ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION
Vidyut Niyantrana Bhavan, Adjacent to 220/132/33 kV AP Carbides S S,
Dinnedevarapadu Road, Kurnool - 518 002
Phones:08518 - 294823, 24, 25, 26

Draft Regulation

Draft Andhra Pradesh Electricity Regulatory Commission (Framework for Resource Adequacy) Regulation, 2026.

(Regulation No.___of 2026)

Introduction

Historically, AP's power sector has faced challenges, like accelerating integration of variable renewable energy sources such as solar and wind, which introduce intermittency and unpredictability in generation, capacity overhangs leading to underutilised plants, sudden demand surges causing shortages (particularly in the evenings or during extreme weather), and over-reliance on short-term spot markets to address deficiencies. This Resource Adequacy (RA) Regulation intends to address these by mandating Distribution Licensees (APDISCOMs) to forecast demand accurately, procure a balanced mix of long-, medium-, and short-term capacity (including storage and flexible resources), maintain planning reserve margins, and comply with reliability metrics like Loss of Load Probability (LOLP) and Normalised Energy Not Served (NENS). The RA Regulation prevents costly and disruptive supply shortfalls, optimises system costs by avoiding over- or under-provisioning, supports India's NDC commitments for 50% non-fossil capacity by 2030, enhances grid resilience against climate variability, and incentivises timely investments in generation, storage, and demand response—ultimately safeguarding economic growth while ensuring affordable and sustainable power for consumers.

Therefore, in exercise of the powers conferred under Section 181 of the Electricity Act, 2003 (36 of 2003), read with Sections 61, 66, and 86 thereof, and all other powers enabling it in this behalf, the Andhra Pradesh Electricity Regulatory Commission (APERC) hereby makes the following Regulation, namely:

CHAPTER 1: PRELIMINARY

1. Short Title, Extent and Commencement

1.1. This Regulation may be called the Andhra Pradesh Electricity Regulatory Commission (Framework for Resource Adequacy) Regulation, 2026.

1.2. This Regulation shall extend to the whole of the State of Andhra Pradesh.

1.3. This Regulation shall come into force from the date of its publication in the Official Gazette of Andhra Pradesh.

2. Objectives

2.1. The objective of this Regulation is to enable the implementation of the RA framework by outlining a mechanism for planning generation, transmission, and distribution resources to reliably meet projected demand, in compliance with specified reliability standards, while serving the load with an optimum generation mix.

2.2. The RA Regulation shall cover demand assessment and forecasting, generation resource planning, planning of transmission and distribution network augmentation/strengthening, procurement planning, monitoring, and compliance. It shall ensure a 24x7 reliable and affordable power supply while integrating Renewable Energy (RE), fulfilling Renewable Purchase Obligation (RPO), and avoiding gratuitous load shedding.

3. Scope and Applicability

3.1. This Regulation shall apply to all the Generating Companies, the Distribution Licensees, the State Load Despatch Centre (SLDC), the State Transmission Utility (APTRANSCO), and other grid-connected entities and stakeholders within the State of Andhra Pradesh.

3.2. This Regulation shall override any inconsistent provisions in earlier APERC Regulations (including the 2000 Guidelines for Load Forecasts, Resource Plans, and Power Procurement Process) to the extent of inconsistency.

4. Definitions

4.1. In this Regulation, unless the context otherwise requires:

a) "**Act**" means the Electricity Act, 2003 (No. 36 of 2003) and subsequent amendments thereof;

b) "**Authority**" or "**CEA**" means Central Electricity Authority referred to in subsection (1) of Section 70 of the Act;

c) "**Capacity Credit**" or "**CC**" means a percentage of a resource's nameplate capacity that can be counted towards resource adequacy requirements;

d) "**CERC**" means the Central Electricity Regulatory Commission.

e) "**Commission**" or "**State Commission**" means the Andhra Pradesh Electricity Regulatory Commission (APPERC) constituted under the Act;

f) **"Electric Power Survey" or "EPS"** means a periodic electric power survey conducted by the Central Electricity Authority to assess the electricity demand on a medium and long-term basis for each Distribution Licensee/State/Union Territory/Region and for the country;

g) "**Expected Energy Not Served**" or "**EENS**" means the expected amount of energy (MUs) that may not be served for each year within the planning period for Resource Adequacy planning;

h) **"Long-Term"** means a duration of ten years for the development of demand forecasting and generation resource planning;

i) **"Long-Term Power Procurement"** means procurement of power under any arrangement or agreement with a term or duration exceeding seven years;

j) "**Long-Term Distribution Resource Adequacy Plan**" or "**LT-DRAP**" means a plan for assessment of long-term resource adequacy by the Distribution Licensee;

k) "**Loss of Load Probability**" or "**LOLP**" means the probability that a system's load may exceed the generation and firm power contracts available to meet that load in a year.

l) **"Medium-Term"** means duration exceeding one year and up to five years for the development of demand forecasting and generation resource planning;

m) **"Medium-Term Power Procurement"** means procurement of power under any arrangement or agreement with a term or duration exceeding one year and up to seven years;

n) "**Medium-Term Distribution Resource Adequacy Plan**" or "**MT-DRAP**" means a plan for assessment of medium-term resource adequacy by the Distribution Licensee;

o) **"Month"** means a calendar month as per the Gregorian Calendar;

p) "**Net Load**" means the load derived upon exclusion of actual renewable energy generation (MW) from gross load prevalent on the grid during any time-block;

q) "**Normalised Energy Not Served**" or "**NENS**" is the normalisation of the EENS by dividing it by the total system energy (MUs);

r) "**Planning Reserve Margin**" or "**PRM**" means a percentage of the capacity over and above the State's coincident share in national peak demand as

may be laid down by Authority or approved by the Commission from time to time for the purpose of generation resource planning;

s) **"Power Exchange"** means any Exchange operating as a Power Exchange for electricity in terms of the Regulations issued by the Central Electricity Regulatory Commission;

t) **"Power Purchase Agreement (PPA)"** means the agreement entered into between the Procurer(s) and the Seller pursuant to which the Seller shall supply power to the Procurer(s) as per the terms and conditions specified therein;

u) **"Power Sale Agreement (PSA)"** shall mean the back-to-back agreement entered into between the Buying Entity(s) and the Intermediary Procurer/Trader for onward sale of power purchased under any PPA;

v) **"Power Supply Agreement"** shall mean the agreement entered into between the Procurer(s) and the Seller pursuant to which the Seller shall supply power to the Procurer(s) as per the Ministry of Power Guidelines;

w) "**Resource Adequacy**" or "**RA**" means a mechanism to ensure adequate generation resources to serve expected demand (including peak, off peak and in all operating conditions) reliably in compliance with specified reliability standards for serving the load with an optimum generation mix and with a focus on integration of environmentally benign technologies after taking into account the need, inter alia, for flexible resources, storage systems for energy shift, and demand response measures for managing the intermittency and variability of renewable energy sources;

x) **"Short-Term"** means duration up to one year for the development of demand forecasting and generation resource planning;

y) **"Short-Term Power Procurement"** means procurement of power under any arrangement or agreement with a term or duration of up to one year;

z) "**Short-Term Distribution Resource Adequacy Plan**" or "**ST-DRAP**" means a plan for assessment of short-term resource adequacy by the Distribution Licensee;

aa) "**SLDC**" means the State Load Despatch Centre of Andhra Pradesh;

bb) "**State**" means the State of Andhra Pradesh;

cc) "**STU**" or "**State Transmission Utility**" means the Transmission Corporation of Andhra Pradesh Limited (APTRANSCO), notified as the State Transmission Utility under sub-section (1) of Section 39 of the Act.

dd) **"Year"** means the financial year commencing on 1st April of the year and ending on 31st March of the succeeding year.

4.2. Unless specifically defined within this Regulation, all other words and expressions shall carry the meaning assigned to them in the Act, other Regulations of the Commission, or the CEA Guidelines. Furthermore, any words and expressions used herein but not defined in this Regulation or the Act, yet defined under any law passed by the Parliament applicable to the electricity industry in the State, shall hold the meaning ascribed to them in that respective law.

CHAPTER 2: GENERAL

5. Resource Adequacy Framework

5.1. The Resource Adequacy (RA) framework serves as a strategic blueprint for ensuring that generation, transmission, and distribution resources are systematically planned to reliably meet projected demand by adhering to specified reliability standards and an optimal generation mix.

5.2. The RA framework encompasses a systematic process involving the following stages:

A. Demand assessment and forecasting;

B. Generation resource planning;

C. Planning of transmission network augmentation/ strengthening;

D. Planning of distribution network augmentation/ strengthening;

E. Procurement planning; and

F. Monitoring and compliance.

5.3. The RA exercise shall be prepared and developed annually, covering a rolling planning period of ten (10) years.

5.4. In compliance with this Regulation, the Distribution Licensees shall develop and prepare the following plans: the LT-DRAP, which is to be created concurrently with the Distribution plan; the MT-DRAP; and the ST-DRAP.

5.5. The STU is required to develop and prepare transmission planning criteria. These criteria must align with the latest transmission planning criteria from the CEA and the state grid code, and also consider the RA plan of the Distribution Licensees. The STU must file these criteria with the Commission as part of the MYT/Annual Tariff petitions.

CHAPTER 3: DEMAND ASSESSMENT AND FORECASTING

6. Long-Term and Medium-Term Demand Forecast

6.1. The Distribution Licensees shall develop and prepare demand assessments and forecasts, considering the guidelines for Long-term and Medium-term power demand forecasts issued by the CEA from time to time.

6.2. The Distribution Licensee shall conduct a comprehensive demand assessment and forecasting, covering hourly or sub-hourly periods within their distribution area. This must utilise scientific modelling tools and comprehensive input data, covering both the Long-term and Medium-term time horizons, to ensure accurate demand predictions.

6.3. The Distribution Licensee shall furnish both category-wise and assessed consumption data for unmetered consumers within a specific class for demand forecasting. This consumption information, covering the preceding financial year, along with any other data requested by the SLDC, must be submitted by the Distribution Licensee no later than April 21st of each year.

6.4. By the 21st of April each year, the SLDC shall provide the Deviation Settlement Mechanism (DSM) accounts for the preceding financial year to the Distribution Licensees.

6.5. The Distribution Licensee shall determine the energy forecast for each consumer category. by utilising any of the following methodologies, individually or in combination:

A. **Time Series Analysis and Trend Analysis:** This includes assessing Year-on-Year growth or calculating the Compounded Annual Growth Rate (CAGR) over a specified historical period.

B. **Econometric Modelling:** This method must include a clear specification of the parameters used, the algorithm adopted, and the source of the data.

C. **Advanced AI and Machine Learning Techniques:** Specifically, this covers the use of Artificial Intelligence (AI), including machine learning, and Artificial Neural Networks (ANNs).

D. **Specific Demand Forecasting Models:** This includes the Auto-Regressive Integrated Moving Average (ARIMA) method.

E. **End Use Methodology:** This can be either a full End Use or a Partial End Use method.

6.6. The Distribution Licensee is required to adopt the most suitable combination of methodologies for demand forecasting, considering scenarios such as the most probable, business-as-usual, and aggressive, as detailed in Clause 6.15 of this Regulation. While EPS projections may serve as a baseline, the Distribution Licensee may also employ any other methodology, provided a detailed justification for its adoption is furnished.

6.7. The Distribution Licensee shall select the energy forecasting methodology for each consumer category based on a statistical analysis. This selection should prioritise the method exhibiting the lowest standard deviation and the highest R-square value. Alternatively, a different statistical technique may be used, provided it is adequately justified.

6.8. The Distribution Licensee shall employ state-of-the-art tools, scientific methodologies, and a robust database. This database should comprehensively cover relevant data for the Licensee's area, including, but not limited to, weather patterns, historical consumption data, demographic and econometric information, detailed consumption profiles, and the anticipated impact of various policies and market drivers.

6.9. The Distribution Licensee is permitted to modify the energy forecast for each consumer category to account for the anticipated effects of relevant activities. The Licensee must establish specific trajectories to incorporate the impact of these activities. These relevant factors include, but are not limited to, those derived from economic parameters, government policies, historical consumption data, and future projections. Specifically, the adjustments should consider the impact of the following:

Demand-Side and Grid Management:

- Demand-Side Management and demand response measures.
- Open Access.
- Distributed Energy Resources.
- Electric Vehicles and E-Vehicle Charging Stations.
- Tariff Signals, including Time of the Day (ToD) Tariff.

Consumption Pattern Changes:

- Changes in specific energy consumption.
- Increase in commercial activities with electrification.
- Changes in the consumption pattern of seasonal consumers, including

seasonal variations for the Rabi/Kharif season and other crops.

- Impact of important festivals, working days or non-working days, and Peak and Off-Peak hours load pattern.

Agricultural Sector Specifics:

- For agricultural loads: season-wise changes, temperature, area-wise rainfall patterns, impact of water levels in agricultural pockets, irrigation facilities, area-wise crop types, number of crops, increase in the number of agricultural pump sets, and their solarisation.

Policy and Regulatory Influences:

- Policy influences such as 24x7 supply to all consumers, LED penetration, efficient use of agriculture pumps, fans/ACs/appliances, increased use of appliances for cooking/heating/cooling applications, electrification policies, distributive energy resources, storage, policies that can impact econometric parameters, and the impact of the national hydrogen mission.

6.10. Any factor not specifically listed in Clause 6.9 of this Regulation may be considered by the Distribution Licensee, provided a detailed justification for its inclusion is submitted.

6.11. Load research analysis may be used to refine the long and medium-term load profiles of the consumer categories subjected to load research. Any such refinement must be accompanied by a detailed explanation.

6.12. The energy forecast for the Distribution Licensee at the consumer level is determined by the total energy forecast (in MUs) across all consumer categories, after necessary adjustments. These adjustments account for energy forecasts for captive consumers, prosumers, and open-access consumers.

6.13. The energy forecast (MUs) must be calculated by the Distribution Licensee, incorporating the loss trajectory approved by the Commission in its most recent tariff order. Should the Commission not have approved a loss trajectory for the relevant planning horizon, the licensee shall utilise an appropriate loss trajectory as stipulated by State or National policies, provided a comprehensive explanation is furnished.

6.14. The peak demand (in MW) shall be determined by considering the average load factor, load diversity factor, seasonal variation factors for the last three years, and the energy forecasts (in MUs) obtained in accordance with Clause 6.5 of this Regulation. Should the Distribution Licensee consider a different appropriate load factor for future years, a detailed justification for this consideration must be provided.

6.15. The Distribution Licensee shall conduct sensitivity and probability analyses to determine the most probable demand forecast. Furthermore, the Licensee must develop long-term and medium-term demand forecasts for multiple scenarios, including at least three distinct scenarios: the most probable, business-as-usual, and aggressive.

7. Short-Term Demand Forecast

7.1. The Distribution Licensee shall develop a methodology for hourly or sub-hourly demand forecasting and shall maintain a historical database.

7.2. The Distribution Licensee, in collaboration with the SLDC, shall conduct load research analysis to determine the hourly load profile and evaluate the contribution of different consumer categories to the peak demand. This analysis shall account for the impact of demand response initiatives, load shift measures, and time-of-use tariffs. A comprehensive explanation of the methodology employed for this analysis shall be provided.

7.3. The Distribution Licensee shall employ state-of-the-art tools, scientific and mathematical methodologies, and extensive data. This data shall include, but is not restricted to, weather data, historical data, demographic and econometric data, consumption profiles, policies, and drivers, as appropriate for the Distribution Licensee's area of operation.

8. Aggregation of Demand Forecast

8.1. The Distribution Licensee shall prepare demand forecasts for the short-term (1-year), medium-term (5-year), and long-term (10-year) horizons (on a rolling basis). These forecasts must be prepared at either an hourly or sub-hourly granularity.

8.2. The SLDC shall aggregate demand forecasts—including Long-term, Medium-term, and Short-Term projections (in MW and MUs)—while accounting for factors such as load diversity, congruency, and seasonal variations. These aggregated State-level demand forecasts shall be submitted by the SLDC annually to the CEA, the National Load Despatch Centre (NLDC), and the Regional Load Despatch Centre (RLDC) by May 31st for the following year.

8.3. The STU shall estimate the overall State demand across different timeframes (Long-term, Medium-term, and Short-term). This estimation process shall be based on inputs from the SLDC, on-demand projections from the State's Distribution Licensees, and on the State's load diversity.

CHAPTER 4: GENERATION RESOURCE PLANNING

9. Preparation of Generation Resource Planning

9.1. The Distribution Licensee shall plan and evaluate the necessary generation resources. This assessment should account for current resources, resources nearing commissioning, Capacity Credit, the additional capacity needed to satisfy the forecasted demand, and the planning reserve margin (PRM).

9.2. The process for Generation Resource Planning comprises the following key stages:

A. Determining the Capacity Credit for generation resources.

B. Evaluating the required planning reserve margin.

C. Evaluating the RA requirement and its subsequent allocation to Distribution Licensees.

9.3. The Generation Resource Planning shall incorporate the following information, among others:

Demand and Load Characteristics:

- Actual demand met by the State/Distribution Licensee over the last five years, detailed in hourly time block resolutions.
- Estimated load growth throughout the planning period.

Generation Resource Parameters (Existing and Planned):

- Critical **Characteristics, Machine Characteristics, and Technical Parameters** (e.g., hydrology for hydro, heat rate for thermal):
  - Name of plant and location (State/Region).
  - Capacity (MW).
  - Heat Rate (for thermal generating stations).
  - Auxiliary Consumption (MW).
  - Maximum and Minimum Generation Limits (MW).
  - Ramp Up and Ramp Down Rate (MW/min).
  - Start-up time.
  - Plant Availability Factor (% of time).
  - Capacity Utilisation Factor (CUF) for renewable resource-based power plants.

- All specified characteristics and parameter values for each generating plant considered must be included in the resource plan.

System Planning and Constraints:

- Planning Reserve Margin.
- Under-construction capacity, retirement plans, contracted capacity, and bilateral contracts.
- Potential technologies, gestation periods, and the lifetime of different assets.
- Capacities and generation profile of renewable generation.
- Historical forced outage rates and planned maintenance rates for generation capacities.
- The RPO, including Energy Storage Obligation targets.
- Identified and listed constraints, such as penalties for unmet demand, forced outages, system emission limits defined by the State Grid Code and the Indian Electricity Grid Code, and emission norms specified by the Ministry of Environment, Forest and Climate Change (MoEFCC).

9.4. The Distribution Licensee shall map its existing, upcoming, and retiring resources in Megawatts (MW). This resource map is essential for developing the Long-term and Medium-term power procurement plans.

9.5. To accommodate the increasing amount of renewable energy in the grid, all state thermal generating companies shall implement flexible operations, i.e., the ability to quickly ramp production up and down to match the fluctuating "Net Load" (load minus variable renewable energy generation).

10. Capacity Crediting of Generation Resources

10.1. The Distribution Licensee shall calculate the Capacity Credit (CC) for its contracted generation resources. This calculation shall utilise the net load-based approach detailed in Clause 10.2 of this Regulation. The Capacity Credit factor for a specific type of contracted generation resource shall be determined by averaging its CC factor over the preceding five years, calculated on a rolling basis.

10.2. The Capacity Credit (CC) factors for generation resources shall be determined using a Net Load-based methodology, as outlined below:

Steps for Capacity Credit (CC) Factor Determination:

A. **Gross Load Ordering:** The hourly (or sub-hourly) recorded Gross Load (in MW) for 8,760 hours (8,784 for a leap year) is arranged in descending

order for each year.

B. **Net Load Calculation and Ordering:** The Net Load (in MW) is calculated for each hour by subtracting the corresponding actual wind or solar generation (in MW) from the Gross Load. These 8,760 (or 8,784) Net Load values are then arranged in descending order.

C. **Contribution Assessment:** The difference between the two load duration curves (Gross Load and Net Load, as per Clauses 10.2 (A) and (B)) represents the capacity-factor contribution of wind or solar generation.

D. **Top Net Load Hour Capacity Summation:** The Installed Capacity (in MW) of wind or solar generation corresponding to the top 250 Net Load hours (or sub-hourly time blocks), selected from the descending order of Net Load, is summed up. This selection is based on the computation in Clause 10.2(C).

E. **Top Net Load Hour Generation Summation:** The total generation (in MUs) from wind or solar during these top 250 Net Load hours is summed up.

F. **CC Factor Formula:** The resultant CC factor is calculated using the following formula:

$$\text{CC factor} = \frac{\text{Sum of RE Generation for 250 top net load hours (MUs)}}{\{\text{Sum of RE Capacity (MW) for 250 top load hours}/1000\}\ (\text{MUs})}$$

Annual and Averaging Process:

A. The CC factor determination process must be carried out annually for the previous five years.

B. The final resultant CC factor will be the average of the CC values calculated over these five years.

Exclusion of Abnormal Values:

A. When determining the CC factor based on the past five years, the Distribution Licensee must exclude abnormal values from a given year due to the following, non-exhaustive list of events or circumstances:

a. **Acts of God:** Including, but not limited to, lightning, drought, fire, explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, natural disasters, or exceptionally adverse weather conditions exceeding the statistical

measures of the last one hundred years.

b. **Declared Disasters:** Any disaster officially declared by the Central Government under the Disaster Management Act (as amended).

c. **Conflict/Hostilities:** Any act of war, invasion, armed conflict, act of a foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist, or military action.

10.3. The Distribution Licensee shall consider the CC factors for contracted RE generation resources, as prescribed by the Authority and approved by the Commission.

10.4. The CC factors for hydro generation resources shall be computed based on water availability. Distinct CC factors shall be computed for run-of-the-river hydro power projects and dam-based/storage-based hydro power projects.

10.5. For thermal generation resources, the CC factors shall be computed by considering both the availability of coal and any planned or forced outages.

10.6. Alternative methodologies may be followed by the Distribution Licensee, the SLDC, or the STU, provided they are justified and approved by the Commission.

10.7. The Distribution Licensee shall share CC factors for their contracted resources, along with justification for their computations, with the SLDC by 21st May of each year for the ensuing year.

10.8. The SLDC shall calculate State-specific CC factors. This calculation must be based on the State's aggregate Demand, State Net Load, and the contracted RE generation available. The SLDC shall then submit this CC factors information to the CEA, the RLDC, and the NLDC by the 31st of May annually, for the subsequent year.

10.9. For energy storage projects, such as Battery Energy Storage Systems (BESS) and Pumped Storage Schemes (PSS), the CC shall be computed in accordance with guidelines issued periodically by the CEA and/or as specifically approved by the Commission.

11. Assessment of Planning Reserve Margin (PRM)

11.1. The Planning Reserve Margin (PRM) is the percentage of capacity, in addition to the State's Coincident share of the National Peak Demand, that must be factored in when planning generation resources.

11.2. The PRM shall be as determined by the Authority or approved by the Commission, utilising reliability indices such as LOLP and NENS.

11.3. The Distribution Licensee shall take the PRM (as determined above) into account when planning their RA requirements and generation resource capacity.

11.4. The Distribution Licensee may consider higher PRMs, subject to prior Commission approval.

11.5. The STU/SLDC shall incorporate the PRM into the State-level Integrated Resource Plan during the State-level RA planning process.

12. RA Requirement and its Allocation

12.1. The Distribution Licensee shall determine the capacity requirement to meet demand and PRM, considering available capacity adjusted for capacity crediting for existing and planned contracted generation resources.

12.2. The available capacity as determined in Clause 12.1 of this Regulation shall then be plotted over a time axis of 15-minute intervals or longer, but not more than one hour. This shall form the resource map of the Distribution Licensees.

12.3. The Distribution Licensee shall subtract the resource map developed in Clause 12.2 from the demand forecast developed in Clause 6 of this Regulation to identify the resource gap.

12.4. The Distribution Licensee shall conduct sensitivity and probability analysis to determine the most probable resource gap. It shall also develop Long-term, Medium-term, and Short-term resource gap plans for possible demand-forecasting scenarios, while ensuring at least three scenarios (most probable, business as usual, and Pessimistic) as specified by the CEA in the Guidelines for Medium and Long-Term Power Demand Forecast, issued from time to time.

12.5. Based on the most probable scenario, the Distribution Licensee shall undertake the development of Long-term, Medium-term, and Short-term Distribution, and the RA Plan for each year to meet the RA requirement.

12.6. The Long Term National Resource Adequacy Plan (LT-NRAP) as may be published by Central Electricity Authority to determine the optimal Planning Reserve Margin (PRM) requirement at the national level for ensuring reliable supply targets and Short-term National Resource Adequacy Plan (ST-NRAP) as may be published by the NLDC for a one-year look-ahead or any other Planning Reserve Margin approved by the Commission shall act as guidance for the Distribution Licensee for undertaking the RA exercises.

12.7. Based on the allocated share in the national peak provided in the LT-NRAP for the State, the SLDC and/or, as approved by the Commission,

shall allocate each Distribution Licensee's share in the national peak within 15 days of the publication of the LT-NRAP.

12.8. The Distribution Licensee, based on the share in national peak provided in the LT-NRAP, shall plan to contract the capacities over and above the State coincident demand in national peak prescribed by the LT-NRAP or procure higher to meet their Resource Adequacy Requirement (RAR) at the time of national peak, subject to approval of the Commission.

12.9. The Distribution Licensee may keep the share of Long-term contracts as decided by the Commission, and the balance of RAR may be met through Medium-term/Short-term contracts

12.10. The contract mix mentioned under Clause 12.9 of this Regulation may be periodically reviewed by the Commission.

12.11. The SLDC, duly considering inputs from the Distribution Licensees, such as the CC, etc., shall consolidate and prepare a 10-year LT-DRAP to meet the peak demand and energy requirements for the State of Andhra Pradesh.

12.12. The SLDC, while formulating the LT-DRAP, shall also consider the constraints set out in Annexure-I to this Regulation.

12.13. The SLDC may take inputs from the LT-NRAP, such as PRM, Capacity Credits, etc., while formulating the LT-DRAP and shall send its plans to the CEA by 30th September of each year for the ensuing year(s) to seek inputs.

12.14. The STU/SLDC shall file before the Commission the transmission resource adequacy plan in line with the MYT, and Distribution Licensees shall file before the Commission distribution resource adequacy plans in line with the MYT on or before 30th October of each year.

12.15. Distribution Licensees shall submit the LT-DRAP, duly taking the inputs from the CEA as considered necessary, along with necessary supporting documents, formats (enclosed as Annexure-II to this Regulation) and details for meeting RAR, to the Commission within 15 days from the date of receipt of inputs from the CEA or 30th October of each year, whichever is earlier.

12.16. The Distribution Licensee may also demonstrate to the Commission a 100% tie-up for the first year and a minimum 90% tie-up for the second year to meet the requirement for their contribution to the national peak. Only resources with long/medium/short-term contracts shall be considered to contribute to the RAR.

12.17. For the subsequent three years, the Distribution Licensee shall also furnish a plan to meet the estimated requirement of their contribution to meet the state peak for the Commission's approval.

12.18. The LT-DRAP shall be carried out by the Distribution Licensee on an annual rolling basis, considering the contracted capacity as part of the system, which shall be optimised to meet additional capacity requirements.

12.19. The Distribution Licensee, through the LT-DRAP, shall demonstrate to the Commission its plan to meet peak demand and energy requirement with a mix of Long-term, Medium-term, and Short-term contracts, including Power Exchanges.

12.20. The SLDC shall prepare a one-year look-ahead of the ST-DRAP at the State level for operational planning, based on the LT-DRAP study results. The SLDC shall review the STDRAP on a daily, monthly and quarterly basis based on actual availability of generation resources.

CHAPTER 5- PROCUREMENT PLANNING

13. Procurement planning shall consist of:

A. Optimal power procurement resource mix.

B. Modalities of procurement type and tenure.

C. Sharing of Capacity.

14. Procurement Resource Mix

14.1. In the power procurement strategy, the Distribution Licensee shall ensure an optimal procurement generation resource mix and facilitate the smooth integration of RE sources into its portfolio of power procurement options, while meeting reliability standards and RPO targets. Further, the future capacity mix may comprise existing capacities, planned capacities, and additional capacity required to meet the Distribution Licensee's increasing demand, taking into account the appropriate gestation period of the generation resources.

14.2. To identify the optimal generation procurement resource mix, the Distribution Licensee shall employ optimisation techniques and least-cost modelling to avoid stranded capacity. The Distribution Licensee shall demonstrate the same in the LT-DRAP and submit it to the Commission for approval.

14.3. The Distribution Licensee shall contract for the optimal portfolio of resources to meet its future demand and RAR obligations, based on the output of the LT-NRAP study results.

14.4. The Distribution Licensee shall consider the Long/Medium/Short-term contracts for generation resources in contributing to meeting the RAR.

14.5. The Distribution Licensee shall contract additional resources based on the LTDRAP to meet its own peak demand.

14.6. Procurement of power capacity from RE sources by the Distribution Licensee to meet the RPO targets must adhere to the higher of the Regulations notified by the Commission periodically or the RCO targets specified in the notifications issued by the Ministry of Power (MOP) under the Energy Conservation Act, 2001 (as amended).

14.7. Power procurement from Wind, Solar PV, Wind-Solar Hybrid, FDRE, and Round-the-Clock (RTC) generation sources shall be carried out as per the guidelines for the tariff-based competitive bidding process notified by the Ministry of Power.

14.8. The Distribution Licensee shall contract storage capacity corresponding to the results of the LT-DRAP capacity addition requirement for future years from the BESS, the PSP, or any other storage technology as per the guidelines for tariff-based competitive bidding process notified by the Ministry of Power.

Provided that, if the Licensee proposes to contract storage capacity from the BESS or the PSPs developed and owned by the Government-owned (Government of Andhra Pradesh/ Government of India) generating companies by a process other than that specified by the Competitive Bidding Guidelines, the Licensee shall take prior approval of the Commission with proper justification.

14.9. The Distribution Licensee may contract power through State Generating Stations/ Central Generating Stations/ Independent Power Producers (IPPs)/ Captive Power Plants (CPPs)/ Renewable Power Plants, including Co-Generation Plants/Central Agencies /State Agencies/ Intermediaries/Traders/Aggregators/Power Exchanges or through Bilateral Agreements/ Banking Arrangements and any other sources as may be approved by the Commission.

14.10. The Distribution Licensee may procure power on a short-term and Medium-term basis through the DEEP and PUSH portal and Term-Ahead Markets (TAM). Further, the Distribution Licensee may procure power on a short-term basis through the OTC platform with the Commission's prior approval.

15. Procurement Type and Tenure

15.1. The Distribution Licensee must prioritise procuring resources within the region. This in-region procurement is subject to the availability of the least-cost resource. When considering procurement from outside the region, the Licensee must first account for transmission constraints and the associated transmission costs. Only then, if necessary, may procurement decisions be made across regions. The modalities and tenure of all procurement contracts shall be determined with these steps in mind.

15.2. The Distribution Licensee shall identify the generation resource mix and procurement strategy in the Long-term, Medium-term, and Short-term periods and seek approval from the Commission.

15.3. The Distribution Licensee, in its overall power procurement planning approach, shall employ greater emphasis on adequate contracting through Long-Term and Medium-Term arrangements. At the same time, the Distribution Licensee shall ensure that entering into new Long-Term and Medium-Term contracts does not contribute to the accumulation of stranded capacity or to additional consumer burdens arising from the fixed costs associated with stranded capacity.

15.4. The Distribution Licensee, through an annual rolling plan, shall ensure incremental capacity addition through Long-term/Medium-term/ Short-term contracts, duly factoring in existing and planned procurement arrangements.

16. Sharing of Capacity

16.1. In preparing the RA plan, the Distribution Licensee shall optimise the costs of capacity. This involves factoring in the potential for sharing Long-term, Medium-term, and Short-term capacity and making optimal use of the Inter-State capacity sharing or trading mechanism established by the CERC or the Central Government.

17. Approval of Power Purchase Agreements

17.1. The Commission's prior approval shall be required for any new capacity arrangement or tie-up. This approval will be granted after evaluating the necessity of the arrangement, the reasonableness of the power purchase cost, and the extent to which it promotes efficient, economical, and equitable operations.

17.2. All procurement of Long/Medium/Short-term power from various sources shall be carried out in accordance with the Guidelines/Rules/Regulations /Policies issued by the Central Government/Commission from time to time.

17.3. Any new PPAs for Long/Medium-term power procurement or amendments to existing Long/Medium-term PPAs/PSA/Power Supply Agreements entered into by the Distribution Licensee shall be subject to the prior approval of the Commission.

17.4. The Distribution Licensee shall submit the list of all existing PPAs executed with different conventional power plants and RE Generators, along with the RA plan.

18. Variations in Power Purchase

18.1. The Distribution Licensee shall undertake additional power procurement during the year, over and above the approved RA procurement plan, on account of the following exigencies:

A. In case there has been an unanticipated increase in the demand for electricity or a shortfall or failure in the supply of electricity from any approved source of supply during the year, or when the sourcing of power from existing tied-up sources becomes costlier than other available alternative sources, the Distribution Licensee may enter into additional agreements for the procurement of power as per Clause 14.10.

B. The Distribution Licensee may enter into a Short-term arrangement or agreement for the procurement of power when faced with emergency conditions that threaten the stability of the grid, or when directed to do so by the SLDC to prevent grid failure or during exigency conditions and for banking with other States on a short-term basis without prior approval of the Commission.

Provided that the details of such procurements shall be submitted to the Commission within 15 days from the date of procurement of power, with proper justification.

CHAPTER 6- MONITORING AND COMPLIANCE

19. Monitoring and Compliance

19.1. Distribution Licensees shall comply with the RA requirement in accordance with the timelines specified under Clause 21 of this Regulation. In case of non-compliance, appropriate non-compliance charges, as may be determined by the Commission, shall apply.

19.2. The Commission may consider appropriate performance-based incentives for Distribution Licensees that demonstrate a verifiable improvement in system reliability (e.g., achieving LOLP/NENS levels significantly better than the prescribed standard); achieve demonstrable, prudently managed

cost savings for consumers through optimised long-term procurement and effective capacity sharing; and successfully integrate high volumes of variable renewable energy without compromising system security or reliability.

CHAPTER 7- ROLES AND RESPONSIBILITIES AND TIMELINES

20. Data Requirement and Sharing Protocol

20.1. Distribution Licensees shall maintain and share all data related to demand assessment and forecasting with the SLDC, such as:

A. Consumer data.
B. Historical demand data.
C. Weather data.
D. Demographic and econometric variables.
E. Distribution Losses and intra/inter-State Transmission losses.
F. Actual energy requirement.
G. Availability, including curtailment, peak electricity demand, and peak met, along with changes in demand profile (e.g., agricultural shifts, time-of-use, etc.).
H. Historical hourly load pattern, etc.

20.2. Distribution Licensees shall maintain and share all statistics and databases pertaining to policies and drivers with the SLDC, such as:

20.3. LED penetration, efficient fan/AC penetration, appliance penetration, and increased household use of electrical appliances for cooking, heating, cooling, etc.

A. Increase in commercial activities for geographic areas/regions.
B. Increase in the number of agricultural pumps.
C. Solarisation within the Distribution Licensee's area.
D. Changes in specific energy consumption.
E. Consumption pattern of seasonal consumers.
F. Demand Side Management (DSM).
G. Distributed Energy Resources (DERs).
H. Electric Vehicles (EVs).
I. Open Access (OA).
J. National Hydrogen Mission.
K. Reduction of AT&C losses, etc.

20.4. Provided that statistics and databases pertaining to households, such as LED penetration, efficient fan penetration, appliance penetration, increased usage of electrical appliances for cooking, etc., shall be utilised by the SLDC whenever statistical information and databases become available through Distribution Licensees.

20.5. Distribution Licensees shall maintain at least past 10 years of statistics in their database pertaining to consumption profiles for each class of consumers, such as domestic, commercial, public lighting, public water works, agricultural/ irrigation, LT industries, HT industries, railway traction, bulk (non-industrial HT consumers), open access, captive power plants, insights from load survey, contribution of consumer category to peak demand, seasonal variation aspects, etc., and share the same with the SLDC.

20.6. The SLDC shall maintain Distribution Licensee-specific as well as aggregate statistics and databases for the State as a whole, pertaining to the aggregate demand assessment and forecasting mentioned above, and share State-level assessments with the CEA/NLDC and the RLDC from time to time for regional/national assessments.

20.7. The Distribution Licensee shall share information and data pertaining to existing and contracted capacities, including their technical and financial characteristics, as well as hourly generation profiles, with the STU/SLDC to compute State-level Capacity Credit factors and prepare the State-level assessment.

20.8. The STU and the SLDC shall aggregate generation data and, as the case may be, share State-level projections with the CEA and the NLDC for assessment of the RA requirement.

20.9. The STU and the SLDC shall communicate the allocation of regional and national RA requirements to the Distribution Licensees.

21. Timelines

21.1. By the 21st of April each year, the Distribution Licensees shall provide the SLDC with category-wise consumption data for the previous financial years, along with any other information the SLDC may require for the ensuing year.

21.2. On behalf of the State's Distribution Licensees, the SLDC shall submit the following details by May 31st of every year:

- **To the CEA:** The LT-NRAP information for the next 10 years,

including demand forecasts (peak and energy requirement), assessment of existing generation resources, the CC factor, and any other necessary details.

- **To the NLDC:** ST-NRAP information for the ensuing year.

21.3. Annexure-F of the Ministry of Power's Guidelines for the RA Planning Framework for India, dated June 28th, 2023, mandates the following publication deadlines:

- **LT-NRAP report:** To be published by the CEA by July 15th of each year for the ensuing year(s).
- **ST-NRAP report:** To be published by the NLDC by July 31st of each year for the ensuing year(s).

21.4. Within 15 days of the publication of the LT-NRAP report, and by August 15th of each year, the SLDC shall allocate the national peak share to each Distribution Licensee for the ensuing year(s).

21.5. The SLDC shall submit the LT-DRAP plans to the CEA by 30th September of each year for the ensuing year(s) for seeking inputs

21.6. The SLDC shall immediately forward the LT-DRAP, along with any CEA inputs, to the Distribution Licensees.

21.7. The Distribution Licensees shall submit the LT-DRAP plan to meet the RAR to the Commission within 15 days of receipt of the CEA inputs or on 30th October of each year, whichever is earlier.

21.8. The Commission will approve the RA Plan submitted by Distribution Licensees within 60 days of submission.

21.9. The Distribution Licensee shall submit the details of the contracted capacities for the ensuing year to meet RAR to the SLDC within 30 days of the Commission's approval.

21.10. The SLDC shall aggregate the total contracted capacities at the State level and submit the information to the RLDC under intimation to the Commission, within 15 days from the date of receipt from the Distribution Licensee.

21.11. As per the timelines provided in Annexure-F of the Guidelines for the RA Planning Framework for India, notified by the Ministry of Power on June 28th 2023, the RLDC has to aggregate regional capacities and submit the information to the NLDC byFebruary.

21.12. The Distribution Licensee shall complete the contracting for any balance capacity shortfall, as communicated by the NLDC, by the end of March each year for the subsequent year. If the Distribution Licensee contracts

this balance capacity shortfall through Long or Medium-term power procurement, it shall require the prior approval of the Commission, as specified in Clause 17.3 of this Regulation.

21.13. The Distribution Licensee shall inform the Commission of the contracted balance capacity by the 1st of April each year, covering the current year. However, if the NLDC delays communication regarding the balance capacity shortfall, the Distribution Licensee shall seek the Commission's permission to extend the deadline for contracting the balance capacity, provided the request is submitted by the 25th of March each year.

CHAPTER 7: CYBERSECURITY AND GRID RESILIENCE

22. Cybersecurity and Data Protection

22.1. The Distribution Licensees, the SLDC, and the STU shall develop and maintain a robust Cybersecurity and Data Protection Policy for all systems related to demand forecasting, generation resource planning, and real-time grid operations.

22.2. All entities shall implement security measures, including network segmentation and access control, to protect critical energy infrastructure data and operational technology systems from unauthorised access, disruption, or manipulation.

23. Grid Resilience and Disaster Management

23.1. The Distribution Licensees, the SLDC, and the STU shall develop a Grid Resilience and Disaster Management Plan outlining procedures for maintaining RA and system stability during and immediately following physical or cyber disruptions, natural disasters, or catastrophic equipment failures.

23.2. This plan shall include contingency measures, such as black-start capabilities, islanding schemes, and rapid restoration protocols for critical loads.

CHAPTER 8: MISCELLANEOUS

24. Placing of information on websites

24.1. The Distribution Licensee and the SLDC shall publish the details of monthly, weekly, day-ahead, and intra-day power procurements/sales, along with the generator schedules, on their respective websites. This information shall be made available within 45 days of the procurement/sale, ensuring both current and archived data are easily accessible.

24.2. The SLDC shall publish the monthly Merit Order Dispatch (MoD) stack, including the per-unit variable cost for each generating station, on its website.

25. Constitution of dedicated cells

25.1. Within three months of this Regulation's commencement, the Distribution Licensee shall constitute a dedicated planning cell for RA. This cell shall be equipped with the necessary capabilities and tools for critical functions such as demand forecasting, capacity planning, and RE integration.

25.2. The Distribution Licensee shall establish a separate, dedicated, round-the-clock cell. This cell shall be responsible for the real-time purchase and sale of power, as well as for undertaking intra-day, day-ahead, and week-ahead power procurement via Power Exchanges or other available avenues. Within 45 days of this Regulation taking effect, the Distribution Licensee shall formulate appropriate guidelines outlining the operational procedure (modus operandi) for these dedicated cells, in alignment with the spirit of this Regulation, and submit these guidelines to the Commission.

26. Assessment to involve consultation

26.1. The Distribution Licensee shall prepare the RA Plan in consultation with State Sector Generating Companies, Central Sector Generating Companies, Transmission Companies, National/Regional/State Load Despatch Centres, and the CEA. Furthermore, the Distribution Licensee must assess the likely availability of power and pricing across the country—covering peak, off-peak, and normal periods—by making enquiries with Trading Companies and States that have surplus power. The Distribution Licensee may also consult with research agencies possessing relevant experience.

27. Power to Issue Orders and Practice Directions

27.1. Subject to the provisions of the Electricity Act, 2003 and this Regulation, the Commission may, from time to time, issue such orders and practice directions as it considers appropriate for the implementation of this Regulation and the procedure to be followed.

28. Power to Relax

28.1. The Commission may, by general or special order, for reasons to be recorded in writing and after giving an opportunity of hearing to the parties likely to be affected, relax or waive any provisions of this Regulation on its own motion or on an application made before it by an interested person.

29. Power to Remove Difficulties

29.1. If any difficulty arises in giving effect to any of the provisions of this Regulation, the Commission may, by a general or specific order, do anything, not inconsistent with the provisions of the Act, as may appear to be necessary for removing the difficulty/difficulties.

30. Power to amend

30.1. The Commission may, from time to time, add, vary, alter, suspend, modify, amend, or repeal any provisions of this Regulation

31. Savings

31.1. Nothing in this Regulation shall be deemed to limit or otherwise affect the inherent power of the Commission to make such orders as may be necessary to meet the ends of justice or to prevent abuse of the process of the Commission.

31.2. Nothing in this Regulation shall bar the Commission from adopting in conformity with the provisions of the Act, which is at variance with any of the provisions of this Regulation, if the Commission, in view of the special circumstances of a matter or class of matters and for reasons to be recorded in writing, deems it necessary or expedient for dealing with such a matter or class of matters.

31.3. Nothing in this Regulation shall, expressly or impliedly, bar the Commission from dealing with any matter or exercising any power under the Act for which no Regulations have been framed, and the Commission may deal with such matters, powers and functions in a manner it thinks fit.

(By Order of the Commission)

Sd/- 06/03/2026
P.Krishna
Commission Secretary i/c

Place: Kurnool
Date: 06.03.2026

ANNEXURE-I

Methodology for Preparation of RA Plan with Constraints

The RA planning for each Distribution Licensee shall follow a structured approach, starting with demand forecasting and culminating in an optimised generation expansion plan. The key steps and constraints are outlined below:

1. **Demand Projection and Model Requirements:**

- **Hourly Demand Profile:** The hourly demand profile for each Distribution Licensee shall be projected across the planning period. This projection shall be based on the forecasted annual energy requirement and the peak-demand trajectory, using the methodologies specified in Clause 6.7 of this Regulation.
- **Modelling Resolution:** The chosen generation expansion planning model shall be capable of simulation at an hourly chronological resolution. This high-resolution simulation is essential to accurately capture system dynamics, including conventional generation ramping, RE generation profiles, and energy storage behaviour.

2. **System Optimisation and Cost Minimisation:**

- Once the future demand profile is established, the model shall perform an optimisation exercise. The primary goal is to minimise the total system cost while simultaneously meeting all future demand and adhering to power system parameters.

3. **Planning Constraints:**

The Distribution Licensee shall incorporate the following specific constraints into the planning model:

- **RAR/PRM:**
  - The total RA capacity shall meet the PRM determined by the CEA or as approved by the Commission.
  - The RAR for each Distribution Licensee shall be calculated as:
    RAR = Contribution[1] *to forecasted national peak demand* in GW × (1 + PRM)
  - **Supply-Side RAR:** This is the sum of the "firm capacity" or "capacity credits" from contracted/planned resources (including renewables, storage, and demand response), plus derated interconnection limits (imports).
  - **Matching Requirement:** The supply-side and demand-side RARs shall be equal.

- **Capacity Credits:** Capacity Credits for generating resources and demand response shall be those estimated by the CEA, or an alternative methodology justified and approved by the Commission. These Credits may vary by resource type, region (e.g., Southern vs Northern Region for solar), and whether the resource is existing or new.
- **Thermal Capacity Credit:** Shall be calculated by reducing auxiliary consumption and the forced outage rate from the installed capacity.

- **Portfolio Balance Constraints:**

  For every hour, the total generation within a control area (Region/State/Distribution Licensee) plus power imports shall equal the sum of demand, exports, any unserved energy, and curtailment.

- **RE Generation Constraints:**
  - RE generation (solar, wind) shall be constrained to match its hourly profile, typically derived from historical data.
  - Additional constraints shall ensure that the Distribution Licensee's overall RE targets are met and included in the LT-DRAP formulation.
- **Conventional Generation Constraints:**
  - Since thermal resources are dispatchable, they are subject to operational constraints:
    - Maximum and minimum generation limits.
    - Ramp rates (generation change between consecutive time blocks).
    - Dispatch (energy offer) and reserve offer limits.
    - Unit commitment decisions (start-up/shutdown, minimum up/down times) requiring binary variables.
    - Plant availability factor to capture outages.
  - **Capacity Tracking:** A constraint shall track annual capacity, ensuring the current year's capacity equals the previous year's capacity plus new investments minus any retirements.
- **RPO Constraints:**
  - Fulfilling the RPO is a critical objective of the RA exercise.
  - Technology options like Round-the-Clock (RTC) renewable energy with storage (Battery and Pumped Storage Hydro), standalone RE, and hydro

capacity for balancing shall be considered.

- **Storage Constraints:**
  - These are vital for managing intermittent RE generation.
  - Charge and discharge limits are constrained by the State of Charge (SOC) and the resource's maximum limits.
  - Discharge can only occur if sufficient stored energy is available.
  - Temporal sequencing and round-trip efficiency losses shall be accounted for.
  - The model shall accommodate different discharge periods, power outputs, and efficiencies across different storage technologies.
- **Operating (Spinning) Reserve Constraints:**
  - Sufficient resources shall be online or on standby at all times to handle load-forecast errors, RE intermittency, or real-time contingencies.
  - The operating reserve requirement is an input parameter to be arrived at in consultation with the SLDC.
- **Demand Response (DR)/Demand-Side Management:**
  - The potential for DR, such as load shifting, can be incorporated into the RAP.

Constraints shall define the periods during which load shifting is permissible and the maximum quantum of load that can be shifted within a period.

ANNEXURE-II

Formats (1 to 14)

Demand Forecast (Summary Statement for State and All DISCOMs separately) - Discom-wise (Name of Discom: _____)									Format-1
Sr. No.	Particulars	Actual of Previous Years			Current Year	YoY growth rate/CAGR - as applicable (%)	Projections		
		Yr-1	...	Yr-n			Yr-1	...	Yr-10
1	Energy Sale - MUs (Consumer Category-wise as per Retail Supply Tariff Order)								
	LT Categories								
	LT- I- (A) Domestic								
	LT- II- (A) (i) Non-Domestic/Commercial								
	LT- II- (A) (ii) Advertising Hoardings								
	LT- II- (A) (iii) Function halls / Auditoriums								
	LT-II- (B) Startup power								
	LT-II- (C) Electric Vehicles/ Charging Stations								
	LT-II-(D) Green Power								
	LT- III- (A) Industrial								
	LT- III- (B) Seasonal Industries (off-season)								
	LT- III- (C) Energy Intensive Industries								
	LT-III-(D) Cottage Industries up to 10HP *								
	LT-IV-(A) Utilities (Street Lighting, NTR Sujala Pathakam, CPWS and PWS)								
	LT-IV-(B) General Purpose								
	LT-IV-(C): Religious Places (i): Contracted load up to 2 kW								
	LT-IV-(C): Religious Places (ii): Contracted load above 2 kW								
	LT- V- (A) (i) Corporate farmers								
	LT- V- (A) (ii) Non-Corporate farmers (Free Power)								
	LT- V- (A) (iii) Salt farming units up to 15 HP								

Demand Forecast (Summary Statement for State and All DISCOMs separately) - Discom-wise (Name of Discom: _____)									Format-1
Sr. No.	Particulars	Actual of Previous Years			Current Year	YoY growth rate/CAGR - as applicable (%)	Projections		
		Yr-1	...	Yr-n			Yr-1	...	Yr-10
	LT- V- (A) (iv) Sugarcane crushing, (Free Power)								
	LT- V- (A) (v) Rural Horticulture Nurseries,(Free Power)								
	LT- V- (A) (vi) Floriculture in Greenhouse								
	LT- V- (B): Aquaculture and Animal Husbandry								
	LT- V- (D): Agro-Based Cottage Industries up to 10 HP								
	LT- V (E): Government / Private Lift Irrigation Schemes								
	HT Category at 11 kV								
	HT-I (B)- Townships, Colonies, Gated Communities and Villas								
	HT-II (A)-(i) Commercial								
	HT-II (A) (iii) Function halls / Auditoriums								
	HT-II (B) Startup power								
	HT-II (C) Electric Vehicles/ Charging Stations								
	HT-II (D) Green Power								
	HT-II (A) Industry								
	HT-III (B) Seasonal Industries (off-season)								
	HT-III (C) Energy Intensive Industries								
	HT-IV (A) Utilities (Street Lighting, NTR Sujala Pathakam, CPWS and PWS)								
	HT-IV (B) General Purpose								
	HT-IV (C): Religious Places								
	HT-IV (D): Railway Traction								
	HT-V (B): Aquaculture and Animal Husbandry								
	HT-V (E): Government / Private Lift Irrigation Schemes								

Demand Forecast (Summary Statement for State and All DISCOMs separately) - Discom-wise (Name of Discom: _____)									Format-1
Sr. No.	Particulars	Actual of Previous Years			Current Year	YoY growth rate/CAGR - as applicable (%)	Projections		
		Yr-1	...	Yr-n			Yr-1	...	Yr-10
	HT Category at 33 kV								
	HT-I (B)- Townships, Colonies, Gated Communities and Villas								
	HT-II (A)-(i) Commercial								
	HT-II (A) (iii) Function halls / Auditoriums								
	HT-II (B) Startup power								
	HT-II (C) Electric Vehicles/ Charging Stations								
	HT-II (D) Green Power								
	HT-II (A) Industry								
	HT-III (B) Seasonal Industries (off-season)								
	HT-III (C) Energy Intensive Industries								
	HT-IV (A) Utilities (Street Lighting, NTR Sujala Pathakam, CPWS and PWS)								
	HT-IV (B) General Purpose								
	HT-IV (C): Religious Places								
	HT-IV (D): Railway Traction								
	HT-V (B): Aquaculture and Animal Husbandry								
	HT-V (E): Government / Private Lift Irrigation Schemes								
	HT Category at 132 KV and above								
	HT-I (B)- Townships, Colonies, Gated Communities and Villas								
	HT-II (A)-(i) Commercial								
	HT-II (A) (iii) Function halls / Auditoriums								
	HT-II (B) Startup power								
	HT-II (C) Electric Vehicles/ Charging Stations								

Demand Forecast (Summary Statement for State and All DISCOMs separately) - Discom-wise (Name of Discom: _____)									Format-1
Sr. No.	Particulars	Actual of Previous Years			Current Year	YoY growth rate/CAGR - as applicable (%)	Projections		
		Yr-1	...	Yr-n			Yr-1	...	Yr-10
	HT-II (D) Green Power								
	HT-II (A) Industry								
	HT-III (B) Seasonal Industries (off-season)								
	HT-III (C) Energy Intensive Industries								
	HT-IV (A) Utilities (Street Lighting, NTR Sujala Pathakam, CPWS and PWS)								
	HT-IV (B) General Purpose								
	HT-IV (C): Religious Places								
	HT-IV (D): Railway Traction								
	HT-V (B): Aquaculture and Animal Husbandry								
	HT-V (E): Government / Private Lift Irrigation Schemes								
2	Total Energy Sale (MU)- (Cumulative of all consumer categories)								
3	YoY growth rate for total energy Sales (%)								
4	Distribution losses - in %								
	LT								
	11 KV								
	33 KV								
5	Distribution losses - in MU								
	LT								
	11 KV								
	33 KV								
6	Supply / Requirement at DISCOM Boundary(MU)								
7	Intra-State Transmission losses - in %								
8	Intra-State Transmission losses - in MU								

Demand Forecast (Summary Statement for State and All DISCOMs separately) - Discom-wise (Name of Discom: _____)									Format-1
Sr. No.	Particulars	Actual of Previous Years			Current Year	YoY growth rate/CAGR - as applicable (%)	Projections		
		Yr-1	...	Yr-n			Yr-1	...	Yr-10
9	Supply / Requirement at State Boundary(MU)								
10	Inter-State Transmission losses - in %								
11	Inter-State Transmission losses - in MU								
12	Ex-Bus Requirement of DISCOM (MU) (excluding OA Consumers) - RESTRICTED								
13	Sales by APDISCOMs to SEZ (as applicable)								
14	Energy Wheeled for OA Consumers (as applicable)								
15	Ex-Bus Requirement of DISCOM (MU) (including OA) -RESTRICTED								
13	Unsupplied energy due to system constraints (MU)								
14	Ex-Bus Requirement of DISCOM (MU) (excluding OA) - Unrestricted								
15	Ex-Bus Requirement of DISCOM (MU) (including OA) - Unrestricted								
16	System Load Factor								
17	Peak load of DISCOM (MW) (excluding OA)								
18	Peak load of DISCOM (MW) (including OA)								
Note:	1. The Demand Forecast should be supported by Graphs showing the yearly Demand Pattern for the consumer category, and wherever possible, a 24-hour load duration curve sample also needs to be provided								
	2. The Demand Forecast shall be done in accordance with Clause 6 of the APERC (Framework for Resource Adequacy) Regulation, 2026								

Monthly Ex-Bus Energy Requirement (MU)							FORMAT-2
Month	Actual of Previous years				Projections		
	Yr-1	...	Yr-n	Current Year	Yr-1	...	Yr-10
State DISCOMs (Including SEZ and Open Access consumers)							
Apr							
May							
Jun							
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							
Jan							
Feb							
Mar							
APSPDCL							
Apr							
May							
Jun							
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							
Jan							
Feb							
Mar							
APCPDCL							
Apr							

Monthly Ex-Bus Energy Requirement (MU)							FORMAT-2
Month	**Actual of Previous years**				**Projections**		
	Yr-1	**...**	**Yr-n**	**Current Year**	**Yr-1**	**...**	**Yr-10**
May							
Jun							
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							
Jan							
Feb							
Mar							
APEPDCL							
Apr							
May							
Jun							
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							
Jan							
Feb							
Mar							
SEZ							
Apr							
May							
Jun							

Monthly Ex-Bus Energy Requirement (MU)							FORMAT-2
Month	**Actual of Previous years**				**Projections**		
	Yr-1	**...**	**Yr-n**	**Current Year**	**Yr-1**	**...**	**Yr-10**
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							
Jan							
Feb							
Mar							
Open Access Consumers							
Apr							
May							
Jun							
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							
Jan							
Feb							
Mar							

Power Supply Projections-Summary Statement (10-Year Period)						Format-3
No.	Particulars	Projections				
		Yr-1	Yr-2	Yr-3	...	Yr-10
1	For DISCOMs & SEZ (MU)					
2	For State (including OA) (MU)					
3	Energy Requirement (MU) (Ex-Bus)					
4	Energy Availability (MU)					
	AP Genco Thermal Plants					
	AP Genco Hydel Plants					
	Central Sector Stations					
	IPPs					
	Wind Generators Availability					
	Solar Generators Availability					
	Other NCE Generators Availability					
	Other Generators Availability					
	Availability through banking/Power Market					
5	TOTAL (MU)					
6	Surplus(+)/Deficit(-) (MU) (5-3)					
7	Surplus(+)/Deficit(-)(%) (6/1)					
8	Available Generation Capacity (MW)					
	AP GENCO Thermal					
	AP GENCO Hydel					
	Central Sector					
	IPPs					
	Wind Generators Capacity					
	Solar Generators Capacity					
	Other NCE Generators Availability					
	Other Generators Capacity					
9	TOTAL (MW)					

Note: The Monthly Power Supply Forecast for the State needs to be furnished separately.

The Power Supply Position should be supported by Graphs showing yearly and Monthly Pattern

Peak Power Supply Projections-Summary Statement (10-Year Period)						Format-4
	Peak Hours (Morning/Day/Evening)					
No.	Particulars	Projections				
		Yr-1	Yr-2	Yr-3	...	Yr-10
1	For DISCOMs & SEZ (MU)					
2	For State (including OA) (MU)					
3	Energy Requirement (MU) (Ex-Bus)					
4	Peak availability (MU) -(Morning/Day/Evening)					
	AP Genco Thermal Plants					
	AP Genco Hydel Plants					
	Central Sector Stations					
	IPPs					
	Wind Generators Availability					
	Solar Generators Availability					
	Other NCE Generators Availability					
	Other Generators Availability					
	Availability through banking/Power Market					
5	Peak availability (excluding banking/Power Market)					
6	Peak availability (including banking/ Power Market)					
7	Surplus(+)/Deficit(-) (excluding banking/ Power Market)					
8	Surplus(+)/Deficit(-) (including banking/ Power Market)					

Note: The Monthly Peak Availability Forecast for the State for morning/day/evening needs to be furnished separately.

The Power Supply Position needs to be supported by Graphs showing yearly or monthly 24 hr load pattern based on Load Research by the Company.

Available/Existing Generation Capacities- Summary Statement (MW)														Format-5 Year: 1.....10
No.	**Particulars**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Total**
1	State Gencos													
2	State Hydels													
3	Central Sector													
4	IPPs													
5	Renewables (Source Wise)													
6	Total Available Generation Capacity of Andhra Pradesh													
Note:	The above format needs to be filled considering the plant-wise availability of each State/Central Generating plants, IPPs, Renewable plants and other Plants for the entire 10-year plan.													

Available/Existing Generation Availability- Summary Statement (MWh)														Year: 1.....10
No.	**Particulars**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Total**
1	State Gencos													
2	State Hydels													
3	Central Sector													
4	IPPs													
5	Renewables (Source Wise)													
6	Total Available Generation Capacity of Andhra Pradesh													
Note:	The above format needs to be filled considering the plant-wise availability of each State/Central Generating plants, IPPs, Renewable plants and other Plants for the entire 10-year plan.													

Planned Generation Capacities- Summary Statement (MW)														Format-6 Year: 1.....10
No.	**Particulars**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Total**
1	State Gencos													
2	State Hydels													
3	Central Sector													
4	IPPs													
5	Renewables (Source Wise)													
6	Total Available Generation Capacity of Andhra Pradesh													
Note:	The above format needs to be filled considering the plant-wise availability of each State/Central Generating plants, IPPs, Renewable plants and other Plants for the entire 10-year plan.													

Planned Generation Availability- Summary Statement (MWh) Year: 1.....10														
No.	**Particulars**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Total**
1	State Gencos													
2	State Hydels													
3	Central Sector													
4	IPPs													
5	Renewables (Source Wise)													
6	Total Available Generation Capacity of Andhra Pradesh													
Note:	The above format needs to be filled considering the plant-wise availability of each State/Central Generating plants, IPPs, Renewable plants and other Plants for the entire 10-year plan.													

Generating Station Wise Capacity Available/Planned (Long-Term/Medium-Term/Short-Term)																						Format-7	
Name of Generating Stations	Type of Plant	COD/ SCOD	Capacity (MW)	AP Share		Year-wise Capacity (MW)			Peak Demand Requirement (MW)			Shortfall (MW)			Energy Availability (MU)			Energy Requirement (MU)				Shortfall (MU)	
				%	MW	Yr-1	...	Yr10	Yr-1	...	Yr10	Yr-1	...	Yr10	Yr-1	...	Yr10	Yr-1	...	Yr10	Yr-1	...	Yr10
Long-Term																							
Medium Term																							
Short-Term																							
Total																							

	Addition of Generation Capacities- Summary Statement (MW)													Format-8 Year: 1.....10
No.	**Particulars**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Total**
1	State Gencos													
2	State Hydels													
3	Central Sector													
4	IPPs													
5	Renewables (Source Wise)													
6	Total Available Generation Capacity of Andhra Pradesh													
Note:	The above format needs to be filled considering the plant-wise availability of each State/Central Generating plants, IPPs, Renewable plants and other Plants for the entire 10-year plan.													
	Addition of Generation Availability- Summary Statement (MWh)													**Year: 1.....10**
No.	**Particulars**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Total**
1	State Gencos													
2	State Hydels													
3	Central Sector													
4	IPPs													
5	Renewables (Source Wise)													
6	Total Available Generation Capacity of Andhra Pradesh													
Note:	The above format needs to be filled considering the plant-wise availability of each State/Central Generating plants, IPPs, Renewable plants and other Plants for the entire 10-year plan.													

Generating Station Wise Capacity Addition (Long-Term/Medium-Term/Short-Term)																Format-9
Name of Generating Station	Type of Plant	COD/ SCOD	Capacity (MW)	AP Share		Year-wise Capacity Addition program (MW)						Energy Availability (MU)				
				%	MW	Yr-1	Yr-2	Yr-3	...	Yr-10	Yr-1	Yr-2	Yr-3	...	Yr-10	
Long-Term																
Medium -Term																
Short-Term																
Total																

Summary - Generating Station Wise Capacity (Long-Term/Medium-Term/Short-Term)																Format-10
Name of Generating Station	Type of Plant	COD/ SCOD	Capacity (MW)	AP Share		Year-wise Capacity Addition program (MW)						Energy Availability (MU)				
				%	MW	Yr-1	Yr-2	Yr-3	...	Yr-10	Yr-1	Yr-2	Yr-3	...	Yr-10	
Long-Term																
Medium -Term																
Short-Term																
Total																

																						Format-11
S. No.	Name of Generating Station	Region /State	Installed capacity (MW)	Share of AP (%)	COD /SCOD	Expected Retirement Year	Fixed Cost (Rs/ MW)	Variable Cost (Rs/kWh)	Auxiliary Consumption (%)	Max Generation Limits (MW)	Min Generation Limits (MW)	Fuel GCV (GJ/kg)	Heat Rate (at full Load)	Heat rate (at part load, i.e. 55 %)	Ramp Up rate (MW/ min)	Ramp down rate (MW/ m in)	Plant Availability Factor (in %) in case of Thermal and Hydro / Capacity Utilisation Factor for renewable based resources	Design Energy in the case of Hydro(MU)	Date of signing of PPA	Date of Expiry of PPA	Type of Capacity (Existing/Planned/ Addition)	Contract Type (Long-Term/ Medium Term and Short Term)

Plan for Renewable Power Obligation (RPO)							Format-12
Sr. No.	Particulars		Projection				
			Yr-1	Yr-2	Yr-3	...	Yr-10
1	Ex-Bus Energy Requirement (MU) (DISCOMs + SEZ)						
2	Energy requirement to be considered for RPO (MU)						
a	Solar	RPO %					
b		RPO (MU)					
c	Non-Solar	RPO %					
d		RPO (MU)					
3	Year-wise Renewable Capacity already tied up (MW)						
a	Solar						
b	Non-Solar						
c	Total						
4	Energy Available from Existing Renewable Capacity (MU)						
a	Solar						
b	Non-Solar						
c	Total						
5	Additional capacity required for fulfilling RPO (MW)						
a	Solar						
b	Non-Solar						
c	Total						
6	Additional Energy required for fulfilment of RPO (MU)						
a	Solar						
b	Non-Solar						
c	Total						
7	Year-wise Total Renewable capacity required to fulfil RPO (MW)						
8	Year-wise Total Renewable Energy required to fulfil RPO (MU)						

Deviation in Demand Forecast (Summary Statement for State and All DISCOMs separately) - Discom-wise (Name of Discom: _____)					Format-13
Sr. No.	**Particulars**	**Previous Years approved as per Plan (1)**	**Actual (2)**	**Deviation (21)**	**Reasons for deviation**
1	Total Energy Sale (MU)- (Cumulative of all consumer categories)				
2	Distribution losses - in %				
3	Distribution losses - in MU				
4	Supply / Requirement at DISCOM Boundary(MU)				
5	Intra-State Transmission losses - in %				
6	Intra-State Transmission losses - in MU				
7	Supply / Requirement at State Boundary(MU)				
8	Inter-State Transmission losses - in %				
9	Inter-State Transmission losses - in MU				
10	Ex-Bus Requirement of DISCOM (MU) (excluding OACs) - RESTRICTED				
11	Sale by Discoms to SEZ (as applicable)				
12	Energy Wheeled to OA Consumers (as applicable)				
13	Ex-Bus Requirement of DISCOM (MU) (including OA) -RESTRICTED				
14	Unsupplied energy due to system constraints (MU)				
15	Ex-Bus Requirement of DISCOM (MU) (excluding OA) - Unrestricted				
16	Ex-Bus Requirement of DISCOM (MU) (including OA) - Unrestricted				
17	System Load Factor				
18	Peak load of DISCOM (MW) (excluding OA)				
19	Peak load of DISCOM (MW) (including OA)				

Deviation in Energy Availability					Format-14
Sr. No.	**Particulars**	**Previous Years approved as per Plan (1)**	**Actual (2)**	**Deviation (2-1)**	**Reasons for deviation**
1	Energy Requirement (MU) (Ex-Bus)				
2	For DISCOMs & SEZ (MU)				
3	For State (including OA) (MU)				
4	Energy Availability (MU)				
	AP Genco Thermal Plants				
	AP Genco Hydel Plants				
	Central Sector Stations				
	IPPs				
	Wind Generators Availability				
	Solar Generators Availability				
	Other NCE Generators Availability				
	Other Generators Availability				
	Availability through banking/Power Market				
5	TOTAL (MU)				

ANNEXURE-III

The firm capacity to meet the RAR shall be calculated as shown below:

$$
\begin{aligned}
RAR = & \sum_{i=1}^{num\_solar} Solar\_Capacity * Solar\_Capacity\_Credit \\
& + \sum_{i=1}^{num\_wind} Wind\_Capacity * Wind\_Capacity\_Credit \\
& + \sum_{i=1}^{num\_hydro} Hydro\_Capacity * Hydro\_Capacity\_Credit \\
& + \sum_{i=1}^{num\_thermal} Thermal\_Capacity * Thermal\_Capacity\_Credit \\
& + \sum_{i=1}^{num\_nuclear} Nuclear\_Capacity * Nuclear\_Capacity\_Credit \\
& + \sum_{i=1}^{num\_storage} Storage\_Capacity * Storage\_Capacity\_Credit \\
& + \sum_{i=1}^{num\_other} Other\ Resource\_Capacity * Other\ Resource\ \_Capacity\_Credit \\
& + \sum_{i=1}^{num\_Other} Import\_limit * Capacity\_Credit
\end{aligned}
$$

Sd/- 06/03/2026
P.Krishna
Commission Secretary i/c