NATIONAL SOLAR ENERGY FEDERATION OF INDIA
Regd. No. 362 / IV of 8 May, 2013
भारतीय सौर ऊर्जा महासंघ
पंजीकरण नं 362 / IV - 8 मई, 2013
MAKING SOLAR ENERGY AFFORDABLE

Ref no: NSEFI/CERC/2024-25/0030
Date: 11.11.2024

To,

The Secretary,
Central Electricity Regulatory Commission (CERC),
7th Floor, Tower B, World Trade Centre,
Nauroji Nagar, New Delhi- 110029

Subject: Comments on Staff Paper on modifications in the GNA Regulations

Ref: L-1/261/2021/CERC

Respected Sir,

Greetings from National Solar Energy Federation of India!

National Solar Energy Federation of India (NSEFI) is a non-profit organization with the objective of advocating for renewable power development. It is an umbrella organization representing Renewable energy companies active along the whole photovoltaic value chain: project developers, manufacturers, engineering companies, financing institutions and other stakeholders. NSEFI was founded in 2013 by solar energy industry leaders with the vision to promote solar energy, NSEFI is a public trust based in New Delhi. Our members have executed Solar as well as Wind power projects across the country, under the State and Central Schemes across India.

We are writing in reference to the comments invited by The Honorable CERC regarding the **Staff Paper on Stakeholder's suggestions for necessary modifications in the GNA Regulations.**

As directed, we're submitting the comments and suggestions on the proposed modifications after an extensive consultation with our members.

S.No	Issue No	Comments and suggestions
1	***Issue No. 1: Substitution of GNA quantum under Regulation 17.1(i) to Regulation 17.1(iii) to the GNA Regulations*** *i. Whether such substitution of GNA quantum under Regulation 17.1(i) to GNA under Regulation 17.1(iii) should be allowed?* *ii. If such substitution is allowed, should it be coupled with the following conditions:* *a. the entity shall submit the NOC from the STU.*	The substitution of GNA quantum under Regulation 17.1(i) to GNA/under Regulation 17.1(iii) should be allowed as it would help discoms optimise transmission charges and reduce consumer tariff. Further, keeping the tariff same, the savings can be diverted toward reducing unpaid regulatory assets. Further, in case distribution licensee get direct connectivity with ISTS network it will allows them to reduce their technical losses. The requirement for such shifting should require mandatory NOC from STU and payment of relinquishment charges or any other applicable charge as per SERC regulation for moving out MWs from state grid. Further, radial connection improves

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	b. the entity shall be liable for payment of the charges of the intra-State network or relinquishment charges, as applicable. *c. the entity shall be radially connected with the ISTS as 17.1(iii) entity*	reliability of supply to consumers by building in contingencies however that should be left to the Discom as they are required to maintain reliable supply under SERC standards of performance regulation. The stated objective of optimising transmission cost would stand defeated if radial connection with intrastate network is required, effectively making section 17.1.(iii) a non-starter for Discoms.
2	***Issue No. 2: Use of GNA of a Connectivity grantee by an entity connected with an intra-State network that is not a GNA grantee.*** *i. Whether such utilisation of GNA of a GNA grantee can be allowed by an entity that is not a GNA grantee?* *ii. If such use is allowed, should it be coupled with the following conditions:* *a. Such request to be made along with the NOC from the STU towards availability of space in the intra-State network for such quantum of GNA and period.* *b. Such request for utilisation of GNA shall be from an entity located in the same State or same region as that of the GNA grantee. The additional conditionalities that need to be imposed for considering the GNA utilisation beyond the state.* *c. Such request should only be allowed based on the margin available in ISTS, and no augmentation in the ISTS is to be made to facilitate such use of GNA.* *d. Such utilisation shall be restricted to GNA only and not GNARE.* *iii. Issue of Waiver of transmission charges: If entity 'B' draws power from RE resources, should the GNA grantee 'A' be allowed waiver in respect of such RE power drawl.*	The utilisation of GNA of a GNA grantee should be allowed to a GNA non grantee provided that STU/Discom gives NOC on availability of spare capacity in intrastate network to accommodate the request. It should be noted that intrastate connected entities like Bulk Consumer take GNA (or open access) for a quantum within their contract demand agreed with the Discom. Hence spare capacity in network is always available to accommodate power within contract demand capacity. However, under GNA as power would be drawn using inter state network also the flow of such power within intra state network may require approval from STU/Discom. Hence, NOC should be required and being a GNA grantee should not be a precondition. If NOC is obtained GNA can be shifted directly to the intrastate entity and it be considered a GNA grantee consequently. The utilisation of GNA should be made from an entity located anywhere in the country and not necessarily the same sate or region where the original GNA grantee is located. This is because as a principle, under GNA regime the entire national grid is like a copper plate where any entity can draw from any source or inject power to a load located anywhere. Further, as GNA transfer is for only a period of 3 years, the transfer should be for margins available within the system only. In case CERC decides to allow transfer for say a period of 25 years, then requirement for additional network enhancement and corresponding bank guarantees to be given to CTU should arise. In that case the party taking GNA through transfer should pay the charges. The transfer of GNA or GNAre both should be allowed. Further, as ISTS waver is basis schedule from RE generator, hence waiver should stay with entity 'B' which schedules such power and in case

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		entity 'B' or 'A' are subsidiaries having common parent option for claiming should ISTS waiver should be available for both be claimed by 'A' or 'B' which schedules power.
3	***Issue No. 3: Dual Connectivity to the Bulk Consumer for the same load capacity*** *i. Whether such grant of GNA to Bulk Consumer through dual connectivity, i.e., for the same load capacity should be allowed or not?* *ii. If such a grant of GNA to Bulk Consumer through dual connectivity is allowed, can it be coupled with the following conditions:* *a. NOC of the STU based on the commitment of bulk consumers to pay the applicable charges of the intra-State network if the applicant is already connected with the intra-State network and seeking GNA through direct connectivity with ISTS?* *b. Commitment of bulk consumer to pay the applicable charges of ISTS if the applicant is already connected with the ISTS and seeking connectivity to the intra-State network.* *c. Should only those Bulk Consumers be granted GNARE from ISTS, which is drawing only RE power through the intra-State network also. Further, after the granting of GNARE, if the user starts drawing non-RE power through the intra-State network, its GNARE may be converted into GNA with a waiver of the ISTS charges as applicable for GNA in terms of the Sharing Regulations, 2020.*	Connectivity to both intra and inter state network for the same load capacity should be allowed upon payment of applicable intra or inter-state transmission charges for the contract capacity reserved in respective network irrespective of extent of usage.
4	***Issue No. 5: Utilisation of the Connectivity granted to a subsidiary by another subsidiary of the same Parent company.*** *Whether such utilisation of Connectivity among the different subsidiaries of the same Parent company should be allowed or not?*	1. While Regulation 15.1 enables the utilisation of connectivity among parent and subsidiary companies, and existing Regulation 15.3 permits the transfer among subsidiaries as well as affiliates, it would be appropriate to include transfer of connectivity amongst subsidiaries having common parent company. Right now, post COD a subsidiary holding connectivity may transfer it to Parent Company which in turn can transfer it to its

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		other subsidiary. Such transfer, though theoretically possible, is not allowed by CTUIL till the Hon'ble CERC explicitly allows it. It is suggested that transfer of connectivity amongst subsidiaries having common parent is to be allowed so that the ambiguity with CTUIL is clarified. Transfer amongst subsidiaries is aligned to the spirit of Regulation 15 of GNA regulations which principally allow connectivity transfer amongst affiliates. While affiliate is not defined in company law, the transfer amongst subsidiaries with common parent is suggested. This would help in better utilization of connectivity and align with market requirement, especially when bids under FDRE regime require multiple injection points to meet 90% generation availability. 2. Management control remains the same in such transfer and there is no financial interest or motivation 3. Subsidiary is defined as per Companies Act 2013, thereby maintaining 51% shareholding – thus such transfer should address concerns that connectivity can be traded 4. Attention could be drawn to specific-cases where CTU asked developers to apply through specific entity since parent-child transfer was not allowed at that time. Now that parent child is allowed, transfer amongst subsidiaries of same parent company not getting allowed severely disadvantages such developers. 5. Utilisation and demonstration of documents by subsidiary to be allowed as it is allowed for Parent-Child companies in GNA amendment 6. Dvelopment of RE power projects is done through SPV's for ring fencing various assets and other similar reasons such as Efficient financing (project-specific, non-recourse), enhanced Investment Appeal for seeking private/foreign equity, regulatory compliance

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		& tax efficiency, operational flexibility as well as for financial transparency and thus creating multiple SPVs under same holding company is widely used industry practice. However, these SPVs share common management, controlling equity, human and other resources are often even co-located warranting flexibility to transfer connectivity amongst each other.
5	***Issue No. 6: Platform for providing NOC by the STU in a time-bound and a transparent manner*** *Whether such a centralized online platform is required to be implemented for processing the application for grant of NOC by the STU in terms of availability of transmission capacity in the intra-State network?*	A centralized online platform is required to be implemented for processing the application for grant of NOC by the STU in terms of availability of transmission capacity in the intra-State network is needed to facilitate transparency. Further such portal should also facilitate NOC from Discoms (or SLDC) as required under SERC regulations. Bulk Consumer connected to grid at 11 KV or 220 KV require both STU and Discom NOC for getting open access under GNA. Hence, the portal should facilitate both this. Recently the Ministry of Power vide its letter no 25-10/30/2024-PG dated 18.09.2024 has directed all states that the procedure to issue NOC by states to GNA applicants be incorporated with the state single window system and then be connected to National Single Window System. Hence, a centralised portal in this line would be welcome. In addition to this such approvals from the State Transmission utilities should be provided within 15 days as per Green Energy Open Access Rules 2022 failing which automatic and deemed approval should be granted by the system.
6	***Issue No. 7: Provision for grant of Solar hours Connectivity and Non-Solar hours Connectivity through the same Transmission system*** *Should existing solar generators (without storage) also be given the option to install storage for utilisation of connectivity/GNA during non-solar hours by submitting an application to CTUIL within three months and installing within a period of 24 months, failing which connectivity/GNA during non-solar hours shall be utilised to grant another*	The concept of non-solar connectivity is welcome and novel in its nature to meet stated objectives. However, the following concerns need to be looked into before this is finalised: i. **Submission of application within 3 months:** It is not clear from which date is this 3-month period is to be counted. It is recommended that existing solar generators be provided min 6 months from the date of notification of the regulations providing for this. Post this 6-month period, connectivity may be granted to applicant applying for non-solar hour connectivity. The existing

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	connectivity through the same transmission system as 'non-solar hour connectivity' to another applicant, based on the other RE resources or Storage plant, for injection of power during non-solar hours?.	solar generator be also permitted to apply for non-solar connectivity post 6-months, however, the time-stamp would be followed. **Treatment of power drawn during non-solar hours by solar generator: During non-solar hours** (viz late evening/night) the solar plant draws power from grid to meet auxiliary power requirement and which is treated at DSM rates. Such power flows from grid to solar plant. During non-solar hours when the BESS under its contracts, then wherefrom would a solar plant get its aux power and at what rates? **Further, in solar hours** due to the addition of a co located BESS, there would be requirement of charging the BESS during solar generation hours. Either the incumbent solar generator can provide this charging power to the BESS or the BESS can set up its own solar plant or the BESS can buy charging power from third parties during the solar hours. In case own solar plant, dedicated only for charging with no grid injection, is used for BESS charging the energy accounting for charging power would be internal, simple and not require regional energy accounting. If third party charging power is used or power from incumbent solar plant is used, then energy accounting at POI for both simultaneous injection and drawl would get complicated. This may require net scheduling and special metering scheme approval which the Hon'ble CERC should clarify to avoid disputes both during solar and non-solar hours. A case in point here is Balco Vs PGCIL & others in Petition No. 299/MP/2018 (https://cercind.gov.in/2020/orders/299-MP-2018.pdf) which provides important energy settlement principles to resolve this. ii. **Cost of sharing terminal bays and DTL:** The sharing of bay and dedicated transmission line by existing solar generators with Co-located Energy Storage Systems (ESS) would be at a cost which we suggest should be the equipment benchmark cost used by PGCIL and Hon'ble Commission to suggest a methodology on recovering the same

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		over the life of the BESS. This would avoid disputes and litigations before the Commission. Further, BESS addition would require fresh technical study approval from CTU and some exclusive re-engineering that may result in change in MVAr rating of harmonic filter or SVGs or installation of additional equipment etc involving a huge cost. The commission should statutorily require the incoming BESS to pay entirely for it to avoid disputes. It is further suggested that in case the connectivity shared between two different entities the Bank Guarantees (Con BG 1,2,3) should be proportionately shared along with aforementioned common infra sharing charges. iii. **Option to Solar generator to develop and set up the BESS:** The existing solar generators should be first given the option to develop and set up the BESS. Because there are many challenges in setting up co-located BESS and importantly being viable offtake of expensive BESS power, the Hon'ble Commission should specify a mechanism by which the power can be offtaken for ancillary services at a predetermined floor price and additionally facilitate long term tie ups for life of BESS to facilitate its financing from Banks. The Hon'ble Commission should also allow injection of BESS power during solar hours so that incumbent solar project can save on DSM charges and come at mutually agreed understanding for it thereby building a captive market. iv. **Rights of Solar generator to be protected during Solar Hours:** During solar hours the incumbent solar generator should have exclusive and inalienable statutory right on injection of power to the grid. Given, that a BESS can inject/drawal during any 24 hrs and utilize the DTL and bay, first right for utlisation of the connectivity and rescheduling should always be with the Solar generator. Further, no restriction should be on the size of BESS to be set up during non-solar hours. The GNA regulations requires minimum 50 MW BESS to be eligible to connect to the ISTS network. Such restrictions should be done away

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		with and choice of BESS capacity should be left to the Developer to decide depending on site conditions, economic viability, offtake commitment etc. v. **Size of BESS to be installed**: The maximum size of BESS that can be installed would ideally by limited to the solar connectivity granted. However, that may not always be the case. A 220kV DTL and Bay can carry 350 MW or more power (depending on the conductor it can be upto 400 MW) and is dependent on the evacuation margins available at the bay and the grid - substation. It is recommended that the maximum size of BESS that can be installed be clarified/ specified in the regulations. Further, will the connectivity applications for non-solar hours be made under Regulation 5.2 of the GNA regulations with min 5 MW capacity that can be installed? If that be the case then the max capacity of BESS would be limited to the solar connectivity granted. vi. **CONN-4 Revision:** Addition of BESS will alter the technical requirements needed as per CONN-4 and would require fresh approval from CTU with consequent investments to be made. Regulations should mandate the incoming BESS to pay for any and all investments to be made to meet the revised requirements. It is further suggested that in case the connectivity is shared between two different entities the Bank Guarantees (Con BG 1,2,3) should be proportionately shared along with aforementioned common infra sharing charges.
7.	***Issue No. 8: Provision for Minimum Transmission Capacity Utilisation for Hybrid ISTS Connectivity*** An applicant should take Connectivity for a quantum that it wishes to utilise. It is proposed that to ensure the optimal utilization of the transmission system, a minimum annual capacity utilization, i.e., 50%, for RHGS may be mandated, failing which the underutilized capacity of the Connectivity may be reduced, effective 1st	Tenders issued by REIAs/ Discoms specify the minimum CUF that is to be met by the RHGS. Prescribing a minimum annual CUF may not be commercially viable for RHGS grantee due to various requirements under the utility tenders/ C&I PPAs, which stipulate CUF and max-min CUF range, the ratio of wind and solar components in the hybrid mix etc. Further, the RHGS can be co-located or non-co-located. In case of non-co-located RHGS, the connectivity's are at separate and at different S/s but the power is scheduled under a single contract, with individual scheduled. In this case the utilization is

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	October 2026. Alternatively, the quantum of Connectivity equal to the average of maximum injection in any time block of a day over the year (first year after the declaration of COD) may be allowed to be retained by the Connectivity grantee, and the balance quantum of the part of the Connectivity may be revoked (with corresponding Conn-BGs to be returned). Connectivity on such vacated capacity may be granted to other entities.	limited to max of individual solar or wind CUF, and any curtailment would be detrimental. It is recommended that the minimum CUF requirement be contractually driven rather than mandated through regulations.

Additional Comments including Issues and Request for Modification:

S. No.	Issues	Request for Modification	Rationale
Issue no. 7 8.3 (e)	It is proposed that the existing connectivity grantee, which was solar-based REGS, shall be mandated to share the dedicated grid infrastructure (terminal bay and the dedicated transmission line) with payment of charges for the dedicated transmission infrastructure (as mutually agreed or as determined by CERC in case of disagreement). **For solar hours, the new grantee shall be allowed to schedule power if the transmission system is available after scheduling power of existing solar REGS. The hours other than solar hours shall be treated as non-solar hours. It is clarified that the existing solar REGS can also seek GNA (non-solar)/connectivity at par with the new entity.**	It is proposed that the existing connectivity grantee, which was solar-based REGS, shall be mandated to share the dedicated grid infrastructure (terminal bay and the dedicated transmission line) with payment of one-time charges and annual O&M charges for the dedicated transmission infrastructure (as mutually agreed or as determined by CERC in case of disagreement within three months from grant of connectivity). For solar hours, the new grantee shall be allowed to schedule power if the transmission system is available after scheduling power of existing solar REGS provided that new grantee shall be responsible for grid compliance for the solar hour connectivity quantum as well as non-solar hour connectivity quantum. The hours other than solar hours shall be treated as	1. With the recent experience in the sharing of connectivity between two connectivity grantees, difficulties have been faced during the agreement on the terms and conditions for such sharing and the cost of such shared infrastructure. Discussions on such agreements have prolonged upto six months and sometimes negotiations have failed leading to withdrawal of connectivity by new applicant. **We suggest that CERC may kindly prescribe benchmark cost and long stop date for signing of sharing agreement.** 2. As per Grid Code, it is believed that existing solar REGS has complied with the technical requirements as per the studies for connectivity quantum. However, due to addition of new non-solar capacity for dispatch during non-solar hours, it is not clear how the grid compliance for the

		non-solar hours. It is clarified that the existing solar REGS can also seek GNA (non-solar)/connectivity having priority over the at par with the new entity	entire capacity (i.e. for solar hour connectivity quantum and non-solar hour connectivity quantum) would be taken care. It is suggested that new grantee shall be responsible for requirement of **additional reactive compensation, harmonic filters and installation of other equipments due to addition of such non-solar hour connectivity quantum.** 3. Since the proposal of non-solar hour connectivity quantum is envisaged in sharing with existing grantee, it is suggested that **existing grantee maybe given priority** in seeking connectivity during non-solar hours to mitigate the risk of disagreements in sharing between the two parties. 4. **Scheduling and Forecasting Issues:** During the solar hours, while the Solar REGS will be scheduling for injection, the Storage component will be scheduling for drawl at the same point of interconnection. Similarly, during non-solar hours, while solar REGS will draw some power for auxiliary consumption, storage component will schedule the injection at the same POI. **Clarity needs to be provided for the scheduling by these components and**

			settlement mechanism for these cases.
Issue no. 7 8.3 (i)	Should existing solar generators (without storage) also be given the option to install storage for utilisation of connectivity/GNA during non-solar hours by submitting an application to CTUIL **within three months** and **installing within a period of 24 months**, failing which connectivity/GNA during non-solar hours shall be utilised to grant another connectivity through the same transmission system as 'non-solar hour connectivity' to another applicant, based on the other RE resources or Storage plant, for injection of power during non-solar hours?	Existing solar generators (without storage) should be given the option to install storage for utilisation of connectivity/GNA during non-solar hours by submitting an application to CTUIL **within three months** and **installing within a period of 24 months** from the date of final grant of connectivity for non-solar hour connectivity (provided that GNA for solar generation capacity has been made effective), failing which connectivity/ GNA during non-solar hours shall be utilised to grant another connectivity through the same transmission system as 'non-solar hour connectivity' to another applicant, based on the other RE resources or Storage plant, for injection of power during non-solar hours.	1. Since the proposal of non-solar hour connectivity quantum is envisaged in sharing with existing grantee, it is suggested that existing grantee maybe given priority in seeking connectivity during non-solar hours to mitigate the risk of disagreements in sharing between the two parties. 2. **Provisions to deal with unforeseen delay in implementation of non-solar capacity (if any) should also be prescribed.** 3. With reference to non-solar hour connectivity, it is not clear whether **wind capacity can also be considered eligible** for grant of non-solar hour connectivity.
Issue no. 8 8.6	An applicant should take Connectivity for a quantum that it wishes to utilise. It is proposed that to ensure the optimal utilization of the transmission system, a minimum annual capacity utilization, i.e., 50%, for RHGS may be mandated, failing which the underutilized capacity of the Connectivity may be reduced, effective 1st October 2026. Alternatively, the quantum of Connectivity equal to the average of maximum injection in any	An applicant should take Connectivity for a quantum that it wishes to utilise. It is proposed that to ensure the optimal utilization of the transmission system, a minimum annual capacity utilization, i.e., 50%, for RHGS may be mandated, failing which the underutilized capacity of the Connectivity may be reduced, effective 1st October 2026. Alternatively, the quantum of Connectivity equal to the average of maximum	1. Prescribing a minimum annual CUF may not be commercially viable for every RHGS grantee due to various requirements under the utility tenders/C&I PPAs (such as maximum CUF/ CUF range are prescribed by the off taker). However, utilization of the transmission capacity during the preceding three years may provide better clarity on the utilisation of

	time block of a day over the year (first year after the declaration of COD) may be allowed to be retained by the Connectivity grantee, and the balance quantum of the part of the Connectivity may be revoked (with corresponding Conn-BGs to be returned). Connectivity on such vacated capacity may be granted to other entities.	injection in any time block of a day over during the preceding three years (first three years after the declaration of COD) may be allowed to be retained by the Connectivity grantee, and the balance quantum of the part of the Connectivity may be revoked (with corresponding Conn-BGs to be returned). Connectivity on such vacated capacity may be granted to other entities	transmission system by the connectivity grantee.

Thank you for your kind attention to this matter. We are sure that these feedback from our members would be invaluable in refining these regulations and ensuring they meet the sector's evolving needs.

With Best Regards,

Subrahmanyam Pulipaka
Chief Executive Officer
National Solar Energy Federation of India

Copy to:

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