



National Electric Power Regulatory Authority
Islamic Republic of Pakistan

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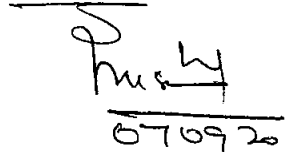
No. NEPRA/R/SA(Tariff)/TRF-400/ZSPL-2017/27952-27954
September 7, 2020

Subject: Decision of National Electric Power Regulatory Authority in the matter of Motion for Leave for Review filed by M/s. Zorlu Solar Pakistan Limited against the Authority Determination of Generation Tariff dated January 15, 2020 (Case No. NEPRA/TRF-400/ZSPL-2017)

Dear Sir,

Please find enclosed herewith the subject Decision of the Authority (08 pages) in the matter of Motion for Leave for Review filed by M/s. Zorlu Solar Pakistan Limited against the Authority Determination of Generation Tariff dated January 15, 2020 in Case No. NEPRA/TRF-400/ZSPL-2017 for information.

Enclosure: As above


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(Syed Safer Hussain)

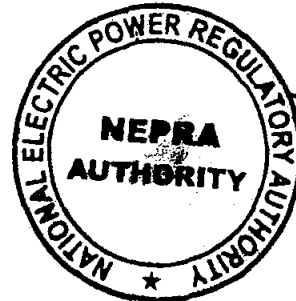
Secretary
Ministry of Energy
'A' Block, Pak Secretariat
Islamabad

CC:

1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.

DECISION OF NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
IN THE MATTER OF MOTION FOR LEAVE FOR REVIEW FILED BY M/S ZORLU SOLAR
PAKISTAN LIMITED AGAINST THE AUTHORITY DETERMINATION OF GENERATION TARIFF
DATED JANUARY 15, 2020

1. M/s Zorlu Solar Pakistan Limited ("ZSPL" or "Zolru" "the petitioner/company") is a company incorporated under the laws of Pakistan for establishment of 100 MWp solar PV power project ("the Project"). ZSPL filed the petition before National Electric Power Regulatory Authority ("NEPRA" or "the Authority") for determination of tariff in May, 2019. The Authority issued Tariff Determination on January 15, 2020 thereby approving levelized tariff of US Cents. 3.7738/kWh ("Tariff Determination" or "the impugned Determination").
2. ZSPL vide its letter dated February 14, 2020 filed the subject motion for leave for review requesting that Impugned Determination may please be reviewed in respect of six parameters, i.e. EPC Cost, Capitalized Degradation, Project Development Cost, Insurance during Construction, Financial Fee and Charges and O&M Cost. The petitioner has filed the subject review motion under regulation 3(2) of the National Electric Power Regulatory Authority (Review Procedures) Regulations, 2009 along with Rule 16(6) of the NEPRA (Tariff Standards and Procedures) Rules, 1998, and all other enabling and applicable provisions of NEPRA laws for Motion for Leave for Review.
3. The Authority considered the review motion and decided to admit the same to consider the merits of the case. The Authority also decided to hold hearing on the subject case which was scheduled on June 02, 2020, however, the hearing was adjourned on the request of ZSPL. Subsequently, the Authority re-scheduled the hearing for June 11, 2020 at 12 noon through Zoom. The revised notices of hearing were sent to the relevant parties and the petitioner on June 4, 2020. The Online hearing was held as per the above schedule which was attended by the petitioner and the representative of National Transmission and Despatch Company Limited NTDCL ("NTDCL"), Punjab Power Development Board ("PPDB") and others. Post hearing, PPDB vide its letter dated June 25, 2020 submitted its comments requesting the Authority to decide the subject matter under applicable NEPRA's rules and regulations.



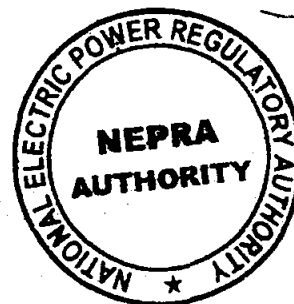
Grounds of Review motion

4. As mentioned above, the petitioner has requested the Authority for the review of Impugned Determination with respect to following six parameters:
- EPC Cost — Determined at lesser amount
 - Capitalized Degradation — Missing details and amount
 - Project Development Cost- Determined at lesser amount
 - Insurance During Construction- USD indexation
 - Financial Fees and Charges — Determined at lesser amount and US\$ indexation
 - O&M Cost- Determined at lesser amount and 50% to be allowed as foreign component
5. The submissions/arguments of the petitioner on the listed above parameters (both in the review motion and during the hearing) are discussed below.

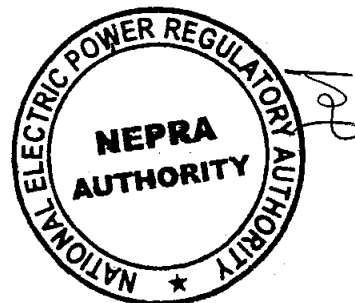
EPC Cost – Determined at lesser amount

6. The petitioner submitted that the Authority in the Impugned Determination has allowed EPC cost of USD 49.35 million against the requested amount of USD 67 million. The petitioner stated that the Authority has approved the EPC cost of Zorlu while comparing with other solar PV projects and doing so the site/project specific costs of the company could not be accounted for. To support its argument, the petitioner also referred the tariff case of Eneritech Quetta where the Authority considered and approved site specific costs. The petitioner requested for the increase of the approved EPC cost by USD 7.34 million; details thereof are given below:

EPC Cost Heads	USD Million
Installation of SVC	1.5
Embankment and Waterways	0.94
Inverters	1.5
Mini-piles	3.4
Total	7.34



7. Installation of SVC: Regarding Installation of Static Voltage Compensator (SVC), ZSPL submitted that NTDCCL has required it to install 2 SVCs of -5/+20 MVAR in the Grid Study. ZSPL submitted that its EPC contractors obtained quotes for SVC from three (3) OEM's and the lowest bid comes out as USD 1.1 million. ZSPL also submitted that SVC is quite an extensive system requiring a construction on a 40 m x 40 m area and the construction cost of USD 0.4 million has been estimated for that purpose, resulting in a total cost of USD 1.5 million. During the hearing, the honourable Chairman inquired NTDCCL that whether SVC is actually required or the same function can be performed by the capacitor banks. The Authority also inquired that whether the cost obligation for installation of SVC should be of power producer or the transmission company. The representative of NTDCCL explained that SVC shall be connected at medium voltage level (33 kV), i.e. inside the plant and not at 132kV/ 220 KV level, so obligation of installation of SVC is on power producer. Furthermore, NTDCCL informed that all the four solar power plants which are in operation in Bahawalpur have SVCs installed in their power stations.
8. Cost of Embankment and Water ways & Increased cost of Mini Piles: The petitioner submitted that the site of the Project experienced heavy storms and rains during the monsoon season and gets flooded due to the difference in elevation within site area. Therefore, it has site specific requirements of constructing embankments and waterways to protect the power plant during the rainy season. Zorlu submitted that the sub-contractor of its EPC contractor has prepared a design at different levels of Project's site based on which embankment and water ways will have cost of USD 0.94 million. During the hearing, the Authority inquired that why such site has been selected where large works of embankments and waterways are required and also questioned that should not these expenses be borne by PPDB. The petitioner responded that the project site is in the Quid-e-Azam Solar Park and was given by PPDB. ZSPL also submitted that as all the studies have been performed on this site so there would be lesser chances of changing the site at that time. The petitioner stated that it is not sure whether PPDB will be able to provide compensation on account of cost of embankments and waterways. PPDB informed that as per their information, there were lot of rains only in 2015 and not in 2019, as referred by the petitioner. It further explained whole process of selection of ZSPL for the development of Project and submitted that the petitioner conducted the feasibility study on that land where such things should have been addressed. The Authority then inquired that how can something which was not pointed out in the original petition be



considered under the scope of review petition. ZSPL responded that it was not specifically pointed out as the turnkey EPC contract was signed which was inclusive of all the works. It also stated that had the Authority allowed it EPC cost of USD 67 million then it could have coped with this thing, however, the same cannot be managed under the approved EPC cost of USD 49,350 million. The Authority directed Zorlu to provide documentary evidence showing that this particular thing was included in the scope of EPC contract. In response thereof, Zorlu vide its letter dated June 15, 2020 received in this office on July 21, 2020 submitted its response stating that water drainage channels is included as the responsibility of the EPC contractor.

9. Mini Piles: With respect to cost of mini piles, ZSPL submitted that it has higher requirement of steel and deep mini-piles to cater for high wind speed and the ground conditions at site compared to other solar projects. It submitted that its EPC contractor has undertaken a geotechnical study along-with compressive, lateral and pull out load tests for 90 piles at different sections of the Project's site taking the wind speed loads and ground conditions into account. On the basis thereof, it has constructed approximately 90,000 numbers of piles. ZSPL submitted that it has an estimated cost increase of approximately USD 3.4 million for construction of mini piles instead of direct ramming based on above technical grounds.
10. High Cost of Inverters: The petitioner submitted that its EPC Contractor executed agreements for inverters back in 2017 based on the prices applicable at that time. Similarly, EPC Contractor had executed the contract for supply of inverter skid and auxiliary equipment with Siemens. Based on above contract, Siemens has completed manufacturing of the inverters and auxiliary equipment and the Factory Acceptance Test (FAT) of the same has been completed. Based on above, ZSPL stated that cost of inverters (including combiner boxes) will be USD 5.5 million to the Project, while the Authority has considered the market prices as low as USD 4 million for the Project. Therefore, difference in cost is as high as USD 1.5 million which Zorlu requested the Authority for approval.

Project Development Cost (PDC)

11. The petitioner submitted that it has been allowed Project Development Cost (PDC) of USD 1.7 million against the requested amount of USD 2.195 million. During the hearing, the petitioner submitted that the Authority has stated in the Impugned Determination



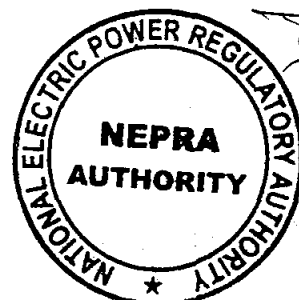
that PDC is being allowed while taking into account the impact of exchange rate variations and local inflation occurred since January, 2018. However, the petitioner submitted that allowed PDC does not include the impact of local inflation (occurred between 2018 and 2020) and as per its calculation, the amount of PDC value comes out to be USD 1.93 million which the petitioner requested for approval.

Insurance during Construction

12. The petitioner has submitted that the Authority in its Impugned Determination allowed Insurance during Construction at the rate of 0.40% of approved EPC cost of the Project which will be adjusted as per actual at the time of COD. However, the maximum amount allowed for the COD adjustment is capped at PKR/USD rate of 155.35. The petitioner requested that lenders require insurance of the Project from Moody's A + rating insurance companies. Since no insurance company in Pakistan is Moody's A + rated, therefore the insurance is to be procured from abroad, cost of which is to be incurred in USD. It further submitted that clause vii of para 8.8 to the Policy for Development of Renewable Energy for Power Generation 2006 ("RE Policy 2006") allows suitable indexation of tariff components to cover the risk of exchange rate variations and inflation, etc. Stating above, the petitioner requested the Authority to allow insurance during construction to be adjusted as per actual at the time of COD with a maximum allowed amount of 0.4% of the approved EPC Cost in USD terms as allowed under the RE Policy 2006.

Financing Fee and Charges

13. ZSPL submitted that Financing Fees and Charges have been reduced by the Authority in the Impugned Determination from the requested amount of 2.5% of the debt amount to 2%. It submitted that the company had already completed lender's due-diligence process, obtained required internal approvals and finalized financing documents based on previous determination of 2018. It also submitted it will have to re-incur a major portion of the captioned cost to redo the entire process on the basis of changed technology and revised tariff determination. ZSPL submitted that it has already incurred USD 0.9 million under this head for which an Audit certificate was also submitted by the petitioner. Zorlu stated that it has to also pay arrangement fee of 1.5% of debt and commitment fee of 1% of un-disbursed amount in addition to amount already spent. The petitioner informed that it contacted the lending institutions for reduction in their fees keeping in



view the amounts approved by Authority under this head, however, underlying processes of lending institutions cannot be overridden and it does not see any possibility of reduction in arrangement fee and commitment fee. Additionally, ZSPL also submitted that the Authority allowed Financing Fee and Charges to be adjusted based on actual, capped with the allowed limit at the conversion rate of PKR/USD at 155.35. The petitioner submitted that it is securing foreign financing for the Project and the captioned costs are to be incurred in USD. Based on above, it requested the Authority to allow this cost at a cap of 2.5% of the debt amount (as allowed in Authority's previous determination of 2018) and also requested to allow the same in USD terms.

O&M Cost

14. ZSPL submitted that in its tariff petition, it had requested a sum of USD 1.1 million per annum under O&M cost with 50% local component and 50% foreign component. However, the Authority in the Impugned Determination allowed O&M cost of USD 0.9 million per annum and 100% as local component. During the hearing, the petitioner stated that the Authority in the Impugned Determination determined the new O&M cost while adjusting the earlier allowed cost with local and foreign inflation/exchange rate variations. Zorlu stated that applying the aforesaid mechanism, the new amount works out to be USD 1 million per year and requested to allow the same. The petitioner also requested for the determination of O&M cost in the proportion of 50:50 for local and foreign portions while stating that quite a major portion of O&M has to be incurred in foreign currency. Zorlu also submitted that the Authority in the Impugned Determination has compared the change in indices, applicable on local and foreign components, for the longer tenor, however, the petitioner, while giving past data, submitted that this may cause loss to the company in the shorter term.

Capitalized Degradation

15. ZSPL submitted that although the Authority in the Impugned Determination has included the amount of capitalized degradation while calculating debt servicing, however, the amount and percentage thereof were not shown anywhere in the Determination



Analysis and Decision of the Authority

16. The Authority has noted that the Grid Study of ZSPL, which was approved in 2017, has the requirement for installation of two SVCs. It was also noted that ZSPL's tariff was determined earlier back in January, 2018. The cost of electrical balance of plant, including SVCs, as was allowed in the previous determination has also been allowed in the Impugned Determination. The petitioner did not object to earlier approved cost but now has requested for review. It has also been noted that the identical cost of electrical balance of plant, including SVCs, has also been allowed to another 100 MW solar PV project which has agreed therewith. In view of these points, the Authority considers that review of EPC cost of ZSPL on account of cost of SVCs does not merit justification.
17. For the cost of embankments and waterways, ZSPL post hearing informed that the construction of storm water drainage channels is the responsibility of the EPC contractor. For the claim on account of mini piles, the petitioner presented before the Authority certain site specific features. Here again, the Authority has noted that the cost of civil works as was allowed in the determination issued in January, 2018 has been made the basis for the approval of the said cost in the Impugned Determination. That is, the civil cost approved in 2018 plus the impact of inflation between 2018 and 2020 has been allowed to the petitioner. Therefore, it is considered that this parameter does not merit review.
18. With respect to inverters, the Authority has noted that the petitioner did not object to the cost levels that have been allowed to it in the Impugned Determination but asking for higher levels due to earlier signing of contracts. The Authority is of the view that the burden of cost of inverters could not be shifted to the customers for some prior commitments of the petitioner. The cost of all equipment in the Impugned Determination were rationalized optimally to bring them to the current levels. The same has been allowed in the tariff of other comparable solar PV power projects given approval in the last few months.
19. The Authority considered the computations as advanced by the petitioner for the additional claim of PDC, however, did not find them reasonable as there was no justification of claiming local inflation on the cost earlier allowed to the petitioner in January, 2018. Regarding Insurance during Construction and Financing Fee and Charges, the Authority has noted that similar standards and adjustment mechanism

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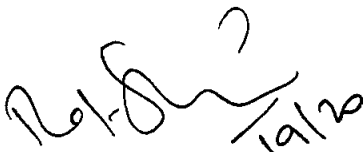
have been approved for comparable solar PV projects, hence, warrants no review. Similar is the case with the amount of O&M cost and adjustment mechanism thereof as approved in the Impugned Determination as the same is at par with what has been allowed to other comparable solar PV power projects, barring the differences due to the fix-tilt and tracking technology.

20. With respect to capitalised degradation request of ZSPL, the Authority hereby clarifies that the cost of USD 1.786 million had been included in the project cost approved in the Impugned Determination while calculating the same at the levelized rate of 3.62% of the approved EPC cost.

21. **Order**

The Authority considers that the grounds advanced by the petitioner do not merit review. Therefore, the Authority has decided to maintain its Tariff Determination issued on January 15, 2020.

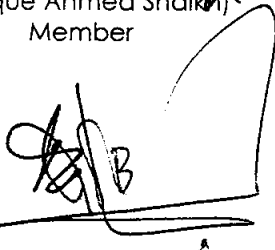
AUTHORITY



(Rafique Ahmed Shaikh)
Member




(Rehmatullah Baloch)
Member



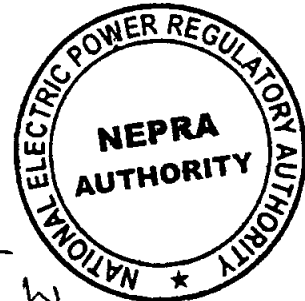
(Eng. Bahadur Khan)
Member

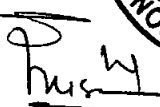


(Saif Ullah Chattha)
Vice Chairman
2.9.2020



(Tauseef H. Firdoqi)
Chairman





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