

ಭಾಗ ೧

ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ, ಮೌಲ್ಯವಾರ, ೧೯, ಕಿಂಬರ್, ೨೦೨೨

ದಿನಾಂಕ:

| | | | | | | | |
|-----|----------------|------------------------|--------------|-------------------|--------------------|----------|-----------------------------|
| 14. | Discovery | No Registration Number | Black & Blue | MD2DSJZZU WD20318 | JZMBUD23325 | 193/2022 | 117(A) /2022 Date: 15/10/22 |
| 15. | Suzuki Max 100 | No Registration Number | Black & Red | 807F178570 | 1807M 184958 | 193/2022 | 117(A) /2022 Date: 15/10/22 |
| 16. | TVS XL | No Registration Number | Black | - | MD621CP10G2H2 4996 | 193/2022 | 117(A) /2022 Date: 15/10/22 |

Date: 13/12/2022

Place: Tumakuru

(Smt. Lathashree, B.V.)
1st Addl Civil Judge and JMFC

PR-1363

Karnataka Electricity Regulatory Commission
No. 16, C-1, Millers Tank Bed Area, Vasanth Nagar,
Bengaluru, 560 052, Karnataka, India
E-mail: kerc-ka@nic.in Phone no.: 080 - 22268675/677

File No. CT/01/15(Vol-III)/1956

Date: 13.12.2022

The Karnataka Electricity Regulatory Commission (**Forecasting, Scheduling, Deviation settlement and related matters for Wind and Solar Generation sources**)
(**First Amendment**) Regulations, 2022.

Preamble:

The Commission, in exercise of the powers conferred by the Clause (zp) of sub-section (2) of Section 181 of the Electricity Act, 2003 (Central Act 36 of 2003,) had issued the Karnataka Electricity Regulatory Commission (Forecasting, Scheduling, Deviation settlement and related matters for Wind and Solar Generation sources) (RE DSM) Regulations, 2015 with a view to facilitate large scale integration of wind and solar energy while maintaining the grid stability, reliability and security as envisaged under Grid Code, through forecasting, scheduling and commercial mechanism for deviation settlement of Wind and Solar generators. The Karnataka SLDC has been issuing bills for deviation settlement from December, 2018, onwards.

The Commission has received letters from QCAs, generators and SLDC highlighting various issues faced by them during implementation of the Regulations in the State. The Commission has received requests from various QCAs and generators in the State for non-imposition of DSM charges in case the curtailment orders are issued by the SLDC. Further, the Commission has also received requests from the QCAs for change in the present methodology for computation of DSM charges by the QCAs by aggregating schedules of different pooling stations to enable larger geographical integration, as most of the generators, after realizing advantage of aggregation are now inclined to such QCAs having large capacity irrespective of their performance.

Further, it was also submitted that the QCAs who are being permitted to get registered for RE generators in their pool without clearing existing dues on account of deviation charges to the State Pool Account are contributing in defeating the purpose of forecasting and scheduling framework of KERC Regulations, which further encourages such QCAs to increase the pool size capacity further without clearing their existing dues and without abiding to compliances thereby overburdening the State Pool Deviation Account.

Thus, after analysing various issues raised by the generators and the SLDC from time to time and the Regulations issued by other States in this regard, the draft Regulations were notified by the Commission in the Karnataka State Gazette on 18th August, 2022. Subsequently, the Commission held a Public Hearing on Thursday, 13th October, 2022 at 11:00am in the Commission's office for the stakeholders to submit their comments / views / suggestions / objections if any, before the Commission. The Commission had received suggestions/objections/comments from various stakeholders in the matter. The Commission after analysing all the suggestions/objections/comments submitted by various stakeholders, has decided to amend the existing RE DSM Regulations:

In the draft amendment, the Commission had proposed to delete the word 'Aggregator' as the word QCA and Aggregator was used interchangeably owing to the fact that the scope of work was similar and thus, was creating

confusion. However, the facility of aggregation of schedules at the QCA level has still been retained by the Commission.

Further, as regards specifying qualifying criteria for QCAs, it may be noted that in accordance with the Regulations, generators can select any QCA who would be forecasting and representing the pooling sub-station on their behalf. Also, any generator can also function as a QCA for a particular pooling station. Thus, it is for the generators to select a QCA having proper qualification and experience, forecast technique, control room and strong financials.

The Commission notes that many stakeholders have requested the Commission to include wind and solar hybrid projects under the ambit of RE DSM regulations. Further, the CERC in its (Deviation Settlement Mechanism and Related Matters) (CERC DSM) Regulations, 2022, has defined the 'WS seller' as a seller based on wind or solar or hybrid of wind-solar resources. However, the hybrid projects are at a nascent stage and none of the State Commissions have included hybrid projects under the ambit of DSM Regulations as the generation profile of a hybrid plant is different than that of generation profiles of either solar or wind power projects. Thus, generation profiles and other technicalities need to be assessed before including hybrid projects under the ambit of these Regulations.

As regards arriving at an acceptable deviation range, it may be noted that the KERC (Forecasting, Scheduling, Deviation settlement and related matters for Wind and Solar Generation sources) Regulations 2015 were introduced with an intention to facilitate large scale integration of Wind and solar power while maintaining the grid security. The band width of 15% adopted by the Commission in the original Regulations was in line with the CERC Regulations in the matter which were proposed by the Central Commission considering simulations and analytical inputs from agencies engaged in wind forecasting. The permissible band width of 15% deviation was arrived at based on one year of actual data from various sites across India, the error normalised to capacity was simulated. The pilot also reported a fairly high accuracy, with 87% of the

output energy within $\pm 10\%$ error and 94% within 15%. Accordingly, the permissible band width of 15% deviation were specified at par with the CERC Regulations. Now, the CERC in its (Deviation Settlement Mechanism and Related Matters) Regulations, 2022 dated 14th March, 2022 has narrowed the deviation range for the grid connected regional entities and other entities engaged in inter-State purchase and sale of electricity. For wind-solar generator, the range for deviating from the schedule by way of over injection and under injection, has been tightened to 5% and 10% respectively.

It may be noted that as on October, 2022, the aggregated RE installed capacity in Karnataka is 15860.91 MW which is approximately 50% of the total installed capacity in the State. Aggregation of forecasts of wind/solar generators at the QCA level have helped to reduce the forecasting error over the period. Hence, keeping in view the target to achieve 450 GW renewable energy installed capacity by 2030, the Commission, for the sake of grid security and in order to integrate maximum quantity of the RE generation, has proposed tightening of the permissible limit to $\pm 10\%$ which is reasonable, keeping in view the improvement in the forecasting techniques.

As regards the suggestion of applicability of the reduced exemption band to the new projects only and continuation of the existing band of $+/- 15\%$ for the existing projects for their project viability, it may be noted that the RE DSM mechanism was introduced to integrate maximum quantity of the RE generated, maintaining grid stability and encouraging the generators to adopt good forecasting technologies. Further, the benefits of aggregation of forecasts of different pooling stations and improved forecasting techniques, the Commission is not inclined to consider the suggestion of continuing with the exemption band of $+/- 15\%$ for the existing WS sellers while applying the reduced exemption band only for the new projects. Like any other Regulations, these Regulations are also subjected to change periodically, keeping in view the power sector dynamics. As such, the RE developers are expected to duly factor these factors while conceptualising a project.

Further, with regards to computation of DSM charges in absence of actual generation data, it is opined that the SLDC may inform the generators to furnish self-certified copy of actual generation for the said period. The SLDC shall compute the deviation percentage based on self-certified data furnished by the generators.

Now, therefore, in exercise of the powers conferred by Clause (zp) of sub-section (2) of Section 181 of EA, 2003 and all the powers in that behalf, the Commission hereby makes the following amendments to the **Karnataka Electricity Regulatory Commission (Forecasting, Scheduling, Deviation settlement and related matters for Wind and Solar Generation Sources) Regulations, 2015.**

1. Title and commencement. –

- This may be called the Karnataka Electricity Regulatory Commission (Forecasting, Scheduling, Deviation settlement and related matters for Wind and Solar Generation sources) (First Amendment), 2022.
- It shall come into force from the date of its publication in the Official Gazette of the Karnataka State.

In the KERC (Forecasting, Scheduling, Deviation settlement and related matters for Wind and Solar Generation Sources) Regulations, 2015, the existing Regulation as in column 2 shall be substituted by the Regulation as in column 3 as indicated below:

| Col. No. 1 Regu lation No. | Col. No. 2 Existing Regulation | Col. No. 3 Proposed Regulations |
|--|--|------------------------------------|
| 2(d) | 'Aggregator' means an entity registered with the SLDC/RLDC to provide aggregation of one or more services like providing schedules with periodic revisions as per this Regulations, being responsible for metering, data collection and transmission, communication, coordination with DISCOMs, RLDC, SLDC, RPC and other agencies, undertaking commercial | Deleted |

| | | |
|------|--|--|
| | <p>settlement of all the charges on behalf of wind and solar generators including payments to the regional / State UI pool accounts through the concerned RLDC/SLDC and undertaking of commercial settlement of any other charges on behalf of wind and solar generators as the case may be mandated from time to time. Aggregator may be one of the generators or any other mutually agreed agency registered with the SLDC;</p> | |
| 2(r) | <p>'Open Access Regulations' means the Central Electricity Regulatory Commission (Open Access in inter-State Transmission) Regulations, 2008 as amended from time to time;</p> | <p>'Open Access Regulations' means the KERC (Terms and Conditions for Open Access) Regulations, 2004 as amended from time to time;</p> |
| 2(u) | <p>'Qualified Coordinating Agency (QCA)' means an agency coordinating on behalf of, wind or Solar generators connected to a pooling station and shall be deemed to be a state entity. QCA may be one of the generator or any other mutually agreed agency responsible for the following purposes:</p> <ul style="list-style-type: none"> (i) Providing schedules with periodic revisions as per these Regulations, on behalf of all the wind and solar generators connected to the pooling station. (ii) Being responsible for metering, data collection & transmission, communication, coordination with DISCOMs, RLDC, SLDC, RPC and other agencies. (iii) Undertaking commercial settlement of all the charges on behalf of wind and solar generators including payments to the regional / State UI pool accounts through the concerned RLDC/SLDC. | <p>'Qualified Coordinating Agency (QCA)' means an agency coordinating on behalf of, wind or Solar generators connected to a pooling station and shall be deemed to be an Intra-state entity. QCA may be one of the generators or any other mutually agreed agency registered with the SLDC. Any company or body corporate or an association or body of individuals or an artificial juridical person, whether incorporated or not, shall be eligible to act as a QCA. QCA shall be responsible for the following purposes:</p> <ul style="list-style-type: none"> (i) Providing schedules with periodic revisions as per these Regulations, on behalf of all the Wind and solar generators connected to the pooling station. (ii) Being responsible for metering, data collection & transmission, communication, coordination with DISCOMs, RLDC, SLDC, RPC and other agencies. (iii) Undertaking commercial settlement of all the charges on behalf of wind and solar generators including payments to the regional/State UI pool accounts through the concerned RLDC/SLDC. |

| | | |
|-------|---|---|
| | (iv) Undertaking de-pooling of payments received on behalf of the wind and the Solar generators from the Regional / State UI pool and settling them with the individual generator. (v) Undertake commercial settlement of any other charges on behalf of generators as may be mandated from time to time; | (iv) Undertaking de-pooling of payments received on behalf of the wind and the Solar generators from the Regional / State UI pool and settling them with the individual generator. (v) Undertake commercial settlement of any other charges on behalf of generators as may be mandated from time to time; |
| 2(ab) | 'State Entity' means an entity which is in the SLDC control area and who's metering and energy accounting is done at the State level; | 'Intra-State Entity' means an entity operating within the State, coming under the control area of the SLDC. |
| 3.1. | Objective: The objective of these Regulations is to facilitate large scale integration of Wind and Solar power while maintaining the grid stability, reliability and security as envisaged under Grid Code, through forecasting, scheduling and commercial mechanism for deviation settlement of Wind and Solar generators. | No change. |
| 3.2 | Applicability: These Regulations are applicable to: (a) All Wind Generators having a combined installed capacity of 10 MW and above at the pooling station whether they are supplying power to the ESCOMs or to third party consumers through open access or for captive consumption through open access within or outside the State. (b) All Solar Generators with an installed capacity of 5 MW and above at the pooling station whether they are supplying power to the ESCOMs or to third party consumers through open access or for captive consumption through open access within or outside the State. | Applicability: These Regulations are applicable to: (a) All Wind Generators having a combined installed capacity of 10 MW and above at the pooling station or otherwise whether they are supplying power to the ESCOMs or to third party consumers through open access or for captive consumption through open access within the State. (b) All Solar Generators with an installed capacity of 5 MW and above at the pooling station or otherwise whether they are supplying power to the ESCOMs or to third party consumers through open access or for captive consumption through open access within the State. |

| | | |
|------|---|---|
| 4.1 | The existing wind and solar power plants shall, either by themselves or through a QCA or through an Aggregator establish forecasting tools and week-ahead, day-ahead forecasting & Scheduling to be furnished to SLDC within six months from the date of publication of these Regulations in the official Gazette. | The existing wind and solar power plants shall, either by themselves or through a QCA shall submit the week-ahead, day-head & intraday forecasts to SLDC in accordance with the provisions of these Regulations from the date of publication of these Regulations in the official Gazette. |
| 4.2. | All the new wind and solar generators which will be commissioned after six months from the effective date of these Regulations shall either by themselves or through a QCA or through an Aggregator, establish forecasting tools before commissioning of their plants and connecting to the State grid and week-ahead, day-ahead forecasting & Scheduling to be furnished with effect from effective date of these Regulations. | All the new wind and solar generators and connecting to the State grid, shall either by themselves or through a QCA, establish forecasting tools before commissioning of their plants and shall submit week-ahead, day-ahead & intra-day forecasts with effect from the date of commissioning of the project. |
| 4.3. | All the new wind and solar generators which will be commissioned within six months from the effective date of these Regulations and connecting to the State grid shall either by themselves or through a QCA or through an Aggregator, establish forecasting tools and week-ahead, day-ahead forecasting and Scheduling to be furnished to the SLDC with effect from six months from the effective date of these Regulations. | Deleted. |
| 4.4 | Alternately services of REMCs (Renewable Energy Management Centers) as may be set up in the state may be availed by both existing and new wind and solar generators for installing forecasting tools and forecasting their generation schedules. | Alternately services of REMCs (Renewable Energy Management Centers) set up in the state may be availed by both existing and new wind and solar generators for forecasting their generation schedules. |
| 4.5 | The forecast by the wind and solar generators shall be the wind-farm/solar facility centric and shall form the basis of the scheduling. | No change. |
| 4.6 | The wind and solar power generators connected to the State grid shall, either by themselves or through a QCA or through an Aggregator, furnish week-ahead, day- | The wind and solar power generators connected to the State grid shall, either by themselves or through a QCA, furnish week-ahead, day-ahead and intraday generation |

| | | |
|--|---|---|
| | <p>ahead and intraday generation schedules for each pooling-station or each generating-station as the case may be, by using respective forecasting tools at their wind-farm / solar facility centric to the SLDC. The day-ahead forecast shall include wind and solar energy generation forecast at regular intervals of 15 minutes' time block for the next day from 00:00 hours of the day for all the 96 numbers of 15 minutes' time blocks. Week ahead forecast shall contain the same information for the next seven days.</p> | <p>schedules for each pooling-station or each generating-station as the case may be, by using respective forecasting tools at their wind-farm/solar facility centric to the SLDC. The day-ahead forecast shall include wind and solar energy generation forecast at regular intervals of 15 minutes' time block for the next day from 00:00 hours of the day for all the 96 numbers of 15 minutes' time blocks. Week ahead forecast shall be submitted to the SLDC every day for the next seven days in the formats as prescribed by the SLDC.</p> |
| 4.7. | <p>The SLDC shall also undertake forecasting of wind and solar power that is expected to be injected into the State grid, by engaging a forecasting agency if required, with an objective of ensuring secure grid operation by planning for the requisite balancing resources, and any wind and solar generators will have the option of accepting such forecast for preparing their schedule or provide the SLDC with a schedule based on their own forecast.</p> | <p>The SLDC shall also undertake forecasting of wind and solar power that is expected to be injected into the State grid, by engaging a forecasting agency if required, with an objective of ensuring secure grid operation by planning for the requisite balancing resources, and any wind and solar generators will have the option of accepting such forecast for preparing their schedule or provide the SLDC with a schedule based on their own forecast.</p> |
| 4.8 (inclusion of a Provi- so) | <p>The wind and Solar generators either by themselves or through the Aggregators/QCAs may opt for aggregation of Forecasting and Scheduling of different pooling stations to enable larger geographical integration and furnish scheduling of integrated pools at 15 minutes' time block to SLDC, and in such case any pooling and depooling of the DSM charges shall be done only at their level.</p> | <p>The wind and Solar generators either by themselves or through the QCAs may opt for aggregation of Forecasting and Scheduling of different pooling stations to enable larger geographical integration and furnish scheduling of integrated pools at 15 minutes' time block to SLDC, and in such case any pooling and depooling of the DSM charges shall be done only at their level.</p> |
| 4.9. | <p>Frequency of Revisions: The wind and solar generators may revise the day ahead schedules for a maximum of 16 revisions during the intra-day, one each in one and half hour slot starting from 00.00 hrs and such revisions shall be effective from 4th time block, the first being the time-block in which notice was given. (For the revisions to</p> | <p>No change.</p> |

| | | |
|-------|---|--|
| | be effective from 4th time block, the notice shall be given in the first time block) | |
| 4.10. | Priority for Renewable Energy Sources generation schedule: The wind, solar power and other renewable energy sources shall be given first priority in generation scheduling and dispatching under normal power system operating conditions. | No change. |
| 4.11. | The Grid operator (SLDC) shall consider the forecasted wind and solar power generation in the midterm to long term, day-ahead and intra-day operation planning processes of scheduling and fully make use of the flexibility from conventional power plants as well as the capacity of inter grid tie-lines to accommodate the maximum wind and solar power while maintaining system security, stability and reliability. | No change. |
| 4.12. | All such generators currently responsible for connectivity, long-term open access and medium-term open access in intra-State transmission and related matters including long term agreements with ESCOMs on behalf of other wind and solar generators either by themselves or through a QCA or an Aggregator undertake all operational and commercial responsibilities of the wind and solar generating plants relating to forecasting, scheduling and commercial settlement. | All such generators currently responsible for connectivity, long-term open access and medium-term open access in intra-State transmission and related matters including long term agreements with ESCOMs on behalf of other wind and solar generators either by themselves or through a QCA undertake all operational and commercial responsibilities of the wind and solar generating plants relating to forecasting, scheduling and commercial settlement. |
| 4.13. | Any commercial impact on account of deviation from the schedule based on the forecast, shall be borne by the wind and solar generators, either directly or through the QCA or through the aggregator when transacted through such entities. | Any commercial impact on account of deviation from the schedule based on the forecast, shall be borne by the wind and solar generators, either directly or through the QCA when transacted through such entities. |
| 5.1. | Metering: SEMs (Special Energy Meters 0.2s class of accuracy) shall be provided at the pooling | Metering: SEMs (Special Energy Meters 0.2s class of accuracy) with AMR technology and having |

| | | |
|------|--|--|
| | <p>station of wind and solar power plants / at the inter face points of STU/ESCOMs, with a provision for recording and storing all the load survey and billing parameters for every 15 minutes' interval block period. Monthly meter readings shall be forwarded to the SLDC in addition to data acquisition through the SCADA, for energy accounting. The SEMs (Special Energy Meters 0.2s class of accuracy) shall be complying with the provisions of Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006.</p> | <p>IoT facility shall be provided at the pooling station of wind and solar power plants / at the inter face points of STU/ESCOMs, with a provision for recording and storing all the load survey and billing parameters for every 15 minutes' interval block period and transferring it to the SLDC. The monthly metering data shall be maintained in a database by QCA. The SEMs (Special Energy Meters 0.2s class of accuracy with AMR technology and having IoT facility) shall be complying with the provisions of Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 as amended from time to time.</p> |
| 5.2. | <p>Telemetry:</p> <p>Data telemetry shall be adopted at the turbine/inverter level. Parameters such as turbine availability, power output and real-time weather measurements (wind speed, temperature, pressure etc.) shall be provided by each Wind and Solar generator directly or through their QCA or Aggregator to the SLDC.</p> | <p>Telemetry:</p> <p>Data telemetry shall be adopted at the turbine/inverter level. Parameters such as turbine availability, power output and real-time weather measurements (wind speed, temperature, pressure etc.) shall be provided by each wind and solar generator directly or through their QCA to the SLDC.</p> |
| 5.3. | <p>Communication:</p> <ul style="list-style-type: none"> (i) The wind and solar generator or QCA or Aggregator whose scheduling is done by the SLDCs, shall provide full data telemetry and communication facilities to the SLDC. (ii) A preparatory window shall be provided by the SLDC to the wind and solar generator or their QCA or Aggregator to ensure installation of data measurement and telemetry equipment and for the SLDC to prepare its systems and teams for receipt of regular data and schedules. | <p>Communication:</p> <ul style="list-style-type: none"> (i) The wind and solar generator or QCA whose scheduling is done by the SLDCs, shall provide full data telemetry and communication facilities to the SLDC. (ii) A preparatory window shall be provided by the SLDC to the wind and solar generator or their QCA to ensure installation of data measurement and telemetry equipment and for the SLDC to prepare its systems and teams for receipt of regular data and schedules. |

| | Procedure for data telemetry and communication requirements: The SLDC shall evolve a detailed procedure for (i) Data telemetry and communication requirements, (ii) Standard procedures and necessary formats for furnishing forecasts and scheduling data to the SLDC and (iii) formats for furnishing details about specific turbine or Wind and Solar farm parameters, and publish them on their website to solicit public comments and seek approval of the Commission for such procedure requirements and formats within three months from the effective date of these Regulations. | Procedure for implementation of Regulations: Detailed procedure for implementation of these Regulations is enclosed as an annexure to these Regulations. |
|------|--|--|
| 6. | Compliance to Technical Standards: Every wind and solar generator shall comply with the technical standards such as for fault ride through, etc. as per the CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013, whose scheduling is done by the SLDC. | Compliance to Technical Standards: Every wind and solar generator shall comply with the technical standards such as for fault ride through, etc. as per the CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 as amended from time to time , whose scheduling is done by the SLDC. |
| 7. | Deviation Settlement Mechanism (DSM) for wind and solar generators: Every wind and solar generator as referred in the clause 3.2 Applicability shall henceforth be under purview of DSM. | No change. |
| 7.1. | Computation of error quantity- The following formula shall be adopted for this purpose: % Error (deviation) $= \frac{(\text{Actual Generation} - \text{Scheduled Generation}) \times 100}{\text{Available capacity (AvC)}}$ Where, Available Capacity (AvC) is the cumulative capacity rating of the Wind turbines / Solar inverters that are capable of generating power in a given time-block. AvC shall be equal to the Installed | No change. |

| | | |
|------|---|---|
| | Capacity, unless one or more turbines/inverters are under maintenance or shutdown. Any event of wrong/mis-declaration, that is, declaration of capacity when it is actually not available due to reasons of maintenance or shutdown etc shall be treated as gaming and shall be liable for action under the appropriate provisions of the Act or the Regulations. | |
| 7.2. | The Generators either by themselves or through their Coordinating Agencies (QCAs) or Aggregator, shall mandatorily provide to the SLDC, in a format as prescribed by SLDC, the technical specifications at the beginning and whenever there is any change, the data relating to power system output and parameters and weather related data as applicable shall also be mandatorily provided by such generators to the SLDC in real time. | The Generators either by themselves or through their QCAs, shall mandatorily provide to the SLDC, in a format as prescribed by SLDC, the technical specifications at the beginning and whenever there is any change, the data relating to power system output and parameters and weather related data as applicable shall also be mandatorily provided by such generators to the SLDC in real time. |
| 7.3. | Tolerance limits and deviation bands: The permissible deviation for all the wind and solar plants shall be $\pm 15\%$ (within the limits of $>85\% & <115\%$). There shall not be any DSM charges, if the deviation of generation is within the specified limits of $\pm 15\%$ (i.e., between 85% to 115% of the schedule). | Tolerance limits and deviation bands: The permissible deviation for all the wind and solar generators shall be $\pm 10\%$ (within the limits of $>90\% & <110\%$). There shall not be any DSM charges, if the deviation of generation is within the specified limits of $\pm 10\%$ (i.e., between 90% to 110% of the schedule). |
| 7.4. | The energy charges shall be paid to the generators. (a) As per the actual energy supplied irrespective of the Schedule quantum of energy for the generators for intra - State Transactions (b) As per the Schedule energy for the inter - State transactions which are governed by the CERC Regulations. | No change. |

| 7.5 DSM charges in case of deviations beyond the permissible limits: | | | DSM charges in case of deviations beyond the permissible limits: | | |
|---|--|---|--|---|---|
| Particulars | Deviation range | Payment to DSM account by generators | Particulars | Deviation range | Payment to DSM account by generators |
| For wind and solar generators having PPAs with ESCOMs and / or supplying power to consumers availing open access facilities for wheeling the power within the State | >±15% ≤±25% | Rs 0.50 per kWh for the quantum of short fall or excess energy beyond ± 15 % and up to ± 25 % of deviation from the schedule (ie ± 10% above tolerable limits of ±15%) | | >±10% ≤±20% | Rs 0.25 per kWh for the quantum of short fall or excess energy beyond ± 10% and up to ±20% of deviation from the schedule |
| | >±25% ≤±35% | Rs 0.50 per kWh up to ± 25 % deviation + (plus) Rs 1.0 per kWh for the remaining quantum of short fall or excess of energy for deviation from schedule beyond ± 25 % & up to ± 35 % | | >±20% ≤±30% | Rs 0.25 per kWh up to ±20% deviation + (plus) Rs 0.50 per kWh for the remaining quantum of short fall or excess of energy for deviation from schedule beyond ±20% & up to ± 30% |
| | more than >±35% | Rs 0.50 per kWh up to ± 25 % deviation + (plus) Rs 1.0 per kWh for the remaining quantum of short fall or excess of energy from deviation to schedule beyond ± 25 % up to ± 35 % + (plus) Rs 1.50 per kWh for the quantum of short fall or excess of energy beyond ± 35 % deviation from schedule | more than >±30% | | Rs 0.25 per kWh up to ±20% deviation + (plus) Rs 0.50 per kWh for the remaining quantum of short fall or excess of energy from deviation to schedule beyond ±20% up to ±30% + (plus) Rs 0.75 per kWh for the quantum of short fall or excess of energy beyond ± 30% deviation from schedule |
| 7.6 | The SLDC shall maintain the pool account of collection of the DSM charges. | | | No change. | |
| 7.7 | Inclusion of New Clause | | | Information about Curtailment: Information about any planned curtailment/ shutdown/ system constraint for certain time blocks by the KPTCL/SLDC shall be intimated by the SLDC through E-mail/Short Message Service (SMS) or any other mode of communication and shall also be uploaded | |

| | | |
|----|---|---|
| | | <p>on their website. The SLDC shall keep a log of curtailments indicating the time, date and the grid frequency and the quantum of energy curtailed along with the reasons for such curtailment.</p> <p>No Deviation Charges shall be payable for any deviations in case of any curtailment imposed on injection of energy for secure Grid operation in emergency situations.</p> <p>In case of planned curtailment by the SLDC for certain time blocks, the SLDC shall communicate to the generator/QCA regarding the curtailments, and the Generator / QCA shall be responsible to curtail the generation in accordance with the directions of the SLDC and amend its schedule as per advice of the SLDC. In case, the SLDC fails to communicate about the curtailment to QCA/generator, penalty shall not be levied for deviation for those given time blocks to the extent of curtailment. In case QCA/generator fails to revise the schedule after the same has been communicated by the SLDC, the scheduled is deemed to have been revised as specified by the SLDC and the SLDC shall intimate the revised schedules and the penalty shall be levied as per the revised schedules.</p> |
| 8. | <p>Schedule of payment of charges for deviation:</p> <p>(a) The payment of charges for deviation shall have a high priority and the concerned constituent shall pay the indicated amounts, within 10 (Ten) days of the issue of Statement of charges for deviation by the SLDC, into to the 'State Deviation Pool Account Fund'.</p> | No change. |

| | | |
|------|---|---|
| | (b) If the payments against the Charges for Deviation are delayed by more than two days i.e., beyond 10 (ten) days from the date of issue of the Statement by the SLDC, the defaulting constituent shall have to pay simple interest at 0.04% for each day of delay. | |
| 8(c) | Inclusion of New Clause | The QCA shall get registered for each pooling station. The application for registration shall be accompanied by a non-refundable processing fee of Rs. 5000/- (Five Thousand Rupees only) plus applicable GST in favour of CEE, SLDC, by DD/NEFT/RTGS. |
| 8(d) | Inclusion of New Clause | QCA shall submit Bank Guarantee or Letter of Credit for each pooling station to an extent of Rs. 20,000 per MW and Rs. 40,000 per MW for solar and wind generation respectively, to the SLDC towards payment security which shall be renewed by the QCA from time to time. |
| 8(e) | Inclusion of New Clause | Revocation of Registration: In case of non-compliance of any of the provisions of the Regulations by any generator/QCA, the registration will be revoked by the SLDC after giving due notice, besides encashing the Bank Guarantee/revolving LC towards recovery of arrears of DSM charges. |
| 9. | Application of fund collected through Deviations- The amount collected in the Deviation Pool Account Fund by the SLDC as on the last day of the financial year shall be transferred to a separate Fund called as 'Power System Development Fund' to be utilized for the purpose as specified by the State Commission. | Application of fund collected through Deviations- The amount collected in the Deviation Pool Account Fund by the SLDC as on the last day of the financial year shall be transferred to a separate Fund called as 'Power System Development Fund' to be utilized for the purpose as per the guidelines/orders issued by the Commission in this regard. |

| | | |
|------------|---|---|
| 10. (a) | Power to relax: The State Commission may by a general or special order for reasons to be recorded in writing and after giving an opportunity to the parties concerned likely to be affected by grant of any relaxation, may relax any of the provisions of these Regulations on its own motion or on an application made before it by an interested person. | No change. |
| 10 (b) | Inclusion of New Clause | Power to amend: The Commission may from time to time add, vary, alter, modify or amend any provisions of these Regulations on an application by the SLDC or QCA or suo-moto. |
| 11. | Power to issue directions: If any difficulty arises in giving effect to these Regulations, the State Commission may on its own motion or on an application filed by an affected party, issue such directions as may be considered necessary in furtherance of the objective and purpose of these Regulations. | Removal of difficulties: If any difficulty arises in giving effect to these Regulations, the State Commission may on its own motion or on an application filed by an affected party, issue such directions as may be considered necessary in furtherance of the objective and purpose of these Regulations. |
| 12 (a) | Miscellaneous: The provisions in these Regulations, (a) are in addition to and not in derogation of the KERC ORDER No. B/09/5 dated 20th June, 2006 on intra State ABT and KERC GRID CODE, and (b) shall have full effect notwithstanding any inconsistency contained in the KERC ORDER No. B/09/5 dated 20th June, 2006 on intra State ABT and KERC GRID CODE. | No change. |
| 12 (b) | Inclusion of New Clause: | Interpretation of Regulations: If any question arises relating to the interpretation of these Regulations, the decision of the Commission is final. |

Secretary
For Karnataka Regulatory Commission

೦೭೦೦

ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ, ಮೌಲ್ಯವಾರ, ೧೬, ಇಸಂಬರ್, ೨೦೨೨

ಖಾಗ ೩.

PROCEDURE AND FORMATS
FOR
FORECASTING, SCHEDULING AND DEVIATION
SETTLEMENT OF WIND AND SOLAR GENERATION
FOR IMPLEMENTATION OF
(FORECASTING, SCHEDULING, DEVIATION SETTLEMENT AND RELATED
MATTERS FOR WIND AND SOLAR GENERATION) REGULATIONS, 2015
AND AMENDMENTS THEREOF

1. TABLE OF CONTENTS

| | | |
|------|--|----|
| 1.0 | OUTLINE..... | 3 |
| 2.0 | APPLICABILITY..... | 3 |
| 3.0 | QUALIFYING CRITERIA FOR THE QCA..... | 4 |
| 4.0 | ROLES AND RESPONSIBILITIES OF THE QCA..... | 5 |
| 5.0 | ROLES AND RESPONSIBILITIES OF GENERATORS..... | 9 |
| 6.0 | ROLES AND RESPONSIBILITIES OF SLDC, KARNATAKA..... | 10 |
| 7.0 | REGISTRATION OF QCA WITH SLDC, KARNATAKA..... | 11 |
| 8.0 | DE-REGISTRATION OF QUALIFIED CO-ORDINATING AGENCY (QCA)..... | 12 |
| 9.0 | DATA TELEMETRY AND COMMUNICATION REQUIREMENT..... | 13 |
| 10.0 | FORECASTING & SCHEDULING..... | 14 |
| 11.0 | ENERGY DEVIATION & BILLING..... | 15 |
| 12.0 | STATE POOL ACCOUNT..... | 16 |
| 13.0 | EVENT OF BREACH OR DEFAULT AND CONSEQUENCES THEREOF..... | 16 |
| 14.0 | GRIEVANCE REDRESSAL..... | 17 |
| 15.0 | REMOVAL OF DIFFICULTIES..... | 18 |
| 16.0 | GENERAL..... | 18 |

**PROCEDURE and FORMATS FOR FORECASTING, SCHEDULING & DEVIATION
SETTLEMENT OF WIND & SOLAR GENERATION REGULATIONS, 2015**

1.0 OUTLINE

- 1.1 This procedure and formats are issued in pursuance to the Regulations 5.4 of Karnataka Electricity Regulatory Commission (Forecasting, Scheduling, Deviation Settlement and related matters for Wind & Solar Generation Sources) (KERC RE DSM) Regulations, 2015, as amended from time to time.
- 1.2 This procedure shall be read in conjunction with Indian Electricity Grid Code (IEGC), Karnataka Electricity Grid Code (KEGC), Inter/Intra State Open Access Regulations and subsequent amendments issued thereof.

2.0 REGISTRATION OF QCA/individual generators acting as QCA WITH SLDC, KARNATAKA:

- 2.1 The QCA shall obtain the consent letter from all the generators who have appointed him as a QCA and then apply for registration.
- 2.2 QCA shall submit separate application (Registration form) for each pooling station. Only one application per pooling station will be accepted from the QCA.
- 2.3 QCAs have to register with SLDC duly submitting the following documents:
 - a) Registration Form (Annexure-I) along with a non-refundable processing fee
 - b) Details of wind and solar generators (Annexure-II)
 - c) Acceptance of terms & conditions for registration of QCA (To be provided by the QCA on a Rs.200/- stamp paper) (Annexure-IV)
 - d) Proof of registered address;
 - e) Consent/authorization letter from generators for appointment of QCA.
 - f) Evacuation **and Interconnection** approval issued by competent authority.
 - g) Bank Guarantee/ Letter of Credit (LC), pooling station-wise, to an extent of Rs. 20,000 per MW for solar generation and Rs. 40,000 per MW for wind generation to be furnished towards payment security.
 - h) Approval of Electrical Installation issued by CEIG.
 - i) Commissioning Certificate issued by competent authority.
- 2.4 The details of Nodal Officers from SLDC for processing applications for Registration and day to day activities towards forecasting, Scheduling and Revisions thereof shall be displayed on SLDC's website for smooth implementation of the procedure.
- 2.5 After duly verifying the documents submitted by QCA, SLDC will register and allot a unique registration number to each eligible QCA for handling RE DSM.
- 2.6 An incomplete Application, and/or an Application not found to be in conformity with the Procedure and Regulations, shall be rejected.
- 2.7 The time period for registration of QCA shall be fifteen (15) working days from the date of receipt of all the documents & information in complete to SLDC.
- 2.8 In case QCA has obtained registration on the basis of false information or by suppressing material information, the registration of such entity shall be revoked after giving opportunity.

3.0 ROLES AND RESPONSIBILITIES OF THE QCA/individual generators acting as QCA:

- 3.1 The QCA shall be single point of contact between Karnataka SLDC and generators to whom it is representing at the Pooling Sub-station.
- 3.2 The QCA shall establish round the clock Data Acquisition Centre with technology matching with that of SLDC for seamless communication of information. The Data Acquisition Centre shall have facilities of voice and data communication such as telephone, Fax and internet connection available for all the 24 hours for communicating with SLDC and pooling stations.
- 3.3 The QCA shall establish protocol for communication with Individual Generators to implement the instructions of System/Grid operator. The QCA shall comply with the instructions of the System/Grid operator in normal condition as well as during emergencies, appropriate decisions taken by the System Operators in view of Grid security and safety.
- 3.4 If the QCA disobeys the instruction of grid operator during emergencies, appropriate decision will be taken by the Grid operator in view of grid security and safety.
- 3.5 QCA shall be responsible for declaration of Available Capacity of the Generating Station to SLDC to which it is representing and shall furnish week-ahead, day-ahead forecast (based on their own forecast or on the forecast done by SLDC) and intraday generation schedules as per Format-A & Format-B for each pooling station or each generating station separately as the case may be to REMC web portal.
- 3.6 QCA in coordination with Generator shall provide real time availability and generation data (at both pooling station & Inverter/WTG level) as per Annexure – III.
- 3.7 In case of non-availability of real time data (at Turbine Level/inverter level), QCA in coordination with Generators shall maintain and provide time block-wise generation data at (turbine and inverter level) and weather data on weekly basis:
 - (i) For wind plants, at the turbine level: Average wind speed, Average power generation at 15-min time block level
 - (ii) For solar plants, for all inverters ≥ 1 MW: Average Solar Irradiation, Average power generation at 15-min time block level. (if a solar plant uses only smaller string inverters, then data may be provided at the plant level)
- 3.8 QCA shall undertake commercial settlement of all deviation-settlement charges and any other charges on behalf of the concerned generators, as applicable under the KERC RE DSM Regulations 2015 as amended from time to time.
- 3.9 QCA shall maintain records and accounts of the time block-wise Schedules, the actual generation injected and the deviations, for the Pooling Sub-station and the individual Generators separately.
- 3.10 The QCA shall submit undertaking as per Annexure-IV for acceptance of Terms & Conditions for registration of QCA (To be provided by the QCA on Rs.200/- stamp paper).
- 3.11 All existing & new generating stations shall be facilitated with Automatic Meter Reading (AMR) technologies for transfer, analysis and processing of interface ABT meter data to SLDC in line with Metering/ AMR protocol and AMR/Metering

- Standards to be finalized by STU in accordance with provisions of Metering code and CEA Metering Regulations, as amended from time to time.
- 3.12 The QCA shall perform commercial settlement beyond the connection point (De-pooling arrangement among each generator in the Pooling Sub-station) and technical coordination amongst the generators within the Pooling Sub-station and up to the connection point as the case may be.
- 3.13 The QCA shall furnish the details of individual generators of Solar & wind farms as per Annexure-II and also the billing meter data of generators & other statistics information shall be uploaded to the SLDC through respective user access portal in the REMC/SLDC web portal.
- 3.14 The QCA, within seven (07) days, shall inform the details to SLDC in case there is any change in:
- i. The Generating Station (in case of individually connected generator),
 - ii. Pooling Sub-station
 - iii. Individual generators in the Pooling Sub-station
 - iv. Reduction in authorization from generators in a Pooling Sub-station below majority of generators in terms of the total installed Capacity of the Pooling Sub-station.
 - v. Tariff meter, CTs & PTs, etc., related to IF Point
- 3.15 The QCA shall submit the indemnity bond duly signed (format – C) on Non-Judicial Stamp Paper of value notified from time to time by the State Government at the time of registration.
- 3.16 QCA shall have to ensure confidentiality of all the data provided by the SLDC and the data shall not be shared without written permission from SLDC.
- 3.17 The QCA shall maintain 5 years' historical data, all necessary and required records, registers and accounts in respect of forecasting, scheduling and deviation settlement and shall furnish to SLDC on request.
- 3.18 Periodical testing and calibration of billing meters installed at the pooling stations shall be done as per the Central Electricity Authority (Installation and Operation of Meters) Regulations, as amended from time to time, and procedures of KPTCL.
- 3.19 The QCA shall possess/provide consent letters from all the Generators connected in the Pooling Sub-station in terms of their combined installed capacity for appointment as QCA (Not applicable if the Generator himself is a QCA) at the time of Registration.
- 3.20 QCA shall furnish a Bank Guarantee with one-year validity period and 3 months claim period or irrevocable Letter of Credit for the amount equivalent to Rs. 20,000.00 per MW for solar generation and Rs. 40,000.00 per MW for wind generation. Extension of Bank Guarantees shall be furnished within validity period to maintain the QCA registration in force or else, SLDC may revoke BG/LCs in the claim period.
- 3.21 QCA shall furnish Pooling station-wise Bank guarantee or Letter of Credit to the SLDC (i.e. one BG or LC per pooling station). In the event of Non-payment or delay in payment of Deviation Charges by QCA for more than sixty days, the BG/LC of the default PSS intimated by QCA will be encashed without any further notice.

- QCA shall make good insufficient/encashed BG/LC amount within 15 days failing which the concerned PSS is liable for disconnection
- 3.22 Further, the QCA shall submit all the documents/information as may be desired by the SLDC which will enable them to ascertain the non-paying generators.
- 3.23 In case of non-receipt of the metered data online or AMR facility, QCA shall coordinate with DISCOM/ STU for manual data downloading through MRI and submit the same as decided by SLDC/ within 2 days from the date of intimation.

4 ROLES & RESPONSIBILITIES OF GENERATORS

- 4.1 The Generator shall not appoint and authorize multiple QCAs for a particular Pooling Sub-station.
- 4.2 Once the QCA is registered, the generator/s shall not re-appoint another QCA, at least within one (1) year from the date of successful registration of the QCA at SLDC.
- Provided that in case of defaults by the QCA, the generator/s can re-appoint another QCA by giving prior notice of one (1) month to SLDC and the process of registration with new QCA shall be carried in accordance with REDSM Regulations and procedures.
- 4.3 All the generators shall save and store the block-wise generator injection data or any other data as desired by the SLDC and make available the same to their respective QCA, so that it could be sent to SLDC within (7) days from the date of demand from SLDC.
- 4.4 wind and solar Generators (single legal owner) connected to the Grid SS/ DISCOM SS through a dedicated feeder may appoint a QCA or may act as a QCA and shall be registered as a QCA at SLDC.
- 4.5 In case no-consensus among the generators connected to a pooling substation w.r.t. appointment of a QCA, the generators may consider appointing a QCA consented by majority of generators in terms of the installed capacity at a pooling sub-station.

5 ROLES AND RESPONSIBILITIES OF SLDC, KARNATAKA:

- 5.1 SLDC shall provide user ID to the QCAs for accessing the REMC web portal for:
- Uploading of Day-ahead and Week-ahead Generation Forecasts
 - Uploading of the revisions in Schedules in accordance with this Procedure and Regulations.
 - Communication of Grid Constraints and curtailments if any.
- 5.2 The SLDC shall maintain records and accounts of the week-ahead, day-ahead and intraday generation schedules for each pooling-station or each generating-station as the case may be.
- 5.3 REMC web portal of SLDC will forecast the wind and solar generation in the SLDC control area and publish in the REMC portal. However, the forecast by the SLDC shall be with the objective of ensuring secure grid operation.

- 5.4 The SLDC shall validate, process the Billing meter data and compute the net injections by each pooling station. The SLDC will monitor such that there is no gaming (gaming is an intentional mis-declaration of AVC by any generating station or QCA in order to make an undue commercial gain).
- 5.5 In case of planned curtailment by the SLDC for certain time blocks, the SLDC shall communicate to the generator/QCA regarding the curtailments, and the Generator / QCA shall be responsible to curtail the generation in accordance with the directions of the SLDC and amend its schedule as per advice of the SLDC. In case QCA/generator fails to revise the schedule after the same has been communicated by the SLDC, the scheduled is deemed to be revised as specified by the SLDC and the SLDC shall intimate the revised schedules and the penalty shall be levied as per the revised schedules.

6 DATA TELEMETRY AND COMMUNICATION REQUIREMENT:

- 6.1 The RE Generator shall integrate evacuation bay along with billing meters at Grid SS (Grid Sub Station) to KPTCL SCADA network duly paying integration charges as notified by KPTCL to provide real time generation data such as MW, MVAR, MWHR, Voltage and status of Circuit Breaker with control.
- 6.2 The data from pooling station as per Annexure-III to be made available to SLDC/REMC on 60870-5-104 protocol using any public communication media.
- 6.3 The Generators/QCA shall submit complete proposal along with schematic diagram, mode of data communication and format for transmission of data to SLDC for approval.

7 FORECASTING & SCHEDULING

- 7.1 QCA shall furnish all the schedules to SLDC through REMC WEB portal. The forecasting shall be given at the Interface point at Grid SS. The generators who are having a common Interface Billing Meter at interface point will not be allowed to provide individual schedules as the actual generation (Energy Meter reading) is not separately readable for each generator from the Common Interface Billing meter.
- 7.2 Submission of more than one schedule within a Pooling Station is not allowed.
- 7.3 QCA have to submit week-ahead Schedules (on every day for the next seven days) and Day Ahead (DA) Schedules as specified below:
- DA1 (between 00:30:00 to 08:00:00 of previous day)
 - DA2 (between 08:00:00 to 15:00:00 of previous day)
 - DA3 (between 15:00:00 to 23:15:00 of previous day)
 - DA4 (between 23:15:00 to 23:59:59 of previous day)

Note: DA1 is mandatory.

DA2, DA3 and DA4 are optional.

DA1 to DA3 furnished previous day will be effective from 00 hrs of the current day whereas DA4 will be effective from the fourth time block of notice period (first time block)

Intra-day schedules (Maximum 16 revisions) Schedules with AVC shall be furnished in a prescribed format (Formats A&B) to SLDC.

- 7.4 The Grid Sub-station wise day-ahead revision schedules **on 15 minutes' time block basis and week ahead 60 minutes' time block basis** shall be submitted by QCA in MW (up to three decimal places, the fourth decimal place rounded off to third decimal place as per standard practice).
- 7.5 The QCA may revise schedules for the current day provided that, such revisions shall be effective from the fourth (4th) time block and a maximum of sixteen (16) revisions during the day starting from 00.00 hours of a particular day. SLDC will arrive at the final implemented schedules incorporating all 16 revisions per day.
- 7.6 In the event of QCA/generators adopting forecast provided by REMC, charges amounting to Rs. 40,000/- plus applicable GST per Pooling Sub-station per year, shall be paid by the QCA/generators to SLDC (as notified from time to time).
- 7.7 The consequences of any error in such forecast provided by SLDC which results in a deviation from scheduling shall be borne by the concerned Generators through their QCA and QCA shall indemnify SLDC on account of the commercial impact.

8 ENERGY DEVIATION & BILLING:

- 8.1 Time Block wise (15 minutes) implemented schedules shall be considered by the SLDC based on the schedules including any revisions.
- 8.2 A statement of energy accounting i.e., energy deviations and deviation charges shall be prepared by the SLDC on monthly basis, based on schedule generation submitted by the QCA and actual generation as per billing meter data received from QCA & the concerned DISCOM/STU.
- 8.3 SLDC shall compute the absolute error for QCA and shall calculate the DSM charges in accordance with the Regulation 7.1 of RE DSM Regulations 2015 & its amendments and issue deviation bills to the QCAs. SLDC shall provide aggregated day-wise, block-wise Deviation Charges, Schedule and Actual to each QCA after 20th of every month.
- 8.4 The QCA shall communicate any discrepancies to SLDC within seven working days from receiving the data from SLDC. In case of any discrepancies in energy account the same shall be corrected forthwith by SLDC after due verification and revised RE DSM Bill shall be issued by SLDC.

9 STATE DEVIATION POOL ACCOUNT FUND:

- 9.1 A separate 'State Deviation Pool Account Fund' account will be created and maintained by SLDC in accordance with the provisions of the RE DSM Regulations 2015. Deviation Charges levied under the RE DSM Regulation 2015 and interest, if any, received for late payment shall be credited to the Deviation Pool Account.
- 9.2 Payment of all charges on account of energy accounting of wind and solar plants shall have a high priority and the concerned QCA shall pay the indicated amounts within 10 (ten) days from the date of issue of the Statement by the SLDC. In case of default, the defaulting constituent shall have to pay interest at the rate of SBI MCLR applicable for the month.

10 EVENT OF BREACH OR DEFAULT AND CONSEQUENCES THEREOF:

10.1 Event of Breach or Default

Following events shall constitute event of breach or default by QCA/Generators:

- a. Non-payment or delay in payment of Deviation Charges;
- b. If the QCA fails to pay deviation charges even after a lapse of 60 days from the date issue of RE DSM bill, Process to encash the BG/LC amount shall be initiated beside any other action as permissible under law;
- c. Non-compliance of any of the directives issued by SLDC, terms/conditions/rules outlined under this procedure and RE DSM Regulations, 2015 as amended from time to time;
- d. Obtaining registration on the basis of false information or by suppressing material information
- e. QCA fails to provide schedules continuously for 10 days. In such cases, the previous day's schedule for those non-submission days shall be considered and DSM charges shall be computed accordingly.
- f. In case the QCA has become insolvent.
- g. In case of continued default of statutory compliances leading to declaration of the QCA as the willful defaulter by competent authority
- g. In case the Available Capacity (AVC) is intentionally and repeatedly mis-declared by the QCA (Gaming)

10.2 Consequences for Event of Default:

- a. In the event of breach or default of the procedure without prejudice to other actions as may be taken by SLDC, the SLDC shall issue a notice of period not less than 15 days for revocation of registration of QCA and non-scheduling of pooling Sub-station to which said QCA represents and adequate opportunity shall be given to QCA to present its case before SLDC.
- b. In case QCA fails to address/rectify the breach expressed by SLDC in the Notice within stipulated time, the SLDC shall proceed with revocation of registration of QCA and disconnection of the pooling stations from grid, besides encashing the Bank Gurantee/revolving LC towards recovery of arrears of DSM charges.

11 DE-REGISTRATION OF QUALIFIED CO-ORDINATING AGENCY (QCA):

(a) De-registration request by the QCA:

- 1) The QCA may request the SLDC for de-registration as QCA, however, in such cases it shall be the responsibility of the QCA to settle all the commercial obligations of both SLDC and Generators to whom it is representing.

- 2) One (1) month prior notice to be served to all the generators to whom it is representing for de-registration with copy to SLDC.
- 3) The generator/s shall be responsible for appointing new QCA and ensure registration of new QCA at SLDC within this notice period.

(b) De-registration due to non-authorization of Generator:

- 1) One (1) month prior notice to be served by the generator to the QCA for non-authorization with a copy to SLDC.
- 2) The generator/s shall be responsible for appointing new QCA and ensure registration of new QCA at SLDC within this notice period, failing which generation shall not be scheduled.
- 3) Before de-registration, the generator shall ensure that all the commercial settlements pertaining to it has been completed by the QCA with SLDC.

(c) De-registration under default condition:

- 1) The SLDC shall initiate the process of de-registration, in the event of breach of any of the procedure/Regulations by the QCA as specified under various clauses in this procedure/Regulations. All the commercial settlements related to QCA's de-registration shall be done within one month from the date of deregistration, provided that the QCA has cleared all the dues pending towards SLDC.
- 2) The generator/s shall be responsible for appointing new QCA and ensure registration of new QCA at SLDC within one (1) month notice period, post which generation shall not be scheduled.

12 GRIEVANCE REDRESSAL:

- 12.1 SLDC shall refer the Complaints regarding unfair practices, delays, discrimination, lack of information, supply of wrong information or any other matters to the Commission for redressal.
- 12.2 Any disputes between QCA and concern generators shall be governed as per dispute resolution mechanism under their mutual agreement.

13 REMOVAL OF DIFFICULTIES:

- 13.1 In case of any difficulty in implementation of this procedure, SLDC may approach the Commission for review or revision of the procedure with requisite details.

**Chief Engineer, Electy.
SLDC, KPTCL, Bengaluru**

Annexure-I

QCA Registration Form

Tick relevant box

| | | | | | |
|--------------------------|------------------|--------------------------|------------------------|--------------------------|---------------------|
| <input type="checkbox"/> | New Registration | <input type="checkbox"/> | Change of registration | <input type="checkbox"/> | Cancel Registration |
|--------------------------|------------------|--------------------------|------------------------|--------------------------|---------------------|

Tick relevant

| | | | |
|--------------------------|-----------------|--------------------------|------------------|
| <input type="checkbox"/> | Wind Generation | <input type="checkbox"/> | Solar Generation |
|--------------------------|-----------------|--------------------------|------------------|

| | |
|---|--------------------|
| 1 | Name of the Entity |
|---|--------------------|

| | |
|---|--------------------------------------|
| 2 | Primary Business (brief description) |
|---|--------------------------------------|

| | |
|---|------------------|
| 3 | Business address |
|---|------------------|

| Phone | Mobile | Fax | Email | website |
|-------|--------|-----|-------|---------|
| | | | | |

| | |
|---|----------------|
| 4 | Postal address |
|---|----------------|

| | |
|-------|------------------------------|
| 5 | Confact person & designation |
| Phone | Mobile |

| 6 | Name of Directors | Position | Mobile | Email |
|---|-------------------|----------|--------|-------|
| a | | | | |
| b | | | | |
| C | | | | |
| d | | | | |
| e | | | | |

| | | |
|---|-------------------|--|
| 8 | Financial details | |
|---|-------------------|--|

ಭಾಗ ೩

ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ, ಸೋಮವಾರ, ೧೯, ಇಸೆಂಬರ, ೨೦೨೨.

೮೪೦೧

| 9 No. of Pooling stations represented | | | | |
|---------------------------------------|--------------------------|---------------------------------|---------------|---------------------|
| Pooling station Name and address | Total Installed capacity | KPTCL / ESCOM Injecting station | Voltage Class | Type (Wind / Solar) |
| | | | | |

Note: Details as per Annexure A for each pooling station to be enclosed

| 10 | Details of FBG/LC/Security deposit | Solar | MW capacity | Amount |
|----|------------------------------------|-------|-------------|--------|
| | | Wind | MW capacity | Amount |
| | | | | |

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

Authorized Signature
And official Seal
(for QCA)

Annexure – II

| Details to be submitted by QCAs | |
|---|-----------------------------|
| Type : Wind / Solar Generator | |
| Individual / on Behalf of Group of generators | |
| Name along with individual installed capacity of generation constituents to whom QCA is representing: | |
| If on Behalf of Group of generators, then details of consent letters to be attached | |
| Total Installed Capacity of Generating Station | |
| Total Number of Units with details | |
| Physical Address of the RE Generating Stations | |
| Whether any PPA has been signed: (Y/N) | If yes, then attach details |

ಗಳಿಂದಾಗಿ

ಕರ್ನಾಟಕ ಪಾರ್ಷವತ್ಯಾ, ಸೋಮನಾಥ, ಗಂ, ದಿಸೆಂಬರ್, ೨೦೧೩

ಭಾಗ ೨

| Connectivity details | Location/Voltage Level |
|---|--|
| Metering Details | Meter No. 1. Main 2. Check 3. ABT meter with associated details |
| Connectivity Diagram | (Please Enclose) |
| Communication arrangements with the SLDC for real time generation, meter reading for accounting, etc. | |
| Technical Details as required by the SLDC | |
| Contact Details of the Nodal Person | Name: Designation: Landline / Mobile Number: Fax Number: E-mail Address: |
| Contact Details of the Alternate Nodal Person | Name: Designation: Landline / Mobile Number: Fax Number: E-mail Address: |

Real – time Data Telemetry requirement**Wind turbine generating plants**

1. Generator Status: whether On-line / Off-line – (for individual WTGs) this is required for calculation of availability of the WTG.
2. Turbine generation (MW / MVAR) – (for individual WTGs)
3. Total Generation of the Pooling station: MW and MVar
4. Wind Speed (meter / second) – (PSS wise)
5. Wind Direction (degrees from true north) – (PSS wise)
6. Voltage (Volt) at Interconnection point – (PSS wise)
7. Ambient air temperature (° C) – (PSS wise)
8. Barometric pressure (Pascal) – (PSS wise)
9. Relative humidity (in%) – (PSS wise)
10. Air Density (kg / m³) – (PSS wise)

For Solar Generating Plants

1. Solar Generation unit / Inverter-wise (MW and MVAR)
2. Voltage at interconnection point (Volt) – (PSS wise)
3. Generator / Inverter Status (on / off – line)
4. Total Generation of the Pooling station: MW and MVar
5. Global horizontal irradiance (GHI) – Watt per meter square – (PSS wise)
6. Ambient temperature (° C) – (PSS wise)
7. Diffuse Irradiance – Watt per meter square – (PSS wise)
8. Direct Irradiance – Watt per meter square – (PSS wise)
9. Sunrise and sunset timings – (PSS wise)
10. Cloud cover – (Okta) – (PSS wise)
11. Rainfall (mm) – (PSS wise)
12. Relative humidity (%) – (PSS wise)
13. Performance Ratio – (PSS wise)

Annexure -IV

TERMS AND CONDITIONS FOR REGISTRATION OF QCA

Name: M/s. (Name of QCA), (Postal Address)

(To be provided by the QCA on a Rs. 200/- stamp paper)

1. We, as a QCA will be regulated by KERC regulations on wind and solar from time to time.
2. The Deviation Settlement charges shall be as per the KERC guidelines for which we as QCA will be responsible for the pooling stations for which we represent as a QCA.
3. As per the KERC regulations, we as a QCA, agree to provide forecasting schedules to SLDC on week-ahead and day-ahead basis on behalf of wind and solar pooling stations connected to STU / ESCOM having a combined capacity of 10 MW and more in case of Wind generation and 5 MW and more in case of Solar generation.
4. We as QCA agree to provide the authorization letter from all the generators connected to the pooling station for being appointed as the QCA.
5. We understand that we can revise the day ahead schedules for a maximum of 16 revisions as per the regulations.
6. We agree that if there is any deviation from the schedule, then for such energy, Deviation charges will be applicable as per the regulations including the amendments from time to time.
7. We shall be responsible for commercial settlements of the deviation charges to SLDC on behalf of wind and solar generators connected to the pooling station.
8. We understand that SLDC will compute the comprehensive Deviation charges and raise bills for the deviation on a monthly basis.
9. Payment will be regulated as per KERC norms.
10. We understand that we will take the monthly meter reading as per IEGC / standard practices including ABT/ Load Survey data.
11. We as QCA will abide by KERC Gazette Notification No: KERC/CT/1/15 dated 31.05.2016, Regulations for all transactions.
12. We shall establish necessary SCADA data of the IF point and other turbine/plant data for the purpose of monitoring and billing as per KERC guidelines.
13. In the event of any fault in generating system resulting in lower generation then, we will revise the schedule and the same shall be intimated to SLDC as per the KERC Gazette Notification No. KERC/CT/1/15 dated 31.05.2016.
14. We agree to pay a Bank Guarantee for the amount equivalent to Rs. 20,000/MW for solar generation and Rs. 40,000/MW for wind generation.
15. We agree to provide Turbine / panel and pooling stations details as per the format specified by SLDC.

ಭಾಗ ೨

ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ, ಸೋಮವಾರ, ೧೯, ಡಿಸೆಂಬರ್, ೨೦೨೨

೮೪೦೧೫

We are agreeing for the above terms and conditions for registering as QCA with SLDC, KPTCL, Karnataka.

Details of Bank Guarantee / LC / security deposit is enclosed

.....(Name and Postal address of QCA).....
.....
.....

QCA for Pooling station :

KPTCL / ESCOM Injecting Station :

Voltage level at injecting point:

List of generators connected to the pooling station along with installed capacity for which consent is obtained:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Declaration: all that is stated in the above is true and correct

QCA

Authorized Signatory

Forecast and Schedule Data to be submitted by QCA for Generation

Format: A. (i) (To be submitted a week in advance) (to be modified by SLDC in accordance with Regulation 4.6 of the RE DSM Regulations)

| 60 min time block (24 Blocks in a day) | Time | Available Capacity (MW)- Week Ahead | Week Ahead Forecast (MW) | Week Ahead Schedule |
|---|-------------|--|--------------------------------|------------------------|
| 1 | 00:00-01:00 | | | |
| 2 | 01:00-02:00 | | | |
| 3 | 02:00-03:00 | | | |
| 4 | 03:00-04:00 | | | |
| 5 | 04:00-05:00 | | | |
| . | | | | |
| . | | | | |
| 23 | 22:00-23:00 | | | |
| 24 | 23:00-24:00 | | | |

Format: A (ii) (To be submitted a day in advance)

| 15 min time block (96 Blocks in a day) | Time | Available Capacity (MW)- Day Ahead | Day Ahead Forecast (MW) | Day Ahead Schedule |
|---|-------------|---|--|-------------------------------|
| 1 | 00:00-00:15 | | | |
| 2 | 00:15-00:30 | | | |
| 3 | 00:30-00:45 | | | |
| 4 | 00:45-01:00 | | | |
| 5 | | | | |
| | | | | |
| | | | | |
| 95 | | | | |
| 96 | | | | |

Note: The forecast should ideally factor forecasting errors. As such schedule should ordinarily be same as forecast.

Format: B

To be submitted on the day of actual generation, revision of availability and schedule, if any, shall be done as per KERC (Forecasting, Scheduling, Deviation Settlement and related matters for Wind & Solar Generation Sources) Regulations, 2015.

| 15 min time block (96 Blocks in a day) | Time | Day Ahead Schedule (MW) | Current Available Capacity (MW) | Revised Schedule (MW) |
|--|-------------|-------------------------|---------------------------------|-----------------------|
| 1 | 00:00-00:15 | | | |
| 2 | 00:15-00:30 | | | |
| 3 | 00:30-00:45 | | | |
| 4 | 00:45-01:00 | | | |
| 5 | | | | |
| | | | | |
| | | | | |
| 95 | | | | |
| 96 | | | | |

ಭಾಗ ೩

ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ, ಸೋಮವಾರ, ೧೯, ಡಿಸೆಂಬರ್, ೨೦೨೨

೧೪೦೧೯

Format - C

(On the Non-Judiciary Stamp Paper)

INDEMNIFICATION

The QCA shall keep Karnataka SLDC indemnified at all times and shall undertake to indemnify and save the SLDC from any and all damages, losses including commercial losses due to forecasting error, 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 transactions undertaken by the QCA.

The QCA shall keep Karnataka SLDC indemnified at all times and shall undertake to indemnify, defend and save the SLDC harmless from any and all damages, losses including commercial losses due to forecasting error, 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 disputes with Karnataka SLDC, as well as with generators and QCA inclusive of confidentiality issues.

Date: _____

Place: _____

(QCA side)

(Generator/WPD/SPD side)

Sign: _____

Sign: _____

Authorized Signatory Name: _____

Authorized Signatory Name: _____

Designation: _____

Designation: _____

Name of QCA

Name of Generator/WPD/SPD

Seal

Seal

PD-169

