



TRANSMISSION COMPANY OF NIGERIA

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Ref: MD/CEO/51/12.00/WCL/1/912/2018

Date: 13th Dec, 2018.

The Chairman/CEO,
Nigerian Electricity Regulatory Commission,
NERC House,
CBD, Abuja.



Dear Sir,

**RE: APPLICATION FOR RECERTIFICATION OF
PROPOSED SPINNING RESERVE CHARGES**

We refer to your letter, ref: NERC/04/MC&R/T&R/1/18/020 of March 27, 2018 on the above and hereby formerly forward the report of SPINNING RESERVE Bids Evaluation Report in line with your directives.

The delay in concluding and forwarding same to your office stemmed from the Bids Submission Extension date to enable all interested Gencos to participate in addition to other contingent issues that encroached into the processing time of the bids.

Nevertheless, we believe the Commission and the entire stakeholders in NEM will find the report very useful in procuring the needed Spinning Reserve; more so, the Spinning Reserve Evaluation Committee had done a bit of sculpting with respect to the monthly financial implication of the procurement.

Our team is available for any clarifications that may be required.

Please, be rest assured of our highest regards.


**U.G. MUHAMMED,
MD/CEO (TCN)**

SPINNING RESERVE PROCUREMENT: BIDS EVALUATION REPORT.

PREAMBLE

Spinning Reserve is one of the ancillary services needed for grid stability, mainly when the grid power "sinks" and so to pull down the soaring frequency, power must be injected instantaneously.

Spinning Reserve capability is the preserve of smart power generating machines which possess the required specific characteristics.

"Spinning" means the machine is "running", synchronized to the grid and ready to respond to power upload demand in the shortest possible time (Response Time). It is one of the paid ancillary services provided by Generators to secure economic grid operation.

WHY PUBLIC PROCUREMENT EXERCISE FOR SPINNING RESERVE

Is this Spinning Reserve going to be paid for through appropriation?, No. This process is required to make for transparency and to enable interested Gencos compete in the supply of the Spinning Reserve needed in the Market. More so the initial tariff offered to Gencos for the supply of Spinning Reserve was not cost-effective and as a result, the Gencos which were to billed to supply the Spinning Reserve failed to perform. It is also important to note that Ancillary Services like Spinning Reserve should be under first-charge consideration in the Market, given its importance in Grid stability.

Ideally, the **Grid Code** specifies that the amount of **Power Capacity** that needs be contracted for Spinning Reserve should be **10%** of the present Grid capacity but not less than the rating of the largest single generating unit on the grid. This means the Committee should be aiming at contracting about 500MW worth of Spinning Reserve. Meanwhile, the largest single generating unit on the grid is



220MW as obtained in Egbin Power Generating Station. Therefore, considering the commercial implications of contracting up to 500MW of spinning reserve which will add up with the “must-run-capacities” and with the obvious “low load demand”, the Committee deemed it wise to propose a spinning reserve quantity not more than 300MW. The most important thing is having eyes on the impact of on this procurement on 1KWh of energy sold in the Market.

BIDs EVALUATION

Meanwhile, during the bids pre-evaluation meeting with the relevant staff of the National Control Centre, the realities on ground were analyzed, including the merit order dispatch, low load demand, the Market commitments to the must-run capacities (operating PPAs) and the attendant commercial implications. The information obtained from the above analysis, informed the decision of the Bids Evaluation Committee to scale down the capacity to be contracted, at the first instance, to 260MW.

It is also believed that if the usual Under-Frequency Relays are activated, in addition to having all Generating units on Free-Governor mode, the issue of frequency roaming which emanates from Discos load rejection would have been adequately put in check.

The above background guided and moderated the evaluation of the bids submitted by the Power Plants. In addition to some statutory requirements, there are basic specific technical conditions that must be fulfilled for a generator to qualify for the provision of spinning reserve. These include but not limited to, the following machines' technical characteristics: **operating range, droop-setting, response time, ramp rate, dead-band, operating voltage level and compliance to the grid code demand for free governor mode of operation.**

Again, the contemporary operating conditions of each Plant were also x-rayed and findings put into consideration in the ranking. Plants known for their incessant tripping or their operations hampered by insufficient gas supply are obviously not good for supply of spinning reserve. Machines with slow response time, static dead-band or narrow operating range are equally not suitable.

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The bids were opened on **17th of October, 2018** and Evaluation Committee carried out the ranking of these reference machine characteristics in order of importance. The evaluation yielded five best scoring Generators which were invited for their financial bids opening on the **31st of October, 2018**.

These Generators as per the attached mark sheet are:

1. **Mainstream Power Plant;**
2. **Transcorp Power Plant;**
3. **Geregu Gas Plant;**
4. **Omotosho NIPP Plant;**
5. **Sapele NIPP Plant**

For fairness, the Committee decided to use as reference each Genco's MYTO capacity and energy Tariff while adding **10% of each Genco's Capacity tariff** to represent Machine Stress compensation/incentive.

After the preliminary financial evaluation, only two Generators – MainStream Energy Solutions Ltd and Transcorp Power Ltd quoted within their MYTO tariffs. The other three Generators – Geregu Power Plc, Omotosho NIPP and Sapele NIPP plants quoted far more than their MYTO tariffs. The Committee envisaged this problem but had decided to invite such Gencos for a round-table negotiation since their Machines are technically suitable to offer spinning reserve.

In view of the above, the Committee obtained a written permission from the TCN Management to invite the three Gencos for tariff negotiation. These three Gencos had a negotiation with the Committee on 16th November, 2018. The result of the negotiation is that each of the Gencos saw reasons to agree with the Committee's consideration of MYTO tariffs as the reference threshold. And so, the three Gencos with whom we negotiated separately, grudgingly agreed to accept their MYTO tariffs – capacity and energy but not without appealing for serious consideration for machine stress compensation.