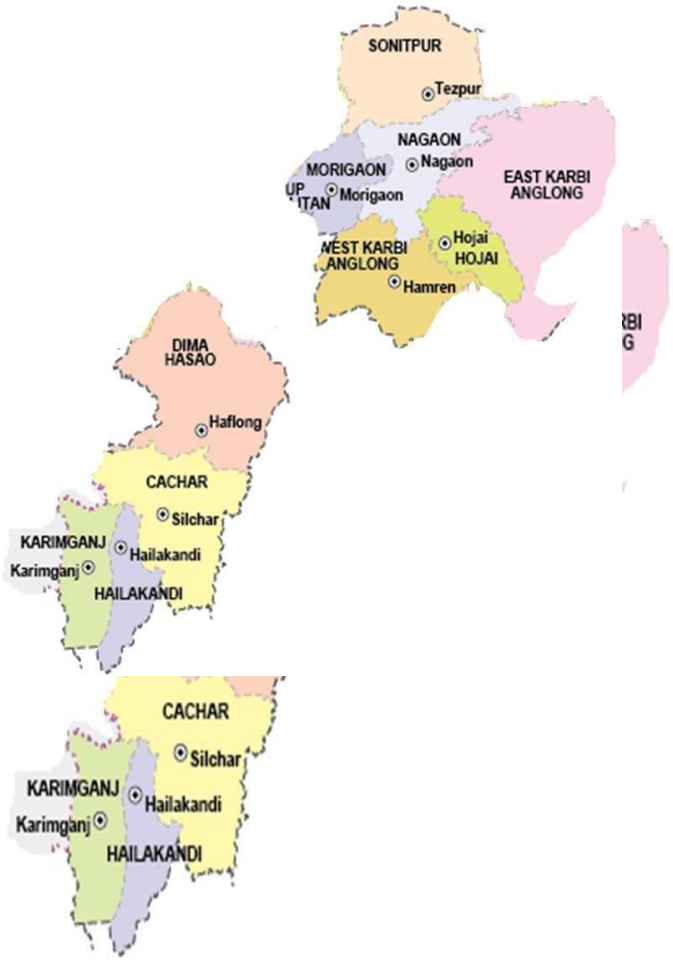
iii. Organizational Structure of CGM, O&M, UAR:



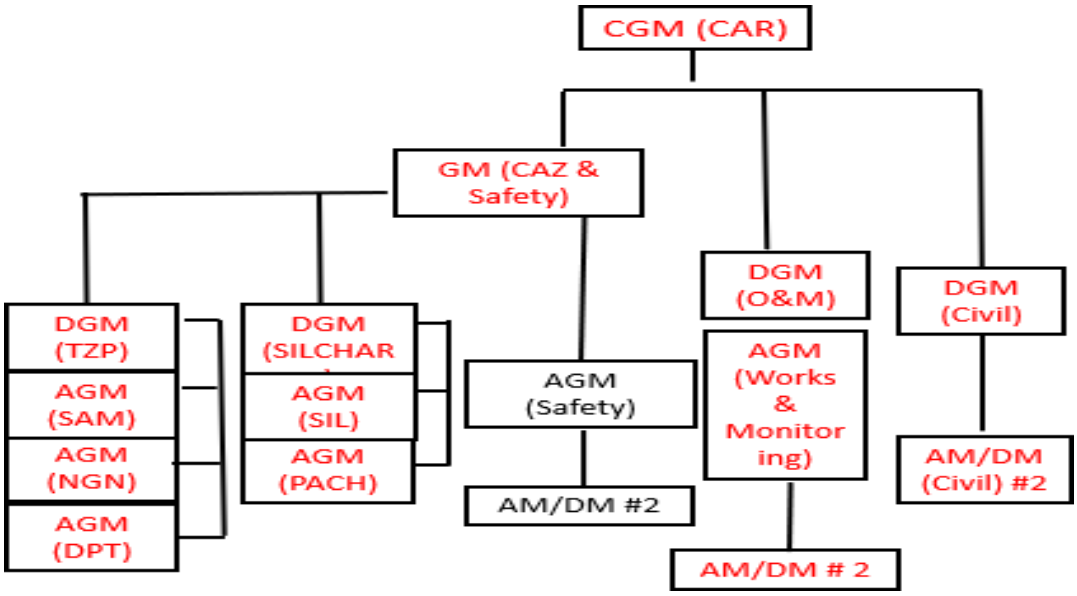
b. STRUCTURE OF OPERATION & MAINTENANCE, CAR:

i. Jurisdiction of CGM (O&M), CAR in the Map:

ii. Circles under CGM, O&M, CAR in the Map:



iii. Organizational Structure of CGM, O&M, CAR:

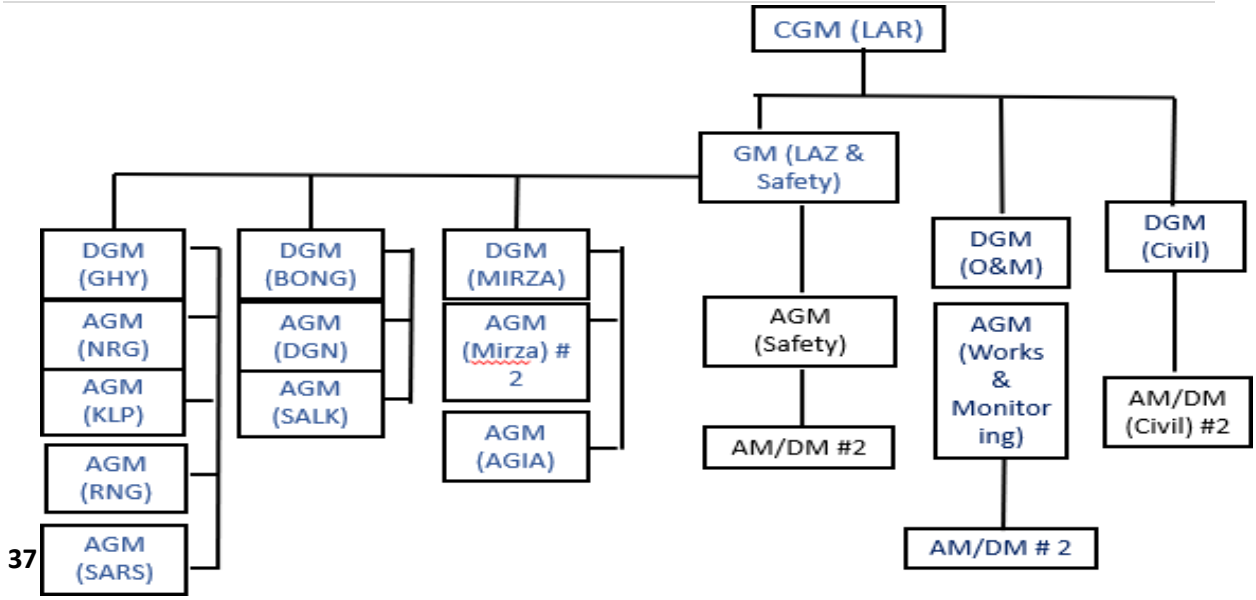


c. STRUCTURE OF OPERATION & MAINTENANCE, LAR:

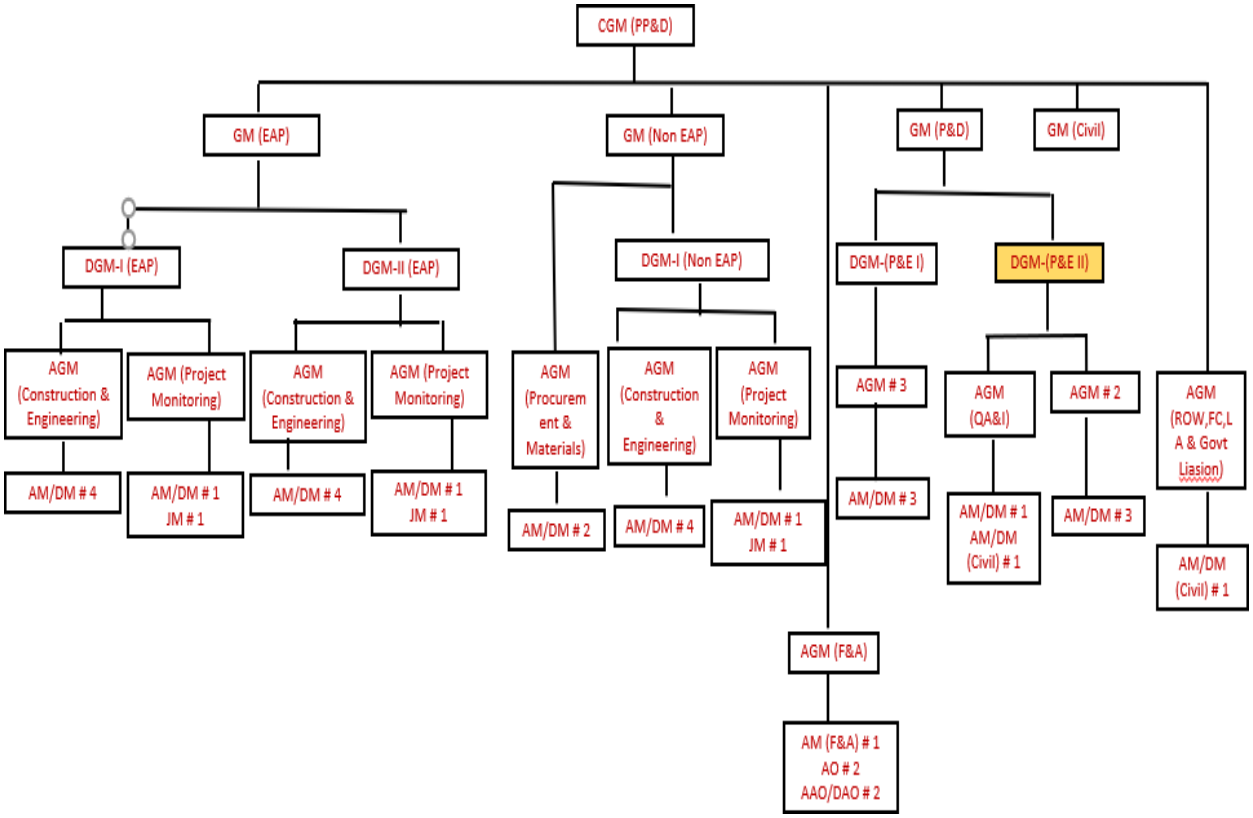
i. Jurisdiction of CGM (O&M), LAR in the Map:

ii. Circles under CGM, O&M, LAR in the Map:

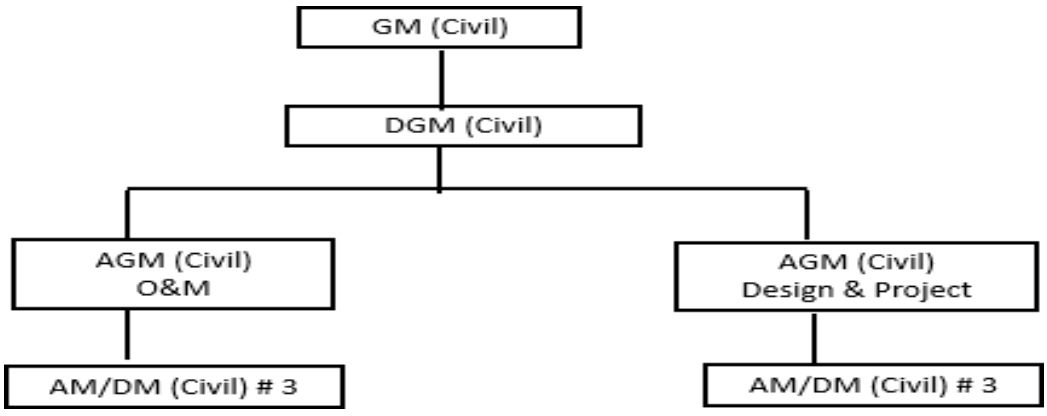
iii. Organizational Structure of CGM, O&M, LAR:



3. STRUCTURE OF PROJECT PLANNING &DEVELOPMENT WING:

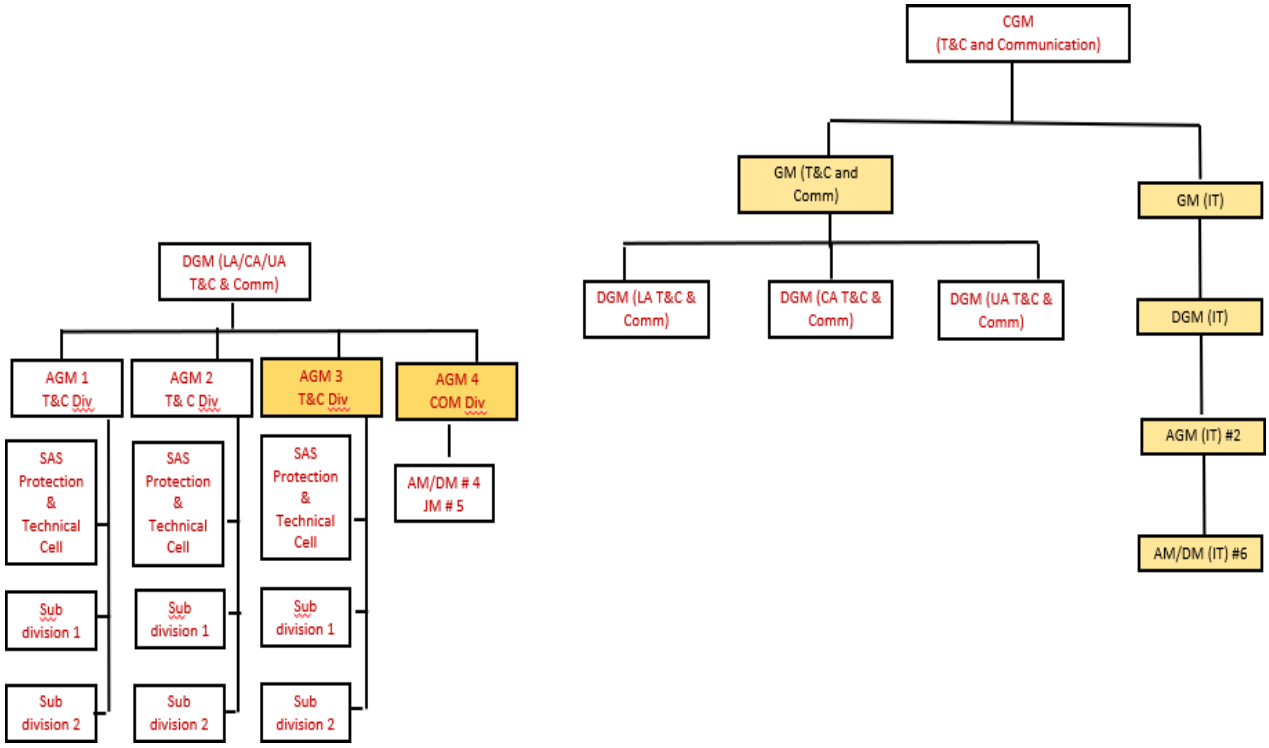


3.1. STRUCTURE OF CIVIL WING UNDER PP&D

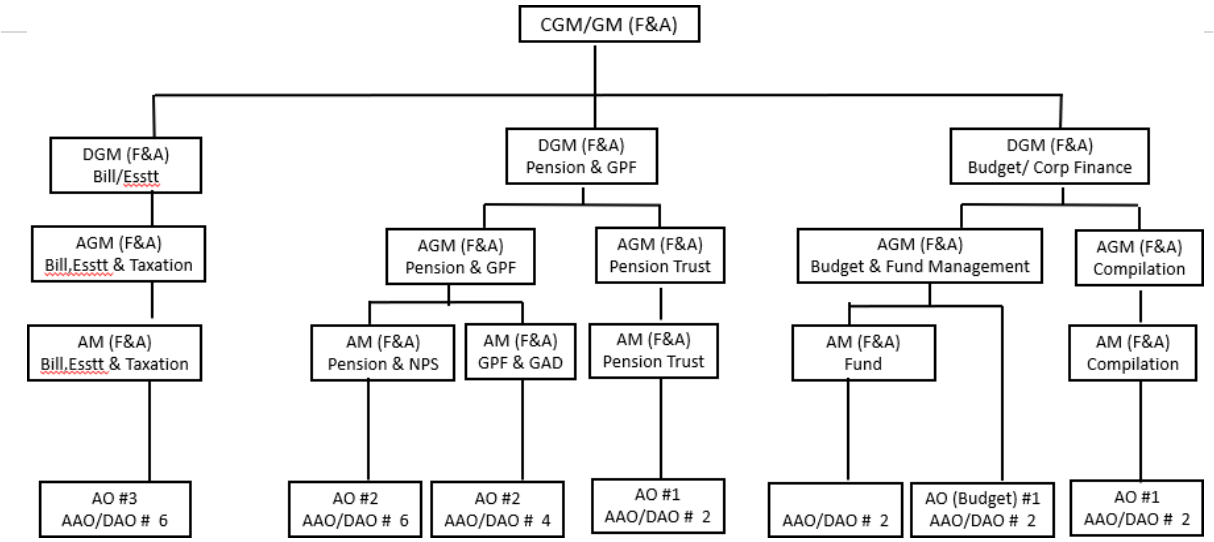


4. TESTING, COMMISSIONING &COMMUNICATION WING:

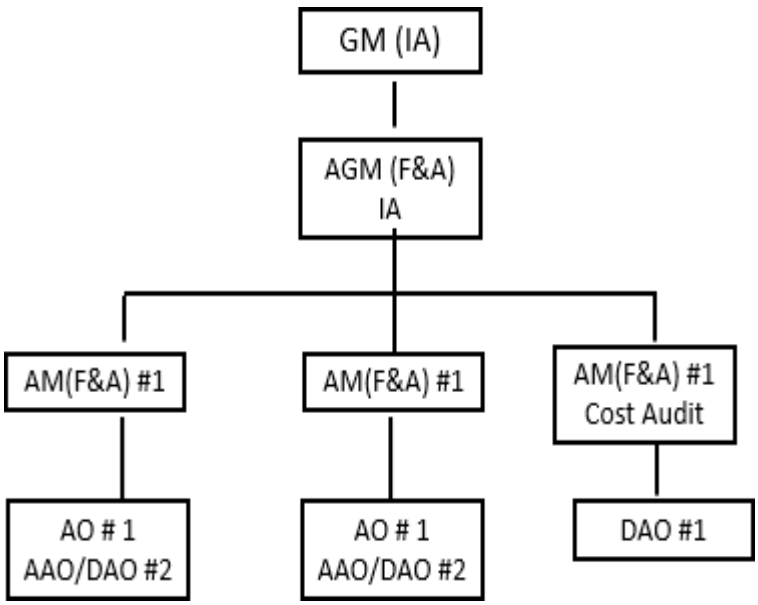
a. Structure:



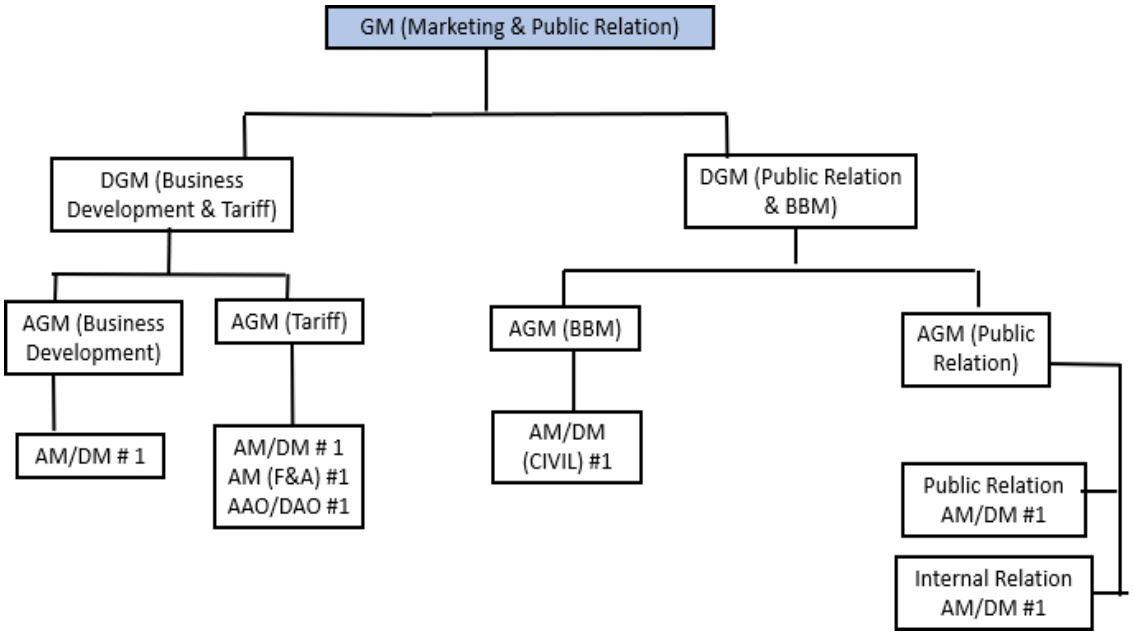
5. STRUCTURE OF FINANCE & ACCOUNTS WING:



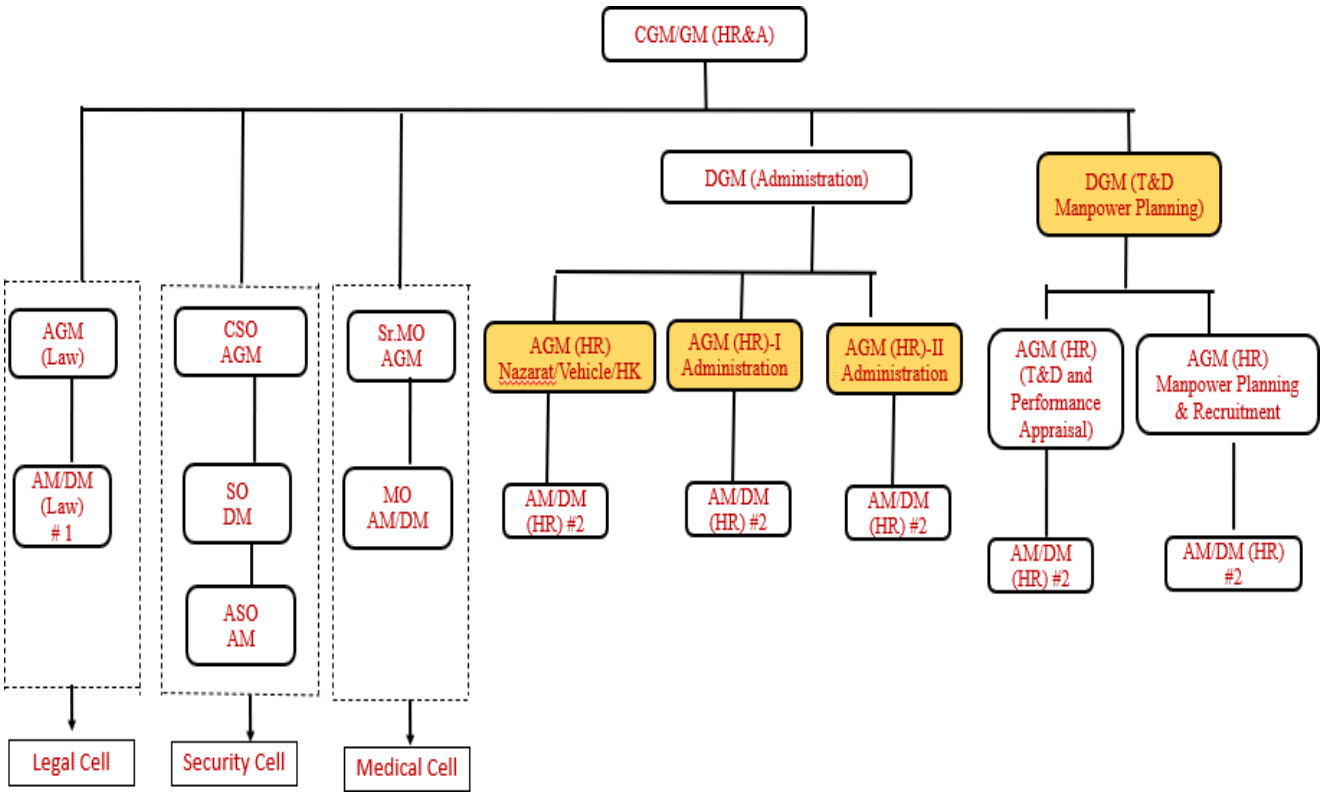
6. STRUCTURE OF INTERNAL AUDIT WING:



7. STRUCTURE OF MARKETING & PUBLIC RELATION WING:



1. STRUCTURE OF HUMAN RESOURCE AND ADMINISTRATION WING:



.6 Introduction-Assam Power Generation Corporation Limited

Assam Power Generation Corporation Ltd. (APGCL) was constituted after unbundling of ASEB in Dec 2004 through State Power Sector Reform Programme under the provision of Electricity Act'2003. The certificate of commencement of business was obtained w.e.f. 29th April 2004. The final Transfer scheme was implemented on Aug'2005 with a new Company Balance Sheet w.e.f. April 2005. The company is mainly responsible for maximum energy generation to meet up the energy demand in the state.

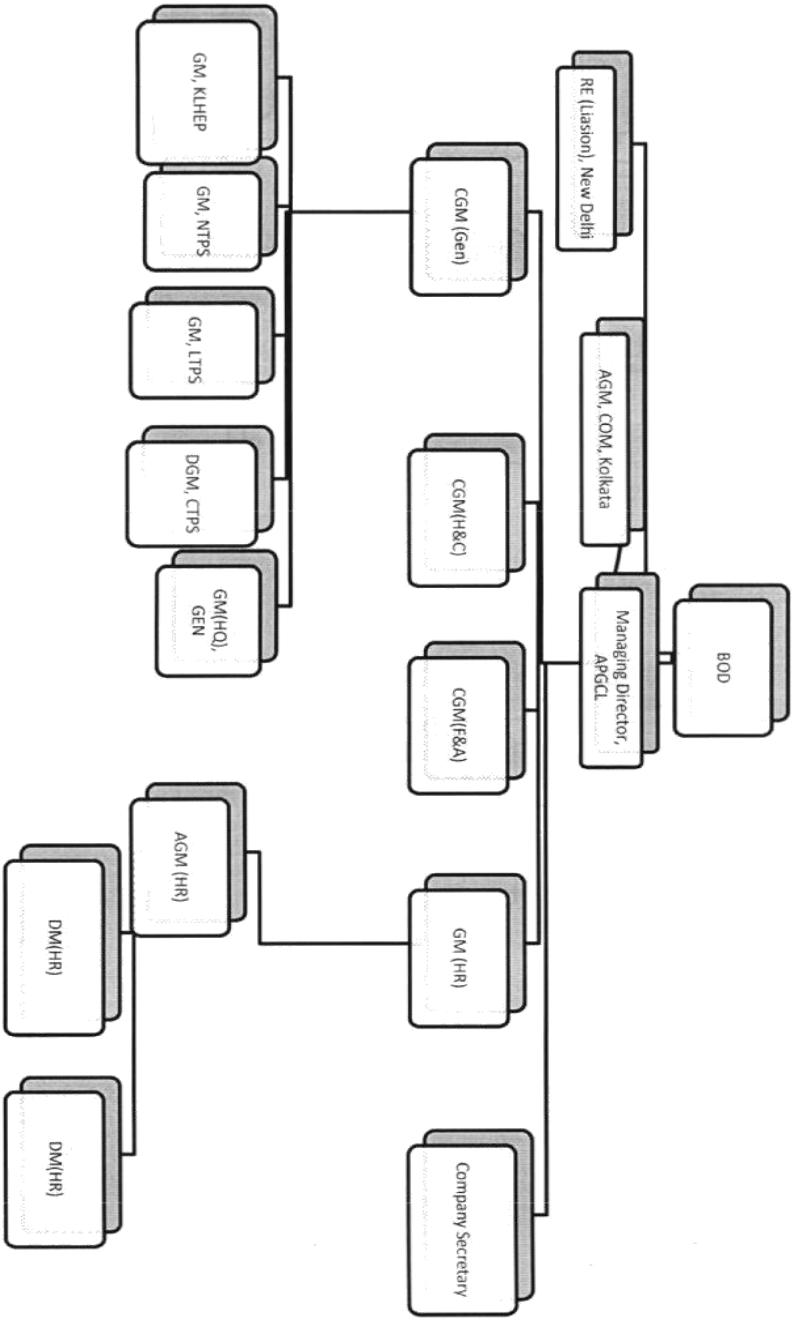
Key Objectives:

1. Adequate availability of power by developing new Power Projects.
2. Human Resources Development /Management -Reduction of Establishment cost.
3. To avoid cost and time overruns on the schemes under execution through effective monitoring Systems.
4. Best practices for R&M (Repair & Maintenance) of Power Houses & Electrical Infrastructure to improve quality and reliability of power

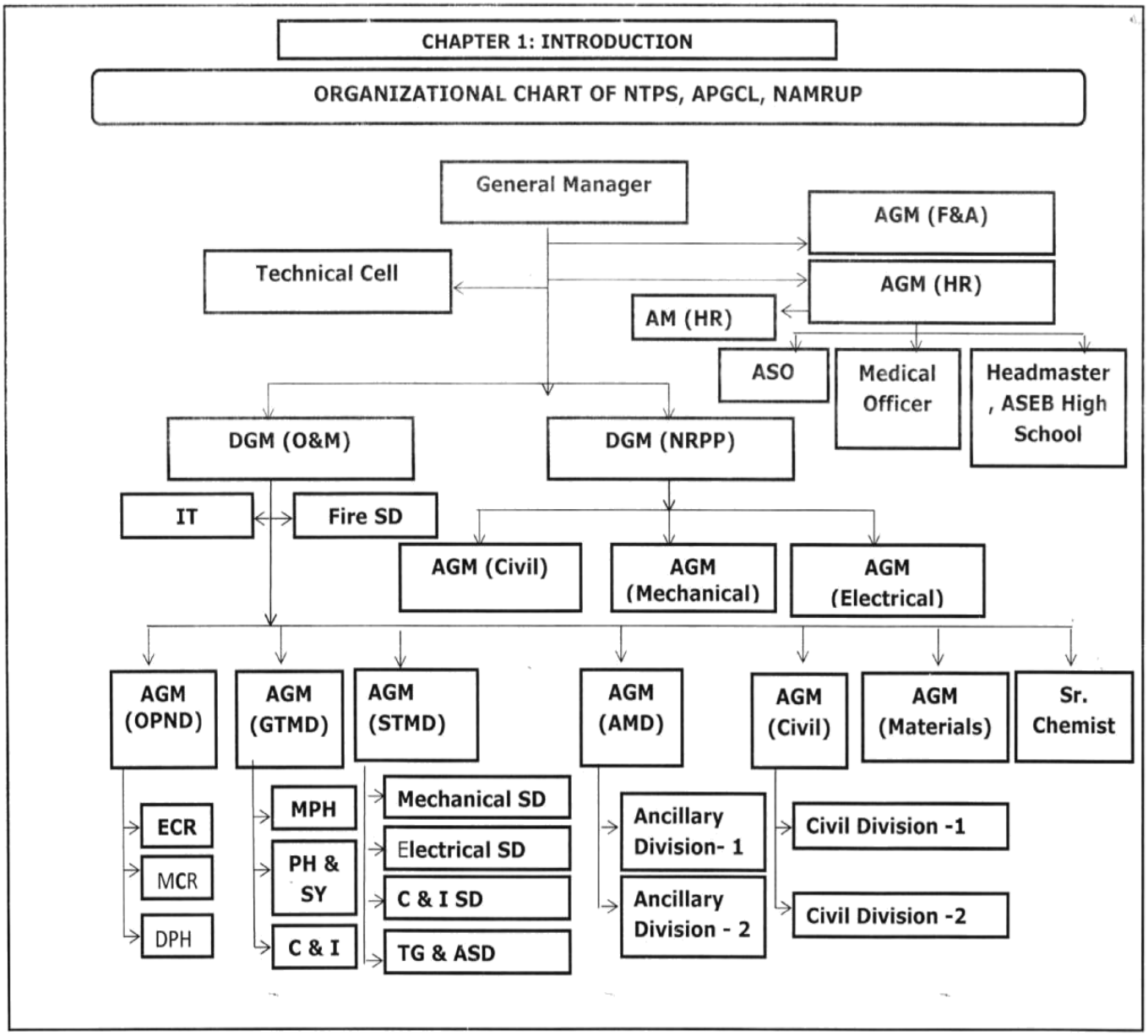
Mission:

To provide environment friendly, quality and reliable power to all sections of the society, by creating a value based, customer centric, employee oriented organization, with an aim to enhance the standard of life of the society in which the organization operates

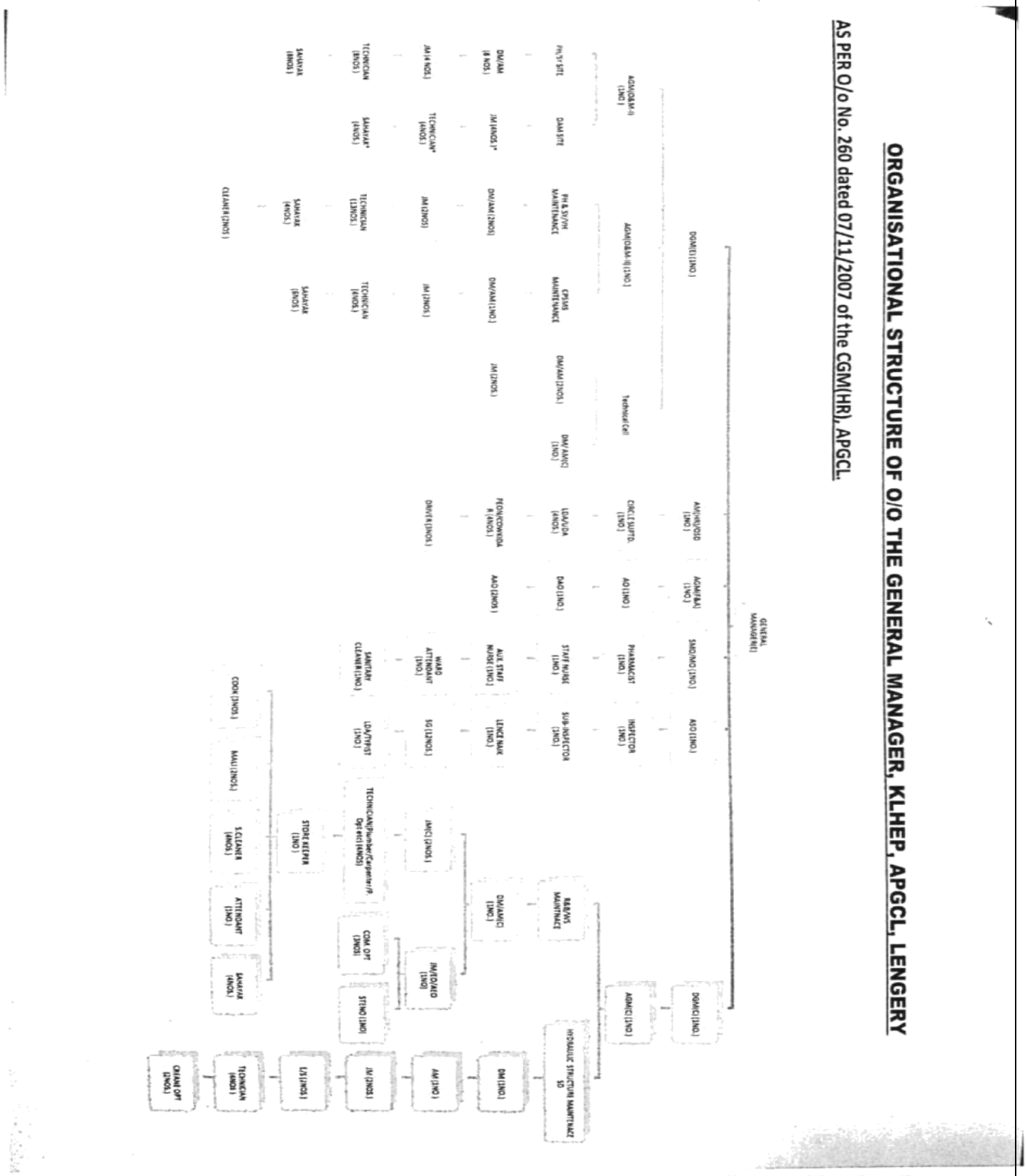
Organizational structure of APGCL



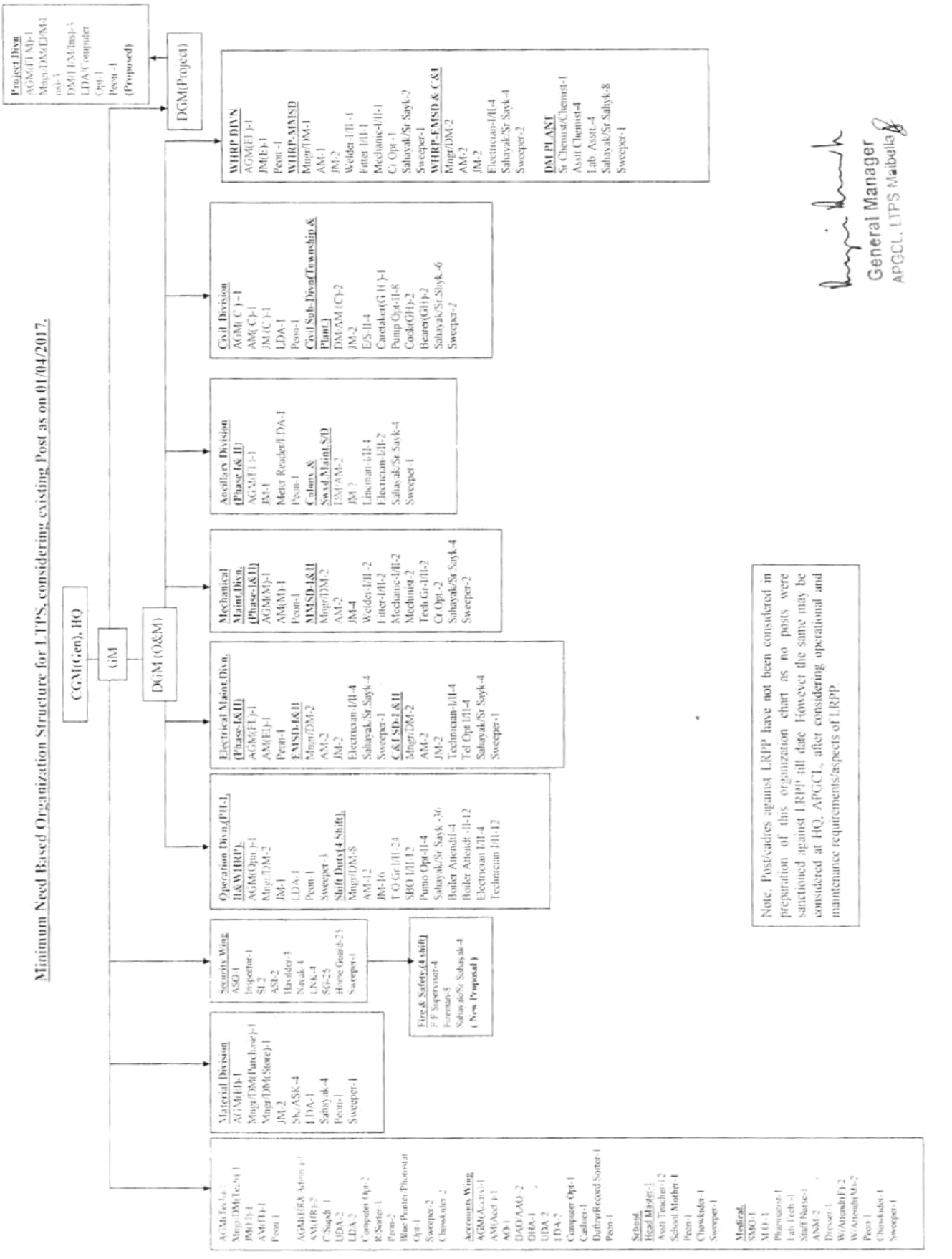
Organizational structure of APGCL- NTPS



Organizational structure of APGCL- KLHEP



Organizational structure of APGCL- LTPS



2.7 Introduction- Inspectorate of Electricity Office

Inspectorate of Electricity, Assam under the Power (Electricity) Department, Government of Assam is the one and only Directorate Level establishment under direct control of the Government of Assam, with the Chief Electrical Inspector -cum- Adviser (CEIA) as the Head of the Directorate.

The Inspectorate is one of the oldest directorate of the Govt. of Assam, originally started functioning since 1930s. After shifting of capital from Shillong, it started functioning in Guwahati since last 35 Years. Now, the Head Quarter Office of the Inspectorate is situated at its own office accommodation at 1st floor, West End Block of HOUSEFED Complex, Dispur, Guwahati – 781 006, Assam.

The Inspectorate of Electricity also has four (4) Zonal Offices at Silchar, Tezpur, Jorhat and Dibrugarh. The entire Inspectorate is under NON-PLAN and there is no Plan Scheme in so far as it is concerned. Presently the Inspectorate does not execute any project work but is concerned with administration of the Electricity Act/Rules, Lift and Escalators Act/Rules to ensure safety in the field of electricity.

The CEIA is the Chief Electrical Inspector and Addl.CEIA/Dy.CEIs/Sr.EIsare Electrical Inspectors under provision of the Electricity Act, 2003. Similarly, they are Chief Inspector and Inspectors of Lifts and Escalators under provision of the Assam Lifts and Escalators Act, 2006.

The CEIA has certain Advisory functions such as technical scrutiny and forwarding of proposals for load sanction (above 2000 KW) received from the APDCL to the Govt., as required under the Assam Electrical Energy (Regulation and Supply) Order, 1977. The CEIA may also require to give technical opinion/advice in matters related to Electricity Act and Regulations or any other matter connected with generation, transmission and/or utilization of electricity as may be referred by the State Govt. for scrutiny on its behalf.

This Inspectorate is also the State Designated Agency (SDA) under the Energy Conservation Act, 2001 (EC Act) for the State of Assam to co-ordinate, regulate and enforce the provisions of the Energy Conservation Act within the State. In tandem with and through the Bureau of Energy Efficiency (BEE), the SDA act as buffer organization between the State Government and the Central Government in the matter of Energy Efficiency and Conservation within term of the EC Act.

The Inspectorate of Electricity has jurisdiction throughout the State, excluding the works belonging to Defense, Railways and Central Government installations.

The mission and objective of the Inspectorate is to make an Accident Free State from use of electricity and lifts and escalators apart from use of energy in practicable efficient manner to avoid losses.

Functions of this Inspectorate are thus interloped to achieve the objectives of making this State an Accident Free State that consumes Energy only in Efficient Way.

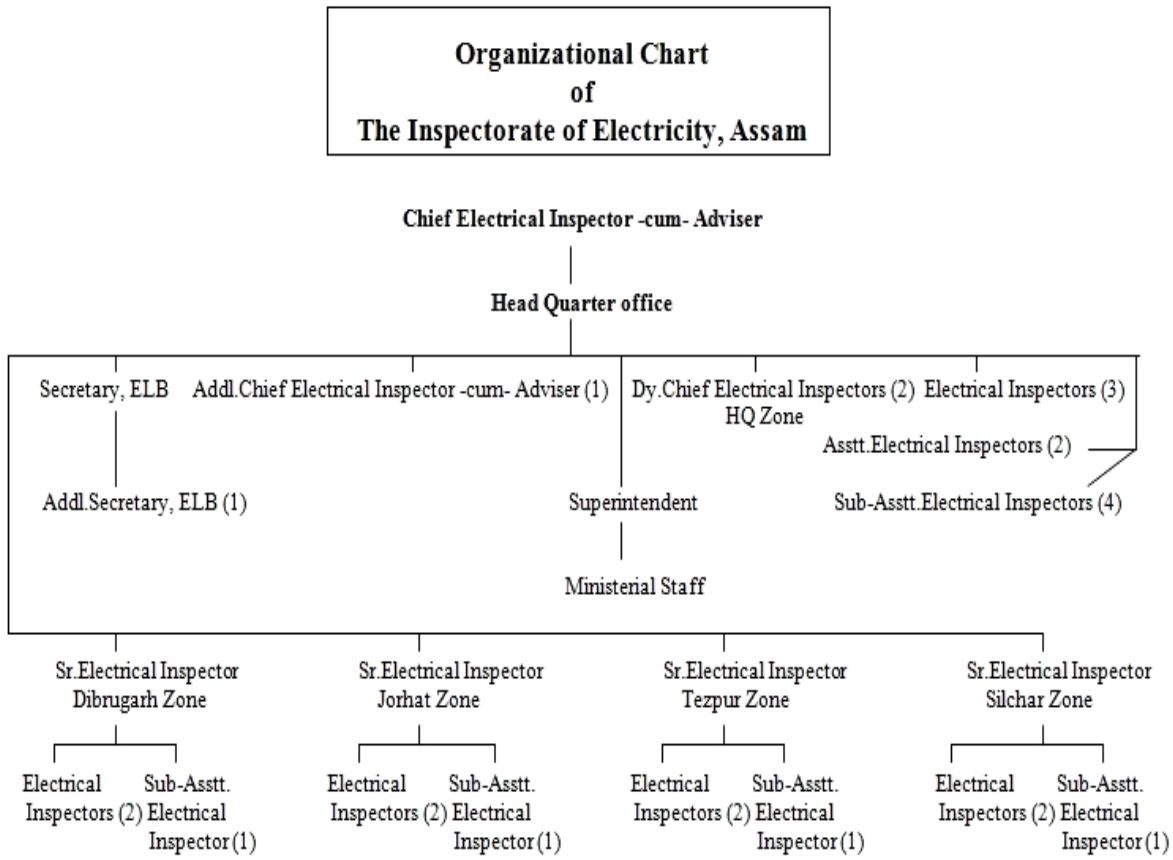


Fig 1. Organizational Hierarchy of The Inspectorate of Electricity ,Assam

Manpower details of Chief Electrical Inspector-cum-Adviser with Zonal Offices.

Sl No	Name of incumbents	Designation (Name of the held)
1	2	3
1	Shri Akhil Chandra Khataniar (H.Q)	C.E.I.A
2	Shri Anjan Sarma, (H.Q)	Dy. C.E.I
3	Shri Utpal Gogoi (H.Q.)	Dy. C.E.I

4	Shri Nilamoni Sarma (Dibrugarh)	S.E.I
5	Shri Mohan Chandra Sarma (Tezpur)	S.E.I
6	Shri Bani Kanta Deka, (Dibrugarh)	E. I (Sr. Grade)
7	Shri Ranjit Kumar Gogoi, (Jorhat)	S.E. I
8	Shri Bhabananda Pathak (H.Q)	E. I (Sr. Grade)
9	Shri Binanda Mili (Jorhat)	E. I
10	Smti Rashmi Phukan (H.Q)	E. I
11	Shri Kajal Kr. Singha (Silchar)	E. I
12	Shri Abdul Hannan, (H.Q)	A.E. I
13	Shri Dilip Kumar Shyam, (H.Q)	A.E. I
14	Shri Tasfiquar Rahman, (H.Q)	S.A.E.I
15	Shri Badan Chandra Mahela, (H.Q)	S.A.E.I
16	Shri Jogeswar Gogoi, (H.Q)	S.A.E.I
17	Shri Bijoy Ch. Das (Dibrugarh)	S.A.E.I
18	Md. Muhibul Haque, (Jorhat)	S.A.E.I
19	Shri Gopal Chetri, (H.Q.)	S.A.E.I
20	Shri Gautam Goswami, (Silchar)	S.A.E.I
21	Shri Gautam Mazumder (H.Q)	Accountant
22	Shri Nitul Saikia, (H.Q)	Senior Assistant (Directorate Level)
23	Shri Dil Prasad Sharma (H.Q)	-do-
24	Shri Debabrata Dey, (Tezpur)	Senior Assistant(District level)
25	Shri Santu Bezbarua, (Jorhat)	-do-
26	Md. Hedayatulla Ahmed (H.Q)	Junior Assistant (H.Q) Level

27	Smti Syeda Jesma Ahmed (H.Q)	-do-
28	Smti Parinita Gogoi (H.Q)	-do-
29	Shri Amal Sarkar (H.Q)	-do-
30	Shri Imon Kalyan Pegu (H.Q)	-do-
31	Smti Pallabi Talukdar (H.Q)	-do-
32	Shri Prabakar Borgohain, (Dibrugarh)	Junior Assistant(District level)
33	Shri Bhaskar Dulakasharia (Dibrugarh)	-do-
34	Shri Paw Hom Gohain (Jorhat)	-do-
35	Shri Pintu Das, (Silchar)	-do-
36	Shri Chapheruddin Ahmed, (H.Q)	Record Keeper
37	Miss Deepa Das (H.Q)	Stenographer
38	Shri Chandra Kanta Boro (H.Q)	Driver
39	Shri Dhiren Patangia, (Tezpur)	-do-
40	Shri Madhab Saha, (Silchar)	-do-
41	Shri Bhupen Kumar Das, (H.Q)	Duftry -
42	Shri Anil Ch. Deka (H.Q)	Electrical Jugali
43	Shri Biswanath Takuria (H.Q)	-do-
44	Shri Pramin Kumar Rabha (H.Q)	-do-
45	Shri Nijwm Goyari (H.Q)	-do-
46	Shri Dilip Barman (H.Q)	-do-
47	Shri Prafulla Gogoi (Jorhat)	-do-
48	Shri Arun Kalita (Jorhat)	-do-
49	Shri Sankar Das (Tezpur)	-do-
50	Shri Ajit Choudhury, (Tezpur)	-do-

51	Shri Mizazul Haque Mazumdar (Sil)	-do-
52	Shri Bijoy Hazarika (Dib)	-do-
53	Smti Minakhee Gogoi (Dib)	-do-
54	Shri Pabitra Kumar Deuri, (H.Q)	Peon
55	Shri Bhaba Kanta Das, (H.Q)	-do-
56	Shri Santi Ram Kalita, (H.Q)	-do-
57	Smti Nizara Ramchiary, (H.Q)	-do-
58	Shri Bikram Sarma, (H.Q)	-do-
59	Shri Dilip Chandra Baishya, (H.Q)	-do-
60	Shri Dulal Borgohain, (Dibrugarh)	-do-
61	Shri Hemanta Hazarika, (Dibrugarh)	-do-
62	Shri Jatin Dutta, (Jorhat)	-do-
63	Shri Amrit Barpatra, (Jorhat)	-do-
64	Shri Kutubuddin Ahmed, (Jorhat)	-do-
65	Shri Nabin Ch. Kurmi, (Tezpur)	-do-
66	Shri Bijoy Ch. Bawri, (Tezpur)	-do-
67	Shri Sona Sing Rongpi, (H.Q)	Chowkidar
68	Shri Bulen Chandra Das, (Tezpur)	-do-
69	Shri Chiranjit Dutta, (Jorhat)	-do-

2.8 Acts and Rules the department implements:

Acts

A. Assam Power Distribution Company Limited (APDCL)

1. **Supply Code, 2017**:- This Code contains matters connected with the supply of electricity to a person and other related matters. The Code details the rights and obligations of the licensee and consumers towards each other and specifies a set of practices, standards and norms required to be adopted by a licensee to provide efficient, cost-effective and consumer friendly service to the consumers.

2. **Distribution Code**:- To ensure that various Chapters of the Distribution Code work together to develop and maintain an efficient coordinated and economical distribution system and the Distribution Licensee and all Distribution System participants comply with respective obligations as specified in the Act.

3. **Indian Electricity Act, 2003**:- An Act to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalisation of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal 2 Short title, extent and commencement Definitions and for matters connected therewith or incidental thereto.

4. **Right To Information Act ,2005:-** An Act to provide for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, the constitution of a Central Information

Commission and State Information Commissions and for matters connected therewith or incidental thereto.

Rules

1. **FPPPA Regulation**:- These regulations may be called the Assam Electricity Regulatory Commission (Fuel and Power Purchase Price Adjustment Formula) Regulations, 2010. These regulations shall extend to the whole of the State of Assam. As per Section 62(4) of the Electricity Act 2003, no tariff or part of any tariff may ordinarily be amended more frequently than once in a financial year except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified. In this regulation, a fuel surcharge formula is specified in order to recover the additional burden on account of changes in fuel price and power purchase cost. Accordingly, the Commission proposes to introduce the regulations to recover the change in fuel price for the approved quantity of generation and power purchase for the distribution licensee.

B. Assam Electricity Grid Company Limited (AEGCL)

Acts

- **Indian Electricity Act 2003**, http://www.aegcl.co.in/INDIAN-ELECTRICITY-ACT-2003.pdf: An Act to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalisation of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal and for matters connected therewith or incidental thereto.

- **Indian Grid Code Revised (2006),**http://www.aegcl.co.in/INDIAN-GRID-CODE-(REVISED)-2006.pdfA grid code is a technical specification which defines the

parameters a facility connected to a public electric network has to meet to ensure safe, secure and economic proper functioning of the electric system. The facility can be an electricity generating plant, a consumer, or another network. The grid code is specified by an authority responsible for the system integrity and network operation. Its elaboration usually implicates network operators (distribution or transmission system operators), representatives of users and, to an extent varying between countries, the regulating body.

- **Right To Information Act -2005**. http://www.aegcl.co.in/RTI-2005.pdfAn Act to provide for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, the constitution of a Central Information Commission and State Information Commissions and for matters connected therewith or incidental thereto.

- **Safety Manual of AEGCL**, http://www.aegcl.co.in/Safety_Manual_AEGCL.pdfAs perIndian Electricity Act-2003 and section 53: Provision in respect of electricity supply generally AEGCL recognizes and accepts its commitment for establishing and maintaining safe and healthy work environment for all its employees in every sphere of its activities

Rules

1. Indian Electricity Rule 1956, http://www.aegcl.co.in/INDIAN-ELECTRICITY-RULE-1956.pdf : The Central Electricity Board had made IE rules in exercise of the powers conferred by section 37 of the Indian Electricity Act, 1910 (9 of 1910) for regulating the generation transmission supply and use of electrical energy and generally to carry out the purposes and Objects of the said act .

C.Assam Power Generation Corporation Limited (APGCL)

Acts

1. **Indian Electricity Act 2003**- An Act to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalization of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies, constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal and for matters connected therewith or incidental thereto.

2. **Right To Information Act -2005**. is an Act of the Parliament of India to provide for setting out the practical regime of right to information for citizens and replaces the erstwhile Freedom of information Act, 2002. Under the provisions of the Act, any citizen of India may request information from a "public authority" (a body of Government or "instrumentality of State") which is required to reply expeditiously or within thirty days. The Act also requires every public authority to computerise their records for wide dissemination and to proactively certain categories of information so that the citizens need minimum recourse to request for information formally.

3. **General conditions of APGCL for Supply and Erection 2014**

   http://www.apgcl.org-

Rules

1. **Indian Electricity Duty Rules 1964-**An Act to levy a duty on the sale or consumption of electricity. Whereas it is expedient to levy a duty on the sale or consumption of electrical energy in the State of Assam.It is hereby enacted in the Fifteenth Year of the Republic of India

2. **Indian Electricity Rule 1956-** http://www.aegcl.co.in/INDIAN-ELECTRICITY-RULE-1956.pdf : The Central Electricity Board had made IE rules in exercise of the powers conferred by section 37 of the Indian Electricity Act, 1910 (9 of 1910) for regulating the generation transmission supply and use of electrical energy and generally to carry out the purposes and Objects of the said act .

D. Inspectorate of Electricity Office –

1. **Administration of Electricity Act, 2003 and Central Electricity Authority (Measures Relating To Safety and Electric Supply) Regulations, 2010: (Formerly Indian Electricity Rules, 1956, since repealed**:

The Electricity Act, 2003 and Rules/Regulations made the reunder provide for safety and related Rules/Regulations to be followed by organizations/personnel involved in Generation, Supply/Transmission, Distribution and Utilization of Electrical Energy, with an objective to provide safety to Human/Animal Life and equipments/properties. In order to enforce the Act and Rules/Regulations the Inspectorate discharges the following duties:

a) Inspection of installations of voltage exceeding 650 Volts and Multistoried Complexes for the purpose of ensuring safety and accord approval for their commissioning, as required under Electricity Rules/Regulations.

b). Periodical inspection of electrical installations of factories, Electricity Board, Cinemas, Neon-signs, EHV/HV installations, Lifts and Multistoried Buildings etc.

c).Scrutiny of and according approval of drawings of electrical installations, indicating the method of construction and layout of electrical equipments/switchgears/earthing, EHV/HV installations and Multistoried Complexes as per the Regulations and Codes.

d).To investigate Electrical Accidents and submit Enquiry Report to the Government suggesting/insisting upon remedial measures on the concerned

authorities to eliminate the occurrence of such electrical accident from similar antecedents.

2. Administration of certain provisions of the Assam Cinema (Regulation) Rules, 1960 made under The Assam Cinema (Regulation) Act, 1960:

Under provisions of this regulation, permanent Cinema Halls are to be inspected and tested from this Inspectorate every year for the purpose of issuing Electrical Safety Certificates. Similar, Safety Certificates are to be issued for Temporary Cinema halls. The Cinema Operator's License are issued and renewed by the Inspectorate.

3. **Administration of the provisions of the Assam Electrical Licensing Board Regulation, 1992:**

The Electrical Licensing Board is constituted by the State Govt. under the above regulation with the CEIA as the ex-officio Chairman and one Senior Electrical Inspector as the Member Secretary. The main functions of the Board are:

(a) Receiving, scrutinizing and processing the applications for the issue and yearly renewal of Electrical Contractor's License to Electrical Contractor.

(b) Receiving and processing of applications pertaining to grant of Certificate and Permits to Supervisors and Workmen respectively and renewal of those.

(c) Conducting Examination for issue of Supervisor's Certificate of Competency for the Electrical Supervisors and Wiremen, every year.

(d) Preparation for issue of Certificates to Supervisor and Permit.

(e) Enquiry in to malpractices in electrical works and disputes between the Licensed Electrical Contractor and the prospective/existing consumers of Electricity about contravention of Licensing Rules

4. Administration of provisions of the Assam Lifts and Escalators Rules, 2010 made under the Assam Lifts and Escalators Act, 2006:

As a large number of Electric lifts have been installed in the multistoried buildings in Guwahati and other cities and towns of Assam, in order to ensure safety from use of

lifts and escalators, the Government of Assam made the Assam Lifts and Escalators Rules, 2010 to make statutory provisions to regulate the installation, maintenance and safe operation of lifts and escalators within the state of Assam.

5. Administration of provisions of the Energy Conservation Act, 2001:

The Government of Assam designated the CEIA as the SDA to co-ordinate, regulate and enforce provisions of the EC Act 2001 within the State of Assam. Accordingly some works relating to Energy Conservation were carried out under fund assistance from BEE, GoI. The Government of Assam constituted the 'Assam State Energy Conservation Fund' as required under the Section 16 of the EC Act, 2001. Accordingly a savings account was opened at the State Bank of India, Dispur branch, Guwahati.

6. Services provided by the Inspectorate of Electricity, Assam:

The Inspectorate of Electricity is entrusted with the following statutory duties and executive functions to provide to the Public in general and stake holders in particular.

7. **Enforcement of various sections of the Electricity Act,** 2003 and Rules/Regulations made there under, namely Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations, 2010 (hereinafter to be referred to as "Regulations"):

a) Approval of electrical installations and apparatus of voltage exceeding 650 volts under regulation 43 of the Regulations for energizing.

b) Inspection of generating sets of capacity of 25KVA and above under regulation 32 of the Regulations for commissioning.

c) Inspection and approval of electrical installations in a multistoried building of more than 15 meters in height having connected load of 20KW and voltage 440 volts and above as required under regulation 36 of the Regulations for energizing.

d) To grant Certificate of Competency to electrical Supervisors, Workmen Permits and electrical Contractor's license as required by regulation 29 of the Regulations.

e) To inquire into the cause of electrical accidents as and when directed by the Government as required under Section 161 (2) of the Electricity Act 2003.

8. Enforcement of the electrical safety provisions under the Assam Cinema (Regulation)Rules 1960 to issue Safety Certificates to Cinema halls and issue license to Cinema operators.
9. Enforcement of the Assam Lifts and Escalators Rules, 2010 to grant permission and issue license to use lifts and escalators in the State.
10. To co-ordinate, regulate and enforce provisions of the Energy Conservation Act, 2001 as the State Designated Agency within the State.

2.9 Schemes and programmes being implemented by

A. APDCL:

1. Annual Plan (SOPD) funded projects
2. NEC funded projects
3. NLCPR funded projects
4. TDF funded projects
5. ADB funded projects
6. R-APDRP Scheme

B. AEGCL:

1. Annual Plan (SOPD) funded projects:
2. NEC funded projects:
3. NLCPR funded projects:
4. TDF funded projects:
5. ADB funded projects:
6. PSDF funded projects:
7. World Bank funded projects

8. AIIB
9.AIIFA
10.AIIMS

C. AEGCL:

1. Annual Plan funded projects
2. NEC funded projects
3. NLCPR funded projects
4. ADB funded projects
6. PSDF funded projects
7. World Bank funded projects

2.10 Provision of fund during last three years for responding to any of the disaster:

Power Department is entitled under the State Disaster Response Fund (SDRF) for disaster response, constituted under Section 48 of the Disaster Management Act, 2005. In addition to these in the event of a disaster of 'a severe nature', in which the funds needed for relief operations exceeded the balances in the SDRF account, additional assistance would be provided from the NDRF after following prescribed procedures. Under this state fund, APDCL getsRs. 4000 per pole,Rs. 100000.00 per DTR and Rs. 50000 per KM of LT/HT (11 KV and below) lines.

But the norms doesn't falls under the jurisdictions of AEGC/APGCL. As a result of this AEGCL/APGCL is unable to receive any fund under SDRF for restoration and reconstruction purpose.

2.11 Executive instructions or circulars issued to cope with disasters:

A. APDCL

Prioritizing the fact that all electrical systems have the potential to cause harm, APDCL have published many booklets, safety IEC materials , Safety Measures in its Official

Website, Social Media, Print Media etc. All such instructions or circulars are published as a measure to mitigate any kind of Disaster, be it Man made or Natural. Such instructions or circulars also act as a awareness/instructions/advisories to the general public to curb any type of hazard. Some of the Circulars are given as Annexure. One can also search safety guidelines related to electricity in the link bellow.

https://www.apdcl.org/irj/go/km/docs/internet/ASSAM/webpage/pages/Electrical_Safety.html.

B. AEGCL

AEGCL issues notices time to time through the reputed local news paper in local language as well as in English giving prior information to the people of the area about the charging of the line and maintaining safe distance from the live parts to avoid any catastrophe.

During flood and rainy days notices are served vide local daily to adopt safety practices in order to counteract disaster.

Also all the employees and officers of AEGCL employed in HQ, Zonal Offices , Division, Sub-divisions strictly follows AEGCL safety manual.

In addition to these, the following executive instructions are issued in respect to nay disaster or crisis situation-

(i). Line Patrolling Manual issued by AEGCL

(ii) Manual for construction of transmission lnes

(iii) Follow Electricity Rules 1956

(iv) Regular Patrolling of line is conducted to identify any abnormalities and checking geround clearance. This is extensively done during flood situation to assess whether the ground clearance is within safe limit tower vulnerability condition.

(v) Thermo vision camera is available in every substation to identify if any spot developed in between the connecting point of the conductors to avoid snapping of conductors due to melt down.

C.APGCL

APGCL issues notices time to time through the reputed local news paper in local language as well as in English giving prior information to the people of the area about the charging of the line and maintaining safe distance from the live parts to avoid any catastrophe.

During flood and rainy days notices are served vide local daily to adopt safety practices in order to counteract disaster.

Also all the employees and officers of APGCL employed in thermal power stations strictly follows APGCL safety manual.

D. Inspectorate Office

Inquiry into electrical accidents is a statutory function of the Inspectorate that is carried out under mandatory provision of the Electricity Act, 2003 as per direction of the Government and the Hon'ble court.

The Chief Electrical Inspector-Cum-Adviser, Assam may be required to give technical option/advice in matters related to **Electricity Act. and Rules/Regulations** or any other matter connected with generation, transmission and/or utilization of Electricity as may referred by the State Govt.

Inspectorate of Electricity, Assam has jurisdiction throughout the state, excluding the works belonging to Defense, Railways Central Government installations.

There is no any institutional mechanism to re force the provisions or instructions have relevance for managing disaster.

2.12 Mock drills

To ensure safety of its employees and to give a practical experience to its employees as to how to protect oneself and the others at times of any crisis, AEGCL has organised a number of mock drills. The list of the Mock-Drills programme implemented by the department to the all officers and staff working at the head office, during the year 2015 to 2017 as under:

a) Vide Notice no. AEGCL/DGM(Civil)/Tech-80/2017-18/72 dated 05.06.2017 on 8th June 2017.
b) Vide Notice no. AEGCL/DGM(Civil)/Tech-80/2014-15/102 dated 08.06.2015 on 12th June 2015
c) Vide Notice no. AEGCL/DGM(Civil)/Tech-80/2014-15/39 dated 06.05.2015 on 11th May 2015

AEGCL cares about the well being and safety of its people. Therefore for public safety on electricity, AEGCL issues notices time to time through the reputed local news paper in local language as well as in English giving prior information to the people of the area about the charging of the line and maintaining safe distance from the live parts to avoid any catastrophe.

In addition to this at Grassroots level, various strategies are developed to engage the community in development works of the department

2.13 Training programs organized for the departmental staff with special reference to preparedness for disaster management:

A. APDCL

There is training center of APDCL at Narengi namely Narengi Training Institute. The training center organizes different training inviting resource personnel from different reputed and well managed organization. The center offers training to different officers and workers of different level. Moreover, training is also offered by NPTI (National

Power Training Institute) at Kahilipara. In every circle of APDCL training is offered to the technical personnel of lower level.

Some of them are as follows

Sl.no	Name Of Training /Workshop	Date/Year	Letter no	Remarks
1	Coordination of Response of Senior Govt. Representative (Emergency Management Exercise in Guwahati)	26/11/15	ASDMA 32/2015/PT-1/6	Organised by Asdma
2	Preparation of Departmental Disaster Management Plans	24th March 2017	RGR/ASDMA/4/ 10	-DO-
3	Consultation workshop on Climate & Disaster Risk Management and Financing Risk Insurance as a tool for Risk Financing	23rd May 2017	Pel / 2011/Pt-I/148	-DO-
4	Training on Capacity Building of Officials of APDCL in Disaster Management	07th-09 January 2020	PEL 38/2011/PT	APDCL

B. AEGCL

Sl.no	Name Of Training /Workshop	Date/Year	Letter no	Remarks
1	Coordination of Response of Senior Govt. Representative (Emergency Management Exercise in Guwahati)	26/11/15	ASDMA 32/2015/PT-1/6	Organised by Asdma
2	Preparation of Departmental Disaster	24th March 2017	RGR/ASDMA/4/10	-DO-

	Management Plans			
3	Consultation workshop on Climate & Disaster Risk Management and Financing Risk Insurance as a tool for Risk Financing	23rd May 2017	Pel / 2011/Pt-I/148	-DO-
4	Risk Management	17/09/2016	No.AEGCL/MD/Training/2016/76/36	Ministry of Heavy Industries and Public Enterprise, deptt of Public Enterprise , Govt.of India
5	Electric safety and Inspection of Electrical Installation	23/01/2017	No.AEGCL/MD/Conf.Etc./65/2015/113	National Power Training Institute
7	Electrical safety Procedure and Accident Preventions	12/12/2017	No.AEGCL/MD/CONF. ETC/65/2015/161	Engineering staff College of India, Hyderabad
8	Earthing and Bonding in Electrical Installation	29/06/2016	No.AEGCL/MD/Training/2016/76/172	Hyderabad
9	Electrical and Power Safety In Power Industry	25 /10/2016	No.AEGCL/MD/Conf.etc/65/2015/104	Central Board of Irrigation and Power, jointly with CIGRE-India and society of Power Engineers
10	Training on Disaster Management	2019	PEL/38/2011/PT	AEGCL

C. APGCL

Sl.no	Name Of Training /Workshop	Date/Year	Letter no	Remarks
1	Coordination of Response of Senior Govt. Representative (Emergency Management Exercise in Guwahati)	26/11/15	ASDMA 32/2015/PT-1/6	Organised by ASDMA
2	Preparation of Departmental Disaster Management Plans	24th March 2017	R GR/ASDMA/4/10	-DO-
3	Consultation	23rd May	Pel / 2011/Pt-I/148	-DO-

	workshop on Climate & Disaster Risk Management and Financing Risk Insurance as a tool for Risk Financing	2017		
4	Electrical safety and Disaster Management	08/02/2018	No.MD/APGCL/PLT/54/ 2017/67	National Power Training Institute
5	Disaster Management	28/02/2020 to 29.02.2020	No.HR/APGCL/91/2018/ Pt-I/9	National Power Training Institute

2.15 Research or Impact assessment/evaluation studies conducted-

Keeping in view the changes in the geo-climatic condition of Assam in the last decades and the adverse effect the environment have been facing through depletion of resource and destruction of the natural eco system, AEGCL had conducted many risk assessment studies prior to implementation of Project. Some of the reports of the projects funded by Worldbank and ADB are easily available the official website of AEGCL or in the link below.

a) http://www.aegcl.co.in/world_bank_project.html
b) http://www.aegcl.co.in/adb_trenche_1.html
c) http://www.aegcl.co.in/adb_trenche_2.html
d) AIIB guideline (E&S)

2.16 Community or user group formed at the village /grass-root level-

Assam Power Distribution Company Limited- APDCL

- Circle Level Disaster Management Cell (CLDMC)- The CLDMC will compromise the following officers-
  - This cell will be located at the H.Q of each circle and the Deputy General Manger of a circle will be the head of the cell

- Three officers in the rank of Senior Manager, Deputy Manager/Asstt.Manager &Asstt.Manager (Accounts) will be the members of the cell.

Division Level Disaster Management Cell (DLDMC)-The cell will be located at the H.Q of a division and compromise of the following officers.

- The senior Manager of a division will be the head of the cell
- Other three officers in the rank of Deputy Manager/Asstt.Manager, Accounts Officer and Junior Manager will be the members of the Cell.

Sub-Divisional Level Disaster Management Cell (SDLDMC)- This cell is one f the most important and vital organization set up in respect of Disaster Management. This cell will be located at the H.Q of a sub-division and will compromise of the following officers.

- The Sub-Divisional Engineer of a sub-division will be the head of the cell. He will also be designated as the first responding officer.
- Three officers in the rank of Deputy Manager/Asstt. Manager, Deputy Accounts Officer and senior most Junior Manager of the S/D will be the members of the cell.

2.17 History of disaster faced by -

A. Assam Electricity Grid Corporation Limited

List of total damaged/partially damage/washed away infrastructures of AEGCL during the year 2010-18

SL No	Damage in Physical Terms	Year	Nature of damage
1	1 no. tower Loc no. 13 (DA+3) of 66KV Bokajan-Diphu S/C line on D/C tower got collapsed at Gandhipur near Bokajan due to severe storm	2018	Totally damage
2	2nos tower Loc No. 138 and 139 of suspension type of 66KV Golaghat-Bokajan line collapsed including conductor snapped due to cyclonic storm at Sewaguri between Borpathar and Sorupathar area	2017	Totally damage
3	Collapse of tower at 132kv Hailakandi-Dullavcherra line (loc. No. 134) due to flood & cyclone	2017	Totally damage
4	Collapse of Tower at 132kv Panchgram-Lumsnong line	2017	Partially damage
5	Due to heavy erosion of Dikhow river, foundation of tower location no. 207 (A+3) of 132kv Lakwa-Mariani S/C line has become vulnerable to collapse and the line needs immediate diversion	2017	Partially damage

6	Land Erosion (due to flood)at tower footings of 132kv Kahilipara-Chandrapur line at loc no. 19,23,36 -construction of retaining wall is needed immediately	2017	Partially damage
7	Damage to 132kv Chandrapur Grid s/s due to collapse of wall due to land erosion on account of flood	2017	Partially damage
8	Snapping of conductors and damage to insulators and hardware fittings at 220kv Samagri-Sonabil line -I due to cyclonic affect	2017	Partially damage
9	Damage to switchyard area at Dibrugarh Grid S/S due to flood water	2017	Partially damage
10	Damage to tower stubs (corrosion) and foundation at various locations of a number of transmission lines of AEGCL - the actual Estimate for the same can only ascertained after the recession of flood water	2017	Partially damage
11	Collapse of tower at River logplu at loc no.127 of 132KV Dhaligaon-Gossaigaon line	2017	Partially damage
12	Damage of boundary wall of Agia,AEGCL colony due to attack of wild animal	2017	Partially damage
13	Due to erosion the stability of tower no. 36 of 132KV Kahilipara-Chandrapur disturbed and repairing had to be done	2017	Partially damage
14	Land Erosion at tower footings of 132kv Kahilipara-Sishugram-Rangia line at loc no. 16 -construction of retaining wall was needed	2016	Partially damage
15	Protection of 220kv BTPS(Salakati-AEGCL)-Agia line at location no. 31(A+0) to arrest erosion caused by Kanivoree river (DUE TO FLOOD)	2016	Partially damage
16	Repairing of stubs (damaged by flood water) of transmission line towers at 220kv Mariani-Samaguri line-II	2016	Partially damage
17	Due to cyclonic storm 2(two) no. of towers at 66kv Golaghat-Bokajan line collapsed-	2016	Totally damage
18	Approach road from civil office to 33KV Station and colony road from NTPC fabricated yard to tiniali completely washed away due to flood at 220/132/33KV Sarusajai Substation	2016	Totally damage
19	Approach road from ECI campus to maingate (approx 300mtrs) and colony road from Namghar to the boundary wall of sports complex partially damage due to fresh flood	2016	Partially damage
20	collapse of tower no. 207 under 132KV Rowta-Depota line at Gulandi river, one no. pile foundation is required for that	2016	Totally damage

21	Collapse of tower at loc no. 3 due to heavy erosion for flood at Barak river of 132KV Panchgram-Srikiona line	2015	Totally damage
22	Damage tower footing 132KV Lakwa-Mariani line, 45 nos tower corroded	2015	Partially damage
23	collapse of tower at LOC NO. 207 near Dikhow river of 132KV LTPS-Mariani line due to which a new pile foundation was required	2015	totally damage
24	A major flood occured in Agia GSS due to which the whole substation and division office submerged in water as well as the boundary walls of Agia GSS broke.	2014	Partially damage
25	Damage of tower footing due to waterlogging of 66KV NTPS-Mariani line	2014	Partially damage
26	One no. Tower had to be re erected because of damage due to soil erosion at Subansiri river of 132KV Nalkata-Majuli line	2012	Totally damage
27	Cracking of wall of control room building at Agia-GSS due to earthquake	2008	Partially damage

B.Assam Power Generation Corporation Limited (APGCL)

Sl.No	Damage in physical terms	Year	Place
1	Incessant rain causes sudden flood at Stage-II Power house at Myntriang Small Hydro Electric Project (13.5 MW),KarbiAnglong, leading to damage of both 2 x 1.5 MW units along with other infrastructure	22.08.2014	KarbiAnglong
2	Occurrence of massive Landslide at Right Bank along the Dam axis at Hatidubi Dam site of KarbiLangpi H.E. Project, KarbiAnglong	12.08.2017	KarbiAnglong
3	Occurrence of massive Landslide at Right & Left Bank near the Dam axis at Hatidubi Dam site of Karbi Langpi H.E. Project, KarbiAnglong.	Aug-Sept, 2014	KarbiAnglong.
4	Damage of Power Channel, StageI,Myntriang Small Hydro Electric Project (13.5 MW), KarbiAnglong, due to massive landslide triggered by heavy rains.	17.08.2017 &18.08.2017	KarbiAnglong.
5	Collapse of STG Roof at NRPP, APGCL, Namrup.	9 th July, 2018	Namrup

3 Impact of Disaster in the Department

Disaster is a calamity from natural or manmade causes which are beyond the coping capacity of the affected community/Organization. It brings great misfortune bringing disruption to normal life including that of the Power Supply.

a. Sub-stations are less vulnerable to disaster than transmission tower and lines.

b. Suspension towers are more vulnerable than tension towers.

c.Transmission lines are the arteries of the Electricity grid and these are most prone to damage due to earthquake, cyclone, terrorist attack, flood, etc.

Under extreme wind conditions, the conductors of transmission lines may get snapped or transmission line towers may collapse. The floods, landslides and earthquakes cause damage to or failure of foundations of towers, which ay sometime lead to disruption of the transmission network due to uprooting of foundations and consequent collapse of the tower. The floods also cause disruption in power transmission in case substations are affected by the floods. In addition to this, terrorist attack, fire accident may also cause damage to transmission lines, load dispatch centers& sub-stations which, in certain cases, may in turn lead to grid failure. Various faults, equipment failure/mal operations are other common causes of grid failure. Possible mishaps in transmission system in the event of disasters due to various natural calamities and crises are as under: (use tabular format)

- Snapping of conductor
- Collapse of transmission tower
- Washing away of foundation for river crossing towers
- Landslides in hilly terrains affecting towers of the line
- Flooding of sub stations
- Destruction / Fire in sub stations
- Electrocution Death

Natural Types of Disasters (Power Sector)

- Hurricanes and tropical storms are among the most powerful natural disasters because of their size and destructive potential.
- Thunderstorm and Lightning
- Flooding is the most common of natural hazards, and requires an understanding of the natural systems of our environment, including floodplains and the frequency of flooding events.

Man-made Disaster: (Power Sector)

It includes the chemical, gas, extremist activity, crowd management on important occasions, road accidents, ethnic violence, degradation of soil, air or water wuality, loss of flora or fauna, degradation of hills and wetlands etc.

- Degradation by cutting of hills exposed the foundation of poles in hilly terrains and thereby disturbance of stability of the lines and May even caused collapse of lines.
- Degradation of wetland may affect the basic design of the foundation of pole and may cause damage of the foundation.

3.1 Listed below are the details of Disaster to be affected by the department and the areas Likely to be affected

A. Assam Power Distribution Company Limited (APDCL)

Sl.No	Disaster Type	Areas Likely to be affected
1	Earthquake	Electrical installations may be damaged, power supply may be disrupted, connectivity and maintenance may be disturbed, may cause loss of property and life. In such heavy earthquake there is every possibility of damage of 33KV and 11 KV sub-station. Then the total power interruption is inevitable. Moreover, 33KV, 11KV and LT line will also be damaged due to falling of trees on the line. In such case a long period of time will be required. People will suffer if alternative arrangement for providing power at least at the relief camp where the homeless people will gather is not kept ready before the earthquake breaks
2	Flood	Due to heavy flood the office building, sub-station control room may submerge, colony quarters may be submerged. *As a result of heavy current of flood water the pole of live line may be uprooted and the line may fall on flood water and long power interruption may occur as it will not be possible to re-erect poles in the flood water. However, poles may be erected temporarily by providing supports of bamboos from all the sides. But this type of support may not be free from danger. If power transformer or Distribution transformer submerge under flood water it will be impossible to supply power and the effect of all non-supply of power will follow
3	Storm/Lightening	*As a result of heavy cyclone and storm trees fall on the conductor of overhead line and the poles on which the conductors are laid break. Sometimes the Distribution Transformers are damaged as a result of falling

		of the trees. Heavy lightening may damage Sub-Station equipment of 33 KV Sub-Station and total interruption of power may occur. *Interruption of power is another disaster. It may create other problem like interruption of phone communication Fax, inter-communication etc. *Heavy cyclone and storm may damage physical infrastructure like building of establishments etc. *Apart from interruption of power damage of lines, transformers and sub-station equipment create heavy financial loss of APDCL. *Human and animal lives may be endangered or lost during cyclone and heavy storm if a live line falls on the body of a human or animal their lives may be lost
4	Soil Degradation	Electrical installations may be damaged, power supply may be disrupted, may cause loss of life and property
5	Electrocution Death	During flood period the height of the lines will be reduced for the person rowing the boat and rudder used by them may touch the live conductor of the line and they may be electrocuted. Even dead conductor may create trouble during flood.
6	Fire/Short Circuit	Sub stations, Towers, Office Building
7	Deforestation	Sometimes people cut and fell trees/bamboos on the lines which may cause fatal accident and damage of electrical installations
8	Power Theft	Theft of power by hooking the line may cause fatal accident besides causing damage to electrical installations and disruption Power supply.
9	Road Connectivity	Due to flood, road connectivity may be disrupted due to water logging, submersion resulting difficulty in mobilization of resources in the affected areas.
10	Disruption of Telephonic Communication	Disruption of telephonic communication may affect communication flow within the deptt. Resulting delay in resource mobilization.

ILLUSTRATIONS-Pictures showing natural disasters affecting poles, transformers and conductors of APDCL.

B. Assam Electricity Grid Corporation Limited (AEGCL)

The risk involved which may affect the functioning of AEGCL may be classified as under-

1. Tower collapse due to cyclones, whirl winds, sabotage etc.
2. Conductor snapping due to mechanical failure, wind pressure, insulator failure.
3. Insulator failure due to lightning strike, mechanical damage, sabotage, surge voltages.
4. Road blockage on account of conductor snapping or tower collapse near road crossings or road proximity.
5. Failure of transformers, equipment
6. Fire hazards due to transformer oil burning, short circuit in S/Y, control room, battery room, A/C ,D/C room etc.
7. Electrical accidents
8. Thunderstorm and Lightning
8. Flooding of cable trench due to heavy rain fall.
9. Be-seizing of EHT control room by terrorists.
10. Bomb threat.

But these obstacles have not deterred AEGCL in providing quality and un-interrupted power supply during these calamities due to proper planning, quick response and timely management of material and manpower.

Sl No	Disaster Type	Likely area of impact
1	Earthquake	Substation equipments like transformers, breakers, CT, PT, Mounting Structures, LA etc, Control room building, Residential Quarters, Pumps, tower of transmission lines
2	Flood	Substation equipments, Tower foundation etc. mainly in cable trenches
3.	Storm	Tower Structure collapse, Conductor snapping
4.	Fire	Substation equipments i.e. transformers, breakers, CT, PT, Switch/Relay room, Battery room, cable trench ,Control Room

5	Degradation	by cutting of hills, exposed the foundation of transmission towers in hilly terrains and thereby disturbance of stability of the tower and may even cause collapse of tower Degradation of wetland may affect the basic design of the tower foundation and may cause damage of the foundation
6	Road Connectivity	Due to flood, road connectivity may be disrupted due to water logging, submersion resulting difficulty in mobilization of resources in the affected areas.
7	Disruption of Telephonic Communication	Disruption of telephonic communication may affect communication flow within the deptt. Resulting delay in resource mobilization.

Sub-stations are less vulnerable to disaster than transmission towers and lines.

i) Radially connected sub-stations are more vulnerable e.g.:132kV Dhaligaon-APM, 132KV Samaguri-Sankardev nagar-Diphu, 132KV North Lakhimpur-Majuli , 132KV CTPS-Baghjhap etc.

ii) Lines passing through forest areas are prone to tree falling during cyclones & whirlwinds which may cause damage to both lines and towers.

iii) Towers passing through flash flood zones in hilly terrains are vulnerable e.g. 132KV Sonapur-Chandrapur, 132KV Kahilipara-Chandrapur, 220KV Langpi-Sarusajai etc.

iv) Towers in the vicinity of rivers notorious for changing course such eg: 132KV Rangia-Barnagar(Pohumara, Kanamakhra, Beki, Aie river etc), 132KV Rowta-Sipajhar (Bulandi river), 132KV LTPS-Mariani(Dikom river) are vulnerable

v) v) Suspension towers are more vulnerable than tension towers.

ILLUSTRATIONS- Pictures showing natural disasters effecting electrical structures of AEGCL

C. Power Generation Corporation Limited (APGCL)

The Emergency at the Plant can be caused by operational, natural or man-made factors.

Sl No	Disaster Type	Likely area of impact
1	Natural	Dam, penstock, tunnel, power house, Intake etc. Substation equipments like transformers, breakers, CT, PT, Mounting Structures, LA etc, Control room building Residential Quarters, Pumps, tower of transmission lines where the installations done on the areas where unstable soil exist.
	Earthquake	
2	Flood	Dam, Power house, internal roads, intake, Substation equipments, Tower foundation etc. Higher magnitude of flood may cause damage to the downstream area of KLHEP (Hatidubi) Dam as well as Power House
3.	Storm	Tower Structure collapse, Conductor snapping
4.	Man made	Substation equipments i.e. transformers, breakers, CT, PT, Switch/Relay room, Battery room, cable trench, control panel etc. It may cause damage of Optical Fiber Cable resulting in communication problem amongst different components of the Projects
	Fire	
5	Road Connectivity	Due to flood, road connectivity may be disrupted due to water logging, submersion resulting difficulty in mobilization of resources in the affected areas.
6	Disruption of Telephonic Communication	Disruption of telephonic communication may affect communication flow within the deptt. Resulting delay in resource mobilization.
7	Extremist Activity	Whole project area
8	**OPERATIONAL**	Bursting of pipe lines / vessels as of Water / Steam pipes due to high pressure/ temperature, Acid/Alkali lines/tanks and Compressed gas and air receivers, the whole project might get affected
	Collapse of Building	

9	Release of Natural Gases from pipe line	Major Fires and explosions as in Transformer and Turbine with oil, Electrical system, Heat path damaged insulation , Accumulation of waste materials, Turbo generators, Boiler and compressed natural gases, the whole project might get affected
10	Catastrophic equipment failure	Uncontrolled release of toxic / corrosive / flammable liquids as from Acid tanks in water treatment plants, Turbine oil and leakage, the whole project might get affected
11	Explosion of steam turbine and waster heat recovery Boiler	Whole project
12	Accident in the Power House including Hydro-Turbines, Generators, Generators-transformers, auxiliaries etc .	Whole Project

Illustrations- *Picture Showing damage at* ***Power house at Myntriang Small Hydro Electric Project (13.5 MW),KarbiAnglong, leading to damage of both units along with other infrastructure due to Incessant rain***

Inspectorate of Electricity Office

Sl. No.	Disaster Type	Areas likely to be affected
1	Earth quake	Office building and Zonal Offices
2	Fire hazard	Office building and Zonal Offices
3	Short circuit	In electrical wiring circuits & electrical installations in office building.
4	Very narrow way for movement of fire tender to Housefed complex.	Entire Housefed Complex areas for all the existing building.
5	Road Connectivity	Due to flood, road connectivity may be disrupted due to water logging, submersion resulting difficulty in mobilization of resources in the affected areas.
6	Disruption of Telephonic Communication	Disruption of telephonic communication may affect communication flow within the deptt. Resulting delay in resource mobilization.

4 Prevention and Mitigation

All electrical systems have the potential to cause harm. Electricity will always form a "path" or "loop". Electric current cannot exist without an unbroken path to and from the conductor. When you plug in a device (e.g., a power tool), the electricity takes the easiest path from the plug-in, to the tool, and back to the power source. This is also known as creating or completing an electrical circuit.

People are injured when they become part of the electrical circuit. Humans are more conductive than the earth (the ground we stand on) which means if there is no other easy path, electricity will try to flow through our bodies.

4.1 Listed below in a tabular format ,the types of disaster being affected by the department and additional measures to be taken.

A. Assam Power Distribution Company Limited (APDCL)

Sl No	Disaster Type	Likely area of impact	Field of intervention	Existing level of preparedness	Additional measures to be taken
1	Earthquake	Substation equipments like transformers, breakers, CT, PT, Mounting Structures, LA etc, Control room building, Residential Quarters, Pumps, tower of transmission lines	In case of earthquake of severe intensity power will be interrupted first. The long interruption of power will create series of problem. With interruption of power related service like mobile communication, E-mail communication will be interrupted with the absence of electrical power.	a) Maintenance of Sub-Stations with proper earthing and guarding. b) Public awareness programme by way of announcement, leaflet distribution, organizing meetings etc. c) Training up of Technical Staff periodically.	a) Design of the transformer pad, Mounting Structures, foundation of tower etc should be considered earthquake prone zone. Awareness amongst the public about electrical safety during earthquake may mitigate the severity of damages or lost of lives
	Flood	Substation equipments, Power Cut, Tower foundation etc.	Due to heavy current of flood water the poles of line of different levels of voltage may be uprooted. As a result the lines may fall on the ground under water. It becomes very difficult to reerrect the line in flood water and long interruption of power occurs. The 33KV or 11Kv sub-station may submerge in flood water. This will also add more interruption. Interruption power itself is a disaster	a) Identification of the vulnerable area. b) Lifting of distribution Sub-Station/power transformer that may affect due to flood. c) Raising of power supply conductors in the vulnerable areas. d) Maintenance of Sub-Stations with proper earthing and guarding. e) Public awareness programme by way of announcement, leaflet distribution, organizing meetings etc. f) Training up of Technical Staff periodically.	a). Extra manpower with vehicles are required for close monitoring of flood affected areas b) Additional materials/equipments need to be stocked up. c) The land for 33KV sub-station should be selected at high suitable land. The poles of low land area should be grouted strongly. The distribution transformer should be pole mounted if they are below 250KVA capacity. For the capacity of 250 KVA or

				.	above the pad on which the transformer is installed should be high.
3.	Storm	Tower Structure collapse, Conductor snapping, fire, Power Cut	The rural area where trees are more the line and sub-station are more prone to be damaged by cyclone and storm. Due to cyclone and heavy wind trees fall on conductors of the lines and poles and insulators break, conductor snap, distribution transformer break. In case of heavy cyclone the town area may also be affected	a) Jungle Cutting over the HT and LT Lines to save the lines from snapping due to wind and cyclone. b) Stringing and straightening the lines and poles of the power supply lines. c) Public awareness programme by way of announcement, leaflet distribution, organizing meetings etc.periodically.	Since the absence of materials is the main cause of delay in restoration of power when the line and the sub-station have been damaged a stock of materials which are to be used in emergency be ready. Sufficient fund for taking help of the contractor should be ready for emergency. Field officers should be empowered in case of emergency.
4	Fire	Sub Stations, Division office, Office Building,, Electric Poles,	A Sub Station consist of several fire intensive equipments such as Energized cables, Batteries, Surge arresters, Direct-stroke lightning, Grounding, Fault sensing &interrupting devices, Metal -clad switchgear, Oil-filled reactors, Power capacitors, Diesel EnginesRelay& Control Panels, Gas-insulated components, makes a substation • vulnerable to electric	Fire extinguisher, In contact with Fire Dept.	Capacity Building Training of the staff and Line men on various topics related to fire safety in an electrical area. Mock Drill about the same should also be imparted to the staff and Line men.

			fire. Once an electric fire set off, entire substation needed to be shut down, causing power outage for a very long period of time to a large area.		
5	Electrocution Death	Area of accident, Restoration work, Office	Death due to electrocution likely to be occurs when a current of certain threshold value and beyond passes through a live body. This may occur if anybody comes in contact with a live conductor or touches the conductive part of transformers and other electrical equipments. Once such incident happened, it become difficult to restore the power supply in the vicinity of accident. In worst case scenario, vandalism of office buildings, road blockage may also like to occur.	Detection of loose lines, strengthening of the lose lines, deteriorating poles are changed, wooden poles are changed. Replacement of old and brittle conductors , installation of proper switchgears at sub stations	Training of the ground staff and officers on electrical safety ,vigilant watch and more awareness among the people. Proper Protective guarding should be provided in all cases where bare live parts are accessible at height in all street, public places and road crossings. Proper periodical maintenance of sub stations and electric poles. And any reported sparking should be immediately attended

					Fixing of accountability andresponsibilities in operation and maintenance of lines and sub stations to ensure safety.
6	Power Theft	Revenue, Distribution Transformers, Electrical overhead lines, Quality Power Supply.	Power theft at any level is one of the major reasons for financial loss of a power distribution company. From technical point of view Power theft causes unauthorised burden on distribution lines and transformer and causes increase in failure rate of electrical equipments, leads to power interruption and deteriorate the quality of power supply.	There is a special police station at to control the theft of energy in the district. There is a vigilance officer with a vigilance wing. The SDEs and FMEs of sub-division are empowered to lodge FIR. Still the theft of energy has not been under control.	There should be one police station against one circle considering the number of uncontrollable number of theft cases. Strong public opinion against theft of energy should be built. Without co-operation of public only law cannot eradicate the menace of theft of power
7	lightening	Sub-Station. Distribution Transformers, overhead lines and line materials.	Ligthing can causes failure of major electrical equipment in Sub Stations, Transformers line materials and lead to	Lightening arrester, proper earthling, strict monitoring of the default earthing .	Quarterly or yearly checking of the earthing, strict implementation of the recommendations mentioned in monitoring report.

			power interruption for a long period of time.		
8	Disruption of Telephonic Communication	Disruption of telephonic communication may affect communication flow within the deptt. Resulting delay in resource mobilization.	Restoration Of Power	All divisions, sub stations are connected with mobile and land line phones.,Fax Machines and PLCC	Provide Mobile Connectivity in the form of "Close Loop user Net work provided by "One single service Provider" to cover all divisions and substations for better accessibility. In order to improve Data flow to and from the sub stations . A establish computer networking connecting to all sub stations and other establishments can be set up. The networking will tremendously help in up dating data regarding inventories at different divisional stress and mobilization of men and materials during restoration works.
9	Road Connectivity	Due to flood, road connectivity may be disrupted due to water logging, submersion resulting difficulty in mobilization of resources in the affected areas.	Delay in Restoration Of power	No such specific measures, restoration works had to be paused till the water resides down.	-

In addition to the above prevention measures, APDCL has also listed out safety points to be followed by the general public in any normal situation to avoid any crisis caused by Electricity are-

Electrical Safety

Injuries due to electricity can happen in various ways:

- Direct contact with exposed energized conductors or circuit parts. When electrical current travels through our bodies, it can interfere with the normal electrical signals between the brain and our muscles (e.g., heart may stop beating properly, breathing may stop, or muscles may spasm).
- When the electricity arcs (jumps, or "arcs") from an exposed energized conductor or circuit such as overhead power lines pass through a medium to a person who is grounded (that would provide an alternative route to the ground for the electrical current)

APDCL Recommends:

- In order to avoid the electrical accidents and to minimize the damage due to occurrence of such incidents, if any, APDCL recommends the following safety measures to be followed by its fellow customers and citizens.
- Maintain proper safety of all electrical appliances. Always, install safety equipment like Earth leakage / overload & short circuit protection (circuit breakers / switches) near point of supply
- Report electrical accidents and take necessary precautions to avoid such accidents. Take extra safety measure during natural calamities to avoid any mishap arising out of broken lines etc. "APDCL Disaster Management Plan" (Available under the Publications section) can be looked upon for details.
- If the consumer discovers that the protective seal of the metering equipment has been broken, he shall notify APDCL immediately
- Ensure healthy earthing is installed at your premises.
- Ensure only IS marked cables of proper capacity are used for your installation and get the wiring done through only licensed Electrical Contractors
- Always use proper capacity fuse wire in main switches

Ensure safety of energy meter and metering equipment in your premises. Provide weather Proof enclosures to meters and metering equipment.

- Construct your building with proper clearance from the existing High Tension/Low Tension lines as per the Indian Electricity Rules 1956 (vide rule 79 & 80).

- Get the internal wiring checked up periodically not only to avoid leakage of electricity but also to safeguard the lives of the inmates in the premises.

Steps to be taken in case of an Electrical Accident:

- When you encounter someone who is suffering from electric shock, approach with extreme caution.

The first step is to separate the person from the source of electricity as quickly as possible. The best way of doing this is to turn off the supply, for example, by unplugging the appliance or by turning the mains off at the fuse box (consumer unit)

- If this isn't possible, then try to remove the source of electricity from the person using a piece of insulating material, such as a wooden or bamboo stick.
- NEVER touch the person receiving the electric shock, or you could suffer one too.
- After removing the person from the source of electricity, if the person is unconscious call for an ambulance immediately. Only those with the necessary knowledge and skill should carry out first aid.
- Where the person is conscious and seems well, it is still advisable to monitor their condition, as the effects of an electric shock may not be immediately obvious. In worst case conditions, an electric shock may lead to a condition known as electrocution, where cells within the body rupture, leading to tissue death. Additional problems might include deep-seated burns, muscle damage and broken bones.

B. A well-documented safety procedure to treat an electrical accident victim can be accessed by clicking on the below link:
http://www.wikihow.com/Treat-a-Victim-of-Electrical-Shock

C. Assam Electricity Grid Corporation Limited (AEGCL)

The first step of the plan is that we may set up Emergency Operating Centers (EOC) s at Corporate office and at Zonal level and Disaster Management Cells (DMCs) at Circle/Divisional level to handle all disaster related activities. The EOCs will establish region specific preparedness mechanism to effectively respond to and recover from the impact of disaster.

Preparedness to certain types disasters-

- Flood and cyclones are recurrent feature in Assam. Therefore the utility should invariably take up certain pre monsoon activities in order to be prepared to face the consequence of any disaster.

- The flood level of rivers where line crossings take place are to be monitored and corrective and proactive action for any erosion or low clearance of line should be taken.
- Periodic maintenance of transmission lines are carried for by clearing nearby trees etc.
- Periodic maintenance of sub-stations such that transformer oil testing, tan(delta), dissolved gas analysis are carried due to avoid fire, power failure and other hazardous incidents.
- Armed guard should be deployed at main entrance of the sub-stations so that no suspicious person can enter the substations.

Additional measures can be taken-

- Fixing of permanent notice boards at all suitable locations in Substations displaying information, map, escape routes, precautions to be taken during emergency.

Keeping updated list and contact information of tower manufacturers, erectors operating in the concerned region.

- Installation of CCTV Camera with night vision to cover complete fencing.
- Restricted entry through biometric punching in control room area.
- Restricted Entry in Substation Premises through valid pass.

Addressing the following Hazard disaster wise by AEGCL

Sl No	Disaster Type	Likely area of impact	Field of intervention	Existing level of preparedness	Additional measures to be taken
1	Earthquake	Substation equipments like transformers, breakers, CT, PT, Mounting Structures, LA etc, Control room building, Residential Quarters, Pumps, tower of transmission lines	Transmission of Electricity will be affected	PCC/RCC foundations of all equipments in the EHV Switchyard and those of the towers of the EHV transmission lines meet the norms of standard design to withstand/has withstand the extent of natural disasters prevailing in the region. EHV transmission lines and EHV switchgears of switchyard are monitored by protective devices which will prevent any subsequent accident (such as fire or loos of life as a result of short circuit) that may occur as a side effect of a natural disaster such as earthquake. First Aid box are kept ready in all substations. 2. Contact No. of nearest hospitals, fire brigade and police stations are readily available on all substation display boards	Design of the transformer pad, Mounting Structures, foundation of tower etc should be considered earthquake prone zone. Ensure installation of the equipment in line with the soil of the location. Also seismic condition of the area should also be taken into account while designing of the item

2	Flood/Soil Erosion	Substation equipments, Tower foundation etc.	Transmission of Electricity will be affected	i. Pile foundation and special towers have been used in riverside areas. ii. Attempts are made to aware the public to keep sufficient distance (for example not to sail a boat below an EHV transmission line in the events of flood as the clearance decreases with rising water level) by publishing notices in the newspapers/contacting local people etc. iii.For power outage due to tower collapse 2(Two) nos ERS (Emergency Restoration System) available in the department.	i. Additional nos. of ERS required. ii. Additional clamps, hardware fittings,insulators,etc need to be stocked up. Proper drainage system should be maintained For tower foundation, type of foundation to be done finalized after conducting soil investigation test of the location
3.	Storm/Cyclone	Tower Structure collapse, Conductor snapping	Transmission of Electricity will be affected.	Proper tripping of the lines, protection circuit for any kind of faults etc EHV transmission lines and EHV switchgears of switchyard are monitored by protective devices which will prevent any subsequent accident (such as fire or loos of life as a result of short circuit) that may occur as a	Ensure healthiness of the protective relays so as to disconnect the supply in case of collapse and snapping of conductor to save the human lives

				side effect of a natural disaster such as cyclone. The vicinity of EHV Transmission lines and EHV switchyard are kept clear of jungles so that in the event of a cyclone falling of trees/branches does not lead to any further electrical accidents. PCC/RCC foundations of all equipments in the EHV Switchyard and those of the towers of the EHV transmission lines meet the norms of standard design to withstand/has withstand the extent of natural disasters prevailing in the region. PCC/RCC foundation for all instruments (such as CT, PT, towers etc.) has been made with higher factor of safety to withstand the impact of cylones	
4	Fire	Substation equipments i.e. transformers, breakers, CT, PT, Switch/Relay room, Battery room, cable trench	Transmission of Electricity will be affected	Fire extinguishers are made easily available at EHV switchyard. For EHV switchyards fire	Equipment and buildings should be arranged to have vents which rupture rather than allowing an explosion to damage the main fabric. Site

				protection wall is provided adjacent to power transformer. Thermal imaging camera is used to monitor hotspots in EHV switchyard at regular intervals to prevent any major fire accident First Aid box are kept ready in all substations. 2. Contact No. of nearest hospitals, fire brigade and police stations are readily available on all substation display boards	supervisors should ensure that these vents are never obstructed. In the prevention of fire, cleanliness and tidiness are very important, as is the careful maintenance of tools. Effective fire fighting protection should be arranged in every substation for prevention of hazards due to fire.
5	Degradation	by cutting of hills, exposed the foundation of transmission towers in hilly terrains and thereby disturbance of stability of the tower and may even caused collapse of tower Degradation of wetland may affect the basic design of the tower foundation and may cause damage of the foundation	Transmission of Electricity will be affected	Regular line pattroling is carried out	

6	Nuclear weapon	A detonated in or above the earth's atmosphere can create an EMP (electromagnetic pulse), a high-density electrical field. It can seriously damage or bring down the entire power grid of a nation.Most electronic equipment within 1,000 miles of a high-altitude nuclear detonation would be effected. The initial impact of an electromagnetic pulse is unlikely to harm most people; however, it could harm those with pacemakers or other implanted electronic devices. It's the long-term effects on a population who aren't prepared to survive without electricity that has many concerned. This includes: Communication systems, Computers, Water treatment systems, Electrical appliances, and Automobile or aircraft ignition systems; A nations' entire infrastructure.	Transmission of Electricity will be affected	1. First Aid box are kept ready in all substations. 2. Contact No. of nearest hospitals, fire brigade and police stations are readily available on all substation display boards	
7	Cyber Attack	Control system which might caused Power interruption	Transmission of Electricity will be affected	Antivirus, regular monitoring	

8	Explosion In transformers	Bursting of transformer's Bushings,terminalequipmentsetc which may affect neighbouring transformers and vital installations	Transmission of Electricity will be affected	Fire extinguisher cylinders, sand pots are kept ready	
9	Road Connectivity	Due to flood, road connectivity may be disrupted due to water logging, submersion resulting difficulty in mobilization of resources in the affected areas.	Transmission of Electricity will be affected	-	-
10	Disruption of Telephonic Communication	Disruption of telephonic communication may affect communication flow within the deptt. Resulting delay in resource mobilization.	Transmission of Electricity will be affected	-	Provide Mobile Connectivity in the form of "Close Loop user Net work provided by "One single service Provider" to cover all divisions and substations for better accessibility

D. Addressing the following Hazard Disaster Wise by Assam Power Grid Corporation Limited (APGCL)is listed below-

Sl No	Disaster Type	Likely area of impact	Field of intervention	Existing level of preparedness	Additional measures to be taken
1	Earthquake	Dam, penstock, tunnel, power house, Intake etc. Substation equipments like transformers, breakers, CT, PT, Mounting Structures, LA etc, Control room building Residential Quarters, Pumps, tower of transmission lines where the installations done on the areas where unstable soil exist.	communication problem amongst different components of the Projects	Declared as protected area and only authorised personnel are allowed to enter. The design of the Power house and substations which are installed are earthquake resistant. The Dam break analysis has already been carried out by IIT, Guwahati and draft report is under scrutiny. Prior to initiation of construction work, proper soil investigation are carried out.	Ensure installation of the equipment in line with the soil of the location. Also seismic condition of the area should also be taken into account while designing of the item. Earthquake resistant designs to be incorporated for all future projects.
2	Flood	Dam, Power house, internal roads, intake, Substation equipments, Tower foundation etc. Higher magnitude of flood may cause damage to the downstream area of KLHEP (Hatidubi) Dam as well as Power	communication problem amongst different components of the Projects	Declared as protected area and only authorised personnel are allowed to enter . For Dam, radial gates are operated in sequence to control the water level in the reservoir.	For switchyard, dewatering systems are required to pump out the excess water in the switchyard area.

		House		For power house, draft tubes gates are closed if tail race water level reaches the danger level. iii) For all important structures, type of foundation are finalized after conducting proper soil investigation test of the location. ii. The machines are forced shut down in case of any failure of evacuation line.	
3.	Storm	Tower Structure collapse, Conductor snapping	communication problem amongst different components of the Projects	Post storm, survey is carried out to assess the area of impact and necessary measures are taken accordingly.	1. Ensure healthiness of the protective relays so as to disconnect the supply in case of collapse and snapping of conductor to save the human lives. 2. Adequate amount of spare materials should be preserved in the store to restore the supply in case of damage due to catastrophe
4.	Fire	Substation equipments i.e. transformers, breakers, CT, PT, Switch/Relay room, Battery room, cable trench, control panel etc. It may cause damage of Optical Fiber Cable resulting in communication problem amongst different	communication problem amongst different components of the Projects	i) Fire hydrants are installed in all vulnerable areas. ii) Smoke detectors, fire alarms, sprinklers are also installed in some areas of switchyard. iii) Baffle walls and soak pits are constructed to mitigate fire hazards in transformers.	Effective fire fighting protection should be arranged in every substation for dealing with hazards due to fire.

		components of the Projects			
5	Road Connectivity	Due to flood, road connectivity may be disrupted due to water logging, submersion resulting difficulty in mobilization of resources in the affected areas.	communication problem amongst different components of the Projects	LMV vehicles both departmental and hired ones are available to be used as and when required. In shortage of the resources to cope up with the disaster , local administrative officials will be intimated for further assistance.	
6	Disruption of Telephonic Communication	Disruption of telephonic communication may affect communication flow within the deptt. Resulting delay in resource mobilization.	communication problem amongst different components of the Projects	WalkieTalkiee handsets are available for communication means in failure of system like Landline, Mobile Tower etc. during the period of disaster, if any.	
7	Electrocution Death	Whole project area	communication problem amongst different components of the Projects	Declared as protected area and only authorised person is allowed to enter. No flame zone signboard displayed Equipped with sufficient no. Of Portable fire extinguisher 9class B&C)	-

8	Explosiion of steam turbine and waster heat recovery Boiler	Whole project area	Whole project area	Periodic Check up by the Inspector of Boiler. Boiler are lighted up after check up by the resident BOE and on receipt of clearance from him Daily check up of the boiler in service by the resident of BOE	
9	Accident in the Power House including Hydro-Turbines, Generators, Generators-transformers, auxiliaries etc	Whole Project	Whole project area	Declare as Protected area and only authorised personnel are allowed to enter. Standby DG sets (500 KVA) are available for emergency power supply Equipped with sufficient nos of portable fire extinguisher (class B&C) The power house is covered by a ring of fire fighting hydrant system with sufficient quantity of water reserve. Personnel safety gears like helmet, ear plugs, hand gloves Alarming Safety throughout ringing siren has been installed The significant locations of	-

				the power plant ate connected with internal telephones operated through EPABX. the main control room is equipped with Telephones (WLL),FAX,PLCC,SCADA phones as well as internet facilities.	

In addition to the above some of the other pre disaster activities being followed by APGCL are as follows

a. The power Plant area has been declared protected area as per Assam Factory Rules and manned with security personnel at the entrances
b. All the jobs like welding, gas cutting etc are carried out outside the "No Flame zone "observing proper safety measures
c. Protective gear like helmet, hand gloves, eye protectors etc are issued to the workers as per work requirement
d. Different Types of portable fire extinguisher are installed at fire pones area which are inspected periodically by the personnel of the fire fighting wing.
e. Fire Hydrant system has been maintained which is checked by the fire fighting personnel periodically for proper functuioning.
f. Periodic Testing of the EOTCranes,mobile crane ,lifting tackles etc are done for proper functioning and revords are maintained.
g. Different safety relief valves are periodically tested and calibrated
h. Effluents from DM plant are treated to bring down the concentration to allowable limit before discharging
i. Specially designerd pits are used for dumping non eco friendly waste like glass fibre filter media etc
j. Electrically operated trolley mounted pumps are used for pumping out the trapped water from the cable trenchs of the power house and switchyard
k. The ECR (Electrical Cotri; room) is equipped with asirenfacilty for raising in case of emergenct which is daily tested at 6:00 a.m against proper functioning
l. Minor mock drill should be carried our periodically .
m. Necessary periodic repair work of different building of the power point are carried out by the civil engineering wing of LTPS.
n. Dam Gallery is to be opened on the other side which was blocked by sliding of other side hilly rock for cross air ventilation including personnel safety measures
o. Dam gallery is to be opened illuminate through insulated conduit electrical wring

p. Instrumentation and data acquisition system (DAS) need to be installed at the dam gallery system, valve house ,HP tunnel etc to get prior knowledge of the healthiness of the system and the same are to be communicated as well as regularly monitored at the power house control room through GSM faculties.

A. Inspectorate of Electricity Office

Addressing the following parameters Hazard-wise

Sl.No	Likely area of Impact	Field of Intervention	Existing level of preparedness level	Additional measures to be taken
1	Office building	Fire hazards	Portable fire tenders to be provided at the convenient location	Arrangement for water tank and pumping system so that at emergency fire service can utilized these arrangements to get water easily for extinguish the fire hazards.
2	In electrical wiring circuits & electrical installations in office building.	Short circuits	Utlising protection equipments like RCBO(s)/MCB(s)/ MCCB(s) etc.	Periodical testing and maintenance of electrical installation to be done by authorized person.
3	Entire house fed complex areas for all the existing buildings	Very Narrow way for movement of fire tender to Housefed Complex Buildings.	The approach road to be widen for free movement of vehicles.	The existing school by the side of the approach road which creates traffic disturbances at the starting an at off time of school which may be considered as an accident prone areas, immediately the school to be shifted from the existing position.
4	Earth quake	Office building	Depends on Earth quake with magnitude and intensity.	During earth quake lifts & general stair case to be avoided to come out from the building. Special gateway(exit) to be utilized for emergency exit. If emergency exit is not available take shelter under the table or standing on the corner of the room.

5 Response and Relief

Response includes measures taken in anticipation of, during and immediately after a disaster to ensure that effects are minimized. Although natural hazard cannot be predicted and prevented

5.1 Response Strategies undertaken by the different sub offices of Power Department are as follows-

A. Assam Power Distribution Company Limited APDCL

1) First, to shut down the electric power supply immediately in the affected area to prevent electrical accident.
2) Secondly, to survey the damage.
3) Third, to repair the damage.
4) Fourth, to restore the normal electric power supply as early as possible.
5) One additional step of making arrangement for electrification to any temporary disaster camp shall be taken, if it becomes necessary.

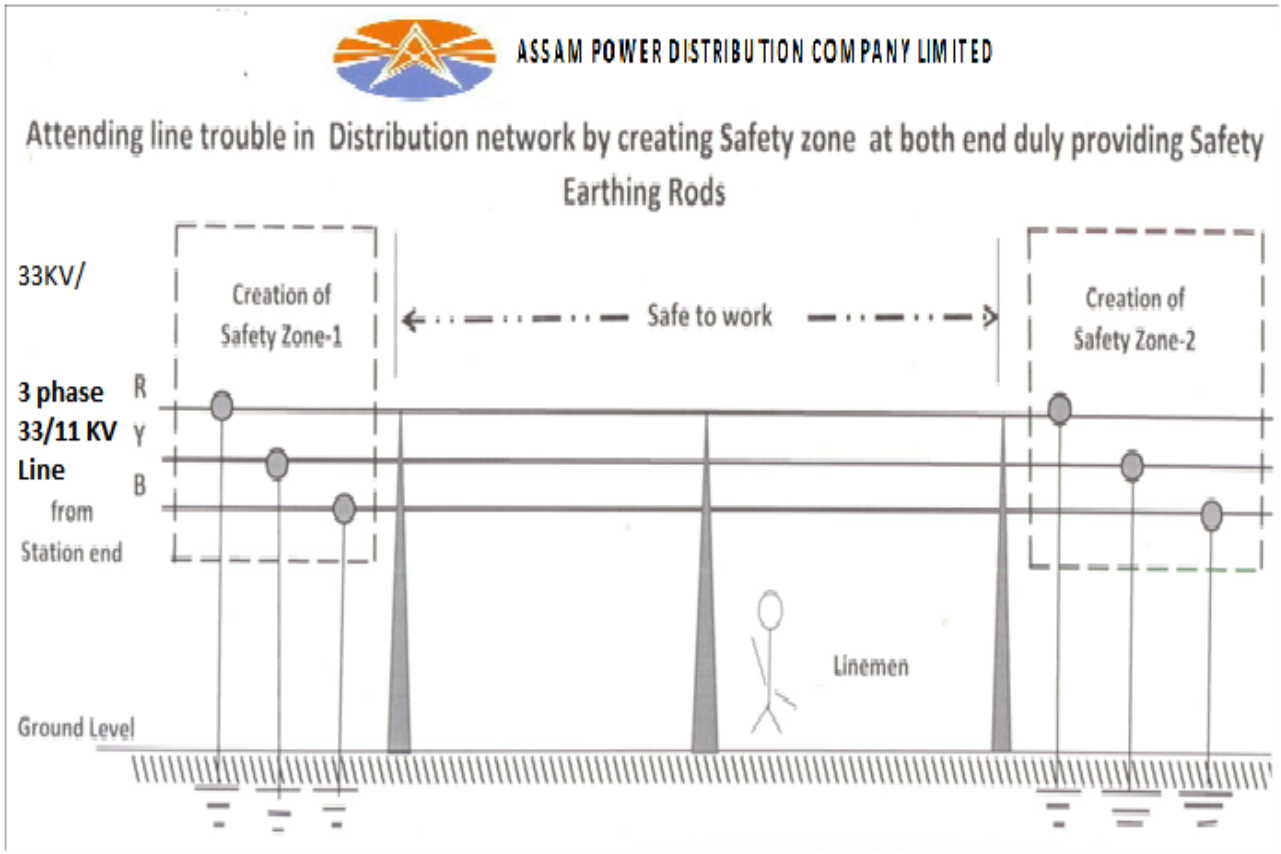
Essential safety material stored for use in disaster: Preparedness and Response for Monsoon:

Earthling Rod sets	High voltage tester	Safety Helmet
Safety goggles	Safety shoes	Tool spanners
Safety belt	Safety Reflecting Jacket	Tester
Rubber hand gloves	Cutting Pliers, Insulated pliers	Poly propylene Rope with different size
Screw driver	Rain coat, Gum boot	LED Torch
High voltage tester,	Men at work' sign board	Head Torch
Insulated GOS operating Rods	Fibber ladder	Hickory rods

❖ **Safety :**

Safety is important for both public and the department. General procedures for safety within the department:

1. All the linemen/field staff shall use relevant safety gadgets while working on distribution network and also creating proper safety zone before starting repair/maintenance work.
2. On safety aspects, all the section officers will inspect the hazardous locations and same may be rectified before starting of monsoon especially distribution box/metering box/LT feeder pillar box where door is open, take action to close the door properly to avoid leakage of current during rain and blocking of water inside the equipment.
3. All the Sub Division vehicles shall be well equipped with manpower, materials and safety accessories
4. The sketch shows how to create safety zones before starting the repair wor



❖ **Restoration**

1. Deputy Manager/Asst. Manager in-charge of the Sub Divisions will ensure that the update of Interruption information shall reach the consumer via face book / Fault Management System (FMS), duly updating the information by feeder managers.
2. AGM in-charge of the Divisions will monitor all resource mobilization like man power, materials, vehicles, etc, among the subdivisions in their jurisdiction.
3. CEO will be the Nodal officer of the Circle to facilitate the work of pooling man power, materials, vehicles, etc, among the divisions in their jurisdiction.

❖ **Stock of major essential materials at field level:**

As the power supply work needs round the clock duty we have minimum line materials at our fields store for maintaining smooth supply of electricity. However during emergency/disaster time we collect required materials from our Central Store located at specific locations. If necessary, some materials can be purchased locally on recommendation of the Circle level purchase committee meeting.

Stock of major essential materials at field level :(Responsibility of Deputy Manager/Asst. Manager) are listed below

II. Operational Guidelines and Checklists for Emergencies:

Sl. No.	Material
1	Poles
2	11 KV AB cable
3	LT AB cable
4	Rabbit conductor
5	11 KV Pin Insulator
6	11 KV Disc insulator
7	33 KV Pin insulator
8	33 KV Disc insulator
9	Ladder
10	Chain Pulley (1.5 Ton)
11	Safety Belt
12	Safety Gloves
13	Safety helmets
14	Safety Gum Boots
15	Safety Shoes
16	Torches
17	Poly Propylene Rope
18	Screw Driver of different size
19	Earthling Rod sets
20	Safety goggles
21	Rubber hand gloves
22	High voltage tester,
23	Safety Reflecting Jacket
24	Cutting Pliers, Insulated pliers
25	Insulated GOS operating Rods
26	Men at work' sign board
27	Fibber ladder

The following points list some of the more common problems and the actions that should be taken to restore power at the earliest.(Response towards Restoration of Power)

1) General Power Failure

In the event of any power failure, personnel are informed through the APDCL customer care centre i.e. 1912 and public address system.

2) Uprooting of Trees on Lines

First, keeping safety paramount, clear debris (including chopping branches, sweeping leaves and informing local municipal authorities). Refer to point {1) General Power Failure} for procedure for the restoration of power.

3) Hail-storms

Hail-storms mainly affect transformers, usually causing damage to insulation which may lead to oil leakage. Clean any oil leakages as per procedure to prevent environmental damage. Refer to point {1) General Power Failure} for procedure for the restoration of power.

Centralized Customer Care

Standard Operating Procedure (SOP) of the Centralized Customer Call Center of APDCL at Sixmile, Guwahati.

The Centralized customer Call center of APDCL operates with 40 nos. of agent on 24 x 7 basis and provide single window for customer to lodge complaints related to (a) Power viz. Power failure, Electrical accident, etc. (b) Metering, Billing & Payment (e) New service Connection and queries related to various schemes (Roof top solar etc.), projects etc.

The consumer can connect to APDCL customer call center through the Toll-free number 1912 and register their complaint. Once the complaint is successfully registered, a docket number is issued to the customer for future reference. For emergency complaint related to electrical accidents, conductor snapping, pole break, transformer burn, sparking, short-circuit, Fire, etc. consumer can call at 8876100100, the hotline number for emergency complaints only.

Also, Consumer can submit their complaint through a WhatsApp number 7575999666 and can also email to feedback.apdcl@gmail.com and cgm.crapdcl@gmail.com and support@apdcl.org.

The complaint which is registered is then forwarded to the concerned field engineers for complaint resolution.

The field engineer after attending the complaint reports the status back for updation in the database.

Customer if unsatisfied/unhappy with the service can submit their feedback through email at cgm.crapdcl@gmail.com

Customer complaints received at support@apdcl.org are individually pursued at AGM, DGM, GM & CGM level of Customer Relations, Marketing and Safety Cell of APDCL.

Customer can also appeal at appellate authority if their grievances are not resolved

1. Forum for Redressal of Grievance of Consumers
2. Ombudsman
3. Commission

B. Response Strategies followed by Assam Electricity Grid Corporation Limited (AEGCL) are-

I. **Response elements**

1. **Operational response** to get the disruption under control as quickly as possible so that normal operation is resumed.

2. **Management response** to allocate resources and making critical decisions needed to resolve the situation.

3. **Communication response** to communicate with employees, their families, officials, other agencies and media.

II. Responding Strategies:

1. Pamphlets and booklets constraining details Dos & Don'ts in the event of crisis/emergency situations and hazards associated with electricity generating stations be prepared and be made available to the general public.
2. Permanent notice boards to be fixed at all the suitable places in the area displaying information maps, escape routes, precautions to be taken and emergency communication details of important officers to be displayed.
3. Help from local youth organizations voluntary organizations educational institutions be sought to conduct educational session to make people aware about the safely measures and rescue operations in the event of a disaster.
4. For crisis management DG set may be there.
5. There are certain low lying sub-stations where flooding of switchyard / cable trench is possible. These S/S are equipped with de-watering pumps to expel excess water in these situations.

III) Maintenance Team

1. Attend to all preventive &emergency maintenance jobs on priority basis.
2. Take Steps to contain or reduce the level of hazard that can create a crisis/ disaster.
3. Organize additional facilities as required
4. Any other responsibility as decided by team leader, looking into the circumstances at the time of the crisis/ disaster.

5) Firefighting equipment such as DCP, Foam type, CO2 etc**.**

IV) Terrorist Threat & Attacks

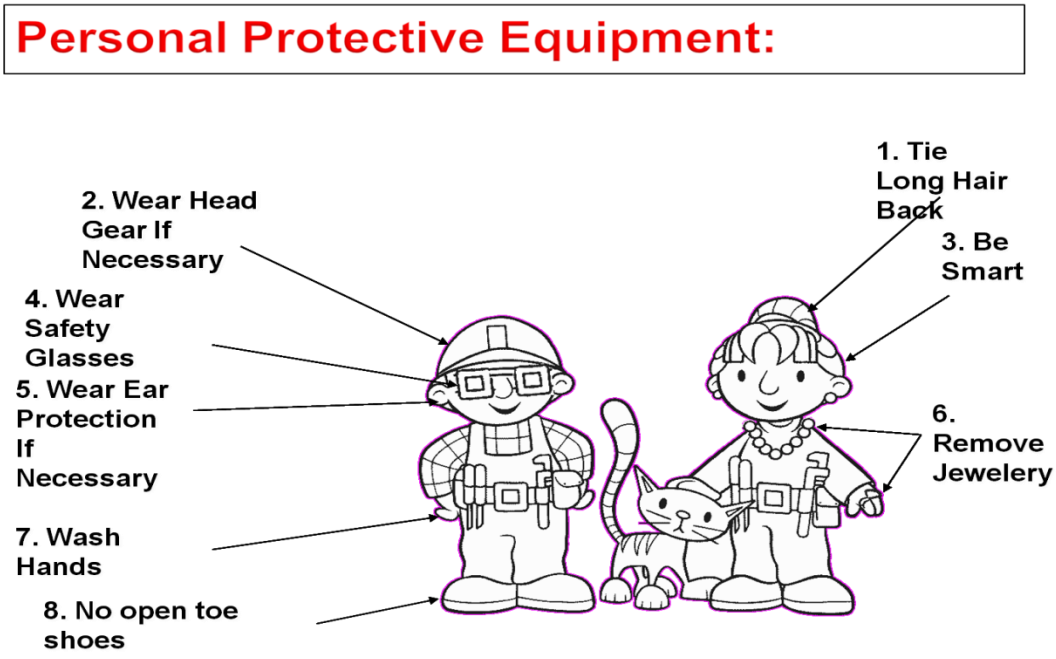
1) Security staff at substations

2) Night watchman is provided at threat prone area of the transmission line.

3) Emergency call out list & Fire station number as well as Contact Nos. of Ambulances Source.

4) Own generator set in case of system fail & emergency

5) **Personal Protection System**



V) Communication

a. PLCC
b. Monile Network
c. Testing equipments

SAFETY EQUIPMENTS

VII) Emergency Restoration System (ERS)

Emergency Restoration structures are the first line of defense to face power disruption arising

Out of disasters due to any cause. This mode of emergency restoration of power supply has helped immensely to handle power crisis arising mainly out of cyclone, whirlwind and flood.. We may have our own trained gang for erection of these systems. The utility has encouraged some of its Rate Contract holder Firms to gain expertise in this area to fructify quick execution of restorative process in the event of multiple tower failures.

AEGCL Power Training institute may regularly impart training to its employees on this subject. Mock drills may be conducted intermittently to refresh different activities and procedures adopted during erection of these towers. In the recent tender specification for procurement of new design ERS towers, clause for live demonstration of erection of these structures has been included four times during a span of two years by the manufacturer with a view to accumulate updated erection techniques

VIII) Emergency inventory stock

Although AEGCL do not maintain any designated emergency stock at present, some of the major

Items like Towers, CTs, PTs, and Breakers& LAs are usually kept as buffer stock in different stores for Utilization during crisis.

C. Response Strategies followed by Assam Power Generation Corporation limited (APGC)L are-

In case of occurrence of emergency in the Thermal Power Plant-

Function / activity	Details of action	Action by
a) Detection of emergency	Whenever there is a detection of emergency, the person Shall immediately inform Officer on Duty at the section.. Considering the seriousness of emergency, the Officer on Duty shall inform the Works Incident Controller , Chief Incident Controller. Shift In-charge of affected area will act as Incident Controller until Incident Controller / HOS arrives at the scene of incident. He shall -	Any person detecting the Emergency event. Shift Incharge/ Officer on Duty

	a. Take action to contain the emergency in case of any fire or leakage, if possible b. Secure safety of persons in affected area. c. Identify the person's needs to be evacuated from Affected area. d. Minimize damage to plant, property and Environment. e. Have care on the need to preserve evidence that May facilitate subsequent enquiry. f. Inform about his assessment to Manager of plant or HOD for further action. g. Hand over operation to the Incident Controller / HOS when they reach at incident site. h. Advice Fire in charge and Security officer & Main Gate for necessary assistance.	
	In case of accident, incident or other emergencies the operator or Technician Gr.I who has been nominated as essential worker shall take immediate action for isolating the effected machines, equipment and associated lines. He shall simultaneously inform the Incident Controller and Concerned shift supervisor about the accident and hazard.	Concerned operator or Technician
	The Incident Controller shall analyze the accident and Hazard. If the damage is huge to property and may be the cause of major causalities leading to bodily injuries to a group of employees or loss of life then he will take necessary steps for declaring the emergency (after consultation with Chief Incident Controller). Otherwise, he will take necessary action for taking internal rescue and Relief measures.	Concerned Incident Controller
b) Alarm	If Chief Incident Controller declares emergency, Immediately the emergency alarm should be sounded.	Chief Incident Controller, Shift In Charge of phase I power house Control Room
	Emergency Siren : In the event of major accident hazard & causalities emergency alarm will be given through **Plant siren by blowing it with varied sound intensity for a period of 90 seconds**. The Shift Charge of phase I control room may blow the siren considering the gravity of the situation or otherwise to be blown as per instructions of the Chief Incident Controller	Shift In Charge of phase I power house Control Room

APGCL's response any to emergency situation in Hydro Power Project are as follows-

1. To alert the downstream people residing by the River before any emergency opening of the dam gate due to sudden rise of Dam water.

2. To intimate the District Administration, Public Authorities as well as Disaster Management Authority and the people of the downstream of the river as far as possible through phone, email, SMS and Public warning like Siren, Public Address System etc. in such type of inevitable circumstances.

3. To minimize the effect on the downstream due to opening of the Dam Gates. Preventive measures should be taken to keep the Dam water level as permissible limit by controlling the release of Dam water through partial opening of the Gates based on the following observations:
   A) Monitoring of water rising tendency at Dam site
   B) Meteorological report on weather condition.
   C) News Report.

4. To take immediate action for clearance of the roads to Dam site and power house in case of any landslide etc.

5. In case of failure of Power supply at Dam site, Power House as well as GM Office Premises/control room, adequate diesel/fuel etc. should be made available for the DG sets.

6. In case of telecommunication failure due to outage of BSNL Tower, the following steps should be taken to maintain communication link to Dam site and Power House as well as in responsible official through Motorola.

   A) Every Officer should take the opportunity to charge their mobile set and Motorola set during the running of DG set at Erector's Hostel.

7. To form a co-ordination committee involving representative from the nearby villages to alert the local people in case of such type of situation. It is also proposed to hold meeting with the selected public representative for public awareness of such type of situation.

8. To safeguard the generating units of the Power House due to back flow of River water to the tail pool, appropriate action should be taken by closing monitoring the level of tail pool water to avoid ingress of dirt and debris to the Power House machineries. Maintain power lines in flood affected area and should be alert so that in no case live 11kV or 33kV power lines comes to contact with water.

9. To safeguard the generating unit of the power house due to back flow of river water to the tail pool and to closely monitor the level of tail pool water to avoid ingress of dirt and debris to the Power House and machineries

Illustration-Picture showing safety measures, adopted by APGCL in its project Areas

6 Relief and Rehabilitations

In any disaster there is a chance of interruption of power first. In case of heavy earthquake of heavy intensity or flood, wind or fire of same intensity there will be interruption for several days. Generators of adequate capacity, sufficient nos. of gas lamps etc. must be kept ready to at least to provide power to relief camp in such situation. We must arrange the generator from some public utilities like mobile tower, BSNL etc. For that purpose we must request as soon as possible and before any heavy disaster come. In such situation we must use LED bulb which consumes very low power compared to other bulb. Therefore, arrangement of low power consuming apparatus must be kept in stock.

The Post Disaster response strategy to rebuild lives and livelihoods in a manner that paves a way for long term sustainable development followed by

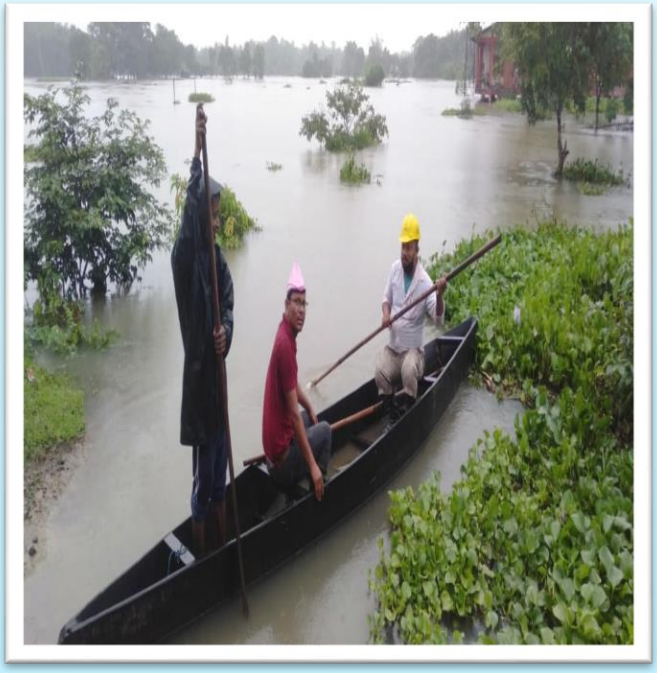
6.1 Relief and Rehabilitations steps

A. Assam Power Distribution Company Limited (APDCL)

Post Disaster (Repair Of Departmental Infrastructure, Restoration Of Departmental Services & Others)

- Assessment of the actual damage in the field.
- Assess the electrical materials and input required for restoration of power supply.
- Prompt restoration of power supply at the affected areas.
- Ensure supply and distribution of the input materials in the affected areas.
- Implement the DMP and Contingent.
- Co-ordinate with administrative authorities with other department for compensation due to loss from the Electrical accident.
- Mobilization of damaged assessment team.
- Restoration of temporary power supply to the relief camps as early as possible.
- Mobilization of team for establishment of base Camps/infrastructure.
- Management of funds and resources at the disaster front.

Illustration- Restoration Works by APDCL, during Post Disaster Times.



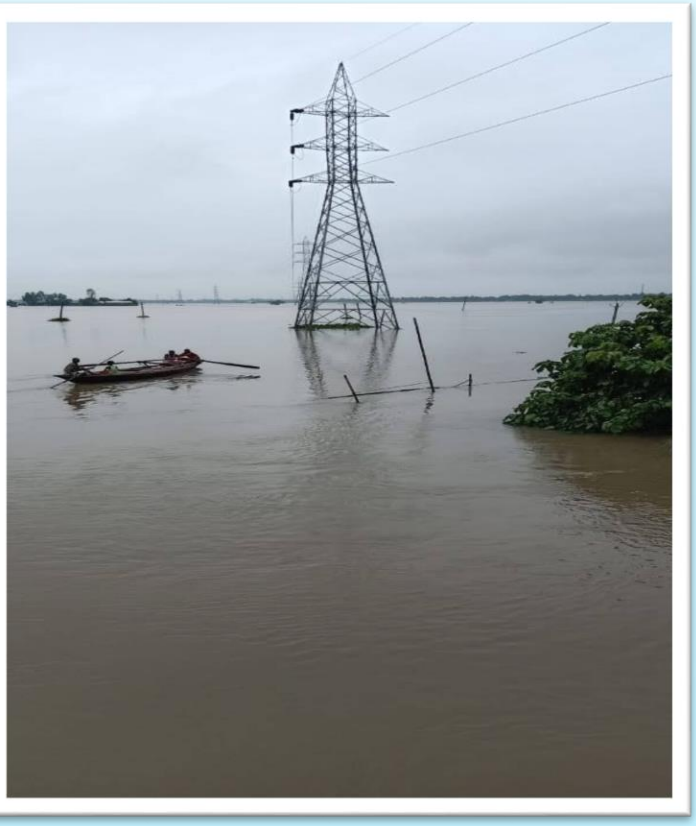
B. Assam Electricity Grid Corporation Limited (AEGCL)

Prioritizing critical functions in power sector is essential in competently and safely restoring power after any crisis situation. Relief and rehabilitation measures should pay attention to the activities for speedy recovery in disaster hit areas. The contribution of both government as well as affected people is significant to deal with all the issues properly. The process of reconstruction involves partial or complete relocation and rebuilding the essential electrical infrastructure so that vulnerabilitylevels are reduced. Power grids Corporation build resilience in the post disaster phrase by responding efficiently to the damages caused due to any natural or manmade disasters

Some of the strategies are as follows -

1. Clearing of damaged towers and salvage of conductors and insulators to be undertaken.
2. Clearing of trees by using power saw etc. to be taken up for restoration of lines.
3. Temporary Monitoring and review of the effected site.
4. Relocation or reconstruction of the damaged infrastructure
5. electricity supply established for relief warehouses.
6. Ensure that electrical equipment is properly maintained.

Illustration- Restoration Works by APDCL, during Post Disaster Times.



C. Assam Power Generation Corporation Limited (APGCL)

Post Disaster Activities

a. Rehabiliation

Medical Facilities will have to be provided to the affected person

b. Collection of Records

The AGM (Operation Division) will arrange to collect all records pertaining to the mishap. All relevant charts ,log sheets ,log books duly signed by the persons on duty at the time of occurrence of the mishap will be preserved for analysing the reason(s) of the mishap and also submitting to the enquiry committee, if constituted

c. Enquiry Committee

The additional chief coordinator will constitute an enquiry committee to investigate the cause of the mishap, fix up responsibility and suggest remedial miseries etc.

The committee shall furnish the report to the chef co coordinator at the earliest.

d. Insurance claim

The general manger, LTPS will lodged a preliminary claim if the loss is covered under insurance, subsequently he will appoint a registered loss assessor/surveyor to assess the loss for preparing the final claim to the insurance agency.

e. Press Release

The AGM (HR & A) will inform he state civil authority police etc about the disaster and arrange to release the information to the press /media in consultation with the GM (DGM, LTPS

f. Implementation of the corrective measures

On the basis of the enquiry committee report all suggestions, recommendation etc will have to be implemented by the power station authority after getting approval of the dame bythe competent authority. This is to avoid similar occurrence in the future.

A. Inspectorate of Electricity, Assam,

Inspectorate of Electricity, Assam, under the Power (Electricity) Department, Government of Assam is a Directorate Level establishment with the Chief Electrical Inspector-Cum-Adviser as the Head. There is no plan scheme in so far as the Electrical Inspectorate is concerned. This Inspectorate is not executing any project work, but is concerned with administration of certain provision of the Electricity Acts and Regulations made there under to ensure safety.
So the department has no any specific role in rehabilitation.

The department is concerned with administration of certain provision of the Electricity Acts and Regulations made there under to ensure safety. Therefore the department has not listed out strategies of rehabilitation in case of all type of disasters

7 Capacity Building

For a disaster management plan to be adopted successfully and effectively, before, during and after the natural calamity in all the areas covered by transmission network, orientation training is to be imparted to the concerned personnel to keep them prepared to face such eventualities.ThereforeTraining for special skills required during emergency operations need to be imparted to the officials and the staff. Select personnel can be deputed for training in the national disaster management institute for capacity building to face Any kind of disasterin Power Sector. This is also a part of disaster management plan..

The National Training Policy for the Power Sector says *"There is an urgent need to conduct purposeful training courses on "Disaster management" and for developing standard operation practices (SOP) for all agencies. A team of trainers in State Electricity Board/Central, State power utility/Substation should be trained in Disaster Management to tackle situations like fire, earthquake, terrorist attacks etc. to restore power within the shortest possible time. These trainers in turn can train the other personnel."*

National Institute for Disaster Management (NIDM) is responsible for training, research, documentation and development of national level information base related to Disaster Management.

National Power Training Institute (NPTI), an ISO 9001 & ISO 14001 organization under Ministry of Power, Govt. of India is a National Apex body for Training and Human Resources Development in Power Sector with its Corporate Office at Faridabad and for North Eastern Region at Guwahati Dakhingaon, Kahilipara, Guwahati-781019, Assam

APDCL/APGCL/AEGCL with the objectives of building the capacities and strengthening the skills of the staff in all the relevant area deal by the power sector encourages its staff to

participate in various training programmes/workshop/Seminars organized by NPTI, Central Board of Irrigation and Power, New Delhi, Engineering Staff College of India, Hyderabad etc.

The employees are sent for training on various technical aspects like Operation and Maintenance of Plant Machineries, training of transmission and distribution systems, renewable energy, commercial and tariff determination, energy efficiency and disaster management etc. Further, senior and mid-level management staff are provided training on managerial topics like human resource development, organization behavior, financial management etc.

7.1 In addition to imparting training to the official personnel of APDCL.AEGCL.APGCL, Capacity Building can be carried out in the following ways-

- **Creating awareness among the working personnel and the people about the natural calamities and the nature and the extent of damage.-**

  The people who are engaged in such works should have knowledge about the Natural Calamities, when and where it may occurs and the nature and extent of damage may be caused in the distribution network at the calamities so that necessary & adequate manpower & materials may be arranged well ahead.

- **Acquiring sufficient knowledge of the locality/area.-**

  The field officers & staff should have sufficient knowledge about the localities/areas so that the arrival time of the restoration party may be shortened. Moreover, priority of the works may be fixed considering the effect of the disaster.

  Pole/Distribution Transformer numbering and consumer indexing is also very necessary to identify the location which also reduces the time to reach at the affected area with necessary support and supplies.

  Maps/Drawings of HT/LT lines, location of the 33/11 KV & distribution sub-stations, location of Gang Switch etc. will also help the operating personnel to take over and handle the works fast in the affected areas without the threat of accident.

- **Materials requirement:**

  Various materials like conductors, tower member, insulator, transformers etc. are required to repair the damaged portions.

A Draft Training Calendar is given below for ready reference.

	Trainings	Target Trainees
1	Safety & Security	Officers and ground level staff
2	Modern Safety Practices in Power distribution Utility	officers and ground level staff
3	Protection in Power Distribution System	officers and ground level staff
4	IT Security protocols	officers
5	Critical Emergency Preparedness	officers and ground level staff
6	Disaster Management Planning	officers
7	Information Security Protocols	officers
8	Fire Safety standards for establishments	officers and ground level staff
9	Electrical safety protocols in establishments	officers and ground level staff
10	Current safety practices in power distribution	officers and ground level staff
11	Security of power distribution installations	officers and ground level staff
12	Power pilferage – technical solutions for prevention	officers
13	Handling of Cascade tripping of grid	officers
14	Building designs and electrical safety	officers
15	Identification & Prevention of pilferage	Officers
16	Premises Security measures	officers

17	Safety in material handling	officers
18	Storehouse security systems	Security Officials
19	Accident management and First Aid	officers
20	Electrical Fire Engineering	officers
21	Electrical safety Procedure and Accident Preventions	Officers
22	Electrical and Power Safety In Power Industry	Officers
23	Risk Management	Officers and Ground Level Staff

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However the Chief Electrical Inspector-Cum-Adviser, Assam may be required to give technical option/advice in matters related to Electricity Act, and Rules/Regulations or any other matter connected with generation, transmission and/or utilization of Electricity as any referred by the State Govt.

Public awareness is done as and when required by publishing in the local newspapers for general guidelines & safety manners to ensure public safety (measures relating to safety and Electric Supply) Regulations, 2010.

Hence there is no such scope of any arrangement within the department for the capacity building of the departmental functionaries at various levels with respect to Disaster Management. There is no any fund available for capacity building of department functionaries

Illustrations- Training of Officers on Disaster Management

8 Citizen Engagement

For a better disaster management plan citizen engagement is a big tool. Citizen engagement is one of the important measures adopted to rebuild or reconstruct the destruction caused by aftermath of any natural or man- made disaster .Informing and consulting with citizen about the disaster to come at any time will aware the citizen about the disaster to face and they will try to know how to get rid of such disaster. They are also the first responder in any crisis situation since they are the ones who are in the affected area. Community can track alert and can support preparation for speedy recovery of the site. Some of the citizen engagement approaches are.

1. Identification of local emergency response organizations and leaders and asking them to be a part of our planning efforts.

2. Using of all available communication channels to recruit members of the community to participate in emergency preparedness.

3. Regular meetings are to be scheduled for the recruited citizens to develop a disaster preparedness plan and also to help the utilities in quick restoration of the transmission system.

4. To reach the citizen and to welcome them to suggest, involve, organize we must take help of schools and colleges, mobile phone, local channel of cable TV, poster, mike etc. If the citizen will fully do not involve in facing any fighting disaster our disaster management plan will not be fruitful. This is also a part of disaster management plan.

5. Engaging the Young Volunteers - Young boys and girls can be a part of creating awareness among school children and the community. Such awareness programmes should highlighting the dangers of electricity and is complemented with communications to increase awareness of the dangers of substations ; How people can prepare themselves against fallen power lines caused by any disaster ;How trees and other vegetation too

close to power lines may cause fires or other safety risks such as fallen live wires ;basic dos and don'ts to follow before, during and after a disaster with IEC materials

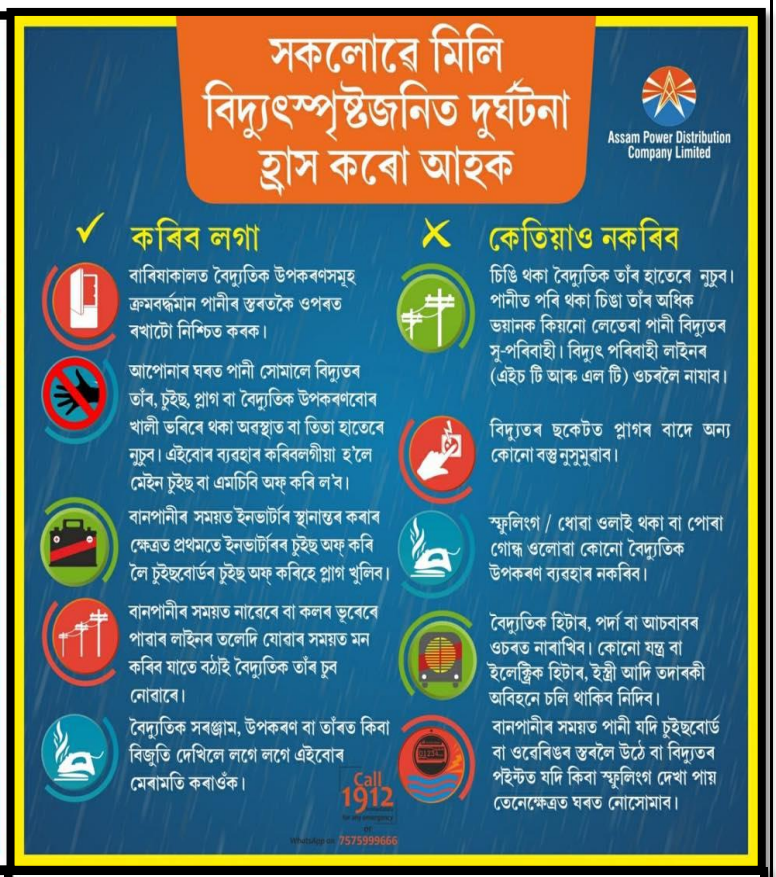
6. Fire safety Drill should be carried out in the community with the community people: The project can focus on creating awareness on fire safety. Both urban and rural communities are prone to fire hazards. The young community volunteers as well the community people can be involved in conducting a fire risk assessment (village level or in a neighborhood) followed by fire safety awareness at the community level

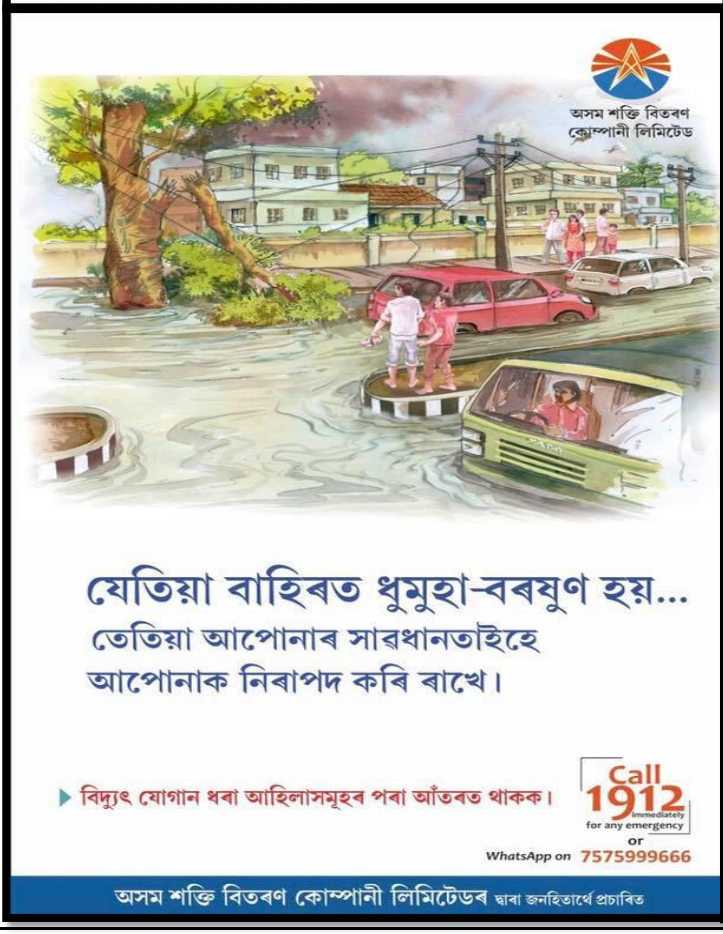
7. Role of NGOs/CBOs- At Panchayat and block level, NGOs and CBOs can help in dissemination awareness and mobilizing community on electrical safety and electrical handling to the community people during pre-disaster, during disaster and post disaster times.

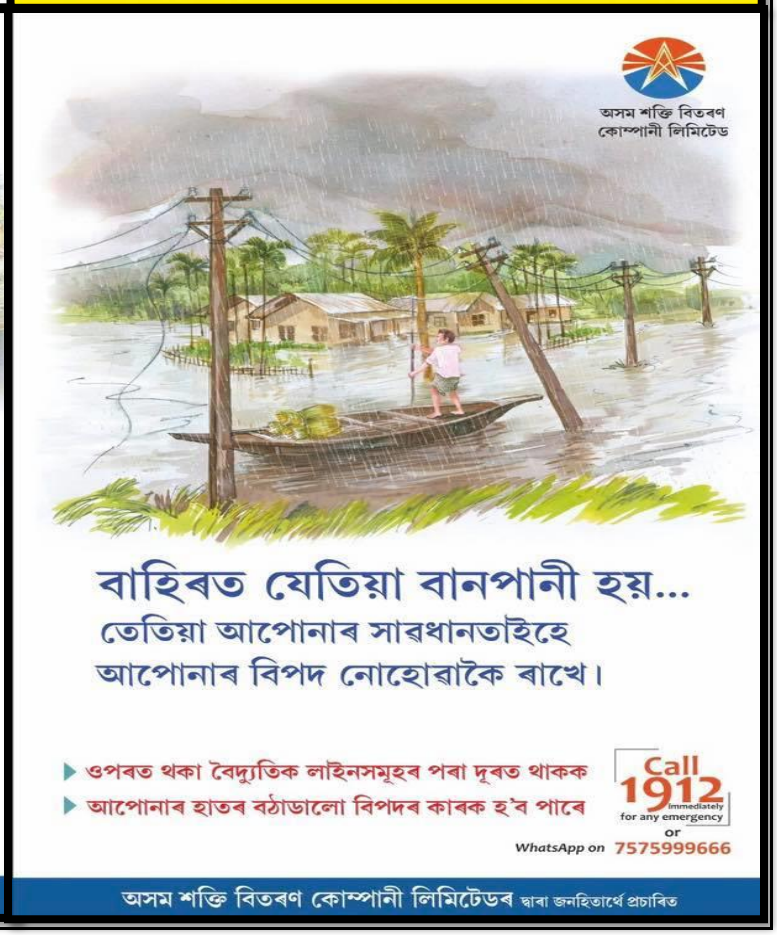
8. Creating awareness among the people about the natural calamities and the nature and the extent of damage as a part of Good Practices through Awareness programmes, Print /Electronics Media.

Public Awareness Meetings are held in different sub divisions all over Assam.In the Programmes, Demonstrations of Electrical Safety Equipment's eg RCB, RCBO etc as well as Safety Precautions to be taken during flood and rainy seasons were demonstrated during the meetings. Safety leaflets are also distributed among the audiences in the meetings.

SAFETY LEAFLETS







Illustrations- Pictures Depicting Citizen Engagement Strategies

9 Standard Operating Procedures (SOP)

Standard Operating Procedures (SOP) gives specific role and responsibility to every team/individual involved in it, in order to perform task assigned to him/her. Thus brings accountability.

This also gives clear idea about who will do what and how and thus helps to avoid any confusion of roles, responsibilities and saves time. Thus increases efficiency.

Availability of a standard operating procedure at the time of disaster is one of the most imp. Aspects of the Disaster Management Plan. At the time of disaster, a proper drill is to be followed to avoid confusion and to shorten the disaster response time the responsibility for coordination of disaster relief operations at various levels is as follows:
At The State Level

This SOP lays down, in a comprehensive manner, the specific actions required to be taken by various Department Functionaries of Power Department (APDCL/AEGCL/APGCL) for responding to natural disasters of any magnitude and dimension.

9.1 Below are phase-wise description of departmental responsibilities/activities

A. SOP of Assam Power Distribution Company Limited (APDCL) Personnel

I. Sub-Divisional Engineer (SDE):

Pre-disaster:-

When there is alert/warning in electronic media/ by some other means of a probable disaster like flood.

Measures to be taken:

1. Raising of power supply conductors in vulnerable areas.
2. Regular maintenance of Sub-station with proper earthing and guarding.
3. Identifying vulnerable areas for smooth supply of power.
4. Keep stock of essential materials like poles, 11 KV cable, LT cable, Insulator, jointing kits, fuse wires of different ratings , safety tools etc.
5. Pre-locating resources useful for anti-disaster measures.

6. Awareness message to public to keep isolated their DG set/ Inverter from Service Mains.
7. SDE should have a good knowledge of his/her village heads and educated local youths so as to get help them such as local country boats along with skilled boatman etc.

During disaster:-

1. Field visit on affected areas.
2. Management and handling of prevailing situation.
3. Co-ordinate with other department /agencies for mitigation measures.
4. Identify the priority areas and do needful for prompt power restoration.
5. Should immediately content SDRF
6. Cleaning the public communication blocked due to snapping of poles and conductors.

After Disaster:-

1. Assessment of actual damage in the field.
2. Assessment of electrical materials and input required for restoration of power supply.
3. Co-ordinate with administrative authorities for compensation due to loss from electrical accidents.
4. Reporting to higher authorities.

II. Feeder Maintenance Engineer/Junior Manager (FME/JM):-

1. JM will check by physical inspection whether any fault has occurred and will start restoration work along with the down-stream workers with the available resources.
2. JM will assist SDE in carrying out restoration work.
3. If 11 KV failure is indeed the problem, try and shift load through any other feeder that may be available.

III.Switch Board Operator /Control Room Personnel:-

1. Immediate disconnection of power supply as any disaster strucks.This is to be done without getting any command from above.
2. Line Man/Sahayak:-

They will not wait for order /command from higher offices and will start restoration work with the available resources.

II. Standard Procedure for Preventive Maintenance (including Monsoon)

1. Procedures outlined in the Distribution Maintenance Manual are to be followed regularly.
2. It is recommended that a monsoon-specific list of activities and a schedule of those activities should be compiled and followed.

III. Standard Procedure for **Preparedness Measures:**

1. All efforts as prescribed in the Distribution Maintenance Manual must be carried out and a checklist of tasks completed at every level must be available to the APDCL, Barpeta Disaster Management Cell.
2. A system to view inventory and list of equipment available should be available to section officers during an emergency or disaster.
3. Preparedness for an emergency/disaster for which warning has been received

- D-24 hours: Alert from **Nodal Officer** must go to all APDCL, Barpeta personnel. Testing and availability of emergency equipment must begin.
- D-12h: All communication equipment must be tested at this time.
- D-4h: All personnel must be at their designated positions, and all required response equipment must be assigned to the teams.
- D+ zero: Turn off power of the "Line" based on reported failure complaints and local knowledge (usually by Unit Officer or higher).
- D+2h: Based on the seriousness of the event, continue execution of response effort, including isolating vulnerable points, detecting problems and mobilizing relief efforts.

Hazard Wise SOP of the APDCL PERSONNEL

Wind and Cyclone

The district is vulnerable to seasonal cyclone between the months March-July. During this event district was affected by severe winds.

Pre-disaster.

- Tree cutting over the HT and LT lines to save the line from snapping due to wind and cyclone.
- Stringing and straightening the lines and poles of the power supply lines.
- Public awareness program by way of announcement, leaflet distribution, organizing meeting etc.
- Training up of technical staff periodically.

During disaster

- Discontinuation of power supply for the safety of life and properties of the affected areas.
- Prompt assessment of the amount of damage and requirement of materials for the power restoration work.
- Clearing the public communication blocked due to snapping of poles and conductors.

Post disaster

- Restoration of the power supply.
- Assessment of damage.
- Up-gradation and rectification of the power supply materials and equipment for the quality power to the consumers.

Land Slide

Pre-disaster

- Identification of the vulnerable area.
- Stringing and straightening the lines and poles of the power supply lines.
- Public awareness program by way of announcement, leaflet distribution, organization meetings etc.
- Training up of technical staff periodically.

During disaster

- Discontinuation of power supply for the safety of life and properties of the affected areas.
- Prompt assessment of the amount of damage and requirement of materials for the power restoration work.
- Clearing the public communication blocked due to snapping of poles and conductors.

Post disaster

- Restoration of the power supply.
- Assessment of damage.
- Up-gradation and rectification of the power supply materials and equipment for the quality power to the consumers.

Flood

Pre-disaster

- Identification of the vulnerable area.
- Lifting of distribution sub-station and power transformer that may affect due to flood.
- Stringing and straightening the lines and poles of the power supply lines.
- Public awareness program by way of announcement, leaflet distribution, organization meetings etc.
- Training up of technical staff periodically.

During disaster

- Discontinuation of power supply for the safety of life and properties of the affected areas.
- Prompt assessment of the amount of damage and requirement of materials for the power restoration work.
- Clearing the public communication blocked due to snapping of poles and conductors.
- Awareness message to public keeping isolated their DG set or inverter from service mains.

Post disaster

- Restoration of the power supply.
- Assessment of damage.

- Up-gradation and rectification of the power supply materials and equipment for the quality power to the consumers.

Earthquake

The entire district is very much vulnerable to earthquake due to its weak geography and fragile geomorphology being in the most dangerous seismic zone i.e. Zone (v).

Pre disaster

- Maintenance of sub-station with proper earthing and guarding.
- Public awareness program by way of announcement, leaflet distribution, organizing meetings etc.
- Training up of Technical staff periodically.

During disaster

- Discontinuation of power supply for the safety of life and properties of the affected areas.
- Prompt assessment of the amount of damage and requirement of materials for the power restoration work.
- Clearing the public communication blocked due to snapping of poles and conductors.

Post disaster

- Restoration of the power supply.
- Assessment of damage.
- Up-gradation and rectification of the power supply materials and equipment for the quality power to the consumers.

Electrical Fire Hazards

Many electrical fires are caused by over clocking simple safety precautions. Please take the time to look around your home for these hazards and correct them.

- Do not overload electrical sockets.
- Wiring should meet current building codes-check the wiring if you live in an older home.
- Have your furnace and or heating system cleaned and serviced yearly.
- Check appliance and extension cords or frayed or exposed wires and replace them.
- Space heaters should never be used as a primary source of heat. Keep them away from walls and do not block exit ways or stairs.
- Turn off AND unplug appliance that are not in use.
- Use proper fuses.

- Extension cords should only be used as a temporary situation or solution.

Plan for Failure of Electricity Grid

In the event of a grid failure, coordinated actions are required to be taken at the generating stations, substations lines under the direction of RLDC(s) and SLDC(s) for speedy restoration of power supply. In case of partial grid failure separate arrangement to be taken from other grid for immediate restoration of power supply.

Operational Level Wise SOP of APDCL

- **Circle Level Disaster Management Cell (CLDMC)-** The CLDMC will compromise the following officers-
    - This cell will be located at the H.Q of each circle and the Deputy General Manager of a circle will be the head of the cell
    - Three officers in the rank of Senior Manager, Deputy Manager/Asstt.Manager &Asstt.Manager (Accounts) will be the members of the cell.
- **Division Level Disaster Management Cell (DLDMC)-**The cell will be located at the H.Q of a division and compromise of the following officers.
    - The senior Manager of a division will be the head of the cell
    - Other three officers in the rank of Deputy Manager/Asstt.Manager, Accounts Officer and Junior Manager will be the members of the Cell.
- **Sub-Divisional Level Disaster Management Cell (SDLDMC)-** This cell is one of the most important and vital organization set up in respect of Disaster Management. This cell will be located at the H.Q of a sub-division and will compromise of the following officers.
    - The Sub-Divisional Engineer of a sub-division will be the head of the cell. He will also be designated as the first responding officer.
    - Three officers in the rank of Deputy Manager/Asstt. Manager, Deputy Accounts Officer and senior most Junior Manager of the S/D will be the members of the cell.

II. SOP of Assam Electricity Grid Corporation Limited (AEGCL)

Quick response mechanism

In the event of any disaster, all related control rooms, mobile line patrolling units headed by the lines-incharge, line restoration units and R/C holder gangs will act as Quick Response Units. All

officers of AEGCL will be supplied with official mobile SIM cards. Each grid has at least one set of Walkie-Talkie. The line restoration units will carry with them additional walkie-talkies available with nearby grid S/S. The grid sub-stations are linked with PLCC which failure proof hot line communication facilities. These units will remain prepared with necessary T&P and accessories. All these facilities will result in very fast response to act according to demand of the situation.

Some of safety measures followed by AEGCL are-

1. Circle Level Disaster Management Cell

a. The cell will be located at the H.Q of a circle
b. The Circle in charge or the DGM of the circle will head the circle level disaster management cell
c. Besides the Nodal Officer, the following officers will b the members of circle Level Disaster Management Cell

i. All the AGMs of the Grid Division under the circle
ii. AGM ,MRT Divn attached to the circle
iii. AOs/AM(A/Cs) (A/C of the circle)
iv. Managers/Deputy Managers attached to the office of the DGM

The functions of the Circle Level Disaster Cell will be to

- Identity the disaster (like flood and storm)prone areas within the Circle and Guide /advise the AGM of the Grid Division to take preventive maintenance works to face any disaster and to monitor the progress of these works.
- Compilation and periodic updation of a comprehensive inventory of all tools and tackles, testing equipments, vehicles, potable gensets, pumps, important spare equipments /parts available in the Circle
- Compilations and periodic updating of a list of names of all officers and staff under the circle with their local and permanent addresses, mobile phone/landline phone numbers.
- Compilation of a list of some reliable and competent local contractors with their phone numbers and addresses.
- Report to the Central cell whenever any disaster strikes within the circle
- Coordinate and advise the disaster management activities of the Grid division under the Nodal Officer
- Mobilize man and material to the disaster site, if required from other grid divisions under the jurisdiction of the circle.

- The Circle level disaster management cell will take stock of the Post disaster status from the Nodal officers (AGM of the Grid Div) and also keep track of the restoration works
- The CLDMC will keep the central cell informed after a disaster and during restoration works
- The CLDMC will collect the estimate f the damage from the Nodal Officers and compile a damage report and forward it to the central team

.

2. Structure of the Divisional level DM Cell

a. The AGM of a grid division who is also a Nodal Officer for Disaster Management activities will head the divisional level disaster Management Cell

b. Besides the Nodal Officer, the following officers will be the members of divisional Level Disaster Management Cell

   i. All the RE/SDO (maintenance) of GSS under the Grid Division

   ii. Managers/Deputy Managers attached to the office of the Sr. Manager

   iii. Divisional Accounts officers under the Division Office

The functions of the Divisional Level Disaster Cell will be to

- Identity the disaster (like flood and storm)prone areas within the division and prepare action plan for [preventive maintenance and forward the same to the circle level cell
- Compilation and periodic updation of a comprehensive inventory of all tools and tackles, testing equipments, vehicles, potable gensets, pumps, important spare equipments /parts available in the division and their locations. These updated data shall be forwarded to the circle level after every quarter or six monthly period of time.
- Compilations and periodic updating of a list of names of all officers and staff under the circle with their local and permanent addresses, mobile phone/landline phone numbers. these updated data shall be forwarded to the circle level after every quarter or six monthly period of time

- Compilation of a list of some reliable and competent local contractors with their phone numbers and addresses.

- Compilation of a list of some reliable and competent material suppliers with their phone numbers and addresses.

- The R.E/SDO (maintenance) of a grid sub stations will be the first person to take action in the event of a disaster and inform the Nodal Officer. The RE/SDO (Maintenance) will carry out whatever action is possible at his level to minimize loos of human life and materials .the nodal officer in turn will inform the Circle Level D.M cell. Mobilize man and materials and coordinate restoration works.

- The nodal officer will assess the damages cause by a disaster and forward the same to the circle level D.M cell.

3. <u>Awareness Drive</u>

a. The Sr. Officer of a T&T division who is also assigned as Nodal officer for disaster management activities will be responsible to make AEGCL personnel under him aware of any disaster that may take place in the area of his operation due to natural or manmade causes
b. The AGM will convene meeting at the sub divisional level and explain different types of disasters that may affect the transmission of power and also cause loss of human lives and properties
c. For awareness drive , The Nodal Officer may take assistance from the District Unit or State Level “Disaster Management Committee”
d. Maintenance and operational personnel should be made aware of hazardous and highly inflammable materials like transformer oil, petrol/diesel so that they are not exposed to any accidental fire
e. Stress should be laid to explain why certain equipments like fire extinguisher ,sand emergency lights, water pumps etc should be kept handy and in “ready for use” condition.

f. Signboard stating "Dos"and Donts" during and after a disaster should be displayed at suitable places inside Control room and office (preferably in local language)

g. Circulars issued from time to time by concerned authorities on disaster management must be displayed on the notice board.

h. Periodic in house training on firefighting, rescue operations and first aid will keep the people alert to any disaster. In this connection assistance may be taken from vigilance Department of the Govt.

i. Mock drill may be held from time to time to update the [preparedness to face a major disaster.

4. <u>Prevention action to be taken up by the nodal Officer</u>

a. HT line towers located in the flood affected areas like river bank should be identified and inspection should be carried out well ahead of Monsoon season regarding condition of foundation etc. Necessary strengthening measures to be taken up whenever required

b. Sub stations which are affected by recurring flood water should be identified. The highest flood water level till date should be prominently marked. Steps should be taken to raise the foundation of level of vital equipment like transformers and other terminal equipment to protect them from flood water in future.

c. Before the on-set of Monsoon season steps should be taken to clean all the drainage system within the substation to ensure free flow of water. The water out lets from the roof tops of control room should also be free

d. There should not be any inflammable oil deposits in the water outlets drains

e. Transformers oil drums should be kept in safe distance from running equipment

f. All de watering pumps and portable Gen-sets should be keep in ready to start condition. They should be test run once daily. Fuel for these should be kept in stock.

g. It is ensured that firefighting cylinders are regularly re filled

h. Maintain up to date inventory status of stores

i. Keep spares for all the vital equipments' like conductors', isolators', LA insulators', CB, CT etc in the divisional stores.

5. Standing instruction to the substation In charge

The following are the standing instructions to the RE/SDO (maintenance) of a GSS to be followed in the event of a Disaster

a. Whenever any disaster strike, the RE or the SDO maintenance is the first to react.
b. Whenever a disaster strike all the incoming power supply to the substation are to be cut off immediately. (The substation to be isolated from circuit) switch on emergency lightening system.
c. In case of disaster like flood, when there is a possibility of water level rising to the plinth level of the control room, instruments fitted on the lower part of a panel like relay, meters etc are to be dismounted from panel and to be kept at higher and dry places.
d. In case of an earthquake of substantial magnitude, power supply should be cut off and visual inspection to be carried out to assess any damage.
e. Immediately inform the nodal officer and report the status.
f. In case the nodal officer cannot be contacted, inform the DGM of the circle.
g. Top priority is to be given to safety of employees.

III. SOP of Assam Power Grid Corporation Limited (APGCL)

Key Personnel of the organization & Responsibilities Assigned in Namrup Thermal Power Plant and Karbi Langpi Hydro Power Plant is as under-

Key Personnel	Namrup Thermal Power Station	KarbiLangpi Hydro Electric Power Station
Chief Coordinator	The General Manager	The General Manager
Addl.Chief	The Deputy Manager, O&M,	The Deputy General Manager (E), The Deputy General Manager (C)
Senior Coordinator	AGM (Mat. Management) AGM(Mech) AGM (operations) AGM (HR&A) AGM(Electric-I) AGM (Electric-II) AGM(Accts) AGM (WHPCD)	AGM (O &M Division –I) AGM(O&M Division –II) AGM (Civil Maintenance div) AGM (F&A)

	AGM(Civil)	
Fire Fighting	AGM (Mech) Dy. Manager (EMSD-I) Dy. Manager (MMSD-II)	Asst. Security Officer, Asst. Manager (Fire fighting)
Coordinator Power Plant	All manager, dy. managers holding charges of maintenance sub divisions	All manager /Dy. managers holding charges of maintenance sub divisions
Medical Relief Co-ordinator	The Sr. Medical Officer/Medical Officer	The Sr. Medical Officer/Medical Officer
Incident Coordinator	The shift-in-charge at the time of incident	The shift-in-charge at the time of incident .
Coordintaor (Dam site and Valve house)-		All Managers/Dy. Managers/Asstt. Managers holding charges of the maintenance sun divisions.

Responsibilities Of Key Personnel Of APGCL

1. **Addl. Chief Coordinator**

    a. Mobilize man power (Senior co-ordinator) and materials for rescue and relief
    b. Organised and participate in rescue/relief
    c. Liaise with district authorities and outside agencies to carry out the operation
    d. Identity location of relief camps at sae distance from the affected area

e. Arrange to provide food, water and clothing at the relief camps

f. Contact relative of the affected persons

g. Keep a close liasion with the Medical Relief Coordinator.

2. **Chief Coordinator**

   a. Declare Energy Situation

   b. Establish Emergency control room

   c.Communicate with district authorities, neighbouringorganisations

   d. Provide guidance to outsideagencies and other coordinatoprs within the plant for speedy implementation of energy plan

   e. Approve release of information to the Press/Media

3. **Fire Fighting Coordinators**

   a. Coordinate entire fire control measures

   b. Requistation man power, special rescue equipments, fire fighting appliances/equipments from the members

   c. Ensure Availability of water fror fire fighting

   d. Monitor inventory level of fire materials and equipments

   e. Provide guidance to outsiefire fighting personnel

4. **Co-ordinator (Power Plant)**

   a. Rush to their respective working place and do the needful for safeguard of the plant and equipment

   b. Any additional work assigned by the Sr. Coordinators

5. **Medical Relief Coordinator**

   a. Organise First Aid at tr site of incidence

   b. Organise treatment of seriously injured persons at the NTPS hospital

   c. Arrange extended hospital facility at several other locations if hospital is damaged or l;oad is exxecive

   d. Arrange life saving drugs/medicine,oxygen cylinders, extra beds etc

   e. Liase with neighbouring hospital if require

   f. Draw additional man power having pra medical certificate if Required

g. Maintain casuality register and coordinate with local police for completing the formalities in case of death if any.

6. **Incident Coordinator**

a. Inform the chief coordinator, Additional the Astt. Security Officer immediately over telephonic/mobile

b. Raise the siren intermittently.

Key Personnel of the organization & SOP of ,Lakwa Thermal Power Project-APGCL

Nomenclature Used In Plan	Responsibility	Alternate responsibility
Chief Incident Controller	General Manager	DGM
Works Incident Controller	Dy. General Manager	AGM MM
Incident Controllers	All Head of the sections	Next in charge , DM/AM
Welfare, Media & Public	AGM(HR)	AM HR
Coordinator		
Fire & Safety Coordinator	In-Charge Safety	AGM, Elect II
	In-Charge Fire	AGM, LOD
ALL Head of the Divisions	All AGMS	Next in charge , DM/AM
Maintenance Coordinator	All Head of the sections	Next in charge , DM/AM
	(Maintenance)	
Security Coordinator	In charge Security	Next in charge
Medical coordinator	Medical Officer	Medical officer

Essential Worker	All skilled workers and staff conversant in emergency situations	

SOP of Lakwa Thermal Power Station Personnel-APGCL

1. Chief Incident Controller :

Occupier will assume overall responsibility for Plant and its personnel and shall guide to activatethe major emergency procedures in the event of any emergency. His duties are to

a) Access the magnitude of the situation, declares crisis/Emergency situations and decide if staff need to be evacuated from their assembly points (already identified) to safer places.

b) Exercise direct operational control over the areas other than those affected.

c) Undertake a continuous review of possible developments and access in consultation with key personals as to whether shutting down the plant and evacuation of personnel required.

d) He will communicate/do liaison with District authorities, Chairman (Deputy Commissioner, Sonari/Sibsagar) of District Crisis Management Group for offsite emergency situation, senior Officials of Police, Fire Brigade, Medical and Factory Inspectorate and provide advice on possible Effect on area outside the factory.

e) Communicate with Corporate Office

f) Look after rehabilitation of affected persons after emergency is over

g) Issue authoritative statement to news media and ensure that evidence is preserved for enquiry's to be conducted by statutory authorities.

General Manager of the Plant or in his charge will be Chief incident controller.

The office of Chief Incident Controller shall also work as **Emergency control room / centre**

2. Works Incident Controller:

a. Factory Manager will act as works incident controller. Immediately on knowing about emergency he will rush to incident site and take overall charge. He will assess the extent of emergency and in formChief Incident Controller about the status. He will also communicate if the effect of emergency is likely to be felt outside of the plant so that Chief Incident Controller may take necessary steps to inform district administration about an Off Site Emergency in the Plant and District Crisis Management Group may take over for control of emergency. He will

a. Form a committee or he himself will oversee to control the emergency situation

b. Ensure availability of resources to all concerned for control of emergency.

c. Liaise with all the Coordinators continuously for all operational matters and the progress of the implementation of the Emergency Plan and activities.

d. Provide advice and information to the Plant Firefighting group and local Fire Service.

e. Ensure that all the worker / staff of the affected area if need to be evacuated to assemble atdesignated assembly poin

f. Ensure that causalty (if any) are send to safe places for Medical treatment.

g. ensure the activities about preserving the evidence so as to facilitate any enquiry in to thecause and circumstances which caused or escalated the emergency.

Deputy General Manager or the person in charge will be Works Incident Controller.

3. **Incident Controllers :**

As soon as the HOS becomes aware of the emergency, he will proceed to the scene. On arrival, he shall assess the scale of incident, and direct operations within the affected area with following priorities. He will inform HOD, Work Incident Controller, Chief Incident Controller & maintenance co coordinators accordingly

a. Secure safety of persons in affected area.

b.Identify the persons needs to be evacuated from affected area.

c. Evacuate non-essential personnel to ASSEMBLY POINTS.

d. Minimize damage to plant, property and environment.

e. Have care on preserving evidence that may facilitate subsequent enquiry.

f. Inform about his assessment to HOD of plant or Work Incident Controller for further action

g. Advice Fire in charge and Security in charge at Main gate for necessary assistance

4. Safety Coordinator – In charge Safety:

He will keep overall watch over whole situation and

a). Help and advice the concerned department in planning / organizing measures for effective control over emergency.

b). Check and evaluate the effectiveness of action taken or proposed to be taken to control the situation.

c). Advice on maintenance of records as may be necessary relating to accident for further investigating purpose.

5. Welfare, Media & Public Coordinator - AGM (HR):

On hearing the emergency siren he will proceed to control room and maintain communication with the Works Incident controller. He will work as liaison officer and will be stationed at entrance gate during the emergency. He will work under the direction of Chief Incident Controller and will handle Police, Press and other enquiry's. He will receive report from roll- call and ask team leaders to assemble along with the staff in their field for evacuation in case of Off-Site Emergency. His responsibility shall be -

a. To ensure that causality receive adequate attention.
b. Arrange staff to act as runner between Works Incident Controller & Chief Incident Controllers.
c. Maintain required inventory in control room.
d. To arrange additional help to inform relatives if required.
e. To ensure that alternative transport is available when need arises.
f. To arrange refreshment / catering for employees engaged for controlling emergency inside the Plant if required.

g. Maintain a log of incident on tape**6. In charge (Environment):**

He will maintain liaison with local meteorological department pollution control department, official of ministry of environment & Forest and receive all information about change of weather condition which may affect over control of emergency. He will give all feed back to Work Incident Controller/ Chief Incident Controller.

7. Fire Coordinator - In charge Fire:

The In charge Fire will be responsible for firefighting and rescue in the Plant. On hearing the siren he will reach Fire Station immediately advice Fire staff on mitigation activities. He will also announce/ convey through telephone or messenger to AGM (HR), Works Incident Controller and chief Incident Controller about incident zone. He will also stand by to direct emergency services. He will make arrangement for rescue of staff / persons trapped inside area of emergency.

8. Security Co-ordinator – Asst. Security Officer (AES F):

On hearing the emergency call he will rush to Main Gate and be in constant touch with AGM (HR), Works Incident

a. Announce the zone where the emergency has occurred, on the advice of Works Incident Controller he will make arrangement for evacuation of Staff.
b. Ensure control of traffic inside the Plant as well as main gate.
c. Be in touch with HOD Engineering & process

1. Head of Divisions (HOD) –

All AGMs: Departmental Heads will report to Works Incident Controller & provide assistance as required. They will decide & provide the requirement of staff, material, equipments, services etc at the incident site.

10. Medical Coordinator – Medical Officer:

Medical Officer on information about emergency will proceed to hospital. He will

a. Arrange for medical aid.
b. Arrange for treatment of affected personnel in or outside hospitals, if required.
c. Inform about the condition of affected persons to Incident Controller & will suggest about sending the affected persons to other places if required for treatment.

11. Maintenance Coordinators:

Respective HOS of service deptt will assist the concerned Incident controller on mitigation of emergencies. They will work as per the requirement of Incident Controller & Works Incident Controller.

12. Essential Workers:

These workers will be the workers who are on the site and operating and/or maintaining the control panel, machine and equipment, while operating or maintaining machines and equipments if there is any emergency, he is required to take the very first step for isolating the effected machine, equipment and other auxiliaries. The job wise essential workers are given below:

a. Operators Gr.I of Power House will work as an Essential Workers for isolating the affected equipment of respective areas.
b. Electricians Gr.I in all areas will work as an Essential Worker for electrical isolation of the affected machines.
c. Boiler AttendentGr.I/II in Boiler units will work as an Essential Worker for isolating the affected machines and equipment of the boiler.
d. Operator Gr-1 or their alternates in remaining areas of the plant shall take the same responsibilities as and when emergencies arises in their respective areas. While taking immediate action for isolating, machine, equipment and other auxiliaries etc. Essential Worker is also to take simultaneous and/or immediate action to inform the concerned Shift In charge of that area. The Shift In-charge will assess the situation and take further actions according to On-site Emergency Plan plus whatever he considers necessary for safety, first-aid and rescue measures.

Hazard Wise SOP OF APGCL Personnel, Lakwa Thermal Power Station

General:

a. Immediately on seeing the occurrence, shout loudly and alert others to evacuate from effected area to safer places.

b. If the emergency cannot he controlled by the staff of respected area, use all sort of safety devices to withstand the situation.

c. All personnel except the incident controlling team should vacate to some safer areas.

d. The sections which are not effected will continue the work unless and until instructed by the Works Incident Controller or, Chief Incident Controller.

e. All persons other than essential staff to maintain the plant, should leave the work spot and assemble in some safer places.

During Fire Emergencies:

a.Person noticing fire : Raise alarm & shout 'Fire Fire Fire' . Get help. Convey the message to the shift-in charge of the plant, giving clear message, exact spot of fire and name of machinery/equipment involved in the fire. Inform Fire section in Telephone no 302.

b.If you are trained in firefighting: Attempt to put out fire. If electrical installations are involved, attempt to switch off power supply, and if running machines are involved, attempt to stop effected machines.

c. For electrical fires : First, switch off the supply line. Use CO_2or Dry Powder extinguishers to put out the fire.

d. For flammable substances like oil, paints etc. : Use Dry powder of foam type extinguishers. While fighting the fire, position yourself windward so that you will be protected from flame and radiant heat.

e. For combustibles like paper wooden materials, Bamboo etc. : Use water fromfire-buckets, Soda acid extinguishers, and hydrant facilities.

Duty Of Non-Trained Persons:

a. In case you are not trained in Fire-Fighting, do not attempt Fire-Fighting; instead let the first available trained person at site fight the Fire.

During Explosion:

a. Emergency shut down to be undertaken partially/fully depending upon the situation.
b. Rests of the measures are same as fire emergency.

During Earth Quake/Super Cyclone/Structural Collapse

a. The Shift In-charge shall undertake emergency shut down of the plant in consultation with Incident controller/depending upon the gravity of the situation.

b. Isolate the hazardous chemical storage tanks from system

c. Instruct employees to assemble at the Assembly point.

D. Inspectorate of Electricity Office

The SOP of Inspectorate Of Electricity Office Is Placed below

Designation	Duties to be performed in normal time.	Duties to be performed after the disaster.
Chief Electrical Inspector Cum-Adviser, Inspectorate of Electricity	Administration of different provisions of the Electricity Act and Rules/Regulations made thereunder. (i) Certain Provisions of the Electricity Act,2003 and the Central Electricity Authority (Masuring relating to Safety and Electric Supply) Regulations 2010 made thereunder. (ii) Certain provisions of the Assam Cinema (Regulation) Rules 1960. (iii) Assam Electrical Licensing Board Regulations, 1992. (iv) Certain provisions of the Assam Lift and Escalators Act. 2006 and rules made there under, namely the Assam Lift and Escalators Rules, 2010.	As per direction of District Administration.

10 Knowledge Management

Identification of knowledge institutions and mechanism of knowledge sharing

The state level expert technical committee provides the blue print of the contingent measures to be taken up in cases of such natural disaster and the booklet is circulated field functionaries for making them aware of the technical support they are needed to render. The IIT, Guwahati could be approached for knowledge sharing purpose. Knowledge sharing will be done through electronic media, personal contact and discussion in seminars/workshops.

Need of creating network of knowledge institutions

There is a urgent need felt for creating such knowledge institutions especially owing to the increased frequency of aberrant weather conditions in the offing due to impacts of climate change. The problems need to be addressed in a very professional manner. The consumers of our district mostly in hilly remote areas and thus are vulnerable to impacts of natural disaster. Induction of Knowledge management professional in the department to create a repository of best practices, studies ,documents, research papers in Association and Coordination with Knowledge based Institute, Scientific Institute Research institute can guide the department in the same .

Documentation of lesson learnt

Such statistics of area affected, extent of damage, input subsidy extended, different measures taken etc. are all recorded for future guidance, Pertinent information will be hoisted in the websites of respective directories and circulated in the vulnerable areas. However all these along with a critical analysis of the same could help us to locate gaps and be ready appropriately to plan for such eventualities.

Documentation of best practices and uploading of the same in the departmental websites

The contingent plan is uploaded in the website and best practices are being uploaded and need to be done on case to case basis.

- **Good Practices adopted by AEGCL for countering disaster:**

1. Before charging of any transmission lines, AEGCL takes approval from the Chief Electrical Inspector and after that notification of charging of the section of the line published in the local newspaper in Assameese and English language. (copy of the notice is placed as Annexure-1)
2. AEGCL published Safety Manual in the official website https://www.aegcl.co.in/acts-policies-guidelines/ . All the staffs deputed in the substations and transmission lines for construction and operation and maintenance activities strictly adhere by the rules as stipulated in the safety manuals.
3. All the Resident Engineers of the substations unfailingly at least ensures availability of the following Personnel Protective Equipments(PPE)(Photographs enclosed as Annexure-2) :

   a)Rubber Gloves

   b) Safety Shoes

   c)Safety Belt

   d) Ladder

   e) Earthing devices

   f) Helmet

   g) Line tester

   h) Ropes

   i) Hand tools like pliers, screwdriver etc.
4. The substation-in-charge always maintains the following essential documents (Photographs enclosed as Annexure-3):
   a. Permit to Work Book-PTW
   b. Electrical Inspector for Charging Permission.
   c. Office Record :
      i. Log Book, Log Sheet
      ii. Site Test Report

iii. Factory Test Reports

iv. Tripping Register

v. Equipment maintenance Register / Maintenance Schedules / Safety Audit.

5. Periodic checking of Earthing of all the equipments of the substations. While construction of the Earthing, AEGCL strictly follow the procedures as guided in the relevant Indian Standard codes.

6. AEGCL committed to establish and maintain highest quality of material as per the Quality Policy published in the official website https://www.aegcl.co.in/wp-content/uploads/2020/12/QUALITY-POLICY.pdf

7. Most of the Projects under gone by AEGCL are Multilateral Development Bank funded the main objective of which is to provide clean and green energy to the people in sustainable way to meet up the Sustainable Development Goal(SDG) . AEGCL mandated to adhere by the Standard Environmental and Social Safeguard Procedure as per the relevant International Funding Institutions.

   https://www.adb.org/sites/default/files/institutional-document/32056/safeguard-policy-statement-june2009.pdf; https://www.aiib.org/en/policies-strategies/framework-agreements/environmental-social-framework.html etc.

   In that process AEGCL conducts Environmental Audit in the existing substations. (copy of the checklist is placed as Annexure-4).

8. AEGCL observe Monthly Safety Day for safety awareness among the employees and stakeholders and implement mitigation measures for preventing and countering the disaster situation.

GOOD PRACTICES ADOPTED TO MINIMISE THE DISASTER RISK

Barricade Construction

Barricade Construction

SAFETY DAY

MOCK DRILL

MOCK DRILL &SAFETY EQUPIMENTS

BAMBOO GUARD

Action Plan 2021-22

Action Plan is prepared with the idea-**Environment**–***Disaster- Development linkages for sustainability and inclusiveness along safety and security In Power Sectors***

Sl.No	Key Action (Tentative)	Implementation Partner
1	Developing of an effective knowledge management portal of AEGCL/APGCL/APDCL for scientific data and DM activities related to mitigation, sharing of best practices etc. for public awareness as well think tank for power department.	APDCL/AEGCL/APGCL/CEIA
2	Ensure availability of water supply and other firefighting materials like sand and chemicals in all public and private buildings. Undertake Mock Drill Relating to fire safety in power every year related to preparedness measures, evacuation and initial response actions.	APDCL/APGCL/AEGCL
3	Design of the transformer pad, Mounting Structures, foundation of tower etc should be considered earthquake as well as flood prone zone.	APDCL/APGCL/AEGCL

4	Retrofitting of all old/ existing towers, Transformers on Electrical, Pole Salvage, Straightening, Realignment or Replacement based on the Safety Audit findings in a phased manner.	APDCL/APGCL/AEGCL
5	For tower foundation, type of foundation to be done finalized after conducting soil investigation test of the location.	APDCL/APGCL/AEGCL
6	Fire extinguishing system specially designed for transformers. Fire extinguisher should be checked and filled as and when necessary.	APDCL/APGCL/AEGCL/CEIA
7	Procurement of emergency vehicles/boats to be kept ready in hand to reach out the marooned areas.	APDCL/AGCL/APGCL
8	Safety Audit findings in a phased manner	APDCL/APGCL/AEGCL
9	Nominating a Safety Officer in each zone, division and sub division	APDCL,AEGCL,APGCL

10	One special meeting on DM aspects to be conducted half yearly at Electrical Division & Circle level. Capacity Building to officers in all Zones, Divisions, Circle relating to the Field Managing Disasters in power Sector	APDCL/AEGCL/APGCL/CEIA and One Representative of power Deptt.
11	Adoption of Good Practices towards mitigation and better preparedness in terms of disaster risk management related to disaster - resilient power structures.	APDCL/AEGCL/APGCL/CEIA

Tentative Financial Implication in Disaster Management Activities

Assam Power Generation Limited

Sl. No.	Particuars	Amount (Rs. in Lakh)
1	Training programme in Disaster management (Training expense per head @ Rs. 30,000/- for 100 personnel)	30.00
2	Pre/post disaster management capacity building including repair, maintenance and reconstruction of partially/tottaly damaged infrastructure of APGCL for 4 power stations @ Rs. 150.00 Lakh each.	600.00
3	Procurement/Purchase of Equipments, materials, machineries, etc. for each power station for disaster management activities (For Namrup TPS Rs. 150 Lakh, for Lakwa TPS Rs. 150 Lakh & for Karbi Langpi HEP and Myntriang SHEP Rs. 300 Lakh)	600.00
4	Vehicle-2 nos. for each power station (4 nos.) for 100 days @ Rs. 30000.00 per day during disaster.	240.00
5	Engagement of outsourced labour @ Rs. 500.00 per day during disaster -20 nos. each for 4 power stations for 100 days = 100x500x20x4	40.00
6	Hiring of ambulance-2 nos. @ Rs. 3500.00 upto 10.00 Km for each power station during disaster for 100 days=2x3500x120 (For 4 power station minimum 30 days=120 days)	8.40
7	Other unforeseen/unplanned activities related to disaster management (For 4 running power station L.S. Rs. 100 Lakh each)	400.00
	Total=	1918.40 **Say 19.2 crore**

Action Plan 2021-22

Action Plan is prepared for ***Disaster (Flood/Storm/Lightening) safety and security In Power Sectors, Assam Power Distribution Company Limited***

Sl.No	Key Action (Tentative)	Implementation Partner
1	Developing of an effective knowledge management portal of APDCL for scientific data and DM activities related to mitigation, sharing of best practices etc. for public awareness as well think tank for power department.	APDCL
2	Develop audio/video capsules for awareness programmes on TV, Radio, and social media based on the critical times and hazard-specific actions in the state on electrical safety.	APDCL/CEIA
3	Promoting Volunteerism inthe field of generating Awareness in electrical safety during pre monsoon. Associating with the Local NGOs for disseminations of awareness on Electrical safety.	APDCL,ASDMA

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CGM (D&S)
APDCL, (LAR)

4	Develop Modules in Safety and Managing Disaster in the Field of Power Distribution	APDCL
5	Ensure availability of water supply and other firefighting materials like sand and chemicals in all public and private buildings. Undertake Mock Drill Relating to fire safety in power every year related to preparedness measures, evacuation and initial response actions.	APDCL
6	Developing protocol for quick repair, replacement, establishing new infrastructure, human resources as well as systems for earliest regaining of functionality. In simple terms make way for promoting Green electrification and disaster resilience structures	APDCL
7	Design of the transformer pad, Mounting Structures, foundation of tower etc should be considered earthquake as well as flood prone zone.	APDCL
8	Retrofitting of all old/ existing towers, Transformers on Electrical, Pole Salvage, Straightening, Realignment or Replacement based on the Safety Audit findings in a phased manner.	APDCL
9	For tower foundation, type of foundation to be done finalized after conducting soil investigation test of the location.	APDCL

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APDCL,LAR

CGM (D&S)
APDCL, (LAR)

10	Fire extinguishing system specially designed for transformers. Fire extinguisher should be checked and filled as and when necessary.	APDCL
11	Procurement of emergency vehicles/boats to be kept ready in hand to reach out the marooned areas.	APDCL
12	To undertake emergency measures such as- 1.Strengthening and heightening of Distribution Network for safety purpose. 2. Renovation of old Sub-stations & introducing new Sub-station to reduce T&D losses. 3. Conversion of LT Bare Conductor to ABC for reduction of theft and public safety.	APDCL
13	Develop a MIS web portal on DM trained personnel's.	APDCL
14	Procurement of handheld Satellite phones	APDCL
15	Nominating a Safety Officer in each zone, division and sub division	APDCL
16	One special meeting on DM aspects to be conducted half yearly at Electrical Division & Circle level. Capacity Building to officers in all Zones, Divisions, Circle relating to the Field Managing Disasters in power Sector	APDCL
17	To conduct Mapping exercise of educational institutions, PHEs in areas which are vulnerable to overhead HT lines and undertake safety measures for the same.	APDCL/ PowerDeptt.

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APDCL,LAR

CGM (D&S),
APDCL, (LAR)

18	Facility to be provided to interconnect the State Data Centre with other State.	APDCL/Power Deptt.
19	Introducing new technology for Solar Energy	APDCL
20	High flood level marking in all the electrical post in the areas more vulnerable to flood 	APDCL
21	Installations of electronic visual display, diplaying electrical hazard safety , outside Governmnet buildings	APDCL

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APDCL,LAR

CGM (D&S)
APDCL, (LAR)

Tentative Financial Implication in Disaster management Activities

Assam power Distribution Corporation Limited (For the financial year 2021-22)

Sl no.	Particulars	Amount (Rs In Crores) per year
1	Disaster management activities	0.48
2	DTR and PTR Maintenance	2.94
3	Capacity Building for training programme in disaster management Training expenditure per head @ Rs. 25,000/- for 250 personnel.	0.63
4	Fund for Control Room Maintenance during disaster	0.8
5	Fund for maintenance of line during disaster	75
6	Engagement of outsourced labour@ Rs.500.00/day during disaster:- 20 nos for each Sub-Division for 60 days = 20X158X60X500	9.48
7	Vehicle:- 1 no vehicle for each Sub-Division for 60 days:- Rs.50000X158X2	1.58
8	Other unforeseen activities:-Rs.23.70 crores (Rs.15 lakhs per circle).	8.7
	Total	**99.61**

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Tentative Financial Implication in Disaster management Activities

Assam Electricity Grid Corporation Limited

Sl no.	Particulars	Amount (Rs In Crores)
1	Disaster management activities	2.39
2	Capacity Building for 1 year both from officer and ground level	0.23
3	Fund for Control Room Maintenance during disaster	3
4	Fund for maintenance of line during disaster	30.67
5	Engagement of outsourced labour@ Rs.500.00/day during disaster:- 20 nos for each Sub-Division for 60 days = 20X158X60X500	2.41
6	Vehicle:- 1 no vehicle for each Sub-Division for 60 days:- Rs.50000X158X2	1.58
7	Other unforeseen activities:- (Rs.50 lakhs per circle).	2.5
8	**Total**	**42.78**

27/09/21
DGM (ORM) LAR

2/3/21
GM (M&PR)

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2	132/33 KV GSS, Azara	Sumit Kr. Rahul	DM	9854054828
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4	132/33 KV GSS, Chandrapur	Kovid Kr. Das	AM	8812811254
5	132/33 KV GSS, Capital	Arabinda Sarkar	AM	9435014819
6	132/33 KV GIS, Kamakhya	Sankar Jyoti Bora	AM	7002203667
7	220 KV GIS, Sonapur	Himanshu Saikia	AM	9854738617

8	132/33KV Grid Sub-Station Division, Dhaligaon	Rupjyoti Sarma	AGM	9678006071
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49	132/33 KV GSS, Bokakhat	Ashwani Kr. Gogoi	DM	9435720669
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Jorhat-I	Shri Robert Handique	0376-2320048(O)	9859774141	agmapdcljed1@gmail.com
Jorhat-II		0376-2321125(O)		agmjed2@gmail.com
Teok	Shri Kamala Kanta Pegu	0376-2396450(O)	9707999525	agm.tked@rediffmail.com
Golaghat	Shri Pallab Pran Bora	03774-280312(O)	6900170277	smged_apdcl@rediffmail.com
Sivasagar	Smt. Gayatri Dutta Bora	03772-222133(O)	9435055777	agmsed.apdcl@gmail.com

Name of the Division	Contact Person	Contact No.	Mobile No.	E-Mail Id
Nazira	Shri Rupjyoti Borah	03772-252223(O)	7099019029	agm.nazira@gmail.com
Moran		03754-226202(O)		agm.moran@gmail.com
Dibrugarh	Shri Manuj Phukan	0373-2320395(O)	9435706103	agm.dibrugarhed@gmail.com
Duliajan		0374-280064(O)		agm_dedapdcl@rediffmail.com
Tinsukia	Shri Uddip Deori	0374-2331460(O)	9435335394, 9127828492	smtinsukia@gmail.com
Digboi	Shri Muniraj Giri Borhazowal	03751-264821(O)	9706871973	digboielectricaldivision@rediffmail.com

List of Sub-Divisions and Contact Details

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
Guwahati-I	Chandmari	Shri Chandan Bora	9954192032	sdechandmari@yahoo.in; sde.chandmari_esd@apdcl.org
	Uzan Bazar	Shri Abhijit Bordoloi	9954192038	sdeuzanbazar@gmail.com; sde.uzanbazar_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
	Narengi	Shri Rubul Haloi	9954192035	sdenarengi@yahoo.in; sde.narengi_esd@apdcl.org
	Capital	Shri Jugal Kishor Bhardwaz	9954192021	sde.capital_esd@apdcl.org; sdecapitalesd@gmail.com
	Zoo Road	Shri Dhanesh Barman	9954192041	zooroadesd@gmail.com; sde.zooroad_esd@apdcl.org
	Kalapahar	Shri Joy Saha	9954192009	sdekesd@gmail.com; sde.kalapahar_esd@apdcl.org
	Ulubari	Shri Biplab Das	9954192006	sdeulubari@gmail.com; sde.ulubari_esd@apdcl.org
	Paltan Bazar	Shri Heerokjyoti Das	9954192012	sdepaltanbazar@mybijulibill.com; sdepesd@rediffmail.com; sde.paltanbazar_esd@apdcl.org
	Fancy Bazar	Smt. Mandira Baruah	9954192008	fancybazaresd@gmail.com; sde.fancybazar_esd@apdcl.org
	Fatasil	Shri Nitul Kr. Haloi	9954192007	sde.fatasil_subdivision@rediffmail.com; sde.fatasil_esd@apdcl.org
	Basistha (Six Mile Office)	Shri Rajdeep Choudhury	9954192024	sdebasisthasd@rediffmail.com; sde.basistha_esd@apdcl.org
	Garbhanga (Near Bashista Chariali)	Shri Himu Kalita	9954192028	gesddata@rediffmail.com; sde.garbhanga_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
	Sonapur	Shri Jamanur Rahman	9954192045	managersesd1@gmail.com; sde.sonapur_esd@apdcl.org
Guwahati-II	Jalukbari	Shri Chinmoy Jyoti Sarma	9954190741, 8253879435	sde.jalukbariesd@gmail.com; sde.jalukbari_esd@apdcl.org
	Amingaon	Shri Dhanmani Rajbangshi	9954190726	amingaon.esd@gmail.com; sdeamingaon@gmail.com; sde.amingaon_esd@apdcl.org
	Sualkuchi	Shri Surajit Kalita	9957192039	sualkuchi.esd@gmail.com; sde.sualkuchi_esd@apdcl.org
	Hajo	Shri Jogendra Nath Sarma	9957192042	sdehajo@gmail.com; sde.hajo_esd@apdcl.org
	Mirza	Shri Kabir Chandra Das	9435108821	mirzasubdivision@yahoo.in; sde.mirza_esd@apdcl.org
	Azara	Shri Rahuldeep Kalita (i/c)	7896001154	esd.azara@yahoo.com; sde.azara_esd@apdcl.org
	Chaygaon	Shri Parthajit Majumdar	9957192033	chaigaon.esd@gmail.com; sde.chaygaon_esd@apdcl.org
	Boko	Shri Kunal Das	9957192036	boko.esd@gmail.com; sde.boko_esd@apdcl.org
Mangaldai	Mangaldoi	Shri Abhijit Baruah	8638173169	sdemesd2014@gmail.com; sde.mangaldoi_esd@apdcl.org
	Kharupetia	Shri Suman	9957830691	esdkharupetia@gmail.com; sde.kharupetia_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
		Das		
	Sipajhar	Shri Sibbir Ahmed	8638698641	sipajharesd@gmail.com; sde.sipajhar_esd@apdcl.org
	Udalguri	Shri Nipu Das	7002834514	sdeuesd2010@gmail.com; sde.udalguri_esd@apdcl.org
	Tangla	Shri Mintu Saharia	6900110209	sdetangla@gmail.com; sde.tangla_esd@apdcl.org
	Mazbat	Shri Abdul Mazid	7002445041	sdemazbat@gmail.com; sde.majbat_esd@apdcl.org
	Kalaigaon	Shri Mrinmoy Deka	8638549610	kalaigaonesd@gmail.com
Rangia	Rangia-I	Shri Hemen Medhi	9859258334	manager.resd1@gmail.com; sde.rangia1_esd@apdcl.org
	Rangia-II	Shri Bhaskar Jyoti Nath	8822233994	managerresd2@gmail.com; sde.rangia2_esd@apdcl.org
	Tamulpur	Shri Surjyakiran Gogoi	9678877850	sde.tesd.apdcl@gmail.com
	Baihata Chariali	Shri Jogen Das	94351127705	sde_bcesd@rediffmail.com; sde.baihata_esd@apdcl.org
	Nalbari-I	Shri Dipankar Kashyap	9085676282	sde_nesd1@rediffmail.com; sde.nalbari1_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
	Nalbari-II	Shri Pallab Das	7896050350, 9401402169	sde.nalbari@gmail.com; sde.nalbari2_esd@apdcl.org
	Chamata	Shri Dipjyoti Kalita (i/c)	6001955650	cesd.apdcl@gmail.com; sde.chamata_esd@apdcl.org
Barpeta	Barpeta	Shri Dharanidhar Kalita	7896050406, 9476571622	sm_barpeta@rediffmail.com; sde.barpeta_esd@apdcl.org
	Barpeta Road	Shri Narayan Das	9706713490	sde_barpetaroad@yahoo.in; sde.barpetaroad_esd@apdcl.org
	Sorbhog	Shri Manas Jyoti Pathak	7896050420, 9859598716	sde.sorbhog@gmail.com; sde.sarbhog_esd@apdcl.org
	Sarthebari	Shri Prakash Sarma	7896050427	sdesarthebari@gmail.com; sde.sarthebari_esd@apdcl.org
	Pathsala	Shri Jitu Kumar Rajbongshi	7002659051	sde_pathsala@rediffmail.com; sde.pathsala_esd@apdcl.org
	Tihu	Shri Siddhartha Chetry	7896050381	sde_tihu@rediffmail.com; sde.tihu_esd@apdcl.org
	Barama	Shri Debasish Bharali	7896050393	baramaesd@gmail.com; sde.barama_esd@apdcl.org
Bongaigaon	Bongaigaon-I	Shri Razzakuddin Sheikh	9127016221	besd1laz@gmail.com; sde.bongaigaon1_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
	Bongaigaon-II	Shri Mintu Debnath	8478219050	besd2chapaguri@gmail.com; sde.bongaigaon2_esd@apdcl.org
	Bijni	Shri Jyotirmoy Kakoti	9864037744	sdebijni@gmail.com; sde.bijni_esd@apdcl.org
	Abhayapuri	Shri Nishant Sankar Nath	9531069167, 9401665093	sdeabhyapuriesd@gmail.com; sde.abhayapuri_esd@apdcl.org
	Goalpara	Shri Himangshu Prasad	9957578411	sde.gesd@gmail.com; sde.goalpara_esd@apdcl.org
	Damra	Shri Bipul Kumar Paul	9435827423	sde_desd113@yahoo.com; sde.damra_esd@apdcl.org
	Dhupdhara	Shri Nipendra Saharia	9859050736	sdedhupdhara@gmail.com; sde.dhupdhara_esd@apdcl.org
	Lakhipur	Shri Kaushik Ojah (i/c)	9365468296	sdelakhipur@gmail.com; sde.lakhipurbec_esd@apdcl.org
	Mankachar	Shri Thangdaw Langthasa	6003860747	sdemesd101@gmail.com; sde.mankachar_esd@apdcl.org
Kokrajhar	Kokrajhar	Shri Biswajit Basumatary	7002516928	sdekesd@yahoo.in; sde.kokrajhar_esd@apdcl.org
	Basugaon	Shri Sautam Ranjan Dey	9678050349	sdebesd@yahoo.in; sde.basugaon_esd@apdcl.org
	Fakiragram	Shri Jeherul	8811022522	sde.fesd@gmail.com; sde.fakiragram_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
		Islam Aslam		
	Chapar	Shri Chitradeep Rajkumar (i/c)	9678050350	dmcesd@gmail.com; sde.chapar_esd@apdcl.org
	Gossaigaon	Shri Moni Ram Boro	9678050351	sdegossai@gmail.com; sde.gossaigaon_esd@apdcl.org
	Dhubri	Shri Rakesh Saha	9678050346	sde.dhubsubdiv@gmail.com; sde.dhubri_esd@apdcl.org
	Gauripur	Shri Surjya Kanta Pradhan	9678050347	sdegesd2014@gmail.com; sde.gauripur_esd@apdcl.org
	Bilasipara	Shri Amit Kumar Chakraborty	9678050343	bilasipara.apdcl@gmail.com; sde.bilasipara_esd@apdcl.org
	Agomoni	Shri Brojen Neog	9678050345	sdeagomaniesd@gmail.com; sde.agomoni_esd@apdcl.org
	Golakganj	Shri Hirokjyoti Roy	9678050432, 9864318744	sdeglesd@gmail.com; sde.golokganj_esd@apdcl.org
Nagaon	Nagaon-I	Shri Devdulal Sarma	7086087689	nesd1.apdcl@gmail.com; sde.nagaon1_esd@apdcl.org
	Nagaon-II	Shri Jatindra Sarmah	7002889025	jatin.sarmah@gmail.com; nagaonesd2@gmail.com; sde.nagaon2_esd@apdcl.org
	Nagaon-III	Shri Sidhanta	7086087697	sde.nesd3@gmail.com; sde.nagaon3_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
		Pratim Saikia		
	Lanka	Shri T. Birumani Singh	9435065825	sdelankaesd@gmail.com; sde.lanka_esd@apdcl.org
	Hojai	Shri Tanmoy Deka	7086087721	sde.hojai@gmail.com; sde.hojai_esd@apdcl.org
	Kathiatoli	Shri Pallab Das	9101286638	sde.kathiatoli.esd120@gmail.com; sde.kathiatoli_esd@apdcl.org
	Kaliabor	Shri Birinchi Kr. Hazarika	9401091612	kaliaboresd127@gmail.com; sde.kaliabor_esd@apdcl.org
	Samaguri	Shri Joy Gopal Goswami	6026668660	samaguriesd@gmail.com; sde.samaguri_esd@apdcl.org
	Dhing	Shri Arnob Jyoti Handique	9101106472	handiquearnob@gmail.com; sde.dhing_esd@apdcl.org
	Raha	Smt. Upasana Gogoi	7086087712	esdraha@gmail.com; sde.raha_esd@apdcl.org
Morigaon	Morigaon	Shri Monjurul Hauque	7086076244	morigaonaseb@gmail.com; sde.morigaon_esd@apdcl.org
	Lahorighat	Shri Sushanta Neog	7086076253, 8471842162	lesd.apdcl@gmail.com; sde.lahorighat_esd@apdcl.org
	Charaibahi	Shri Nazrul Seikh Islam	7086076258	cesd.med.apdcl@gmail.com; sde.charaibahi_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
	Jagiroad	Shri Swapan Kr. Das	7086076270	jagiroadesd@gmail.com; sde.jagiroad_esd@apdcl.org
	Jhargaon	Shri Kuldeep Barman	7002532465	jhesd.apdcl@gmail.com; sde.jhargaon_esd@apdcl.org
Tezpur	Tezpur-I	Shri Bidyut Bikash Bailung	9531103110	subdivisionalengineertesd1@gmail.com; sde.tezpur1_esd@apdcl.org
	Tezpur-II	Shri Liton Dutta	9531103120, 9678725186	sdetesdii@gmail.com; sde.tezpur2_esd@apdcl.org
	Balipara	Shri Sarangapani Saikia	9531103130	besdsde@gmail.com; sde.balipara_esd@apdcl.org
	Rangapara	Shri Kanchan Nath	9531103140	dm.resd.apdcl@gmail.com; sde.rangapara_esd@apdcl.org
	Dhekiajuli-I	Shri Rahul Roy	9531103073, 7086023055	dhekiajuliesd1@gmail.com; sde.dhekiajuli1_esd@apdcl.org
	Dhekiajuli-II	Shri Hemanta Rajkhowa	9531103087, 8876995673	dhekiajulisubdivision2@gmail.com; sde.dhekiajuli2_esd@apdcl.org
	Chariali	Shri Biman Haloi	9531103072, 9531024861	sdecesd@gmail.com; sde.chariali_esd@apdcl.org
	Sootea	Smt. Bandita Neog (i/c)	9531103172	sootea.esd.apdcl@gmail.com; sde.sootea_esd@apdcl.org
	Jamuguri		9531103020	sdejesd@gmail.com; sde.jamuguri_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
	Gohpur	Shri Abhijit Saharia	9531103042	gohpuresd@gmail.com; sde.gohpur_esd@apdcl.org
North Lakhimpur	North Lakhimpur	Shri Dibyajyoti Gogoi	6900012383, 7002319908, 7578887132	dmnlesd@gmail.com; sde.northlakhimpur_esd@apdcl.org
	Bihpuria	Shri Suren Chekonidhara	9365375863, 6900011259	sdebihpuria@gmail.com; sde.bihpuria_esd@apdcl.org
	Nowboicha	Shri Shibu Paul	6900011757	sde.nowboicha@gmail.com
	Dhemaji	Shri Dipak Buragohain	6900012436, 9435088583	dhemajiesd@gmail.com; sde.dhemaji_esd@apdcl.org
	Ghilamora	Smt. Jyoti Sangeeta Dutta	6901217974	sde.ghesd.apdcl@gmail.com; sde.ghilamara_esd@apdcl.org
	Dhakuakhana	Shri Sunil Pegu	6900012438	dkesdsde@gmail.com; sde.dhakuakhana_esd@apdcl.org
	Chilapathar	Shri Hirak Jyoti Pegu	9613862959	sdechesd@gmail.com; sde.chilapathar_esd@apdcl.org
	Jonai	Shri Partha Sarathi Bora	6900012401, 8720949099	jesd237@gmail.com; sde.jonai_esd@apdcl.org
Kanch	Diphu-I	Shri Kiran Kr. Gogoi	9435054480	dmdesd1@gmail.com; sde.diphu1_esd@apdcl.org
	Diphu-II	Shri Sarbong	9864494027	desd2.2015@gmail.com; sde.diphu2_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
		Jerry Terang		
	Lumding	Shri Arup Kr. Borah	9435087062	sdelumdingesd@gmail.com; sde.lumding_esd@apdcl.org
	Bokajan	Shri Dharam Singh Rongpi	7002142452	bokajan.esd@gmail.com; sde.bokajan_esd@apdcl.org
	Howraghat	Shri Rajat Ch. Bora		howraghatesd@gmail.com; sde.howraghat_esd@apdcl.org
	Donkamokam	Shri Sarchephong Terang	8472961578	desd_544@rediffmail.com; sde.donkamokam_esd@apdcl.org
	Hamren	Shri Selimuddin Ahmed	7086077411	hamrenesd@gmail.com; sde.hamren_esd@apdcl.org
	Kheroni	Shri Shyamal Dutta	9435155773	kheroniesd@gmail.com; sde.kheroni_esd@apdcl.org
	Haflong	Shri Joyring Thaosen	8472035481	sdehaflong.apdcl@gmail.com; sde.haflong_esd@apdcl.org
	Mahur	Shri Girish Deori (i/c)	7002962413	sdemahur.apdcl@gmail.com; sde.mahur_esd@apdcl.org
	Umrangso	Shri Seikhongam Chongloi	9954976447	sdeumrangso.apdcl@gmail.com; sde.umrangshu_esd@apdcl.org
	Maibang	Shri Hrituraj	8812016230	sdemaibang.apdcl@gmail.com; sde.maibong_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
		Langthasa		
Cachar	Silchar-I	Shri Dibyendu Das	9435318243	sde.apdcl.sesd1@gmail.com; sde.silchar1_esd@apdcl.org
	Silchar-II	Shri Siddhartha Goswami	8638015698	sde.apdcl.sesd2@gmail.com; sde.silchar2_esd@apdcl.org
	Silchar-III	Shri Biprajit Chakrabarty	7002398924	sde.apdcl.sesd3@gmail.com; sde.silchar3_esd@apdcl.org
	Sonai	Shri Dhin Sarpo Rongpi	8876078224	sde.apdcl.sonai.esd@gmail.com; sde.sonai_esd@apdcl.org
	Udharbond	Shri Bijit Bhattacharjee	9435503787	apdcl.udharbond@gmail.com; sde.udharbond_esd@apdcl.org
	Kalain	Shri Bappi Das	9401243277	apdcl.kalain@gmail.com; sde.kalain_esd@apdcl.org
	Lakhipur	Shri Uttaran Chakraborty	6001456275	sde.lesd.car@gmail.com; sde.lakhipurcec_esd@apdcl.org
Badarpur	Karimganj	Shri Pannei Wangnow	7002179563	sdekesd1@gmail.com; sde.karimganj_esd@apdcl.org
	Badarpur	Shri Pratyush Pratim Devnath	7003252328	sdebesd9@gmail.com; sde.badarpur_esd@apdcl.org
	Patherkandi	Shri Nirendra Sinha	9435378212	pesdapdcl@gmail.com; sde.patharkandi_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
	Nilambazar	Shri Kallal Debroy	9706196189	nesd.ked.apdcl@gmail.com; sde.nilambazar_esd@apdcl.org
	Lowairpoa	Shri Subham Das	6901987665	apdcl.lesd@gmail.com; sde.lowairpoa_esd@apdcl.org
	Hailakandi	Shri Sariongki Tokbi	9954656725	sdehesdapdcl@gmail.com; sde.hailakandi_esd@apdcl.org
	Lala	Shri Rahul Dutta	8638015338	lesdsde@gmail.com; sde.lala_esd@apdcl.org
	R. K. Nagar	Shri Hemanta Singha	9435378116	sderesdapdcl16@gmail.com; sde.rknagar_esd@apdcl.org
	Dullavcherra	Shri Satyabrata Rudrapaul	7002524971	sdedesd2014@gmail.com; sde.dullabcherra_esd@apdcl.org
Jorhat	Jorhat-I	Smt. Sudipta Chakraborty	6900170305	sdejesd1@gmail.com; sde.jorhat1_esd@apdcl.org
	Jorhat-II	Smt. Bornali Bora	8638984624	sde.jesd.ii@gmail.com; sde.jorhat2_esd@apdcl.org
	Jorhat-III	Smt. Monshumi Saikia	9435512920	sde.jesdiii@gmail.com; sde.jorhat3_esd@apdcl.org
	Dergaon	Shri Prafulla Saikia	9435153648	sde.desd@gmail.com; sde.dergaon_esd@apdcl.org
	Titabor	Shri Ankur	8011668791	sdetitabor@gmail.com; sde.titabor_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
		Saikia		
	Mariani	Shri Jyoti Prasad Pegu	7002444351	sdemariani@gmail.com; sde.mariani_esd@apdcl.org
	Majuli	Shri Krishna Pegu	9954166690	sdemajuliesdapdcl@gmail.com; sde.majuli_esd@apdcl.org
	Teok	Shri Bhaskarjyoti Gogoi	9706567321	smr.tesd@gmail.com; sde.teok_esd@apdcl.org
	Kakojan	Shri Ghanashyam Bhagawati	9435478262, 7896178736	sde.kakajan@gmail.com; sde.kakojan_esd@apdcl.org
Golaghat	Golaghat-I	Shri Kalyan Krishna Saikia	9706014290	sde.golaghat1_esd@apdcl.org; gesd1_apdcl@rediffmail.com
	Golaghat-II	Shri Deben Ch. Mudoi	6900170242 9435488898	sde.golaghat2_esd@apdcl.org; sdegesd2@gmail.com
	Sarupathar	Shri Anubhav Dutta	6900170260, 8638909674	sde.sarupathar_esd@apdcl.org; dmsesd_apdcl@rediffmail.com
	Bokakhat	Shri Bimal Gogoi	6900170277, 9435705368	sde.bokakhat_esd@apdcl.org; besdapdcl@gmail.com
	Kamargaon	Shri Pradip Dutta	6900170248	sde.kamargaon_esd@apdcl.org; mkesd_apdcl@rediffmail.com
Sivsagar	Sivasagar-I	Shri Prasurjya Madhab Das	8723016899, 7099019058	dmsesd1@gmail.com; sde.sivasagar1_esd@apdcl.org

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
	Sivasagar-II	Shri Dhrubajyoti Borah	9435727093, 6901271195	sde.sesd2.sivasagar@gmail.com; sde.sivasagar2_esd@apdcl.org
	Gaurisagar	Shri Arunjyoti Nath	8761054480, 7099019062	sde.gaurisagar@gmail.com; sde.gaurisagar_esd@apdcl.org
	Nazira	Shri Nityananda Sonowal	7099019029	sde.nazira@gmail.com; sde.nazira_esd@apdcl.org
	Amguri	Shri Arun Konwar	9435477605, 7099019071	sde.amguriesd@gmail.com; sde.amguri_esd@apdcl.org
	Charaideo	Shri Rituraj Khanikar	8486549476, 7099019072	sde.charaidew@gmail.com; sde.charaideo_esd@apdcl.org
	Moran	Shri Alakesh Konger	8486758730, 6901271187	sde.moran@gmail.com; sde.moran_esd@apdcl.org
	Demow	Shri Pabitra Kr. Nath	8720977082, 7099019078	sde.demow@gmail.com; sde.demow_esd@apdcl.org
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	Dibrugarh-II	Shri Ranjan Dutta	9435706105	sde_desd2@rediffmail.com; sde.dibrugarh2_esd@apdcl.org
	Dibrugarh-III	Shri Hitesh Kr. Kalita	9531114241	sde_desd3@rediffmail.com; sde.dibrugarh3_esd@apdcl.org
	Naharkatia	Shri Dipankar	9435706129	naharkatia_subdivision@yahoo.com;

Name of Circle	Name of the Sub-Division	Contact Person	Mobile No.	E-Mail Id
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	Namrup	Smt. Jumi Rajkonwar	9435706128	namrup.sde@gmail.com; sde.namrup_esd@apdcl.org
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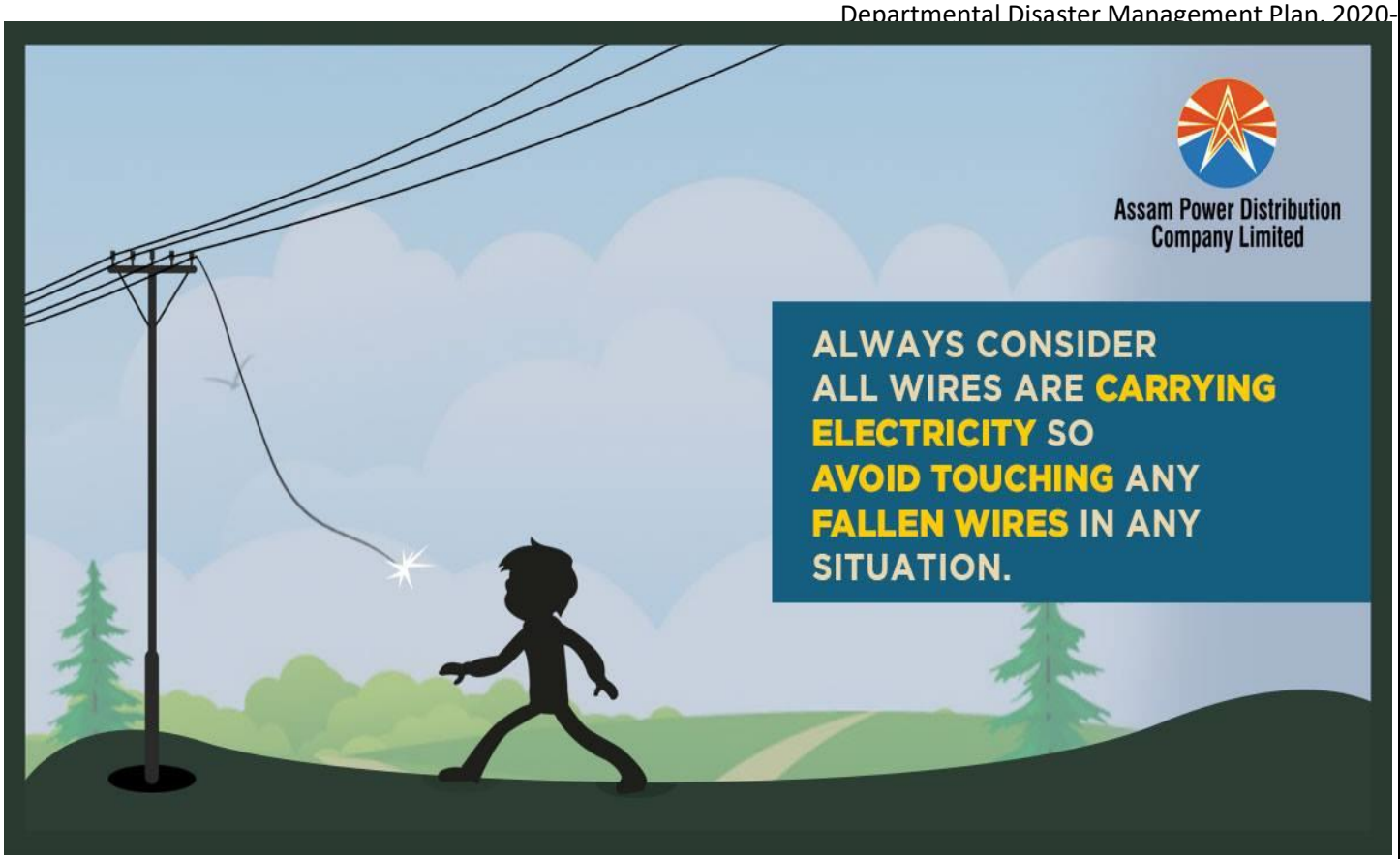
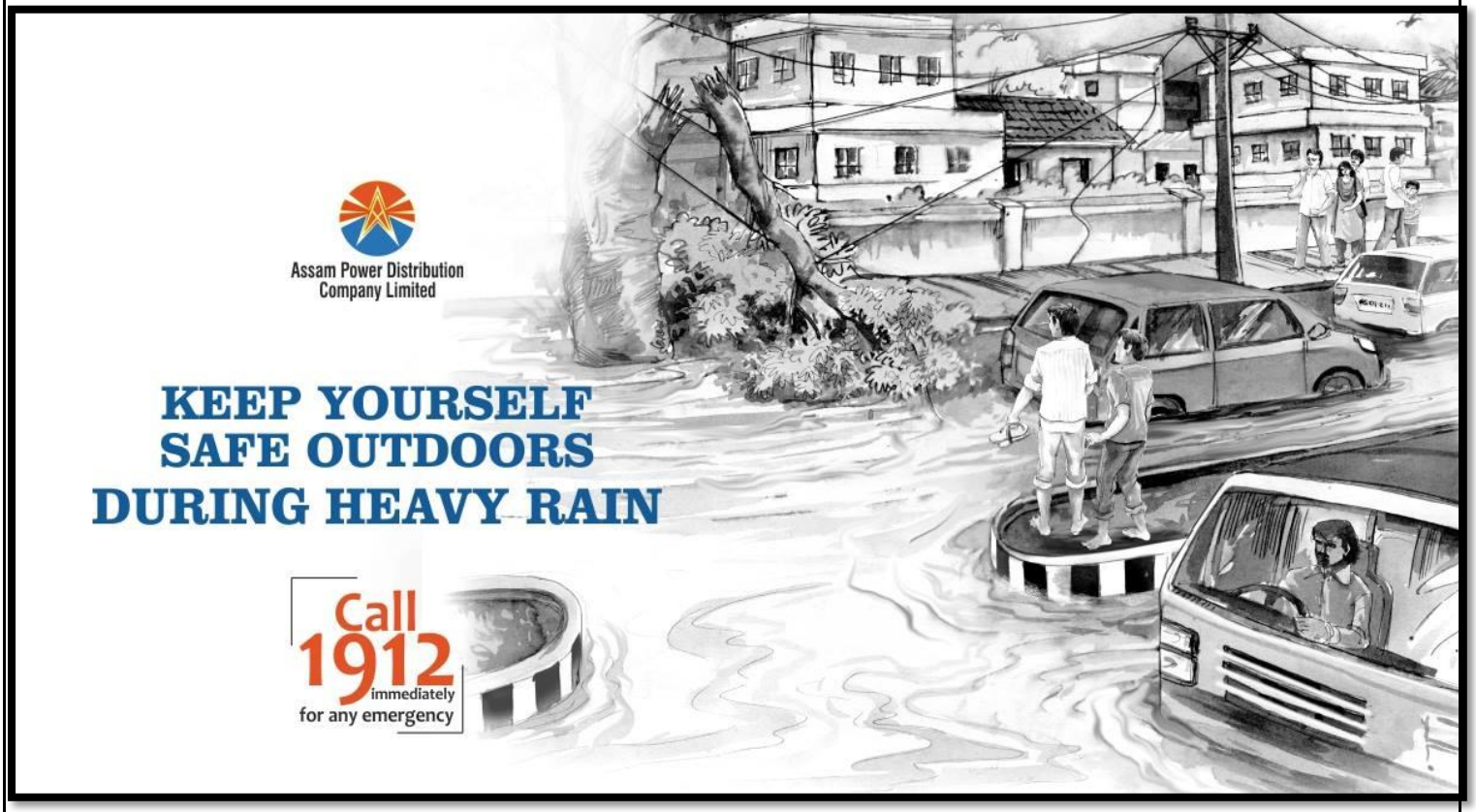
	Digboi	Shri Satpal Singh	8723875882	sdedigboi@gmail.com; sde.digboi_esd@apdcl.org
	Margherita	Shri Shantanu Gogoi	8761071558	sdemargherita@gmail.com; sde.margherita_esd@apdcl.org
	Chapakhowa	Shri Anand Sharma	9435243999	sdecesd77@gmail.com; sde.chapakhowa_esd@apdcl.org


Assam Power Distribution Company Limited
ALWAYS CONSIDER ALL WIRES ARE CARRYING ELECTRICITY SO AVOID TOUCHING ANY FALLEN WIRES IN ANY SITUATION.

Annexure


Assam Power Distribution Company Limited
Do not touch any fallen electricity poles and power lines or anything alike during rainy season.
Call 1912 immediately for any emergency

Safety Notices for Public Safety



Circular and Public Notice for Electrical Safety

Notice under Section 54 of the Electricity Act, 2003 (Central Act XXXVI of 2003).

*[Information to be furnished regarding temporary electrical installations done for holding Public functions on occasions like Puja, Bihu, Show, Meeting, Rally, Exhibitions etc. etc. in which 100 (one hundred) or more persons are ordinarily likely to be assembled. The information, as followings, are to be furnished by concerned Organizing Committee/Body/Authority to the **Electrical Inspector** and the **District Magistrate** and the **Local Police Station** before seven days of commencement of supply of electric power or use of electric power in the installation, whichever is earlier, to ensure Public Safety.] ***Please use dully formatted additional page(s) to cover all the following details without loss/omission of information/data, if needed]*

1. Purpose and period of the temporary electrical installation/connection:
2. Name of the Organizing Committee/Body/Authority:
3. Full Address of the Organizing Committee/Body/Authority:
4. Location of the installation:
5. Name of Police Station having jurisdiction over the installation:
6. (a) Name of the President/Chairman of the Organizing Committee/Body/Authority with contact phone number (Mobile):

   (b) Name of the Secretary of the Organizing Committee/Body/Authority with contact phone number (Mobile):

   (c) Name of the office bearer of the Organizing Committee/Body/Authority with contact phone number (Mobile), who is in-charge or otherwise responsible for the installation:
7. (a) Name of the Electrical Sub-Division of APDCL or Supplier of Electricity concerning electric power supply connection to the installation:

   (b) Name, License number, self attested copy of License and contact phone number (Mobile) of the Electrical Contractor engaged for the electrical installation works:

   (c) Name, Certificate number, self attested copy of Certificate and contact phone number (Mobile) of the Electrical Supervisor engaged for the electrical installation works:

   (d) Name, Permit number, self attested copy of Permit and contact phone number (Mobile) of the Electrical Workman engaged for the electrical installation works:

Date : **Signature with seal:**

Place: **Full name:**

(of the competent person of Organizing Committee/Body/Authority)

Issued by the Inspectorate of Electricity, Assam under Power (Electricity) Department of Government of Assam in the interest of Public

Conserve Energy for Benefit of Self and Nation

www.ceiassam.org


Stop and care
STAY HYDRATED DURING WORK
HEAT EXHAUSTION OR HEAT STROKE?
HEAT EXHAUSTION SYMPTOMS
1. Faint or dizzy
2. Excessive sweating
3. Cool, pale, clammy skin
4.Nausea, vomiting
5. Rapid, weak pulse
6. Muscle cramps
HOW TO TREAT IT
1. Move to Cooler location
2. Drink water
3. Take a cool shower or use cold compresses
HEAT STROKE SYMPTOMS
1. Throbbing headache
2. No sweating
3. Body temp above 40° C Red , hot, dry skin
4. Nausea, vomiting
5. Rapid, strong pulse
6. May lose consciousness
HOW TO TREAT IT
1. Get emergency help
2. Keep cool until treated


COVID-19 ETIQUETTES
Social Distancing
Wash your Hands Frequently
Cover your mouth and nose with face mask or a cloth face cover when around others
Coughing and Sneezing
Clean and Disinfect
"PROTECT YOURSELF AND OTHERS"
NATIONAL SAFETY COUNCIL


NOVAL CORONAVIRUS - COVID-19
DO'S AND DON'TS
DO'S
DON'TS
Maintain social distancing
Do not touch eyes, nose, mouth
Cover nose, mouth when coughing, sneezing and cough into a flexed elbow
Do not touch surfaces usually used by public (doors, gates, railing, etc.)
WHAT IS COVID-19?
SYMPTOMS
Wash hands often with soap and water for 20 secs or use hand sanitizer
Do not hug, shake hand while greeting
Practice food hygiene
Do not spit in public places
Maintain cleanliness and good personal hygiene
NATIONAL SAFETY COUNCIL

SAFETY CIRCULAR

□□□□□

উৎসৱ-পাৰ্বন আদিত অস্হায়ীভাবে যোগান ধৰা বিদ্যুৎ সংযোগৰ ক্ষেত্ৰত লব লগা সাৱধানতা

ইয়াৰ দ্বাৰা আগন্ত্তক পূজা উদযাপন কমিটীসমূহক জনোৱা হয় যে জনসাধাৰণৰ সুৰক্ষাৰ প্ৰতি লক্ষ্য ৰাখি পূজা মণ্ডপত অস্হায়ী বিদ্যুৎ সংযোগ লোৱা তথা ব্যৱহাৰৰ ক্ষেত্ৰত নিম্নোক্ত নিয়ম সমূহ মানি চলিব লাগিব।

(১)বিদ্যুৎ আইন, ২০০৩ ৰ ধাৰা ৫৪ৰ মতে, এশ বা ততোধিক লোক সমবেশ ঘটা পূজা/অন্য উৎসৱ আদি অস্হায়ী মণ্ডপত বিদ্যুৎ সংযোগ লোৱাৰ ক্ষেত্ৰত সমাবেশৰ উদ্দেশ্য সম্পৰ্কে সংশ্লিষ্ট ইলেক্ট্ৰিকেল ইন্সপেক্টৰ আৰ জিলা দণ্ডাধীশ বা আৰক্ষী আয়ুক্তক জনোৱাৰ লগতে ভাৰতীয় বিদ্যুৎ আইন, ২০০৩ ৰ Part XVII□ □□□□□□□□□□□□ □□□□□□□□□□ □□□□-পাতি পূজাৰ ৭ দিনৰ পূৰ্ব্বেই লিখিত আকাৰত জনাব লাগিব।

(২)এনে সংযোগত উপযুক্ত জোখৰ এম.চি.চি.বি.(MCCB)/এম.চি.বি(MCB) ব্যৱহাৰ কৰিব □□□□□ □□ এইবোৰ 1.5 □□টাৰতকৈ অধিক উচ্চতাত সংস্হাপন কৰিব নোৱাৰিব যাতে জৰুৰীকালীন অৱস্হাত সহজে ঢুকি পোৱা হয়। এম.চি.চি.বি(MCCB)/এম.চি.বি (MCB)ৰ ধাতুৰ নিৰ্মিত বাকচটো ভালদৰে আৰ্থিং কৰিব লাগিব।

(৩)MCCB/MCB বোৰ উপযুক্ত জোখৰ ছিঙ্গল ফেজ বা থ্ৰি ফেজৰ Distribution Board ৰ লগত সংস্হাপন কৰিব লাগিব আৰ ভালদৰে আৰ্থিং কৰিব লাগিব।

(৪)সকলো ধৰণৰ বিদ্যুৎ সংযোগত সৰ্বাধিক 30mA সংবেদনশীলতাৰ আৰ্থ লিকেজ চাৰ্কিট ব্ৰেকাৰ (ELCB) বা RCCB □□ RCBO ব্যৱহাৰ কৰিব লাগিব। সকলো ধৰণৰ অস্হায়ী সংযোগ থকা □□□□□ আহিলাবোৰ ভাল ধৰণে আৰ্থিং কৰিব লাগিব। সুৰক্ষা নিশ্চিত কৰাৰ অৰ্থে বৈদ্যুতিক সংযোগৰ স্হলিত সুৰক্ষাৰ বাবে ব্যৱহৃত বৈদ্যুতিক আহিলাৰ কোনো ধৰণৰ বাই-পাচ (BY-PASS) কৰি সুৰক্ষা বিঘ্নিত নকৰিব।

(৫)পূজা পেণ্ডেল/গেট্ ইত্যদিত বিদ্যুৎ সংযোগ দিবলৈ কেৱল মাত্ৰ □□□□□□□ Armoured Cable ব্যৱহাৰ কৰিব লাগিব।

(৬)তিনি মিটাৰতকৈ কম উচ্চতা□ Tapped Joint ব্যৱহাৰ কৰিব □□□□□□□□

(৭)সকলো ধৰণৰ বৈদ্যুতিক সা-সৰ□□□□ম BIS মানদণ্ডৰ □'□ লাগিব।

(৮)পূজা□ পেণ্ডেল/গেট ইত্যাদি □□□□ □□□□ □□□□□□□□ বিদ্যুৎ পৰিবহী তাঁৰৰ (LT/HT line)তলত □'□ □□□□□□□□

(৯)সকলো ধৰণৰ বৈদ্যুতিক কাম চৰকাৰী বৈদ্যুতিক অনুজ্ঞাপত্ৰ থকা কোনো লোকৰ তত্ত্বাধনত □'□ লাগিব।

(১০)পূজা কমিটীৰ দ্ধাৰা নিয়োজিত সুদক্ষ কৰ্মচাৰী/বিষয়া□ ২৪ ঘন্টাই পূজা মণ্ডপ সমূহৰ বৈদ্যুতিক সংস্হাপনবোৰ □□□□□□□□ □□□□ তদাৰক কৰিব লাগিব।

(১১) বিৰতিবিহীন (uninterrupted) বিদ্যুৎ যোগানৰ বাবে পোহৰৰ বিকল্প ব্যৱস্হা থাকিব লাগিব।

সমূহ জনসাধাৰণ তথা পূজা কমিটীসমূহক সহায়-সহযোগিতা আগবঢ়াবলৈ অনুৰোধ জনোৱা □'□

*** সু�ৰক্ষিত বিদ্যুত যোগানত আলোকিত হওঁক উৎসৱৰ বেদি

বিদ্যুতৰ সংৰক্ষণেৰে প্রেমৰ নিজৰা বওক অপশক্তিক ভেদি ***

বৈদ্যুতিক পৰিদর্শকালয়, অসম চৰকাৰ।

Contact Details of Officers of Headquater and Zonal Offices

	Name	Designation	Contact No.
1.	Shri Akhi Chandra Khataniar (H.Q.)	C.E.I.A.	9435194288
2.	Shri Anjan Sarma (H.Q.)	Dy. C.E.I.	9435181727
3.	Shri Utpal Gogoi (H.Q.)	Dy. C.E.I.	9435080727
4.	Shri Nilamoni Sarma (Dibrugarh Zone)	S.E.I.	9435350333
5.	Shri Mohan Chandra Sarma (Tezpur Zone)	S.E.I.	9435404473
6.	Shri Bani Kanta Deka (Dibrugarh Zone)	E.I. (Sr. Grade)	9435340822
7.	Shri Ranjit Kumar Gogoi (Jorhat Zone)	E.I.	9954229989
8.	Shri Bhabananda Pathak (H.Q.)	E.I. (Sr. Grade)	9435105591
9.	Shri Binanda Mili (Jorhat H.Q.)	E.I.	9435864407
10.	Smti Rashmi Phukan (H.Q.)	E.I.	7002268039
11.	Shri Kajal Kumar Singha	E.I.	9435145222

Emergency Contact Numbers

	Name	Designation	Contact No.
1.	Shri Bhabananda Pathak (H.Q.)	E.I. (Sr. Grade)	9435105591
2.	Smti Rashmi Phukan (H.Q.)	E.I.	7002268039