Implementation Procedure

Procedure on Forecasting, Scheduling, DSM & related matters Solar and Wind generation sources regulation 2019

State Load Despatch Center
Gujarat Energy Transmission Corporation Limited,
132kV Gotri Sub Station Compound,
Vadodara - 390021, Gujarat, India



Implementation Procedure

Preamble

This procedure is issued in compliance to Regulation 5.13 of the Gujarat Electricity Regulatory Commission (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019 hereinafter called the "Procedure for this particular regulation."

Interpretation

All other words and expressions used in this procedure although not specifically defined herein above, but defined in the Act, or defined under any law passed by the Parliament applicable to the electricity industry in the State or the Grid Code or any other Regulations of this Commission shall have the meaning assigned to them in the Act or in such law / Regulations.

Applicability

This procedure shall apply to all wind and solar generators having combined installed capacity above 1 MW connected to the State grid/substation, including those connected via pooling stations, and selling generated power within or outside the State or consuming power generated for self-consumption.

In case of multiple RE generators connected to a common feeder of DISCOM / STU, it is clarified that aggregate RE capacity connected to a common feeder will be considered for the applicability of the said regulation. In case of aggregate capacity is more than 1 MW, point of scheduling and energy accounting would be at the end of the common distribution feeder and terminated at a sub-station of distribution company / STU / CTU. De-pooling may be done as per the guideline of GERC Notification No. 1 of 2019.

It is further clarified that RE plants installed for self-consumption connected to DISCOM/STU directly or indirectly would not be covered under above regulation. Only surplus/exportable capacity having valid PPA (more than 1 MW) would be considered under this regulation.



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1. One Time Implementation:

1.1 Provision of Name Plate and Site Related Data:

The SLDC shall require Name plate and site related desirable data of each wind mill/ solar panel set, that of each RE pooling station as specified and format given in Annexure 1.1, 1.2 and 1.3 for wind, solar static data and statutory compliance respectively, apart from other information like ABT meter detail, weather sensor detail etc. if any. This shall be duly compiled and furnished by QCA / RE Generator, as the case may be, at the beginning and further any change in the information, furnished earlier, shall be shared with SLDC within 7 (seven) working days from such changes.

Login Id and Password for access of EASS (Energy Accounting and Scheduling Software) will be provided by SLDC for forecasting and scheduling of RE generator for Day ahead as well as intraday revisions. The same shall be used by the QCA / RE Generator to know their relevant data of scheduling and energy accounting.

1.2 Provision of Real time Data:

The requirement of real time electrical and weather parameter is an essence of the operation aspect of this regulation. The desirable data envisage are shown below:

1.2.1 Electrical Parameters:

The SLDC shall require the pooling station wise real time data for all elements of pooling station:

Active Power (MW)*,
Reactive Power (MVAR)*,
Voltage (Volt),
Frequency (Hz),
Circuit Breaker (CB) and Isolator status
Sequence of Event (SOE) status etc.
*mandatory to be complied.

The above data require for real-time monitoring of RE pooling station / generator, by providing RTU at its pooling station. The above data require at respective Sub-



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SLDC(s) / SLDC, over IEC - 104 protocol through GSM / GPRS, Leased line, MPLS - VPN network, fiber or by any mode of communications with redundant facility. (Main and stand by communication link for redundancy).

- a) RTU Installation and communication infrastructure at both ends by RE developer.
- b) Charges for hardware / software modification and Data base development and port charges at Substation / Sub-SLDC / SLDC along with supervision charges and annual rental charges for proving space and auxiliary supply to equipment at Substation / Sub-SLDC / SLDC by RE developer.
- c) The Real-time Data telemetry required for plants
 - a. Pooling station and Wind turbine generating plant
 - i. Turbine Generation (MW & MVAR)
 - ii. Voltage at WTG (volt)
 - iii. Generator (WTG) Status (on / off line) Availability of WTG
 - b. Pooling station and Solar generating plant
 - i. Solar Generation unit / Inverter wise (MW & MVAR)
 - ii. Voltage at interconnection point (volt)
 - iii. Generator / Inverter Status (on / off line)
- d) Additional data:
 - I. Control action facility up to inverter level
 - II. ABT meter with DLMS protocol and compatible for automatic meter reading solutions.
 - III. MWH import / export
- 1.2.2 Weather Parameters:
- e) The Real-time Data telemetry required for plants
 - a. Pooling station and Wind turbine generating plant
 - i. Wind speed (meter / second)
 - ii. Wind direction (degree from true north)
 - iii. Ambient air temperature (° C)
 - iv. Atmospheric / Barometric pressure (Pascal)
 - v. Relative humidity (in percentage)
 - vi. Air Density (Kg/m³)
 - vii. Rainfall (mm)



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- b. Pooling station and Solar generating plant
 - i. Global horizontal irradiance (GHI) (watt per meter square)
 - ii. Ambient air temperature (° C)
 - iii. Diffuse irradiance (watt per meter square)
 - iv. Direct irradiance (watt per meter square)
 - v. Relative humidity (in percentage)
 - vi. Cloud cover (Okta)
 - vii. Sun-rise & sunset timings (hour : minute (hh:mm))
 - viii. Rainfall (mm)
 - ix. Performance Ratio

1.2.3 Speech and data connectivity:

Speech and data connectivity up to sub SLDC / SLDC along with redundant communication.

Further, as per statutory requirement and / or prevailing regulation, additional Name Plate & Site Related Data and Real-time Data shall be furnished by QCA / RE Generator as per SLDC requirement.

2. <u>Day to day requirement:</u>

- 2.1 Every RE generator or QCA shall require to submit day ahead (15-minute time block) and week ahead schedule (hourly) by 9 AM every day for each pooling station / generator, as the case may be, from 00:00 hrs. to 24:00 hrs. for the next day as well as for the next week.
- 2.2 Every RE generator or QCA shall require to submit day ahead "available capacity (AvC)" and "Total DC / Forecast" in 15 minute interval for 96 blocks in the EASS software as per link https://www.sldcguj.org/lodestar/ccs/ by using unique ID and password, which is provided by SLDC to RE generator or QCA as further visually elaborated by screen shot in Annexure 2.
- 2.3 Wind generators or QCA can revise forecast up to maximum 16 revisions from 00:00 hrs. to 24:00 hrs. for the same day with a condition of more than ± 2% change in "Schedule" / "Available capacity".

If QCA / RE Generators intents to revise its schedule, than the proposed schedule shall be more than ± 2% than that of previously given schedule of respective block.



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To clarify further, the illustration is as below:

Suppose Revised DC is Updated at Block No: 12				
Cı	Current Schedule		OC For Next Revision	
Block No	Schedule / DC (MW)	Block No	Schedule / DC (MW)	
15	50	15	49	
16	45	16	45	
17	40	17	40	
18	50	18	50	
96	50	96	50	

The above revision cannot be submitted in the EASS because of change in time block No. 15 is not more than $\pm 2\%$.

Suppose Revised DC is Updated at Block No: 12					
Current Schedule			Proposed DC For Next Revision		
Block No	Schedule / DC (MW)		Block No Schedule / DC (N		
15	50		15	48	
16	45		16	45	
17	40		17	40	
18	50		18	50	
96	50		96	50	

The above revision can be submitted and will be approved from 4^{th} time block as change in 15^{th} time block is more than $\pm 2\%$.

Such revision shall be effective from 4^{th} time block of submission and no revision shall be implemented before 4^{th} time block even though change is more than $\pm 2\%$.

Any wind generators / QCA can submit its first revision from 23:15 hrs. for the day for the next day.

2.4 Solar generators / QCA can revise forecast up to maximum 9 revisions from 05:30 hrs. to 19:00 hrs. for the same day with a condition of more than ± 2% change in "Schedule" / "Available capacity".



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If QCA / RE Generators intents to revise its schedule, than the proposed schedule shall be more than $\pm 2\%$ than that of previously given schedule of respective block.

To clarify further, the illustration is as below:

Suppose Revised DC is Updated at Block No: 40				
Current Schedule		Proposed DC For Next Revision		
Block No	Schedule / DC (MW)	Block No Schedule / DC (MV		
45	50	45 51		
46	45	46 45		
47	40	47 40		
48	50	48 50		
	•			
96	50	96 50		

The above revision cannot be submitted in the EASS because of change in time block No. 45 is not more than ± 2%.

Suppose Revised DC is Updated at Block No: 40					
Current Schedule			Proposed DC For Next Revision		
Block No	Schedule / DC (MW)		Block No Schedule / DC (N		
45	50		45	52	
46	45		46	45	
47	40		47	40	
48	50		48	50	
96	50		96	50	

The above revision can be submitted and will approve from 4^{th} time block as change in 45^{th} time block is more than $\pm 2\%$.

Such revision shall be effective from 4^{th} time block of submission and no revision shall be implemented before 4^{th} time block even though change is more than $\pm 2\%$.

Any solar generators / QCA can submit its first revision from 23:15 hrs. for the day for the next day.



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- 2.5 Every RE generator / QCA shall submit in the existing EASS software "Day ahead" forecast, be used for smooth forecasting and scheduling of RE generators. Wind Generators can submit revision from 00:00 hrs. to 24:00 hrs. and Solar Generators from 5:30 hrs. to 19:00 hrs. only.
- 2.6 "Week ahead" forecast shall be submitted by every RE generator / QCA to SLDC through e-mail ids (e-mail ids will be provided by SLDC) for operational & planning availability of power for next 7 (seven) days.
- 2.7 For curtailment in the injection schedule of RE generators, if any due to system constraint or for grid stability / security or any emergency, SLDC will update the injection schedule of RE generator from very next time block in the EASS, also curtailment instruction shall be conveyed through SLDC / Sub SLDC on best effort basis. It is responsibility of RE generator to check the injection schedule in EASS and strictly follow the instruction of SLDC.
- 2.8 For planned curtailment, in certain time blocks of the day, injection schedule of RE generator will be revised and displayed by SLDC in the EASS. It is responsibility of RE generator / QCA to check the injection schedule in EASS and strictly follow the instruction of SLDC.
- 2.9 The Wind and Solar generators which are connected to State grid and selling power outside the Gujarat state, the forecasting and scheduling procedure is as per the CERC (Deviation Settlement Mechanism and Forecasting) Regulation 2014 as be amended time to time.

The Scheduling for interstate RE generator is to be done at state boundary by appropriate RLDC (WRLDC) through SLDC.

The interstate RE generator has to submit the day ahead forecast to appropriate RLDC (WRLDC) for every 15 minutes time block for the next day which is from 00:00 hrs. to 24:00 hrs., also submit the same to SLDC- Gujarat with "available capacity" and "Forecast" for every 15 minutes time block for 96 blocks.

Interstate RE generator can revise their Schedule by advance notice to WRLDC as well as SLDC-Gujarat, as the case may be. Such revision may be effective from 4th time block, the first being the time block in which notice given. There may be one revision for each time slot of one and half hours starting from 00:00 hours of a particular day subject to maximum of 16 revisions during the day.



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The same revised forecast/schedule is to be submitted to SLDC-Gujarat with individual "available Capacity" and "Forecast" for 15 minutes time block.

3. Post-facto procedure:

- 3.1 The wind or solar generators connected to the State grid and selling power within the State shall be paid by the buyer as per actual generation at the tariff agreed in the power purchase agreement or wheeling agreement. The actual generation of all eligible RE generators under this regulation shall be certified in monthly State Energy Account (SEA).
- 3.2 If any QCA gets authorization for forecasting and scheduling of a particular windfarm / Solar Plant Pooling Station from its member, but the ratio of authorization is not 100% of Pooling Station installed capacity then it is responsibility of QCA to get the consent of all Pooling Station members (100% of Pooling Station).
- 3.3 Even though the authorization for forecasting and scheduling from wind / solar generators is not up to 100% of Pooling Station, the QCA has to submit the forecast of that Pooling Station as whole and QCA has to de-pool the DSM amount with all wind/solar generators of that Pooling Station and set off with DSM pool account by collecting amount up to 100% means from all wind / solar generators of that particular Pooling Station.
- 3.4 In case of dispute between generators and existing QCAs, the association of the pooling station shall decide alternate QCA after settlement of all past and current bills/due and with one-month advance notice.
- 3.5 Commercial Mechanism and Deviation Settlement
 - 3.5.1 SLDC shall require interface ABT meter data for the previous 10 days on the every Monday. QCA / STU / Distribution Company is required to provide downloaded encrypted data by e-mail on requirement from SLDC within 48 hours.
 - 3.5.2. The wind or solar generators (Intra-State transaction) who deviate from its given schedule shall be liable to pay deviation charges as per the Table - I and Table - II of Hon'ble GERC Notification No.1 of 2019.



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- 3.5.3 The QCA / individual generator selling power / consuming power outside the State of Gujarat but connected with the State transmission network / distribution network shall give separate schedule for the energy generation as per these Regulations to the SLDC. The deviation settlement account for such generators shall be prepared by the SLDC for measurement of deviation of energy by such generator and its impact on the State periphery. Such generators shall pay the deviation charges within the State in the State Pool account in case of deviations by them.
- 3.5.4 Deviation charges for under injection by wind & solar generator connected to the State grid and selling power outside the State shall be payable by wind / solar generators as per the framework provided by the Hon'ble CERC Regulations and time-to-time amendment thereof.

Table -I (Deviation Charges in case of under injection by Wind & Solar Generators selling power outside Gujarat)

Sr.	Absolute Error in the	Deviation Charges payable to State DSM Pool			
No.	15- minute time block				
1	<=15%	At the Fixed Rate for the shortfall energy for			
		absolute error up to 15%			
2	> 15% but <=25%	At the Fixed Rate for the shortfall energy for			
		absolute error up to 15% +			
		110% of the Fixed Rate for balance energy beyond			
		15% and up to 25%			
3	>25% but <=35%	At the Fixed Rate for the shortfall energy for			
		absolute error up to 15% +			
		110% of the Fixed Rate for balance energy beyond			
		15% and up to 25% +			
		120% of the Fixed Rate for balance energy beyond			
		25% and up to 35%			
4	>35%	At the Fixed Rate for the shortfall energy for			
		absolute error up to 15% +			
		110% of the Fixed Rate for balance energy beyond			
		15% and up to 25% +			
		120% of the Fixed Rate for balance energy beyond			
		25% and up to 35% +			
		130% of the Fixed Rate for balance Energy beyond			
		35%			

^{*}Fixed Rate Considered as PPA rate



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3.5.5 In case of over injection, it would be considered as inadvertent energy. The accounting for this purpose shall be done by the SLDC.

Table -II (Deviation Charges in case of over injection by Wind & Solar Generators selling power outside Gujarat)

Sr.	Absolute Error in	Deviation Charges payable to State DSM Pool
No.	the 15- minute	
	time block	
1	<=15%	Considered as Inadvertent Energy
2	> 15% but <=25%	Considered as Inadvertent Energy
3	>25% but <=35%	Considered as Inadvertent Energy
4	>35%	Considered as Inadvertent Energy

- 3.5.6 The amount (deviation charges) thus received from all RE generators shall be adjusted in the State DSM pool account. The State DSM pool account would be revenue neutral as per the current practices.
- 3.5.7 In case of requirement of metered data at pooling station / Interface point / energy accounting point, generator / QCA may install additional meter to facilitate acquisition of real time data in line with clause No. 11 (C) of Hon'ble GERC Notification No.1 of 2019.
- 3.5.8 All the ABT meters (to be installed by RE generators and considered in State energy accounting should be of GJ series. The specification for such ABT meters would be provided by GETCO. The meter serial number would be provided by SLDC / GETCO.
- 3.5.8 All QCA shall need to be submitted detail procedure of de-pooling to SLDC for records and needful.

4. **General**:

Quote

"In case the wind or solar generator defaults in payment to QCA, then QCA shall inform about the default by the generator to the SLDC and request disconnection of such defaulting generator from the grid."



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Unquote

In this case, practically it shall be not feasible to isolate particular RE generator from the internal network of RE farm as generally connected in cascading network along with other generators. However, the monthly energy certification issued by SLDC shall be blocked and not released till payment realization. Due to this, the defaulter generator shall cease to get benefit of set off under captive / preferential tariff from Discom / energy set off by third party under sell / renewable energy certificate.

5. Qualifying criteria for QCA:

The QCA shall be appointed by Wind / Solar Generators which may be one of the generators or any mutually agreed agency. Any company or body corporate or association or body of individuals, whether incorporated or not, or artificial juridical person shall be eligible to act as a QCA provided it satisfies the qualifying criteria as laid down hereunder:

5.1 The QCA shall have the experience of minimum 1 year in the field of Wind / Solar Power forecasting and scheduling.

The QCA applicant shall submit the copy of certificate duly stamped and signed by Wind / Solar Generators or Utility, indicating type of forecasting and scheduling service; service provided for Windfarm / Solar plant pooling station or Utility; duration of service; status of project in current days etc.

QCA applicant needs to submit the certificate of experience in the field of both Wind and Solar Power forecasting and scheduling separately for qualifying as a QCA for both otherwise QCA shall be qualified for wind only or solar only as per experience certificate submitted.

- 5.2 The financial strength of the QCA must be such that it should be in a position to handle the risk of penalties on account of deviation by the generator. Accordingly, the net worth of the QCA from forecasting & scheduling services must be positive amounting to at least Rs. 2.5 Crores in the recent last financial year which should reflect from its audited balance sheet or from the certificate of a practicing Chartered Accountant.
- 5.3 The QCA shall have the capability to provide real time monitoring systems or equivalent systems for seamless flow of information to and from SLDC and RLDC



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in order to facilitate scheduling, revision of schedule, intimation of outages / grid constraints etc.

- 5.4 QCA applicant shall have qualified & competent staff for this assignment particularly. Person having Master / Bachelor Degree in engineering / economics / statistics; Person having Master / Bachelor Degree in IT / Computer applications and Person having Bachelor Degree in Electrical Engineering required for 24x7 operation and monitoring. The degree certificate of concerned and experience certificate duly stamped and signed by QCA applicant shall be submitted.
- 5.5 The QCA shall be using software developed by at least CMMI level 3 certified companies or as decided by SLDC or the Commission from time to time.
- 5.6 QCA applicant shall have experience and registered office in India only will be eligible.
- 5.7 Provided that when a generator carries out forecasting and scheduling activity for itself, it need not avail the services of QCA and as such will be exempted from the qualifying criteria of QCA. However, such generator shall complete the registration process and comply with DSM payment security mechanism.

6. Registration Process for QCA or Self / Lead RE Generator

- 6.1 The application for Registration as a Qualified Co-ordinating Agency (QCA) shall be submitted on address of "The Chief Engineer (LD), State Load Despatch Center, GETCO, 132kV Gotri Sub Station Compound, Near T.B. Hospital, Gotri Road, Vadodara - 390021, Gujarat.
- 6.2 The application for Registration shall be accompanied by a Nonrefundable application processing fees of Rs. 25,000/- (Twenty five Thousand Rupees Only) plus applicable Taxes, if any, payable through NEFT to "Gujarat Energy Transmission Corporation Limited- SLDC" Vadodara.

The Unique Identification code number shall be provided to each successful registered QCA.

Subsequent to the registration, the QCA shall have to pay Nonrefundable application processing fees Rs.10,000 (Ten Thousand Rupees Only) plus



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applicable Taxes, if any, towards each pooling station requested for forecasting, scheduling and de-pooling.

The QCA shall submit the application for each pooling station separately. (The application fee of Rs.10,000 (Ten Thousand Rupees Only) plus applicable Taxes, if any, shall be applicable for each pooling station as per contract period entered between QCA & RE Generators of pooling station, maximum up to 3 (three) year validity.

6.3 The QCA applicant needs to renew the registration as per prevailing criteria at every 3 (three) year (from the date of registration approved) by accompanying of Nonrefundable fees of Rs. 25,000/- (Twenty five Thousand Rupees Only) plus applicable Taxes, if any, OR otherwise the registration of QCA shall be treated as cancelled.

Provided that the application for renew of registration shall be made at least three months prior to expiry of registration.

- 6.4 SLDC may ask for all the required documents, as per regulations and procedure, for verification at the time of renew of registration and / or any time in between 3 (three) years.
- 6.5 QCA Registration / Renewal shall be accomplished with Annexure 'X' or 'XX', Annexure 5.1, Annexure 5.2, Annexure 5.3, Annexure 5.4, Annexure 5.5, Annexure 5.6, Annexure 5.7 and Annexure 5.8.

QCA shall apply for and on behalf of pooling station / generators with Annexure 'Y', Annexure I(a), Annexure I(b) and applicable Bank Guarantee / Revolving LC.

Self / Lead RE Generator shall apply with Annexure 'X1', Annexure 'Y1', and applicable Bank Guarantee / Revolving LC. However, in case of Lead RE Generator, Annexure I(a1) is also required. As per applicability criteria of aggregate RE capacity more than 1 MW on common distribution feeder and terminated at a sub-station of distribution company / STU / CTU, the lead RE Generator shall carry out all activities for combine installed capacity, as per regulation.

6.6. The payment security amount for the first year shall be worked out considering average deviations observed during the mock trial for different set of sites:



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- a) Wind generating plant of approximate 50 MW capacity at Pooling Sub-Station.
- b) Solar generating plant of approximate 25 MW capacity at Pooling Sub-Station.

Accordingly, the amount of Bank Guarantee / Revolving LC shall be derived during mock exercise as per commission guideline and it shall be published on SLDC website. Derived amount shall be per MW for wind capacity and solar capacity separately.

While in actual assessment if DSM amount of any pooling station increases beyond 110% of above rate then additional supplementary balance revolving LC shall be demanded.

- 6.7 For second year and onwards the payment security shall be reviewed based on the average deviations observed during the first year (previous year) and applying the aforesaid mechanism, the security amount shall be worked out for each pooling station / Generators and the same shall be provided by the QCA / RE Generators. Hence, all registered QCA / RE Generators shall need to renew Bank Guarantee / Revolving LC accordingly.
- 6.8 The wind / solar generators / QCA shall provide payment security to SLDC in the form of Bank Guarantee and / or revolving LC covering 110% of DSM payment for one month in proportion to installed capacity of pooling station being added.
- 6.9 An incomplete application or application without application fee or an application not found to be in conformity with these regulations and procedure, may be liable to reject.
- 6.10 The time period for Registration / Renewal of QCA or self / Lead RE Generator shall be 30 (Thirty) days from the date of receipt of complete set of all the information and documents to SLDC.
- 6.11 SLDC shall evaluate documents in regards to the QCA and shall forward the detail of QCA to Hon'ble commission for information and record.
- 6.12 SLDC shall cancel the registration, in case of non fulfilment of any information and document as and when required. SLDC reserves the right to cancel the registration of QCA at any time, if it is found that the applicant has made misleading or false representations in the forms, statements and attachments submitted in the proof of eligibility requirements, Exhibited a record of poor performance such as abandoning



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works, nor properly completing the regulatory obligations, inordinately delaying completion or financial failures etc., Submitted any of documents that is not accompanied by required documentation or is non-responsive, Failed to provide clarification related thereto, when sought, Was declared ineligible/ blacklisted by any State / UT / State Government / Central Government etc.

7. Clarification for QCA:

- 7.1 As per the regulatory provision, SLDC sought financial security from QCA for wind generation and solar generation of installed capacity of pooling station. The back to back financial security mechanism and de-pooling with RE Generator shall be purview of QCA.
- 7.2 As explain above, SLDC shall not require any individual financial security of RE Generator but needs total / one BG / RLC as per prevailing rate for total capacity of RE Project. However, QCA may submit the multiple BG / RLC up to total installed capacity of pooling station, in case need arises.
- 7.3 As per regulation, SLDC is issuing DSM bills for RE Project in the name of QCA & need to be settled by QCA. Therefore, SLDC can not accept payment security of that individual RE generator. Hence, in case of any individual RE generator defaulter, the total BG / RLC of QCA for respective pooling station shall be encashed.
- 7.4 The internal payment security from the RE generator is to be sought by QCA and QCA is supposed to forecast the RE pooling station / project as a whole and also supposed to clear RE DSM bills.

Guideline to Procedure

The above process and procedure is derived and implemented to meet the requirements thereof complying GERC Notification No. 1 of 2019, Forecasting, Scheduling, DSM & related matters Solar and Wind generation sources regulation 2019. Any force majeure or any directive of Hon'ble commission face during operation shall be dealt with appropriate work around with alternate proof evidence so as to derive amicable solution during unforeseen situation and same shall be binding to the RE Generators / QCA and their beneficiaries.



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ANNEXURE - 'X'

QCA Registration Form

Sr. No.	Description	Consent / Details
1	Registration apply for	New Registration,
2	Registration for	Wind Generation OR
_	Trogistration for	Solar Generation OR
		Both Wind Generation & Solar Generation
3	Name Of Firm	
	Primary Business	
	(Key Words)	
4	Name Of Chairman / MD / CEO Of the Firm	
	Designation	
	Address of Registered Office of Firm	
	Address of Communication of Firm	
	Telephone / Mobile No.	
	Fax No.	
	E - Mail address	
	Website link	
	Aadhar card details:	
5	Name Of Authorized Person Of the Firm	
	Designation	



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	Address of works / field	
	Telephone / Mobile No.	
	Fax No.	
	E - Mail address	
	Website link	
	Aadhar card details:	
6	GST Registration No. & Date.	
7	PAN No. & Date	
8	PF Registration No. & Date	
9	Bank Account Details of QCA for handing DSM Mechanism	
	Name Of The Bank	
	IFSC Code	
	A/C No	
	Bank Address	
10	Non Refundable Application Fees (Including taxes, if any) for New QCA registration	
	(Indicate application fees & taxes separately)	
	Application Fees Payable to	

I/We agree for the Gujarat Electricity Regulatory Commission (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019 and as amended from time to time and procedure thereof.

Seal of the Firm	Signature	of	Authorized	representative	of
	Company /	Age	ncy		
Place:					



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NAME:
STATUS:
Name of Company / Agency:

If any change w.r.t details submitted in Annexre X, it is need to be submitted accordingly.

Note:

- 1) QCA Applicant must fill up above details & should place at the top of the Documents.
- 2) Following documents needs to be submitted herewith by QCA applicant.
 - 2a) Copy of GST Registration.
 - 2b) Copy of PAN
 - 2c) Copy of PF Registration
 - 2d) Copy of Aadhar card

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ANNEXURE - 'XX'

QCA Registration Form for Renewal

Sr. No.	Description	Consent / Details
1	Registration apply for	Renewal of Registration
2	QCA Registered Unique Identification Code Number & Date (Provided by SLDC)	
3	Registration for	Wind Generation OR
		Solar Generation OR
		Both Wind Generation & Solar Generation
4	Non Refundable Application Fees (Including taxes, if any) for renewal of QCA registration (Indicate application fees & taxes separately)	
	Application Fees Payable to	

I/We agree for the Gujarat Electricity Regulatory Commission (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019 and as amended from time to time and procedure thereof.

Seal of the Firm	Signature	of	Authorized	representative	of
	Company /	Age	ncy		
Place: Date:	NAME:				
	STATUS: _				



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Name of Company / Agency:

If any change w.r.t details submitted in Annexre X, it is need to be submitted accordingly.

Note:

- 1) QCA Applicant must fill up above details & should place at the top of the Documents.
- 2) Following documents needs to be submitted herewith by QCA applicant.
 - 2a) Copy of GST Registration.
 - 2b) Copy of PAN
 - 2c) Copy of PF Registration
 - 2d) Copy of Aadhar card

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ANNEXURE - 5.1 Detail of Experience

Wind /Solar Generation Forecasting and scheduling

Fill the following details in respect to forecasting and scheduling carried out by the QCA applicant:

Nam	e of the Firm:	
1	Detail of Experience for (Forecasting and scheduling service provided for wind / solar generation)	Wind / Solar generation
	Order / Agreement reference No. & Date	
	Experience Certificate No. & Date	
	Experience Certificate Issuing Authority	
	Name of Developer / Generators or Utility	
	Name of pooling station or Utility	
	Name of location (i.e. Village / Area & State)	
	Installed capacity of pooling station	
	Start Date of service	
	End Date of service	
	Status of forecasting and scheduling (Live (in operation) or Non Live (completed))	

Note:

- 1) The above detail must relevant to the experience certificate submitted.
- 2) Utility means Govt. / Private Discom, State, SLDC, RLDC etc.
- 3) If forecasting and scheduling is carried out for both i.e. wind and solar generation, please describe in separate table one by one as per above format.
- 4) If forecasting and scheduling is carried out for more than one wind / solar generating pooling station or Utility, please describe in separate table one by one as per above format.
- 5) Following documents need to be submitted herewith.
 - 5a) The certificate duly stamped and signed by wind / solar developer / generators or Utility, indicating type of forecasting and scheduling service (Wind / Solar), service provided for Wind / Solar generators / generating pooling station or Utility, duration of service, present status of project etc.



Implementation Procedure

Signature of Authorized representative of
Company / Agency
NAME:
STATUS:
Name of Company / Agency:

Implementation Procedure

ANNEXURE - 5.2 Financial Capability

Sr. No.	Net Worth for the	Net Worth Amount in	Remarks
	financial Year	Rs. Crore	

Note: Following documents need to be submitted herewith.

- 1) Audited balance sheet for last finance year.
- 2) Certificate for net worth of practicing Charter Accountant for the last financial year.
- 3) Income tax return of last year.

Name of the Firm:_

Seal of the Firm	Signature of Authorized representative of
	Company / Agency
Place: Date:	NAME:
	STATUS:
	Name of Company / Agency:

Implementation Procedure

ANNEXURE - 5.3 Declaration

(Declaration to be signed by the M.D./ CEO/ Authorized Signatory of the QCA applicant on Rs. 100 stamp paper duly notarized)

Gujarat Electricity Regulatory Commission (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019 and its amendment, if any.

In connection with above subject, I/we certify that all information furnished herewith is / are true to the best of my/our knowledge and belief.

I/ We, the undersigned, have read, examine and understand detail Gujarat Electricity Regulatory Commission (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019 and its amendment, if any and procedure thereof and agree for the same.

- a) I/We declare that I/We shall have the capability to provide real time monitoring systems or equivalent systems for seamless flow of information to and from SLDC and RLDC in order to facilitate scheduling, revision of schedule, intimation of outages/grid constraints etc.
- b) I/We declare that I/We have an established team of Renewable Resource Analysts, modeling Statisticians, Energy modelers, Software developers and 24x7 operation and monitoring team.
- c) I/We declare that I/we shall ensure timely extension of pooling station ABT meter data to SLDC every week and any change in meter /connected CT/PT shall be conveyed to SLDC immediately.
- d) I/We declare that I/we shall ensure extension of ABT meter data that of each wind mill / inverter to SLDC as per request of SLDC.

I/We declare that Our QCA functionality shall be strictly in line with detail regulation and procedure thereof and there shall no deviation. Further, I/we also agree that any failure in regards to the detail regulation and procedure thereof, our QCA registration shall be out rightly rejected without assigning any reason thereof.

Indemnification

The Renewable Energy generator and QCA shall keep SLDC indemnified at all times and shall undertake to indemnify, defend and save the SLDC harmless from any and all damages, losses, claims and actions, including those relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the Registration of QCA under DSM Mechanism.

The Renewable Energy generator and QCA shall keep SLDC indemnified at all times and shall undertake to indemnify, defend and save the SLDC harmless from any and all damages, losses,

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Implementation Procedure

claims and actions, arising out of disputes with SLDC, as well as with generators and QCA inclusive of confidentiality issues.

Seal of the Firm	Signature of Authorized representative of
	Company / Agency
Place: Date:	NAME:
	STATUS:
	Name of Company / Agency:

Implementation Procedure

ANNEXURE - 5.4 Details Of Human Resources

Name of the Firm:

Details of the human resources available with the QCA applicant for the successful performance as per detail regulations, its amendments if any and detail procedure thereof are as under:						
Sr. No.	Name	Designation	Age	Qualification	Working Since	Professional experience & details of works carried out
Solar a if any,	ind Wind Ge We as	neration Source	s) Regu (ulations, 2019, D Name & Addres	ated. 19.01.2 ss of QCA a	t and Related Matters of 2019, and its amendment, applicant) have sufficient nercial settlement etc. as
Person having Master / Bachelor Degree in engineering / economics / statistics; Person having Master / Bachelor Degree in IT / Computer applications and Person having Bachelor Degree in Electrical Engineering required for 24x7 operation and monitoring.						
However, in future if any further requirement, same shall be complied.						
Note: F	Following do	cuments need to	be sul	bmitted herewith		
1) Copy of appointment letters for employees working with QCA applicant. 2) Copy of relevant degree certificate of employees working with QCA, duly stamp & sign by QCA applicant.						
Seal	Seal of the Firm Signature of Authorized representative Company / Agency				rized representative of	
	Place: NAME:					
Date:				STATUS	:	
				Name of	Company / A	gency:
		15				Page 26

Implementation Procedure

ANNEXURE - 5.5 Compatibility Certificate

Copy of CMMI level 3 certificate or as decided by SLDC or the Commission from time to time.

(TO BE SUBMITTED SEPARATELY WITH THE APPLICATION DULY SEALED AND SIGNED.)



Implementation Procedure

ANNEXURE - 5.6

DETAIL MEMORANDUM / ARTICLES OF ASSOCIATIOS OR CONSTITUTION OF FIRM WITH THE NAMES OF PARTNERS / DIRECTORS.

ALONGWITH copy of Registration certificate of establishment/ MOA /AOA

(TO BE SUBMITTED SEPARATELY WITH THE APPLICATION DULY SEALED AND SIGNED.)

Implementation Procedure

ANNEXURE - 5.7

ATTESTED COPY OF RESOLUTION OF PARTNERS / BOARD / AUTHORITY ACCEPTABLE BY LAW OF THE FIRM AUTHORISING A PARTICULER PERSON TO SIGN QCA RELATED DOCUMENTS ON BEHALF OF THE COMPANY.

(TO BE SUBMITTED SEPARATELY WITH THE APPLICATION DULY SEALED AND SIGNED.)

Implementation Procedure

ANNEXURE - 5.8

Details Of Partners / Directors With their Address

Sr. No.	Name	Designation	Working Place address with contact details	Residence address
Seal	of the Firm		Signature of Aut Company / Agency	horized representative
Place	:		NAME:	

Implementation Procedure

ANNEXURE - 'Y'

QCA Application Form For and on Behalf of RE Generator / Pooling Station

Sr. No.	Description	Consent / Details
1	Registration applied for	New Registration,
		Renewal of Registration
2	QCA Registered Unique Identification Code Number & Date (Provided by SLDC)	
3	Registration for	Wind Generation OR
		Solar Generation OR
		Both Wind Generation & Solar Generation
4	Non Refundable Application Fees (Including taxes, if any) for pooling station registration	
	(Indicate application fees & taxes separately)	
	Application Fees Payable to	
5	Wind / Solar generating pooling station name:	
3	(Name of wind pooling station / solar plant)	
	Wind / Solar generating pooling station Installed Capacity:	
	Numbers of windmills / invertors in pooling station:	
	Injection at KV level of pooling station:	
	Connected at a sub-station of Distribution company / STU / CTU name:	
	Contract Period entered between QCA and RE	From Date
	Generators of pooling station:	To Date



<u>Implementation Procedure</u>

6	Details of Payment Security (Pooling station wise)	
	Wind Generation BG / Revolving LC	
	MW Capacity	
	Total Amount	
	Solar Generation BG / Revolving LC	
	MW Capacity	
	Total Amount	

I/We agree for the Gujarat Electricity Regulatory Commission (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019 and as amended from time to time and procedure thereof.

Signed and seal by QCA

Seal of the Firm	Signature of Authorized representative of QCA
	(Company / Agency)
Place: Date:	NAME:
	STATUS:
	Name of Company / Agency:

Note:

- 1) QCA Applicant must fill up above details & should place at the top of the Documents.
- 2) Following documents needs to be submitted herewith by QCA applicant.
 - 2a) Copy of GST Registration.
 - 2b) Copy of PAN
 - 2c) Copy of PF Registration
 - 2d) Copy of Aadhar card



Implementation Procedure

ANNEXURE - I(a)

UNDERTAKING

(Undertaking to be signed by the M.D./CEO/Authorized Signatory of the QCA on Rs. 200 stamp paper duly notarized)

I/We undersigned (Name of QCA),	(Name),(Pagistored Office Address) read
examine and understand detail "Gujarat Electricity Scheduling, Deviation Settlement and Related Matters Regulations, 2019" and its amendment, if any and processing the settlement of the settle	Regulatory Commission (Forecasting, of Solar and Wind Generation Sources)
QCA Registration Unique Identification Code Number	er & Date:
I/we certify that all information furnished herewith is/are belief.	true to the best of my/our knowledge and
I/We declare that Our QCA functionality shall be strictly in thereof and there shall no deviation. Further, I/we also detail regulation and procedure thereof, our QCA regist assigning any reason thereof.	agree that any failure in regards to the
I/We hereby also confirm that:	
I/We hereby agree for the all terms and conditions of a an agreement with all the generators connected to the second control of the	
For	
Wind / Solar generating pooling station (name): Wind / Solar generating pooling station Installed Capacitation	itv:
Numbers of windmills / invertors in pooling station:	
Injection at KV level of pooling station: Connected at a sub-station of Distribution company /ST	II /CTII (name):
Contract Period: to	5 / 5 / 5 (marrie).
List of generators connected to the pooling station	along with installed capacity for which

Sr. No.	Customer Name	Numbers of Windmills / Inverter	Contact Person	Contact No & Email ID	Capacity in MW
1					
2					
				Total Capacity	

Declaration: All that is stated in the above is true and correct.

consent is obtained:



Implementation Procedure

For and on behalf of the QCA (Firm /Company / Agency)

Signature & Seal of Company,	
Name:	
Designation:	
Address:	

Signed and seal in the presence of witness.

1.	Signature
2.	Signature Name Designation Occupation

Implementation Procedure

ANNEXURE - I(b)

Consent & Authorization Letter from Wind / Solar Generator for Appointment of QCA

_				Date:	
State Loa 132kV Go Near T.B. Gotri Roa	of Engineer, and Despatch Center Sub Station (Control of the Indian Control of the India				
and Relat	ed Matters of So	as per Hon'ble GEl lar and Wind Genera ocedure thereof	,	•	
Respecte	d Sir,				
pooling sing singuished Settlemer Solar and processing the Kindly finds	tation have decing taking the coordinating of the coordinating of the coordinating the coordination of the	ou that we as the Winded to exclusively a Agency (QCA) (Forecasting, Scheolon Sources) Regularials of our capacity of months video	appoint for Forecasting duling, Deviation tion, 2019 and it	g, Scheduling and Settlement and Rel s amendment time (Name) pooling	only as the d Commercial ated Matters of to time, if any.
Sr. No.	Customer Name	Numbers of Windmills / Inverter	Contact Person	Contact No & Email ID	Capacity in MW
1					
				Total Capacity	
	d like to state tha	t henceforth the role		(Name) CA (Name).	pooling station
Address: Phones (0 Contact F	O): Person2:	, (M):	, (E-Mail		

Implementation Procedure

This is for your kind information and records.

Regards,

Signed and seal by RE Generator of Pooling station

< <sign authority="" of="">></sign>	< <name &="" agency="" company="" firm="" of="" sealed="">></name>
< <signing authority="" name="">></signing>	
< <signing authority="" designation="">></signing>	

Implementation Procedure

NON JUDICIAL STAMP PAPER OF RS. 100/-

FORM OF BANKER'S UNDERTAKING

FORMAT FOR THE UNCONDITIONAL AND IRRECOVABLE BANK GURANTEE FOR QUALIFIED CO-ORDINATING AGENCY OR QCA

To, Chief Engineer, SLDC, GETCO Gotri Road, Vadodara	BG. No. Issue Date Expiry Date Extended Claim Date Amount
n consideration of the	
We	uarantor Bank") hereby agree .DC at Vadodara forthwith on this behalf, any amount up to ert the amount of the bank
This Bank Guarantee shall be valid and binding on the Guaranton a right to seek encashment for a period up to 60 days from the sa and shall in no event be terminable by notice or any change in the term of the Agreement or by any other reasons whatsoever and one impaired or discharged by any extension of time or variations agreed with or without our knowledge or consent, by or betwagreement.	id Date (Date of Expiry of BG) constitution of the Bank or the bur liability hereunder shall not or alternations made, given, or
Our liability under this Guarantee is restricted to Rupees (Rs Our Guarantee shall remain in force until	[Insert Date of Expiry time up to sixty (60) days from
The BANK GUARANTEE can also be presented at the referred to as Local Branch at Vadodara] of the (Issuing	[hereinafter g Bank of BG) for its Invocation.



Implementation Procedure

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from the SLDC, made in any format, raised at the above-mentioned address or local branch at Vadodara of the Guarantor Bank, in order to make the said payment to the SLDC at Vadodara.

The Guarantor Bank shall make payment hereunder on first demand without demur and without raising any restriction or conditions and notwithstanding any objection [Insert name of Company] and/or any other person. The Guarantor Bank shall not require the SLDC to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against the SLDC in respect of any payment made hereunder. This BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly SLDC shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the >...... to make any claim against or any demand on the >...... or to give any notice to the >.....or to enforce any security held by SLDC or to exercise, levy or enforce any distress, diligence or other process against This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at Vadodara shall have exclusive jurisdiction. The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein. This BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring, liquidation, winding up, dissolution or any other change in the constitution of the Guarantor Bank. The Guarantor Bank hereby agrees and acknowledges that the SLDC shall have a right to invoke this Bank Guarantee either in part or in full, as it may deem fit. Any Demand made by SLDC on the Guarantor Bank or its Local Branch...... (Name and Address of the Branch) at Vadodara shall be conclusive and binding not withstanding any difference between SLDC and _____[Name of Company] or any dispute pending before any Court, Tribunal, Arbitrator or any other Authority. Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs. (Rupees. only) and it shall remain in force until[Insert date of validity of BG], with an additional claim period of sixty (60) days from the last date of the validity of this Guarantee i.e [Date of Expiry of BG + 60 days]. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if the SLDC serves upon us a written claim or demand. In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this



..... day of at at

Implementation Procedure

Witness:	
1	Signature
Name and Address.	•
	Name:
2	Designation with Bank Stamp
Name and Address	
	Attorney as per power of attorney No

Implementation Procedure

ANNEXURE - 'X1'

Self or Lead RE Generator Registration Information Form

Sr. No.	Description	Consent / Details
1	Registration apply for	RE Generator Pooling Station Registration.
2	Registration for	Wind Generation OR
		Solar Generation
3	Name Of Firm	
	Primary Business	
	(Key Words)	
4	Name Of Chairman / MD / CEO Of the Firm	
	Designation	
	Address of Registered Office of Firm	
	Address of Communication of Firm	
	Telephone / Mobile No.	
	Fax No.	
	E - Mail address	
	Website link	
	Aadhar card details:	
5	Name Of Authorized Person Of the Firm	
	Designation	
	Address of works / field	



<u>Implementation Procedure</u>

	Telephone / Mobile No.	
	Fax No.	
	E - Mail address	
	Website link	
	Aadhar card details:	
6	GST Registration No. & Date.	
7	PAN No. & Date	
8	PF Registration No. & Date	
9	Bank Account Details of Self or Lead RE Generator Firm for handing DSM Mechanism	
	Name Of The Bank	
	IFSC Code	
	A/C No	
	Bank Address	

I/We agree for the Gujarat Electricity Regulatory Commission (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019 and as amended from time to time and procedure thereof.

Seal of the Firm	Signature of Authorized representative of
	Company / Agency
Place: Date:	NAME:
	STATUS:
	Name of Company / Agency:



<u>Implementation Procedure</u>

Note:

- 1) RE Generator must fill up above details & should place at the top of the Documents.
- 2) Following documents needs to be submitted herewith by RE Generator applicant.
 - 2a) Copy of GST Registration.
 - 2b) Copy of PAN
 - 2c) Copy of PF Registration
 - 2d) Copy of Aadhar card

Implementation Procedure

ANNEXURE - 'Y1'

Self or Lead RE Generator Registration Form

Sr. No.	Description	Consent / Details
1	Registration applied for	RE Generator Pooling Station Registration.
2	Self or Lead RE Generator Registration Number & Date (Provided by SLDC)	
3	Registration for	Wind Generation OR Solar Generation
4	Wind / Solar generating pooling station name: (Name of wind pooling station / solar plant)	
	Wind / Solar generating pooling station Installed Capacity:	
	Numbers of windmills / invertors in pooling station:	
	Injection at KV level of pooling station:	
	Connected at a sub-station of Distribution company / STU / CTU name:	
	Contract Period / PPA Period:	From Date
		To Date
5	Details of Payment Security (Pooling station wise)	
	Wind Generation BG / Revolving LC	
	MW Capacity	
	Total Amount	
	Solar Generation BG / Revolving LC	



<u>Implementation Procedure</u>

MW Capacity	
Total Amount	

I/We agree for the Gujarat Electricity Regulatory Commission (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019 and as amended from time to time and procedure thereof.

Signed and seal by RE Generator / Pooling station

1	
l	

Signature	<< Name & Sealed of Firm / Company / Agency>>
Name	
Designation	
Contact Details	
Occupation	
Installed Capacity	

2.

Signature	< <name &="" agency="" company="" firm="" of="" sealed="">></name>
Name	
Designation	
Contact Details	
Occupation	
Installed Capacity	



<u>Implementation Procedure</u>

ANNEXURE - I(a1)

UNDERTAKING

(Not applicable in case of Self RE Generator. However, applicable in case of Lead RE Generator only)

(Undertaking to be signed by the M.D./CEO/Authorized Signatory of the QCA on Rs. 200 stamp paper duly notarized)

I/We undersigned (N	lame),
I/We undersigned (Name of Lead RE Generator), Address), read, examine and understand detail "Guja"	(Registered Office
Address), read, examine and understand detail "Guja	arat Electricity Regulatory Commission
(Forecasting, Scheduling, Deviation Settlement and	
Generation Sources) Regulations, 2019" and its amenda	nent, if any and procedure thereof.
I/we certify that all information furnished herewith is/are to belief.	ue to the best of my/our knowledge and
I/We declare that Our Lead RE Generator functionality sh	nall be strictly in line with detail regulation
and procedure thereof and there shall no deviation. Fur	
regards to the detail regulation and procedure thereof, or	
be out rightly rejected without assigning any reason there	eof.
I/We hereby also confirm that:	
I/We hereby agree for the all terms and conditions of all	pove regulation and I/We have entered
an agreement with all the generators connected to t	
Lead RE Generator.	
For	
Wind / Solar generating pooling station (name):	
Wind / Solar generating pooling station Installed Capacity	v (combine):
Numbers of windmills / invertors in pooling station:	(
Injection at KV level of pooling station:	
Connected at a sub-station of Distribution company /STU	J /CTU (name):
Contract Period: to	
List of generators connected to the STU / Dsicom /	pooling station along with installed
capacity for which consent is obtained:	

Sr. No.	Customer Name	Numbers of Windmills / Inverter	Contact Person	Contact No & Email ID	Capacity in MW
1					
2					
				Total Capacity	



<u>Implementation Procedure</u>

Declaration: All that is stated in the above is true and correct.

For and on behalf of the Lead RE Generator (Firm /Company / Agency)

Signature & Seal of Company,	
Name:	
Designation:	
Address:	

Signed and seal in the presence of witness.

1.	Signature Name Designation Occupation
2.	Signature Name Designation Occupation

<u>Implementation Procedure</u>

NON JUDICIAL STAMP PAPER OF RS. 100/-

FORM OF BANKER'S UNDERTAKING

FORMAT FOR THE UNCONDITIONAL AND IRRECOVABLE BANK GURANTEE FOR SELF RE GENERATOR OR LEAD RE GENERATOR

To, Chief Engineer, SLDC, GETCO Gotri Road, Vadodara	BG. No. Issue Date Expiry Date Extended Claim Date Amount
In consideration of the	for
We	uarantor Bank") hereby agree DC at Vadodara forthwith on this behalf, any amount up to ert the amount of the bank
This Bank Guarantee shall be valid and binding on the Guarantor a right to seek encashment for a period up to 60 days from the sai and shall in no event be terminable by notice or any change in the term of the Agreement or by any other reasons whatsoever and be impaired or discharged by any extension of time or variations agreed with or without our knowledge or consent, by or betwagreement.	id Date (Date of Expiry of BG) constitution of the Bank or the bur liability hereunder shall not or alternations made, given, or
Our liability under this Guarantee is restricted to Rupees (Rs Our Guarantee shall remain in force until	[Insert Date of Expiry time up to sixty (60) days from
The BANK GUARANTEE can also be presented at the referred to as Local Branch at Vadodara] of the (Issuing The Guarantor Bank hereby expressly agrees that it shall not require written demand from the SLDC, made in any format, raised at the	uire any proof in addition to the

Implementation Procedure

local branch at Vadodara of the Guarantor Bank, in order to make the said payment to the SLDC at Vadodara.

at Vadodara. The Guarantor Bank shall make payment hereunder on first demand without demur and without raising any restriction or conditions and notwithstanding objection [Insert name of Company] and/or any other person. The Guarantor Bank shall not require the SLDC to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against the SLDC in respect of any payment made hereunder. This BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly SLDC shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the >....., to make any claim against or any demand on the >..... or to give any notice to the >.....or to enforce any security held by SLDC or to exercise, levy or enforce any distress, diligence or other process against This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at Vadodara shall have exclusive jurisdiction. The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein. This BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring, liquidation, winding up, dissolution or any other change in the constitution of the Guarantor Bank. The Guarantor Bank hereby agrees and acknowledges that the SLDC shall have a right to invoke this Bank Guarantee either in part or in full, as it may deem fit. Any Demand made by SLDC on the Guarantor Bank or its Local Branch...... (Name and Address of the Branch) at Vadodara shall be conclusive and binding not withstanding any difference between SLDC and _____[Name of Company] or any dispute pending before any Court, Tribunal, Arbitrator or any other Authority. Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs. (Rupees. only) and it shall remain in force until from the last date of the validity of this Guarantee i.e_____ [Date of Expiry of BG + 60 days]. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if the SLDC serves upon us a written claim or demand. In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this day of at



Implementation Procedure

Witness: 1	Signature
Name and Address.	3
	Name:
2	. Designation with Bank Stamp
Name and Address	
Atto	rney as per power of attorney No

Letter of Credit format for QUALIFIED CO-ORDINATING AGENCY (QCA) / SELF RE GENERATOR OR LEAD RE GENERATOR

SFMS Details Date:_____

: 40A	Form of Documentary Credit IRREVOCABLE
: 20	Documentary Credit No.
: 31 C	Date of Issue yyyyy/mm/dd
: 40E	Applicable Rules UCP Latest Version
: 31 D	Date and Place of Expiry yyyy/mm/dd INDIA
: 51A	Application Bank (Full Address)
: 50	Name and Address of the Applicant
: 59	Name and Address of the Beneficary State Load Despatch Center 132 kv Gotri Sub Station Campus,Opp. Kalpvruksh Building Gotri,Vadodara-21
: 32 B	Currency code, Amount INR,
: 39A	Perentage Credit Amount Tolerance 0/0
: 41A	Credit Availabile with By State Bank of India Old Padra Road, Shreejal Building, Vadodara IFSC Code: SBIN0010687
: 42C	Drafts at At Sight
: 42A	Drawee LC Issuing Bank
: 43P	Partial Shipments

Allowed

: **43T** Transshipment Allowed

: 44A Shipment from

NA

: 44B Shipment to

NA

: 44C Latest Date of Shipment

yyyy/mm/dd (Expiry Date of LC)

: 45A Description of Goods and/or Services

110% of deviation charges of(name of pooling station/ solar generator) of installed capacity of ____ MW registered at GEDA and SLDC.

: 46A Documents Required

Photocopy of the Invoice

- : 47A Additional Conditions
 - 1. All Documents must be in English
 - 2. Negotations under this credit is available with State Bank Of India, O.P.Road Branch, Vadodara
 - 3. Negotiating Bank shall send the complete set of Documents in one lot to______ (LC Issuing Bank and Address)
 - 4. Our Documentary Credit No. and date must be quoted on all documents
 - 5. This is a irrevocable letter of credit which revolves automatically for the LC amount for the next set of documents as soon as the negotiation of present set of documents is over and is valid upto DATE OF EXPIRY for submission of documents for negotiation to the bank
 - 6. This LC will be automatically reinstated to its face value after payment of each presentation
 - 7. If the payment to our banker is not made at sight of documents, Interest @ 1.25 % per month would be payable
- :71B Charges

All Bank Charges/ Fees including that of Beneficaries Bank are to the account of Applicant

: 48 Period of Presentation

Within Validity of the LC

: 49 Confirmation Instruction

Without

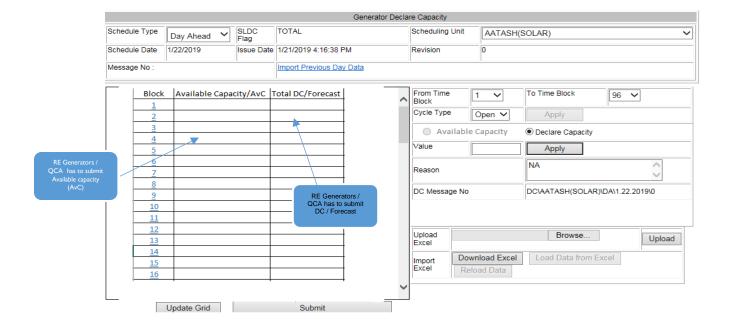
: 57 A Credit to be advised to the Beneficary thorugh (Bank)

State Bank of India Old Padra Road, Shreejal Building, Vadodara

IFSC Code: SBIN0010687

Implementation Procedure

Annexure - 2



\$\frac{1}{2} \\ \frac{3}{3} \\ \frac{4}{4} \\ \frac{5}{5} \\ \frac{6}{6} \\ \frac{7}{8} \\ \frac{9}{10} \\ \frac{11}{11} \\ \frac{12}{13} \\ \dots \dots \\ \dots \dots \\ \do		_	Location of STU (GETCO) Sub Station co-ordinates					
	STU (GETCO) Sub Station Name - Connected with Wind farm Pooling Station (I.e. GETCO S/S Name)	Voltage level (KV) of STU (GETCO) Sub Station	Latitude (Degrees Minutes Seconds)	Longitude (Degrees Minutes Seconds)	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)		
1								
4								
5								
6								
7								
8								
9								
10								
11								
13								
•••								
•••								
•••								

Note: Following details/ documents are required to be attached herewith.

- 1. Power Curve in tabular and graphical form
- 2. Single line Diagram of Switchyard (with location of CB, Iso etc.)
- 3. Single line / Schematic Diagram of wind farm (WTG connection to pooling station)
- 4. Any other documents as per above format requirement, as applicable

Annexure 1.1	Static Data / I	Details For V	Vindfarm					
					Details of WTG plant owner			
Sr. No.	Name of Wind Developers	Data Provided By	Pooling Station Name	Voltage level (KV) of windfarm pooling sation (Injection point)	Name & Address	Village / Area	District	
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
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		TURBINE-MODEL	Location No. of	Details of WTGs capacity connected to the pooling station						Type of	Sub Type of WTG , if any
Sr. No.	Make of WEG (TURBINE MAKE)	(Example S88, S111, S120, S128, SG 2.1-114, G58/850, GWL 225, GWL 750, T600-48, VENSYN 77, AE-59, PSWL 1250 PSWL 900 etc.) This is a example,however, please add TURBINE-MODEL for respective WTG as per actual site Location		Capacity of each WTG in (MW)	GEDA WTG No.	Total Capacity (MW)	Swept Area of Wind Turbine Generator (Sq M)	Height of Wind Turbine Generator (M)	Wind Turbine	(whether Induction type	(i.e. squirrel cage induction generator, doubly feed induction generator etc)
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		Date of Commissioning of WTG			Location of WTG						
Sr. No.	Design (Motion) of WTG (Fixed OR Rotating)	DD (Date)	MM (Month)	YYYY (Year)	Latitude (Degrees Minutes Seconds)	Longitude (Degrees Minutes Seconds)	Latitude (Decimal degrees)	Longitude (Decimal degrees)			
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							Details of LVRT at WTGs						
Sr. No.	Cut in Speed (m/s)	Rate output wind speed (m/s)	Cut out Speed (m/s)	power coefficien t (Cp)	Elevation (MSL) at which turbine is installed (M) (Above Mean Sea Level)		Whether WTG is eligible for LVRT (Yes or No) (Stall type and less than 500 KW WTG Installed capacity is exmpted)	Whether WTG is equiped with LVRT (Yes or No)	If No. then State the reason	C	cted date o ommissioni DD MM YYY	ng	
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	Weather Sensor Installed at windfarm (Yes/No) And												
		Nos. of weather sensor installed											
Sr. No.	Weather sensor for Wind Speed installed at pooling sation (Yes or No)	at respective	Make/model of the Wind Speed sensors	Date of commissioning of wind speed weather sensors (DD MM YY)	Weather sensor at respective WTG for Wind Direction (Yes or No)	Weather sensor at respective WTG for Temperature (Yes or No)	Weather sensor at respective WTG for Humidity (Yes or No)	Weather sensor at respective WTG for Pressure	Weather sensor at respective WTG for Air Density				
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Annexure 1.1	Static Data / Details For	Windfarm		
	R	PO and REC Details		
Sr. No.	RPO Baneficiary GUVNL / (DISCOM) - PGVCL/ UGVCL / MGVCL / DGVCL / TAECO / TSECO / TEL / KPT / NO PPA / Captive Use (Wheeling) / Third Pary	WTG under REC Mechanisum (Yes / No)	Who availing green attributes (GUVNL, IPP??)	
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		Location of Po	ooling Station		Connectivity t	to Sub SLDC / SLDC	
Sr. No.	Latitude (Degrees Minutes Seconds)	Longitude (Degrees Minutes Seconds)	Latitude (Decimal degrees)	Longitude (Decimal degrees)	RTU+Comm. available at pooling station (Yes/No)	RTU+Comm. available (Yes/No) If yes then comm. Types i.e. Radio Modem, GSM/GPRS, Leas Line, PLCC, Fiber etc.	ABT OR ABT+MODEM available at Pooling station level (Yes/No)
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		Det	tails of ABT	Meter		Date of Ins	tallation of	ABT Meter				of AMR (Au eter Readin		
Sr. No.	ABT Meter No.	ABT Meter Make	ABT Meter Location (Line / Transfor mer)	Injection side (Pooling station) or Receiving Side (STU S/S)	Accounting done by meter located on	DD (Date)	MM (Month)	YYYY (Year)	Connected CT ratio	Connected PT ratio	AMR available at Pooling station level (Yes/No)	Whether Single or Double Sim	Modem Number	Wind Generation Power curve Specification
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			OTHER DETAILS		
Sr. No.	Details of Agreement	Whether Any PPA has been Signed (Y/N), If Yes then Please attached Soft Copy.	Data Acquisition System Facility for Transfer Data to SLDC Available (Y/N).	Generator Forecasting Tools (Software) Available (Y/N), If Yes Then Give Details.	Daily Forecast (Y/N), If Yes then Give the Details Of QCA with Concern Person Name, Contact No & Emai Id With Authorised Letter from RE Gen.
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Annexure 1.2	Desirable Static Data / De	etails For Solar Plant	Location of STU (GETCO) Sub Station co-ordinates					
Sr. No	STU (GETCO) Sub Station Name - Connected with Solar Plant Switchyard (I.e. GETCO S/S Name)	Voltage level (KV) of STU (GETCO) Sub Station	Latitude (Degrees Minutes Seconds)	Longitude (Degrees Minutes Seconds)	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)		
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Note: Following details/ documents are required to be attached herewith.

- 1. Power Curve in tabular and graphical form
- 2. Single line Diagram of Switchyard (pooling sation) (with location of CB, Iso etc.)
- 3. Single line / Schematic Diagram of solar plant (Module & Inverter connection to pooling station)
- 4. Any other documents as per above format requirement, as applicable

illiexure 1.2	Static Data / Details					ls of Solar Developer / Ition for technical mat			
Sr. No	Full Name of Solar Developer / Plant	Village / Area	District	Communication Address (Register Office Address & Field Office Address)	Contact Persons Name (Contact person at Register Office & Field Office)	Solar Plant Control Room Contact No.	Mob No. (Contact person at Register Office & Field Office)	E-mail ID (Contact person at Register Office & Field Office)	
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Innexure 1.2	Static Data / Details For	Location of Solar plant Switchyard (pooling station)					
Sr. No	Voltage level (KV) of Solar Plant Switchyard	Latitude (Degrees Minutes Seconds)	Longitude (Degrees Minutes Seconds)	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)		
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Annexure 1.2 Static Data / Details For Solar Plant **Location of solar Plant co-ordinates** (4 corners of plant OR corners as per plant location 5,6 etc...) Sr. No Latitude Longitude Longitude Latitude Altitude of the (Decimal (Decimal Latitude Longitude (Degrees (Degrees location in Meter (Decimal (Decimal Degrees) Degrees) Minutes Minutes (Above Mean Sea Degrees) Degrees) Level (amsl)) Seconds) Seconds) Central of plant Central of plant 1 2

Annexure 1.2	Static Data /	Details For Sol	ar Plant					
				Details of capacity				
Sr. No	Total Solar Plant Installed capacity (MW) DC	Total Solar Plant Installed Capacity (MW) (Equavent AC)	Capacity of module (Watt) DC	Nos. of Solar Module	Nos. of Solar Array	Installed Capacity (W) DC	Installed Capacity (MW) DC	
1								
2								

Annexure 1.2	Static Data / Details For Solar I	Plant		
		Details Solar PV Mo	dule / Panel	
Sr. No	Make of Solar module (i.e. Manufatured company name)	Model No	ALBEDO ("Albedo is the whiteness of a surface. It is a reflection coefficient, and has a value of less than one. Albedo is derived from Latin albedo "whiteness" (or reflected sunlight) in turn from albus "white", is the diffuse reflectivity or reflecting power of a surface.)	Type of PV module material (i.e. Csi / ThinFilm Technology etc.) (Multi/mono/poly/amorphou s si/Pv cell -Cd Te / CiGS etc.)
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Annexure 1.2	Static Data / Details For Solar F Tracker Technology of solar array	Plant		Installation of solar arra	у	
Sr. No	(whether Fixed (Fixed Tilted Plane), Single Axis (Seasonal tilt adjustment), Dual Axis (Two axis tracking) etc.	If Fixed (Angle in Degree)	If Dual Axis (Two axis tracking) Tilt Limit	If Dual Axis (Two axis tracking) Azimuth Limit	If Single Axis (Seasonal tilt adjustment) (If the tilt is during day, then information of full day wise tilt angles. / If the tilt is seasonally changed, then information of all seasonal tilt angles along with the date on which it is changed.)	
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Annexure 1.2	Static Data / Details For Solar	Plant						г	
			Details of Invert	er					
Sr. No	Make of Inverter (i.e. Manufatured company name)	Inverter Model No	Type of Inverter (Central, String, Micro etc.)	Capacity of Inverter (KW) DC	Capacity of Inverter (KW) AC	Nos. of Inverter	Total Capacity (KW) AC	Total Capacity (MW) AC	
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Annexure 1.2	Date of Co	mmissioning o	For Solar Plant Fort of Solar Fortion Date as	Date of Commissioning of Switchyard					
Sr. No	capacity o (MV (Sum of capacity s' total pla	se Installed of Solar Plant W) DC phase wise hall equal to nt installed pacity)	DD (Date)	MM (Month)	YYYY (Year)	DD (Date)	MM (Month)	YYYY (Year)	
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Annexure 1.2 Static Data / Details For Solar Plant Weather Sensor Installed at Plant (Yes/No) **Solar Module Specification** And Nos. of weather sensor installed Sr. No Type: Global Module Weather sensor Date of Nos. of weather Horizontal Make/model of Module Efficiency | Temp. Coff. Pmpp for irradiance / Temperature as commissioning sensor of Panel Area (m²) irradiance, the irradiance per Specification (%/°C) radiation of solar weather irradiance / (%) **Global Tilted** sensors of Plant (°C) (Yes / No) sensors radiation irradiance etc. 1 2

Annexure 1.2 Static Data / Details For Solar Plant Weather Sensor Installed at Plant (Yes/No) And Nos. of weather sensor installed Sr. No Direct Date of Nos. of Make/model Diffuse Date of Nos. of weather Make/model of irradiance commissioning weather of the irradiance commissioning sensor of the irradiance of solar sensor of weather of solar weather irradiance / irradiance weather sensor irradiance / sensors weather sensor (Yes / No) radiation sensors sensors (Yes / No) sensors radiation 1 2

Annexure 1.2 Static Data / Details For Solar Plant Weather Sensor Installed at Plant (Yes/No) And Nos. of weather sensor installed Sr. No Nos. of Nos. of Nos. of Nos. of Weather Weather Weather Nos. of Nos. of Weather weather weather weather Weather Weather sensor / Weather sensor for sensor for weather sensor / weather sensor for Measurement for sensor of sensor of sensor of sensor for sensor for Wind Temperatu Measurement sensor of sensor of Wind Speed Wind Wind Humidity **Cloud Cover** Rainfall Temperatu Direction Humidity for Cloud Rainfall Speed Direction re Cover 1 2

Annexure 1.2	Static Data / Details For Sc	olar Plant								
	OTHER DETAILS									
Sr. No	Details of Agreement	Whether Any PPA has been Signed (Y/N), If Yes then Please attached Soft Copy.	Data Acquisition System Facility for Transfer Data to SLDC Available (Y/N).	Generator Forecasting Tools (Software) Available (Y/N), If Yes Then Give Details.	Daily Forecast (Y/N), If Yes then Give the Details Of QCA with Concern Person Name, Contact No & Email Id With Authorised Letter from RE Gen.					
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				Details of Inverter					
Sr. No	STU (GETCO) Sub Station Name - Connected with Solar Plant Switchyard (I.e. GETCO S/S Name)	Total Solar Plant Installed capacity (MW) DC	Make of Inverter (i.e. Manufatured company name)	Type of Inverter (Central, String, Micro etc.)	Capacity of Inverter (KW) DC	Capacity of Inverter (KW) AC	Nos. of Inverter	Total Capacity (KW) AC	Total Capacity (MW) AC
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	Details of solar plant capacity									
Sr. No	Capacity of module (Watt) DC	Nos. of Solar Module per Array	Nos. of Solar Array	Nos. of Solar Array per String (1 String = Connection of Nos. of array in series)	Nos. of Solar String (=Nos. of solar Inverter)	Total Nos. of Solar Module	Installed Capacity (W) DC	Installed Capacity (KW) DC	Installed Capacity (MW) DC	
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	Details Solar PV Module / Panel		Tracker Technology of solar array	Installation of solar array (string)				
Sr. No	Make of Solar module (i.e. Manufatured company name)	Type of PV module material (i.e. Csi / ThinFilm Technology etc.) (Multi/mono/poly/amorphou s si/Pv cell -Cd Te / CiGS etc.)	(whether Fixed (Fixed Tilted Plane), Single Axis (Seasonal tilt adjustment), Dual Axis (Two axis tracking) etc.	If Fixed (Angle in Degree)	If Dual Axis (Two axis tracking) Tilt Limit	If Dual Axis (Two axis tracking) Azimuth Limit	If Single Axis (Seasonal tilt adjustment) (If the tilt is during day, then information of full day wise tilt angles. / If the tilt is seasonally changed, then information of all seasonal tilt angles along with the date on which it is changed.)	
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Sr. No	Date of Commissioning of	Part of Solar	Date of Commissioning of Switchyard				
	Phase wise Installed capacity of Solar Plant (MW) DC (Sum of phase wise capacity shall equal to total plant installed capacity)	DD (Date)	M / MM (Month)	YYYY (Year)	DD (Date)	M / MM (Month)	YYYY (Year)
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Sr. No	Nos. of Solar Inverter	Whether Solar Inverter (connected to solar string / array) eligible for LVRT (Yes or No)	Whether Inverter is equipped with LVRT (Yes OR No OR Partial)	Nos. of Solar	Provision MW of Solar Inverter equipped with LVRT	If Solar Inverter NOT equipped with LVRT, then State the reason	Expected date of LVRT commissioning
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