SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LIMITED

From
Chief Engineer (IPC),
TGSPDCL, Corporate Office,
6-1-50, Mint Compound,
Hyderabad – 500 063.

To
The Commission Secretary,
TGERC,
Vidyut Niyantran Bhavan,
GTS Colony
Hyderabad – 500 045.

Lr. No.CE(IPC)/DE(IPC)/ADE-K/F.No.KUSUM A/D.No. 113 /25-26, Dt:15-04-2025.

Sir,

Sub:- TGSPDCL- IPC – Replies to the objections/suggestions raised by the stakeholders on petition filed by TGDISCOMS seeking consent for procurement of 4000 MW (inclusive of 1000 MW capacity for Women SHGs under INDIRA MAHILA SHAKTI SCHEME) and Model Power Purchase Agreement (PPA) for decentralized Ground Mounted Grid-Connected solar power for a period of 25 years from the Commercial Operation Date (COD) by TGDISCOMs under Component-A of PM KUSUM Scheme vide OP.NO: 32/2025 - Submission - Reg.

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With reference to the subject cited above, the replies to the objections raised by the stakeholders on aforesaid subject are herewith enclosed with a request to kindly place the same before the Hon'ble Commission for approval.

Enclosures: As above

Yours faithfully,

Chief Engineer (IPC),
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Replies to Comments from Mr Venugopala Rao on the petition by TG DISCOMs for consent for procuring 4000 MW distributed solar (including 1000 MW for SHGs)

S. No.	Observation/ Comment	Rationale by TG DISCOMs
1.	In view of the difficulty of the Hon'ble Commission, as conveyed orally in response to our request vide our letter dated 7.4.2025, to extend time for filing objections and suggestions in the subject petition, as well as OP Nos.29 to 31 of 2025, by ten days each and reschedule dates of public hearings, we are making submissions to the extent possible due to lack of adequate time to study the subject petition, additional information and other related papers, analyse the issues and prepare submissions. The Hon'ble Commission has given a time of three weeks from 28.3.2024 to 19.4.2025 for filing objections and suggestions in OP Nos.29 to 31 of 2025 relating to three different PPAs with three different companies TGDISCOMs have signed. Again, public notice is issued on 3.4.2025, giving time of eight days up to 11.4.2025 for filing objections and suggestions in the subject petition. In effect, an average of five days is given for filing submissions in all the four petitions running into hundreds of pages, including annexures and additional information, and involving complicated issues which require careful study. In the subject petition, just five days time is given from the last date of submissions till the date of public hearing for the DISCOMs to give their responses to objections and suggestions and the stakeholders to study the replies of the DISCOMs and prepare further submissions. I would like to remind that the predecessor Commission used to extend time for filing submissions by stakeholders and also for holding public hearings as and when we requested, keeping in view the extent of study required for studying the petitions concerned and preparing submissions by the stakeholders. No problem or difficulty has arisen as a result of giving such	These points are preamble in nature

	required extension of time. Giving common public notice, inviting objections and suggestions, for three different petitions and holding public hearings in only one day on all the three petitions is also uncommon. Since public hearing is scheduled on the 17th of this month on the subject petition, and as we have to file our submissions on the other three petitions by 19th of this month, it is very difficult to prepare further submissions in the subject petition after receiving responses, if any, of the DISCOMs and detailed submissions in the other three petitions. Such avoidable constraints do not facilitate stakeholders to make qualitative and comprehensive contribution to the regulatory process of the Hon'ble Commission. We earnestly request the Hon'ble Commission to keep such constraints in view and give adequate time for filing objections and suggestions by stakeholders and for petitioners to give their responses and the stakeholders to study the same and make further submissions during public hearings as and when the Hon'ble Commission takes up petitions for its consideration for each petition separately to enable serious and interested stakeholders appearing before the Commission in larger public interest to make qualitative, meaningful and comprehensive submissions.	
2.	Southern Power Distribution Company of Telangana Limited (TGSPDCL) and Northern Power Distribution Company of Telangana Limited (TGNPDCL) have filed the subject petition, seeking approval to the draft expression of interest (EoI), model power purchase agreement (PPA) and model lease agreement for procurement of 4000 MW, including 1000 MW capacity for women self-help groups under Indira Mahila Shakti Scheme, decentralized ground mounted grid-connected solar power for a period of 25 years from the commercial operation date under component-A of PM KUSUM scheme. They have reminded that the Hon'ble Commission had determined a pre-fixed levelized tariff of Rs.3.13 per unit in its	These points are preamble in nature

	order dated 2.1.2021 in OP No.24 of 2020 for procurement of power from solar power projects under the said scheme, subject to the terms and conditions of the scheme. For justifying the proposed procurement of solar power, TGDISCOMs have relied on the following factors, among others: a) Renewable power purchase obligation (RPPO) order notified by the Hon'ble Commission, prescribing the obligation to purchase from renewable energy sources a minimum quantity in kWh of electricity as a percentage of its total consumption of energy annually during the five-year period from 2022-23 to 2026-27. b) Gazette notification dated 20.10.2023 issued under the Energy Conservation Act, 2001, by ministry of power, government of India, specifying minimum share of consumption of renewable energy by the DISCOMs as a percentage of their total share of energy consumption. c) Sanctioning of allocation of 4000 MW to the state for implementation under component-A of PM KUSUM scheme by ministry of new and renewable energy, government of India, on 24.6.2024 on the request of the government of Telangana dated 2.4.2024. d) G.O.Ms. No.24 dated 13.11.2024 issued by the government of Telangana, permitting TGREDCO, the state implementing agency, to implement the scheme in the state. e) MoU dated 19.11.2024 between SERP/government of Telangana, TGREDCO and TGDISCOMs to establish solar power plants under the Indira Mahila Shakti scheme in the state. f) The DISCOMs have pointed out that this procurement was not included in the resource plan for the 5th and 6th control periods, as it was submitted on April 1, 2023, prior to the MNRE sanction under KUSUM scheme. g) Resource adequacy report of the Central Electricity Authority for the period from 2024-25 to 2029-30.	

	h) Guidelines of the CEA to reduce the PLF of existing thermal power plants to 50% to accommodate addition of RE. i) The percentage of growth rate of energy requirement in the state as per the EPS survey up to FY 2034-35 considering FY 2023-24 as base year.	
3.	In principle, there need not be any objection to implementing the KUSUM scheme and encouraging setting up of decentralized solar power plants. However, what is glaringly missing in the submissions of the DISCOMs is the ground reality prevailing in the state in terms of demand fluctuation, demand growth, availability of power under PPAs in force and PPAs pending for consideration of the Hon'ble Commission, need for maintaining balance between demand curve and power mix to the extent technically practicable, and availability of surplus power at abnormal level, and above all, protection of larger consumer interest by avoiding scope for imposing avoidable burdens on the consumers. These are the factors, apart from the obligations to purchase RE under RPPO order issued by the Commission, that should weigh in taking decisions and giving regulatory consents for procurement of RE, thermal power, etc. It calls for a holistic, cautious and gradual approach for additional procurement of RE and thermal power. Policies, plans, schemes and decisions should be formulated and implemented based on these factors, among others, not vice versa.	These points are preamble in nature
4.	For the current financial year, TGDISCOMs have projected availability of surplus power to the tune of 28,504 MU against requirement of 95,127 MU, including T&D losses. The surplus works out to about 30% of requirement. There would be variations in availability of the projected surplus power due to various reasons which can or cannot be foreseen. In the subject petition, the DISCOMs have submitted that they have been exceeding the minimum targets for purchase of RE under RPPO order in force substantially. We request the Hon'ble Commission to the examine the following points,	The TGDISCOMs respectfully submit as follows- Though the TGDISCOMs are able to meet the energy requirements, there is still a need power procurement to meet the peak power requirement during certain hours. The actual power purchased for FY 2024-25 is 86,823 MUs The State of Telangana has been witnessing peak demand during daytime.

	among others: a) The DISCOMs have projected availability of solar power of 6656 MU with a capacity utilisation factor of 19% from the proposed 4000 MW capacity. Purchasing this much solar power by the DISCOMs would add to the availability of surplus power, except to the extent it can be supplied to meet new demand gradually. To the extent this solar power is supplied, existing surplus power cannot be supplied to meet new demand. Moreover, solar power cannot meet evening peak demand and a part of morning peak demand. Purchasing solar power, when thermal power is available under PPAs in force, invariably leads to backing down thermal power and paying fixed charges for the capacity backed down. b) Going by the approvals given by the Commission for the 5th control period on availability of surplus/deficit, during the first four years, availability of surplus ranges from the highest 19,074 MU during 2025-26 to lowest 8,024 MU during 2027-28 and a deficit of 158 MU during 2028-29. Even if there is some marginal increase in requirement vis a vis requirement determined by the Commission in any year, there will be availability of substantial surplus power. For example, the DISCOMs have pointed out that against requirement of 83,058 MU for FY 2024-25, actual purchase is 86,823 MU. Despite that, the actual surplus during 2024-25 needs to be taken note of. The DISCOMs have to show the actual surplus for 2024-25. c) Even if there is going to be some peak deficit in any year, despite availability of substantial quantum of surplus power, solar power cannot meet the peak deficit. Discoms have to depend on short-term sources for meeting the occasional and limited peak deficit. It is not prudent to enter into long-term PPAs for purchasing power, base load or RE, to meet such peak deficit. With availability of abnormal quantum of surplus power, need for purchasing power in the market or through	

	exchanges has come down drastically. d) Purchase of the proposed solar power is to meet demand during day time. With the available power, the DISCOMs have been meeting demand of all categories consumers during day time and other times also. The DISCOMs have not explained whether there will be deficit for power during the day time to meet demand, if the proposed 4000 MW solar is not purchased till 2028-29.	
5	Experience has been confirming that the estimates being made by the CEA under electricity requirement surveys and in resource adequacy reports tend to be inflated. As shown in the additional information provided by the DISCOMs, in response to the queries of the Hon'ble Commission, as per the resource adequacy report of the CEA, availability of surplus power during the 5th control period is very much lesser than what is determined by the Commission for the same period. But the factual position for the FY 2024-25 confirms that the projections of the CEA have turned out to be unrealistic. It confirms the need for reviewing and revising the projections periodically based on changing factual position.	The TGDISCOMs respectfully submit as follows – The actual power purchase by the state in FY24 was 86,823 MUs, surpassing the projected requirement for FY25 as per the resource plan. Regarding CEA projections, the TGDISCOMs submit that for FY 25, a peak demand of 17,162 MW was successfully met by TGDISCOMs as against the projected CEA peak demand of 16,877 MW. The TGDISCOMs submit that the projected load growth is reflective of the increasing demand in the State of Telangana.
6	As per the information furnished by the DISCOMs, they have exceeded their obligations to purchase RE as per RPPO order in force by almost 100% during the last three years - achieved 15.08% against target of 8.50% for 2022-23, 17.96% against 9.25% and 18.28% against 10.50% for 2023-24. Even with continuation of purchase of RE as per the PPAs in force as of now, the DISCOMs can achieve the targets fixed by the Commission in the RPPO order of 11.75% for 2025-26 and 13% for 2026-27. Though the DISCOMs have claimed that, with the demand growing approximately at 10% annually, it would be difficult for them to comply with RPPO targets specified by the Commission, they have not substantiated their claim. Moreover, as and when the Hon'ble Commission takes up the issue of fixing minimum targets for purchase of	The TGDISCOMs respectfully submit as follows – The state of Telangana has been robust growth due to the progressive policy and economic environment in the state. Similar growth trajectory is expected in the coming years and the TGDISCOMs have planned capacity additions to meet the growing demand. In view of this ground reality of higher growth, TGDISCOMs have to plan in advance and necessary measures have been initiated including capacity addition under KUSUM A.

	RE by the DISCOMs from 2027-28 onwards under RPPO, the implications can be articulated to determine additional requirement of RE to maintain balance between demand curve and power mix, on the one hand, and when and how much capacity of RE needs to be added periodically. Accordingly, the Commission may be requested to fix minimum targets of RE purchase under RPPO to be issued for future years.	
7	The DISCOMs have also expressed the apprehension that alignment of RPO with MoP, GoI, targets by TGERC or uniform enforceability of targets throughout India as notified under Electricity Conservation Act, 2001, threaten RPO compliance of TGDISCOMs. This apprehension is misplaced and based on the untenable presumption that TGERC has to fix RPPO targets as notified by the MoP, GoI, or that uniform targets throughout India, i.e., for each and every state, may be enforced. We request the Hon'ble Commission to examine the following points, among others: a) The targets notified by the MoP, GoI, for purchase of RE under RPO, under Energy Conservation Act, are abnormal, starting with 29.91% for 2024-25 and ending with 43.33% for 2029-30. Adoption and implementation of such whimsical targets would lead to disastrous consequences much to the detriment of the interests of the DISCOMs and their consumers. In this connection, I would like to remind that the TGDISCOMs, represented by the then CMD of the then CPDCL, vehemently pleaded before TGERC not to enhance the minimum targets under RPPO from the then prevailing 5%. It is a fact on record of the Commission. b) MoP, GoI, used to make it clear that its proposals for RPO were guidelines only and that it was for the SERCs to determine the targets under RPO. It is because, conditions are different in different states in terms of requirement of power, opportunities for developing RE, etc. It implies that uniform targets under RPO cannot be imposed on the states. c) Fixing targets under RPPO is within the	The TGDISCOMs respectfully submit that they would adhere to the orders issued by Hon'ble TGERC with regard to the RPO targets to be fulfilled.

	regulatory jurisdiction of the Hon'ble Commission. The powers conferred on the Commission under Electricity Act, 2003, cannot be taken away by the orders or notifications of the central and state governments, in so far as they are inconsistent with the Act. Section 174 of the EA, 2003, says: "save as otherwise provided in section 168, the provisions of this Act shall have effect notwithstanding anything inconsistent therewith contained in any other law for the time being in force or in any instrument having effect by virtue of any law other than this Act." "Provisions of this Act are in addition to and not in derogation of any other law for the time being in force." In other words, Energy Conservation Act cannot override EA, 2003. The notification issued by MoP, GoI, fixing targets under RPO under Energy Conservation Act, is not binding on the Hon'ble Commission and the DISCOMs.	
8	In its order dated 20.12.2024, the Hon'ble High Court of Karnataka, in WP No.11235 of 2024 and others, has asserted that "if the Parliament made a law specifically conferring power on the Regulator to frame Regulations which governed every aspect of open access, it is inconceivable that the Central Government can side-step the requirement of the Parliament enacting law in that regard and straight away proceed to frame the impugned Rules. "If Article 253 of the Constitution of India contemplates a law to be made by the Parliament, necessarily, the Parliament has to pass the enactment. The Central Government cannot use the power to frame Rules -which is only a piece of subordinate or delegated legislation - to side-step the Parliament." The High Court has further asserted that "the role of the Government under the Act (E.A., 2003) is essentially to frame a policy and it can only issue directions to the Regulator, and the Regulator can only be guided by such directions and not be bound by it." It is further observed by the HC that "the Electricity Policy framed by the Central Government does not	The TGDISCOMs respectfully submit that they would adhere to the orders issued by Hon'ble TGERC on all matters including purchase of RE power.

	contain any policy directive to facilitate the manner of granting open access or banking. It will be open for the Central Government to incorporate the manner of granting open access to green energy generation in its policy and when that is done, the Regulator would obviously have to be guided by such policy while framing its regulations. Since, the electricity policy, as it stands, does not contain any specific policy directive in the manner of granting open access, the Central Government cannot get over this anomaly by falling upon the residuary power to frame rules and create a set of rules to regulate the open access to green energy generators and consumers." Having held that, the HC has struck down the impugned Rules as well as the Regulations framed by the Central Government and the KERC.	
9	In A.P. TRANSCO v. Sai Renewable Power (P) Ltd. (2011) 11 SCC 34. 8), Hon'ble Supreme Court observed: "59. Section 12 of the Act vests the State Government with the power to issue policy directions on matters concerning electricity in the State including the overall planning and coordination. All policy directions shall be issued by the State Government consistent with the objects sought to be achieved by this Act and, accordingly, shall not adversely affect or interfere with the functions and powers of the Regulatory Commission including, but not limited to, determination of the structure of tariffs for supply of electricity to various classes of consumers. The State Government is further expected to consult the Regulatory Commission in regard to the proposed legislation or rules concerning any policy direction and shall duly take into account the recommendation by the Regulatory Commission on all such matters. Thus the scheme of these provisions is to grant supremacy to the Regulatory Commission and the State is not expected to take any policy decision or planning which would adversely affect the functioning of the Regulatory Commission or interfere with its functions. This provision also clearly implies that fixation of	

	tariff is the function of the Regulatory Commission and the State Government has a minimum role in that regard."	
10	Referring to the above judgement, in its order in civil appeal Nos.10046-10047 of 2024, Hon'ble Supreme Court has held that "that the state regulatory commissions are not 'bound' by the directions of the state government, or the Central Government is also evident from the text of Section 108. The provision reads: "In the discharge of its functions, the State Commission shall be guided by such directions in matters of policy …". This indicates that the state commission shall only be 'guided' by the directions issued by the state government and is not automatically bound by them. This interpretation is strengthened by the divergence in the language used in other provisions of the Act, such as Section 11 of the Act which reads as follows: "Section 11. (Directions to generating companies): --- (1) Appropriate Government may specify that a generating company shall, in extraordinary circumstances operate and maintain any generating station in accordance with the directions of that Government. Explanation. - For the purposes of this section, the expression "extraordinary circumstances" means circumstances arising out of threat to security of the 9 State, public order or a natural calamity or such other circumstances arising in the public interest. …" The Supreme Court has further made it clear that "the above provision uses mandatory language and provides that the generating company "shall … operate and maintain any generating station in accordance with the directions of that Government" in extraordinary circumstances. This can be distinguished from the language in Section 108, which merely requires that the state commission "be guided by" the directions of the State Government. The provision, in no manner, seeks to control the exercise of quasi-judicial power by the state commissions based on directions issued by the state government."	

11	The above-quoted judgements make it clear that the quasi-judicial power of the SERCs cannot be controlled by the directions of the central and state governments. It applies to RPPO orders to be issued by the SERCs, consideration of PPAs, determination of tariffs, etc., which are within their regulatory jurisdiction.	
12	Contrary to the letter and spirit of applicable legal position, as made clear in the above-quoted judgements, Andhra Pradesh Electricity Regulatory Commission (APERC) has directed APDISCOMs that its orders on RPPO and notification of MoP, GoI, on RPO issued under Energy Conservation Act would coexist and that targets of purchase of RE fixed by both of them, whichever are higher, should be complied with by the DISCOMs. APERC has not explained under which law the said two orders would coexist and continue to be in force. These directions are given by APERC in its order dated 12.4.2024 giving consent to the PSA for supply 7000 MW solar power from plants of Adani group through Solar Energy Corporation of India (SECI) and another order dated 27.7.2024 on load forecast, etc., for the 5th control period. These directions are given unilaterally by the Commission, though the issue did not figure in both the petitions. and unmindful of the serious adverse consequences that would arise as a result of following this direction affecting larger consumer interest. Though it is tantamount to revising targets under RPPO, due procedure is not followed by the Commission for inviting objections and suggestions from the public and holding public hearings. APERC's directions on RPPO orders are in the nature of giving up its powers. When APERC has directed that its orders and of MoP, GoI, will coexist and that targets of purchase of RE by the DISCOMs fixed by it or by the MoP, GoI, whichever are higher, should be complied with by the DISCOMs, it is giving up its powers and responsibilities for determining the same. It implies that, if the targets fixed by MoP are higher than the ones fixed by	The TGDISCOMs respectfully submit that they would adhere to the orders issued by Hon'ble TGERC with regard to the RPO targets to be fulfilled.

	APERC, the latter will have no relevance. It also implies that, if targets fixed by APERC are higher than the ones fixed by MoP, the latter will have no relevance. Moreover, if targets fixed by MoP are binding on the DISCOMs, the latter will have to reckon with a fait accompli, and there would be no need for public consultation and holding of public hearings by APERC, thereby giving a go-by to its regulatory role. Even if APERC resorts to public consultation and holds public hearings on its proposals on targets under RPPO, after MoP issues its targets, fixing targets below the ones fixed by MoP would turn out to be a farce. If APERC fixes the same targets of MoP, or higher than the targets issued by MoP, it would turn out to be a case of being more loyal than the king, unmindful of adverse consequences that would arise as a result of such decisions detrimental to larger consumer interest. These are the whimsical implications involved in the questionable directions of APERC.	
13	RPPO order issued by the Hon'ble Commission fixes minimum target of purchase of RE by the DISCOMs. It does not prohibit the DISCOMs from purchasing RE more than the minimum target and getting consent of the Commission. That the TGDISCOMs are taking shelter under the notification issued by MoP, GoI, under Energy Conservation Act, fixing targets for RPO, indicates that it is difficult for them to justify their proposal, of course, at the behest of the state government, to purchase the proposed 4000 MW solar power.	The TGDISCOMs respectfully submit that they would adhere to the orders issued by Hon'ble TGERC with regard to the RPO targets to be fulfilled.
14	The apprehension of the DISCOMs that, if they do not follow the notification of MNRE, GoI, for purchasing RE, additional penalty would be imposed on the DISCOMs up to Rs.3.72 per unit of shortfall in meeting the RE consumption norm, as conveyed in its letter dated 1.2.2024, is unwarranted. It reflects the tendency of complying with whatever the GoI directs, unmindful of its legal validity and the kind of adverse consequences that would arise as a result of implementing	The TGDISCOMs respectfully submit that they would adhere to the orders issued by Hon'ble TGERC with regard to the RPO targets to be fulfilled.

	such diktats of the GoI detrimental to the interests of the state, the DISCOMs and their consumers. When the notification of MoP, GoI, issued under Energy Conservation Act, fixing targets under RPO, itself has no legal sanctity, imposing additional penalty for not complying with it is equally untenable in legal terms. If at all the DISCOMs fail to achieve the minimum target of purchasing RE fixed by the Commission under RPPO, the regulations of the Commission would be applicable and it is open to the DISCOMs to pray the Commission to allow them to overcome the deficit, if any, in their purchase of RE by purchasing additional RE, exceeding the minimum target, in subsequent years, as happened earlier. The said notification of MoP, GoI, is in the nature of exercising authority by the GoI, illegally and arbitrarily, with utter disregard to the spirit and letter of federalism and rights and powers of the state governments, without itself taking any responsibility and accountability for the adverse consequences that would arise as a result of implementing its diktats, as if the states, as well as SERCs, were not capable of deciding how much RE and when their DISCOMs would need to purchase. Elementary commonsense is enough to understand that purchase of power is to meet demand in the state, not for achieving any targets decided by the central and state governments arbitrarily and unrelated to requirements.	
15	The DISCOMs have pointed out that tariff for solar power is fixed for the period of the PPA, with no variable charges, that procurement of solar power would help to switch generation from conventional to non-conventional generation, without affecting the demand of TGDISCOMs, that it would lead to saving in power purchase cost compared to cost of power purchase from the market, that, adding solar capacities at 11 KV level closer to load centres results in absorption of power locally, thereby minimizing grid enhancements at higher voltages and resulting in saving in the capital expenditure, reduction of technical losses, improvement in voltage profile of	The TGDISCOMs have gone through the entire cycle of assessing network capacities at the distribution voltages, setting up of solar capacities and managing operational issues including deviations by virtue of its earlier experience of adding solar capacities in a decentralized manner. Hence, the learnings from the previous bidding experience and operational issues would be effectively leveraged for making the present procurement a successful one to all the stakeholders involved.

	the distribution network, and acting as a catalyst for rural empowerment, apart from being environment friendly, to justify procurement of solar power under component A of PM KUSUM scheme. This is one side of the issue. To be prudent, any decision should be based on a holistic approach, considering both pros and cons involved and balanced.	
16	In response to the queries raised in my submissions dated 25.2.2025 on the ARR and tariff proposals of the DISCOMs for the FY 2025-26 - In the subject petitions, the DISCOMs have stated that they were in the process of floating of tenders with RFP for supply and erection of Solar Power Plants up to 4000 MW under 'Kusum Component – C. Have the DISCOMs made any comparative analysis of the benefits and problems between components of A, B and C of KUSUM? How is component C is more beneficial than components A and B? What is the scope for real and wider competition in the bidding process being adopted by the DISCOMs to ensure the lowest possible tariffs? – TGNPDCL has replied that "as per MNRE KUSUM Guidelines, TGDISCOMs are in the process of procuring power at the lowest possible tariff in KUSUM scheme by way of reverse bidding process in case of more than the required capacity quoted by the bidders for a particular substation for awarding the projects keeping the ERC determined rate as ceiling." TGSPDCL has pointed out that "under component C, MNRE provides subsidy of 30% of the capital cost (3.5 crs. Per MW). Due to which the Licensee is able to procure the power at comparatively low cost." What are the reasons, as well as justification, for opting for component A, giving up their earlier stated option for component C, of the scheme? Which is more beneficial out of components A, B and C of the KUSUM scheme? The DISCOMs have to explain it. I request the Hon'ble Commission examine the three components of KUSUM scheme and determine which is more beneficial and give appropriate direction to the DISCOMs and a piece of advice to	MNRE has launched PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan) Scheme in the year 2019 covering the following three components: • **Component A**: Installation of 10 GW of grid connected solar power plants of individual plant size of 500 kW to 2 MW. • **Component B**: Installation of 20 lakh Standalone Solar Agriculture Pumps of individual pump capacity up to 7.5 HP by replacing existing diesel Agriculture pumps / irrigation systems in off-grid areas, where grid supply is not available • **Component C**: Solarisation of 15 lakh Grid Connected Pumps It is true that MNRE had initially allocated 4000 MW capacity to Telangana under KUSUM Component-A in June 2024 However, this allocation was subsequently revised to 1000 MW by the end of January, 2025. By that time the state had already invited Expressions of Interest (EoIs) from eligible applicants for the full 4000MW capacity, with detailed notification issued for identified substations across the state. With regard to Component-C, it is correct that an allocation of 28,000 individual pump sets has been

	the state government.	sanctioned for Telangana. As for Component-B (off-grid solar pumps) presently there is no allocation to the state. The Slate Government is actively pursuing with MNRE for the restoration of the origin all allocated 4000MW under Component-A and new allocations under Component B and C to enable comprehensive implementation of the KUSUM scheme in Telangana.
17	The DISCOMs have not enclosed the letter dated 2.4.2024 of the state government, seeking allotment of solar power capacity under KUSUM scheme and the copy of the letter of MNRE dated 24.6.2024, sanctioning 4000 MW under the scheme to Telangana. What are the contents of these two letters? We request the Hon'ble Commission to direct the DISCOMs to make both the letters public and provide us copies to study the same and make further submissions. We request the Commission to examine the same. While the letter of MNRE is dated 24.6.2024, the reply of SPDCL giving responses to my submissions on ARR and tariff proposals is dated 6.3.2025. The public notice, inviting objections and suggestions in the subject petition is dated 3.4.2025. It implies that by the time of SPDCL giving its reply to my submissions, the decision to opt for component A in lieu of component C was not taken or that the change of decision was taken, with or without the knowledge of the DISCOMs, at higher levels of the government. Who took the decision to opt for component A in lieu of component C?	It is true that MNRE had initially allocated 4000 MW capacity to Telangana under KUSUM Component-A in June 2024 However, this allocation was subsequently revised to 1000 MW by the end of January, 2025. By that time the state had already invited Expressions of Interest (EoIs) from eligible applicants for the full 4000MW capacity, with detailed notification issued for identified substations across the state. Regarding Component-C, it is correct that an allocation of 28,000 individual pump sets has been sanctioned for Telangana. As for Component-B (off-grid solar pumps) presently there is no allocation to the state. The State Government is actively pursuing with MNRE for the restoration of the origin all allocated 4000MW under Component-A and new allocations under Component B and C to enable comprehensive implementation of the KUSUM scheme in Telangana.
18	Component A of the scheme is deficient in the sense that it is not intended to encourage beneficiaries for captive consumption from the plants they set up and sell the surplus to the DISCOMs, as in the case of rooftop solar units. Members of the groups or associations also require power for	The scheme gives an avenue to the farmers/ FPOs by helping to establish solar plants on barren lands and to sell solar power to TGDISCOMs at tariffs determined by the Hon'ble TGERC

	consumption under domestic and may be LT commercial categories also. Some of them may be getting free supply or subsidised supply of power as per the policies of the government. As far as farmers are concerned, they are getting free supply of power for agricultural consumption. It is a strange arrangement of ensuring free or subsidised supply of power to such consumers, to the extent applicable as per the policies of the government, on the one hand, and purchasing power from them by the DISCOMs, on the other. If those who are not getting free or subsidised supply of power are REPPs under the scheme, it does not make any sense to sell solar power to the DISCOMs at the tariff determined by the Commission, on the one hand, and consuming power supplied by the DISCOMs at tariffs exceeding the tariff under the subject scheme, on the other.	
19	To overcome the problems of inconsistency and intermittency associated with generation of RE like solar and wind power, the DISCOMs have maintained that "a strategic plan for integrating the proposed renewable energy capacity, while ensuring grid stability. This should include steps to minimize thermal power generation to base load operations and strategy for managing ramp-up and ramp-down of thermal units to accommodate renewable energy in accordance with CEA guidelines." We request the Hon'ble Commission to examine the following points, among others: a) Thermal power plants are base-load units which generate power throughout the day. They are not to supplement RE. It should be the other way round, because RE, especially solar and wind power, generation is very much limited to availability of sun radiation and required wind velocity, as the case may be. b) As per guidelines of the CEA, if thermal plants have to be backed down or their generation capacity is to be reduced to a plant load factor of 50% or even lower, what would be the	The TGDISCOMs respectfully submit as follows – The TGDISCOMs are presently having 6,181 MW of contracted solar capacity. Sizeable portion of this capacity is at transmission and distribution voltages. TG LSDC is ensuring the grid stability and reliability by adhering to the requirements outlined in the grid code and associated CEA regulations/ standards. The present minimum technical load (MTL) of operation of a thermal power plant is 55%. CEA has outlined a phased approach for lowering the MTL to 40%. Lowering of MTL allows for more flexibility in adjusting power output to meet the changing grid demand. In order to meet the growing energy needs it is necessary to add thermal capacities to meet the base load requirements. With the advent of RE ensuring flexible operation of thermal power plants is a must.

	consequences for the DISCOMs and their consumers? The DISCOMs have deliberately avoided to address this problem in their submissions. DISCOMs have legally binding obligations to purchase thermal power as per the terms and conditions in the PPAs approved by TGERC or CERC. If, to accommodate RE, thermal units are directed to back down their generating capacity to 50% PLF, the DISCOMs have to shell out fixed charges for the capacities backed down. The burdens of fixed charges paid for the power, which is neither generated, nor purchased, nor supplied, nor consumed, will be imposed on the consumers under fuel surcharge adjustment and true-up. Will the CEA or the GoI bear this burden? Simply because the CEA or the GoI issued some guidelines, the state government and its DISCOMs need not be gung-ho to adopt the same mechanically, unmindful of the adverse consequences that would affect their interests and those of the consumers at large. It is amusing that the DISCOMs are referring to these guidelines of the CEA, even while seeking consent of the Hon'ble Commission to the PPAs they signed with NLCIL for 200 MW, with SCCL for 800 MW and with NTPC for 800 MW from TSTPP - talking of backing down generation capacities of existing thermal power plants, on the one hand, and proposing to add new thermal generation capacities, on the other - a strange dichotomy. c) The DISCOMs also are silent on the adverse impact on thermal power plants, when they are directed to ramp down or ramp up, depending on the problems that would arise as a result of intermittency of RE generation. It is well known that backing down of thermal plants would reduce their useful life span, results in additional consumption of fuels, and wasting thermal power capacities, especially of TGGENCO, set up spending thousands of crores of Rupees of public money. d) Comparing tariff of solar power with cost of power purchase in the market and projecting savings in cost of power	With regard to the purchase of power in the market, the stance adopted by the objector is not correct. It is not economically viable for any utility to have long term contracts for all the energy requirements. The very purpose of having a power market design with exchange as a transparent platform of price discovery in day-ahead/ real time basis is to enable the power utilities in effectively meeting its energy requirements in the shorter time horizon (day-ahead to real-time window).

	purchase based on such a comparison is amusing. The so-called savings are simply notional. When the state government and its power utilities plan meticulously and efficiently to meet fluctuating demand in the state, the need for purchasing power in the market does not arise. Unless the state government and its DISCOMs fail to add required generation capacity in a balanced way periodically to meet growing demand for power in the state, the need for purchasing power through exchanges and in the market - the arrangement of purchase of power through exchanges has been degenerated into legalised black marketing - does not arise. Comparison of solar power tariffs with power purchase costs in the market is nothing but comparing the failure of the state government and its DISCOMs with legalised black marketing of power and manipulations in the market.	
20	Since this is for the first time that the state government and TGDISCOMs are initiating the arrangements as proposed in the subject petition, they are in the nature of experimentation. How such arrangements can be implemented, what would be the practical problems and consequences and their impact would be on the DISCOMs and their consumers need to be studied. We request the Hon'ble Commission to examine the following points, among others: a) The tariff of Rs.3.13 per unit of solar power to be purchased by the DISCOMs under KUSUM scheme fixed by the Hon'ble Commission on 2.1.2021 is outdated. In a way, it is a generic tariff and selecting beneficiaries for setting up solar power units based on such unwarranted tariff is an unhealthy practice. Probably, that is the reason why the DISCOMs have also maintained that they would approach the Commission for adoption of tariff, before they enter into PPAs. We request the Hon'ble Commission to direct the DISCOMs to go in for real competitive biddings to select prospective beneficiaries based on the lowest tariffs quoted by them. Or, the Hon'ble Commission may determine tariff, taking into	The TGDISCOMs have gone through the entire cycle of assessing network capacities at the distribution voltages, setting up of solar capacities and managing operational issues including deviations by virtue of its earlier experience of adding solar capacities in a decentralized manner. Hence, the learnings from the previous bidding experience and operational issues would be effectively leveraged for making the present procurement a successful one to all the stakeholders involved.

	account the latest lowest tariff for solar power discovered in the country through competitive biddings so far, as far as component A of PM KUSUM scheme is concerned. Since the beneficiaries are self-help groups of women, the Hon'ble Commission may consider addition of ten per cent to the said lowest tariff with a view to encouraging such groups and helping them to earn some income. Adequate ground work is required to be done to educate and encourage the SHGs and extend necessary support to them by the government and its concerned utilities to set up the proposed 500 kw to 2 MW solar power units and run them in an orderly manner. The SHG groups should be helped in getting required land and installation of solar power panels with reasonable capital cost. It is and should be a gradual and continuous process. Depending on response from prospective beneficiaries of the scheme, if necessary, the state government may request the GoI for extending time for implementing the subject schemes, and requirement of addition of the proposed quantum of solar power gradually and periodically. b) The DISCOMs have explained that component A of the scheme aims at setting up of 10,000 MW of decentralized ground/stilt mounted grid connected solar or other renewable energy based power plants (REPP) by farmers on their land with a capacity of 500 kw to 2 MW. The REPP under the scheme would be installed by the farmer on his own land either directly by himself or in partnership with a group of farmers/ cooperatives/ panchayats/farmer producer organizations/ water user associations, or through a developer. Here, too, we request the Hon'ble Commission to direct the DISCOMs to adopt the methodology for selection of beneficiaries and determination of tariff, as suggested in 17(a) above, except through a developer. c) If the farmer leases his land to a developer for setting up the power plant, as proposed in the guidelines, it ceases to be a farmer-oriented approach and becomes a plant set up, run and owned by a private developer. Though the	

	capacity of each plant is limited to a maximum of 2 MW, the same developer can set up any number of such plants under different names, as has been happening in setting up of RE plants with a capacity of more than 2 MW each. There does not seem to be any restriction on setting up of a number of plants by the same developer under different names of companies, taking land of farmers on lease. Whether such an approach is desirable under the scheme is a moot point. d) Going by the time permitted for setting up these plants, a realistic assessment of requirement of addition of solar power to meet demand of consumers by the DISCOMs periodically needs to be made, instead of allowing and going in for adding the proposed 4000 MW at a time. Based on such a realistic assessment, Hon'ble Commission is requested to restrict addition of capacity of solar power under the scheme in a phased manner so as to see to it that it does not lead to availability of unwarranted surplus power, with attendant avoidable burdens on consumers of power at large. e) If the solar power plants are connected to a sub-station up to 110/11 kv, as proposed, the benefits of connecting the plants at 11 kv narrated by the DISCOMs would not be available. f) For implementing the scheme, the performance-based incentive the DISCOMs get from the central government should be factored for reducing power purchase cost so as to benefit the consumers at large. It is proposed in the guidelines, that the DISCOMs can, if they desire so, pass on the PBI given to by the central government under this component to the REPP owner to get more competitive tariff of RE power. For getting solar power under the scheme at competitive tariff, real competitive bidding is the preferable option, not giving PBI to the developer. Therefore, we request the Hon'ble Commission not to leave passing on of the PBI to owners of REPPs to the discretion of the DISCOMs, but to reduce the PBI amount from overall power purchase cost of the DISCOMs in a year.	

21	There are several problems associated with RE. We request the Hon'ble Commission and the DISCOMs to examine the following points articulated by expert engineers of APDICOMs before APERC which have practical relevance and are applicable to the power sector in Telangana also: "Further, the Chief General Manager, RAC, APSPDCL and the Chief General Manager, PPA & RA, APEPDCL, vide their letters even dated 17.01.2020 have submitted reasons for considering VRE Curtailment & VRE as probable Energy as follows: I. II. 24 x 7 regime: The State of A.P has been declared to be under 24 x 7 power supply regime by Government of India. In a regime of 24x7, imposing power cuts is not acceptable either to the domestic, commercial, or industry categories. The Gross State Domestic Product of the State is affected due to power cuts. Considering the inconsistent nature of VRE i.e. wind and solar, the system operator can never depend upon the vague, uncertain and highly unreliable forecasts given by VRE generators to implement 24 x 7 power supply. The DISCOMs necessarily shall have to depend on dispatchable / schedulable energy. Grid safety: In Grid operations, frequency is one of the main parameters for operation among others. Rated frequency of Indian power system is 50Hz. If the system is running at a frequency greater than 50Hz, it means more generation is injected into the system. If the system is running at a frequency less than 50Hz, it means less generation is injected into the system. India has one Grid with one frequency. Variation of generation from any corner of India will impact the frequency. Therefore, frequency is a dynamic and system dependent parameter. As per Indian Electricity Grid Code (IEGC) provisions, the Grid is to be operated between 49.90 to 50.05Hz frequency band. Apart from frequency regulation, there are other parameters such as drawl of power from central Grid, maintaining load generation balance, voltage profiles in the system, and line loadings which are also to be regulated in real time operations by State	The points outlined by the objector with regard to the grid operation in light of increasing generation from VRE are pertinent. The TGDISCOMs and TG SLDC have been taking all the necessary measures for smooth and stable operation of the grid. The highest peak demand of 17,162 MW was successfully met in March 2025. 24 x 7 power supply is available to all categories of consumers in the state including agriculture. Some of the key measures undertaken for successfully integrating the large quantum of VRE in Telangana are as follows – - Tender process for 250 MW, 2 hrs Battery Energy Storage System (BESS) with 2 cycle operation/ day is completed. Approval of Hon'ble Commission would be taken for progressing to the next step. This would support in grid management. - Multiple locations have been identified across the state for setting up Pumped Storage Projects (PSPs). Tender has been initiated for preparation of Pre-feasibility reports - Renewable Energy Management Center (REMC) was established in January 2024. Request has been sent to MOP for upgradation of the REMC for accommodating larger quantity of RE in the state.

	Load Dispatch Center (SLDC). It is the statutory responsibility of SLDC to take corrective steps and restrict drawls from grid as per 5.4.2(a) of Indian Electricity Grid code. Any inaction on the part of SLDC under above circumstances would vitiate the Grid stability, and lead to far reaching consequences of grid disturbance. There were such incidents of grid events earlier on 30th and 31st of July 2012 in Northern region where total blackout had taken place. Restoration of supply after blackout will take considerable time and has a lot of bearing on the country's image, country's economy and interest of consumers. The considerations which weigh in ensuring the 24 x 7 supply and grid safety are given below. III. Supply side constraints: (i) Demand side uncertainty and Supply side uncertainty: There are two sides of the electric grid – demand side and supply side. On demand side are the domestic/ commercial/ industry/ agriculture demands and on the supply side the power generators. Long term/ medium demand forecasting is done for 10 years, 5 years and 1 year. Based on these long/ medium term demand forecasts, long term dispatchable energy contracts are entered into by the DISCOMs. Short term demand forecasting is done on month-ahead, week-ahead and day-ahead basis. Based on the short term demand forecasting, the thermal units are either shut down/ operated and market purchases are made. Even though there is uncertainty on the supply side, since the dispatchable energy offers certainty on the supply side the grid is run smoothly. There are several parameters which are likely to vary during the course of grid operation. There could be demand variation due to change in weather conditions or generation variations due to outage of units at APGENCO/ Central Generating Stations(CGS) / Independent Power Producers (IPP's), and Variable Renewable Energy (VRE) i.e. Wind and Solar Photo Voltaic (PV) generation. The variation in APGENCO/ CGS/ IPP stations is predictable as they produce constant rate power output whereas the generation of VRE is	

	fully uncertain as its power output is not under human control. Large scale integration of 7300 MW of VRE into the AP Grid has brought in uncertainty both on the demand side and supply side leading to frequent disruptions/ extreme difficulties in running the power system. (ii) VRE Forecast errors: Currently the Forecast error pertaining to the wind generation is upto 95%. Shift operators in the SLDC Control room assess the availability and demand for 96 blocks, i.e. 24 hours and plans the schedule accordingly to meet the power demand of consumers without Load Relief (LR) i.e. power cuts. However good the planning may be in terms of demand and availability of conventional resources, the whole planning goes wrong with the wind and solar generation as they come intermittently and the forecast is uncertain. Because of change in weather conditions and cloud cover, solar generation too falls sharply. AP System has experienced upto 800 MW drop in solar generation in some time blocks which resulted in shortfall leading to either power cuts or overdrawl from the grid at low freqencies beyond the 250 MW allowed by CERC. These sudden variations result in power cuts if the demand is planned relying heavily on VRE. (iii) Base load operations: APSLDC follows Base load operation concept to achieve reliability and efficiency in view of 7300 MW VRE integration to AP control area which is having only 6000 MW average demand. Base load power is central to ensuring uninterruped 24X7 power supply, and reliability of electricity Grid. Accordingly, base load power plants are identified from the existing list of power plants considering their reliability and efficiency. These base load power plants should be run at constant rate with maximum efficiency continuously. In order to implement 24 x 7 uninterrupted supply to consumers, APSLDC relies on base load operations in order to run the system smoothly. Wind and Solar Power being variable (infirm/ intermittent) in nature does not qualify as base load. VRE can only be absorbed in the intermediate or peak load	

	range. SLDC, in a day, depending on the necessity would first back down the peak load plants and thereafter intermediate load plants. The peak/ intermediate load power plants are backed down up to the technical minimum without affecting the base load supply generation plants. Lastly the VRE power will be backed down. IV. Balancing: (i) Balancing power: VRE is converted into dispatchable energy by integrating it with reverse pumping projects/ gas plants. In order to absorb high quantities of VRE, reverse pumping hydro projects or gas plants are required. For example, Karnataka has 4000 MW round the clock hydel energy and as a result is able to integrate about 30% of VRE in its consumption. A.P. unfortunately does not have the required round the clock hydel capacity or sufficient APM gas for running the gas based plants to balance its 7300 MW of VRE. (ii) Thermal plant limitations: Thermal plants are not suitable for use as balancing energy for VRE because of the following reasons. Slow ramp up/ ramp down rates: Conventional generation has its limitations in ramping up the generation to the desired level. In fact 0.67% ramp up or ramp down is the capability of conventional generation. With these slow ramp up/down rates sudden fall/rise of solar or wind generation can not be compensated, as it takes around 1 hour to bridge the defcit power despite keeping the coal plants operating at technical minimum. Long time taken for cold start/ warm start: It takes anywhere between 18 hours to 36 hours to start a unit after shutting down. Design and age: Design and age of APGENCO coal plants are not suitable for frequent and fast ramp up/ ramp down operations. The frequent backing down operations is leading to increased maintenance of the plants. Super critical technology: The super critical units of APGENCO are designed for maximum power output and continuous operations. When forecast is accurate, after backing down of all conventional generation up to the extent possible, VRE generation is backed down. However, in certain critical	

situations like changeover, gate closure before four (4) time blocks for Central Generating stations (CGS), weather changes etc., VRE backing down may happen even prior to backing down of conventional generation. In the minimum load condition of 5300 MW, night times/rainy season/ winter season it is necessary for frequent back down of available excess Solar and wind generation. Shutting down of any conventional generating station will take 18 hours (sub-critical unit) to 36 hours (super-critical unit) for restarting. During this period if the demand-supply gap arises due to sudden fall of VRE, there will be power cut. Since AP is under 24x7 regime power cuts are not allowed. (iii) Technical Minimum: Every conventional plant has a technical minimum generation below which it cannot be run. Each power plant has a technical minimum which is part of the power purchase agreement. Any ramp down/ backing down can happen only upto the technical minimum of the plant. VRE generation cannot be absorbed into the system beyond the technical minimum of the thermal plants. APSLDC has to manage, plan optimally, and operate the grid based on these technical constraints. It can be managed only with available generation and existing demand. Grid can neither generate nor store the power. Actual technical minimum details for the thermal or gas plants with whom DISCOMs have agreements are submitted as below.

S.No.	Plant name	Allocated capacity (MW)	Technical minimum as per PPA (%)	Technical minimum to be maintained as per PPA(MW)
1	NTTPS Stage I, II, III	1260	71.4	900
2	NTTPS Stage IV	500	71.4	357

3	RTPP stage I, II, III	1050	71.4	750
4	RTPP stage IV	600	71.4	428
5	SDSTPS stage-I&II (Krishnapatnam)	1600	71.4	1142
6	Hinduja	520	55	286
7	Other Thermal IPPs	630	70	441
8	Gas	780	50-80%	475
9	CGS (Allocation)	2300	55	1265
	Total	7830		6044

(iv) Hydel generation: From August, 2019 to November, 2019 most of the time Srisailam Project was spilling over. This situation prevailed for the first time after 2009. Hydel power is also under Must Run status. Backing down of VRE during some periods occur in order to absorb the Hydel generation and to avoid wastage of water flow. V. Demand – Supply Gap Management (i) Gap management: SLDC forecasts the demand and calculates the generation on a week-ahead and also on day-ahead basis to help DISCOMs to secure any power needed to avoid power cuts. The conventional plants are also shut down if there is no demand for the coming week. SLDC also forecasts demand on a real time basis for the next few hours and takes decisions to surrender surplus power. SLDC turns down generation resources at APGENCO/ CGS/ thermal IPPs in low demand conditions or higher frequencies. In low demand conditions, the availability becomes high which results in more than permissible injection of power into the grid at a frequency which could be low or high. SLDC is obligated to respond to these changes in a rapid manner to correct the grid parameters, in order to secure the interconnected grid. Sometimes injection of power into the

	grid at low frequency also is not permitted as there could be violation in the corridor of Extra High Tension (EHT) lines of both State and Central corridor. Injection of power into the grid at high frequency is not permissable since it would be in violation of Grid code. (ii) Erroneous VRE forecasts: Day Ahead Wind Forecast being given by the wind developers association had been erroneous and it has been creating shortfall or surplus conditions in the system. For example, from 29/09/2019 and 30/09/2019, wind forecast was given around 800 MW from 18:00 Hrs to 21:00 Hrs, but the actual generation fell down to 50 MW. This has resulted in shortfall and DISCOMS could not tie up power immediately as there was neither power available in the power exchange nor time to start the thermal power units. Power cuts were imposed during above said period which resulted in uproar in the public and loss of state gross domestic product. (iii) Allowable deviation 250 MW: A.P. being a renewable rich State, is allowed to over inject or under inject only upto 250 MW into the grid. Even though A.P. experiences variations up to 2000 MW in VRE, it is permitted over injection/ over drawl only up to 250 MW within the frequency band specified by CERC. This poses serious limitations on the absorption of the VRE into the grid. Any deviation beyond + 250 MW (over injection) will lead to penalties levied on A.P. Any deviation beyond – 250 MW (under injection) is not allowed to be over drawn from the grid; as a result, A.P. has to either purchase power from the market at exhorbitant rates or give a power cut. (iv) Beyond small grid capacity: AP State average grid demand during September-2019 to November-2019 was 6700 MW ranging between 5000 MW to 8600 MW. VRE capacity of 7300 MW is integrated into the A.P. grid. This is 110% of the average grid demand. These 7300 MW Wind and Solar generators in the recent past have witnessed large variations in generation in the range of 150 MW to 3500 MW. In comparison, the National grid has an average demand of 175	

	GW out of which only 82 GW is VRE. This is hardly 47% of the average national demand. (v) SCADA (Supervisory Control and Data Acquisition System): SCADA is the communication system which communicates real time data from sub stations, transmission elements, generators etc. to the State Load dispatch center (SLDC). Real time Data is visible in SLDC monitoring room to operate the system through SCADA up to 132 kV Substation level. Below 132 kV level data is not visible at SLDC Control room. • The Power system being operated by SLDC is at the level of 220 kV and 132 kV. Above 220 kV level, operations are being done under the control of Southern Regional Load Dispatch Center (SRLDC). Below 132 kV level, operations are done under the control of DISCOMs. SCADA visibility from State Load Dispatch Center (SLDC) is also limited. SLDC operator cannot see Two hundred and sixty individual Wind and Solar generation data station wise. Most of these generators are connected below 132 kV level. Generation is visible to SLDC only on a large scale such as parks, major pooling stations etc. It's visible neither PPA wise nor unit wise in respect of wind and solar generators. Around two hundred and sixty PPAs are executed by and between A.P DISCOMs and Wind and Solar generators. Communication from SLDC to individual generators is indirect. SLDC can communicate to Transco substations only. In turn they will communicate to the individual generators. Messages have to be communicated to 24 substations from State Load Dispatch Center (SLDC), and then they in turn have to communicate to all the individual generators. In some of the Substations, Open Access generators also exist, which are to be exempted from Back down. Therefore, back down instructions do not reach to all Wind and Solar generators in time and a time gap exists. During this time gap if the grid parameters change, counter action like increasing generation may also necessary. Due to this insufficient infrastructure, System operators may or may not provide equal rotation of back down for all	

	individual generators. Ministry of New and Renewable Energy, Government of India is establishing Renewable Energy Management Centres (REMC) in view of the expected increase in RE generation in RE rich States. REMC is a primary requirement for grid integration of large-scale RE. REMC for AP is still under implementation by Govt. of India. This REMC will facilitate communication with variable Renewable energy (VRE) individual generators. However advanced features are required to be commissioned to give direct dispatch instructions to Wind and Solar generators from State load dispatch centers. Suitable infrastructure is still not developed to overcome variations of Wind and Solar power generation. A.P. does not have either hydel pumped storage or gas to operate gas based power stations to absorb the VRE. Spinning reserve and Automatic Generation control are not available in the State Grid. No Scientific Wind and Solar generation with reliable forecast mechanism is available at the national level. • "USAID" an international agency, studied the aspect of VRE integration in India and in its report "Greening the Grid" has come out with findings that curtailment to VRE generation would rise to sixteen percent in southern region which reflects the present prevailing situation in the A.P. State. In a similar study done by Central electricity Authority (CEA) brought out a draft report in which several scenarios considered and made observations that VRE generation curtailment would be required at high penetration of these resources in the Grid. VI. Other factors: (i) VRE generators aware of business risk: After 2015, the wind and solar power generators have added their capacity into grid on a large extent. At that time the VRE generators were aware of the fact that A.P. is a low demand state with a small grid capacity, and does not have the capacity to absorb huge VRE power capacity additions. VRE generators have agreed to sell power to DISCOMs having had knowledge of calculated business risk. A power purchase agreement never guarantees a fixed return on investment like	

	a fixed deposit in a bank. (ii) 25% VRE consumption this year: DISCOMs have planned and are exporting swap power up to 40MU per day in high Wind generation season for accommodating Wind and Solar generation. It is pertinent to state that Reserve shut down of thermal plants as and when possible is being implemented for accommodating Wind and Solar generation. SLDC dispatches Wind and Solar power to the extent possible. (iii) Must Run is conditional: Power generated by VRE generators can never be guaranteed to be dispatched in full even if there is must run status under the IEGC as well APERC regulations. Must run status is provided to wind and solar generators in IEGC or Regulation 1 of 2105 of APERC. This status is subject to the responsibility of DISCOMs supplying 24 x 7 power, the grid operator ensuring grid safety and other factors stated above. Apart from must run clause, 5.2(m), 5.4.2(a) clauses of Indian Electricity Grid Code (IEGC) and clause 7.1 in Deviation Settlement Mechanism (DSM) Regulations are to be complied for grid security in Real time system operation. These clauses are produced below: • "Must run" IEGC Clause 5.2(U): Special Requirements for wind/ solar generators: System operator shall make all efforts to evacuate the available solar wind power and treat as a must-run station. However, system operator may instruct wind/solar generator to back down generation on consideration of Grid security or safety of any equipment or personnel is endangered and solar or wind generator shall comply with the same. IEGC clause 5.2.(m): all SEBs, SLDCs, RLDCs and NLDC shall take all possible measures to ensure that Grid frequency remains within (49.90Hz-50.05Hz) the band. IEGC clause 5.4.2(a): SLDC/SEB/Discom shall initiate action to restrict the drawl of its control area, from the Grid within the drawl schedule. • Deviation Settlement Mechanism (DSM) Regulations clause 7.1: The over drawl/Under drawl by any buyer shall not exceed 250MW for renewable rich state."	

22	A realistic assessment and determination of demand growth based on medium and long-term load forecast is very much necessary. If demand growth and requirement of power as proposed by the DISCOMs and determined by the Commission periodically turn out to be inflated in practice, it will lead to further compounding the adverse impact of backing down and its attendant additional burdens on consumers of power in terms of paying fixed costs for such non-generation of power. The applicable percentage of RE based on such determination of demand and installed capacity, once materialised, will further precipitate the situation, as installed capacities, both conventional and RE, created already and obligations under power purchase agreements related thereto to which the Commission gives its consent cannot be undone even in the face of projections of demand growth and requirements of power turning out to be inflated and unwarranted, resulting in availability of substantial surplus power. The situation will be much more serious when such surplus power cannot be sold to others by the DISCOMs due to its higher tariffs.	The TGDISCOMs have made the projections for adding capacities considering the demand growth, upcoming bulk loads based on the connectivity applications received and availability of power from various sources.
23	Wide fluctuations in generation of wind power, and to some extent in the case of solar power, due to sudden changes in wind velocity or sun light, as the case may be, will create problems in grid management with a sudden drop in generation of such power, leading to falling of grid frequency. To meet such exigencies, if substantial spinning reserve is permitted and created, it will impose unwarranted burdens on consumers of power. Such spinning reserve or reserve margin, if created, will lead to the dichotomy of being useful for a limited period in a year when such exigencies arise and remaining idle during the remaining longer period of the year. Generation of wind power being limited to seasonal availability of adequate wind velocity, especially during the monsoon, if copious rainfall and inflows into reservoirs and their overflowing leading to letting out the same into the sea	As pointed out by the objector, wind generation does pose challenge to grid operators due to its inherent variability in power output. The current installed capacity of wind in the state of Telangana is 128.1 MW. As per the resource plan of CEA, capacity addition of wind in any year is limited to 500 MW only. TGDISCOMs have taken measures for minimizing the impact of deviations in wind energy generation. TGSLDC also taps the real-time market effectively for minimizing the impact of any such fluctuations in wind generation.

	lead to higher or optimum generation of hydel power, on the one hand, and decrease in demand, on the other, it will lead to availability of additional surplus power during that period. Even in such a situation, the DISCOMs will have to buy high cost wind power generated under PPAs, backing down relatively cheaper thermal power, because the RE units, including solar power units, are treated as must-run plants under RPPO. In other words, fluctuations in generation of wind power, whether on lower or higher side, are inherently problematic not only for grid management, but also for the DISCOMs and their consumers of power.	
24	With the trend of tariffs coming down gradually through real competitive bidding for different kinds of RE, practice of regulatory Commissions determining generic tariffs, with periodical revision, for the same based on which the DISCOMs entering into long-term PPAs with developers of RE plants has become redundant. Taking undue advantage of generic tariffs fixed by the Commission, the powers-that-be tend to force the Discoms to enter into long-term PPAs with private developers to whom they want to do undue favours for extraneous considerations indiscriminately, much to the detriment of larger consumer interest. With a view to encouraging generation and consumption of RE, the Government of India had introduced the system of determining tariff for all kinds of RE in the mid 1990s. After a gap of nearly three decades, with the emerging trend of tariffs coming down through competitive biddings, such a practice has no relevance. I request the Hon'ble Commission to make it mandatory for the DISCOMs to select developers of RE units for purchase of power based on lowest possible tariffs discovered through real competitive bidding paving way for participation of as many bidders as possible, without leaving any scope for manipulating terms and conditions of bidding to confine it to a limited number of bidders or follow the process of inviting expression of interest from interested developers subject to	Competitive bidding is not mandatory under the KUSUM *Component-A* scheme However, in instances where the number of eligible applications received exceeds the notified capacity at a particular substation, a transparent selection process becomes unavoidable. In such cases, competitive bidding may be adopted to ensure fairness and adherence to scheme guidelines. Regarding the Performance Bank Guarantee (PBG), in line with MNRE guidelines. The State has already initiated steps to collect a reduced PBG of Rs.1 Iakh/MW Necessary approvals are being *obtained* from the Hon'ble TGERC.

	further negotiations for reduction of tariffs quoted. It is very much necessary for achieving one of the objectives of the national tariff policy - to "ensure availability of electricity to consumers at reasonable and competitive tariffs." The national tariff policy also stipulates that "States shall endeavour to procure power from renewable energy sources through competitive bidding to keep the tariff low, except from the waste to energy plants." In the name of encouraging renewable energy and meeting requirements of RPPO orders issued by the Commission, purchasing renewable energy from any developer, in any manner and at any cost is not desirable.	
25	In the name of encouraging generation and consumption of renewable energy, including solar energy, coercive reforms are being fobbed off on the DISCOMs by the protagonists of reforms in the Establishment in New Delhi. The Government of India decides reforms, through the EA, 2003, regulations made thereunder and its policies, and directs the States and ERCs to follow the same, unmindful of the desirability and practicability and the consequences that would follow as a result of the same. The GoI does not take any responsibility for the negative consequences and avoidable burdens that the consumers of DISCOMs and the State Governments have to bear as a result of the same, as experience during the last three decades since the advent of reforms in the power sector in the early 1990s has shown. Taking undue advantage of power being in the concurrent list of the Constitution of India, the GoI is encroaching upon the powers, freedom and choice of the State Governments, their power utilities and consumers, even while professing and following policies of laissez faire and free trade. In other words, the GoI has been exercising authority without any responsibility and accountability to a large extent. As a result, even perverse and self-contradictory arrangements are being imposed on the DISCOMs and their consumers, in the name of reforms. The so-called renewable energy certificates (REC) are one such	Renewable Energy Certificate (REC) mechanism is a market based instrument to promote renewable energy and facilitate compliance of renewable purchase obligations (RPO). It is aimed at addressing the mismatch between availability of RE resources in state and the requirement of the obligated entities to meet the renewable purchase obligation (RPO). REC mechanism is one of the options available to the market participants to fulfil the RPO obligations.

	arrangement.	
26	RPPO and the so-called Renewable Energy Certificates came into force as a part and parcel of the policy approaches and decisions of the Governments and orders of Regulators at different levels. The concept of RECs is a perverse by-product of the reform process, conceptually and practically, and baffles elementary common sense. When the DISCOMs fail to achieve targets of RPPO fixed by the Commission, they have to purchase the so-called renewable energy certificates from those who purchase RE exceeding their targets under RPPO, etc. In other words, the developers have freedom of choice to sell their RE to anybody, anywhere in the country and at any tariff. Whereas, the consumers of power have no freedom of choice to choose energy of relatively cheaper tariff available. If the DISCOMs and their consumers of power cannot and do not purchase RE under RPPO to achieve the targets fixed, the coercive method of forcing them to purchase the so-called RECs from the developers of RE units has been conceived and sought to be implemented. What kind of natural justice, fundamental right of equality before the law and equal application of the laws under Article 14 of the Constitution of India it is! The developers are setting up RE units and selling the power generated wherever they get higher tariff; it is the profit-motive that is driving them and nothing else. We could not find any sensible answer or explanation from any quarters to the question as to what should the DISCOMs and their consumers do with the useless papers of so-called renewable energy certificates, if they are forced to purchase the same. Developers set up RE units and sell their power for profits, not just for RECs. The consumers have already been saddled with RE of higher tariffs for longer periods, with the kind of PPAs the DISCOMs had with private developers and even CGS, as a result of the policies and decisions of the Governments and some of the orders given by regulators at different levels. For these reasons, among others, we once	REC mechanism aims at creating a marketplace for the RE generators as well as the utilities/ consumers. The choice of selecting the generator/ source of supply is available to the consumers under the open access mechanism. It may be noted that TGDISCOMs are meeting the RPO targets fixed by Hon'ble TGERC. Hence the issue of purchasing RECs and the consequential cost burden on consumers does not arise presently.

	again request the Hon'ble Commission to dispense with the arrangement of RECs totally. Or else, we request the Commission not to allow the cost of RECs, in case the Discoms are forced to purchase the same, as pass through to be collected from their consumers under true up or in any other form.	
27	I request the Hon'ble Commission to fix a period of five years for entering into PPAs with RE units by the DISCOMs, as the scope for reduction of tariffs through real competitive bidding is on increasing trend. The period of PPA should depend on the requirement of purchaser of power for specific periods of time, in this case of the DISCOMs, and they should have enough leverage to take advantage of advanced technology in generation of power and cheaper electricity from time to time. The developers should face the business risk of facing competition in the market in tune with the philosophy of free trade. Entering into long-term PPAs with RE units at higher tariffs would deprive the DISCOMs of this prudent option and opportunity and saddle the consumers with the burden of paying higher tariffs for a long period to such RE units even when relatively cheaper power would be available from other sources, including the same generic RE units. One need not entertain the illusion that unless the DISCOMs enter into long term PPAs, developers would not come forward to set up power units, in the light of experience of DISCOMs entering into short-term, medium-term and long-term PPAs, emergence of power markets through power exchanges, merchant power plants, opportunities for open access, inter-State purchases, etc. In any case, opportunities for encouraging public sector utilities like TGGENCO and NTPC to take up new power plants, including RE units, in a prudent way with advantages of economy of scale or decentralized are always there. The Governments also should encourage use of RE, especially solar power, for captive purpose and roof top solar energy in larger complexes being used for office,	The suggestion of going in for a shorter-term PPA with RE units does assume a well-established market place with high liquidity. However, the power market in India is yet to achieve the desired level of maturity. It may be noted that Ministry of Power had constituted a Group for "Development of Electricity Market in India". The Group, after extensive consultations and deliberations, identified the main areas of interventions and recommended a range of interventions with associated timeframes and requirements to enable efficient, optimal and reliable market operations. One of the measures proposed is PPA tenure of 12-15 years. As and implementation of such measures are envisaged, the TGDISCOMs would participate based on evaluation of pros and cons.

	commercial and residential purposes, etc. by providing necessary support in a hassle-free and transparent way to prospective beneficiaries, besides its use for agricultural purposes, in a phased manner, leaving no scope for manipulations and imposition of unwarranted burden on prospective beneficiaries.	
28	With gradual technological advancement and its adoption, when costs of generation and tariffs for different kinds of renewable energy become competitive through real competitive bidding, probably, there will be no need for continuing the arrangement of RPPO at all and the same may be dispensed with. With costs of setting up solar power units and generation of solar power coming down due to technological advancement and economy of scale gradually and when inverter-like mechanism is developed to preserve solar power (as well as surplus thermal power) and use it as and when required, even during the period of its non-generation in a day, economically, then it can compete with other sources of energy and emerge as a real and major alternative source of energy in view of perennial and all-pervasive nature of sun light. Efforts also can be made to resolve attendant problems, if any, of such progressive developments and gradual growth in solar power by encouraging research and development in the field. Hence, a gradual and cautious approach in fixing percentages of RE to be purchased by DISCOMs under RPPO, if it continues, for encouraging generation and consumption of RE, especially of solar and wind energy, is all the more imperative.	TG GENCO has recently concluded the bid process of procuring energy storage contract with Battery Energy Storage System (BESS). The proposed BESS gives 250 MW, 2 hours of storage and delivers 2 cycles/ day. Based on approval from Hon'ble Commission, the TGDISCOMs would avail the service for managing the grid, time shifting of solar energy for use during evening/ night hours.