

PUNJAB STATE ELECTRICITY REGULATORY COMMISSION

SITE NO. 3, BLOCK B, SECTOR 18-A, MADHYA MARG, CHANDIGARH

Petition No. 65 of 2022
Date of Order: 14.07.2023

Petition Under Section 86(1)(b) read with 86(1)(f) of the Electricity Act, 2003 and Article 13 of the Power Purchase Agreement dated 18.01.2010 for the approval and consequent compensation due to 'Change in Law' , viz., utilization of Bio-mass pellets for power generation consequent to the enactment of the Commission for Air Quality Management in National Capital Region and Adjoining Areas Act, 2021 and the directions issued thereunder, impacting the revenues and costs of the Petitioner.

AND

In the matter of: Nabha Power Limited. Post Box No. 28, near Nalash,
Rajpura, Punjab - 140401.

..Petitioner

Versus

Punjab State Power Corporation Limited.
The Mall, Patiala, Punjab-147001.

....Respondent

Commission: Sh. Viswajeet Khanna, Chairperson
Sh. Paramjeet Singh, Member

NPL: Sh. Aniket Prason, Advocate

PSPCL: Ms. Poorva Saigal, Advocate

ORDER

1. The Petitioner Nabha Power Limited (NPL) has filed the present petition seeking declaration that the enactment of the Commission for Air Quality

Management in National Capital Region and Adjoining Areas Act, 2021 (**CAQM Act**) and the directions issued thereunder i.e. Direction No. 42 dated 17.09.2021 bearing F.No.-120015/25/TPP/2021/CAQM-/948-955 (**Direction No. 42**), directing utilization of Bio-mass pellets for power generation through the process of co-firing in pulverized coal fired boilers by power plants/utilities is a 'Change in Law' in terms of the PPA and consequent compensation as it will result in additional expenditure impacting the revenues and costs of the Petitioner. The prayers made are as under:

- (i) *Hold and declare that the enactment of the Commission for Air Quality Management in National Capital Region and Adjoining Areas Act, 2021 and the Direction No. 42 dated 17.09.2021 issued by the Commission for Air Quality Management, thereunder cumulatively constitutes Change in Law in terms of Article 13 of the Power Purchase Agreement dated 18.01.2010, for which the Petitioner is entitled to reliefs thereunder;*
- (ii) *Hold and declare that under the Power Purchase Agreement dated 18.01.2010, Bio-mass pellets can be co-fired/used as "fuel" along with coal to generate electricity and consequently, direct the Respondent to give effect to the same under the Power Purchase Agreement dated 18.01.2010, particularly Schedule 7 thereof;*
- (iii) *Grant in-principle approval for the expenditure/costs to be incurred by the Petitioner pursuant to the aforesaid Change in Law and direct the Respondent to compensate the Petitioner on account of expenditure/costs to be incurred by the Petitioner on account of requirement of utilizing Bio-mass pellets for power generation by way of pass through in the Energy Charges formula and by taking into Net Quoted Heat Rate as 2275.5 Kcal/kWh while using blend of Biomass Pellets and Coal, so as to enable it to avail requisite financing for ensuring expeditious implementation of the required measures, in order to comply with the Direction No. 42 dated 17.09.2021 issued by the Commission*

for Air Quality Management), along with interest/carrying costs from the date of impact till reimbursement by the Respondent;

- (iv) Direct the Respondent to compensate the Petitioner for all actual costs which would be incurred by the Petitioner including towards capital expenditure, Auxiliary Power and operation & maintenance, etc. due to provision for usage of Bio-mass pellets for power generation along with the carrying cost, so as to ensure that the Petitioner is brought to the same economic position as if such Change in Law has not occurred based on the principle of restitution envisaged under the PPA;
- (v) Direct the Respondent to attend the tender proceedings for supply of Bio-mass pellets to the Project;
- (vi) Issue appropriate directions for securing and realization of the pass-through as claimed by the Petitioner;
- (vii) Allow cost of litigation; and
- (viii) Pass such other or further order(s) as the Commission may deem just and equitable in favour of the Petitioner, in the facts and circumstances of the case.

2. The submissions of the Petitioner are summarized as under:

2.1 The Petitioner is a generating company engaged in the business of generation and sale of electricity from the 2x700 MW Rajpura Thermal Power Project (**Project**) to PSPCL under the Power Purchase Agreement (**PPA**) dated 18.01.2010. The Project has been setup under Case 2 Scenario 4 of the Competitive Bidding Guidelines, where under the energy charges is a complete pass through as the bidder only quotes Capacity Charges and Net Quoted Heat Rate (SHR).

2.2 The Ministry of Law and Justice, GoI vide Notification dated 13.08.2021 notified the CAQM Act for resolution of problems surrounding the air quality index in the NCR and adjoining areas and

for matters therewith or incidental thereto. Section 3 of the said Act empowers the Central Government to constitute a Commission for Air Quality Management (**AQM Commission**). And, Section 12(1) empowers the AQM Commission, an Indian Governmental Instrumentality, to take all such measures, issue directions, etc., as the AQM Commission deems necessary or expedient for the purpose of protecting and improving the quality of the air in the NCR and adjoining areas. Furthermore, Section 12(2)(xi) of the CAQM Act empowers the AQM Commission to issue directions in writing to any person, officer, or any authority and such person, officer or authority shall be bound to comply with such directions.

2.3 In exercise of the powers granted under Section 12 of the CAQM Act, the AQM Commission, on 17.09.2021 issued Direction No. 42, directing the coal based thermal power plants situated in a radius of 300 km of Delhi (which includes the Petitioner's Project) to: (i) initiate immediate steps to co-fire Bio-mass based Pellets, Torrefied Pellets/Briquettes (with focus on paddy straw) with Coal (up to 5-10%) in the power plants through a continuous and uninterrupted supply chain; and (ii) take all necessary steps to ensure that co-firing of Bio-mass pellets in thermal power plants begins without any delay.

2.4 Accordingly, the Petitioner, on 23.09.2021, issued a notice of Change in Law under Article 13 of the PPA apprising the Respondent PSPCL about the occurrence of the Change in Law (viz., the enactment of the CAQM Act and the issuance of Direction No. 42 thereunder) as well as the impact of the said Change in Law upon the Petitioner. Further, the Petitioner by way of the aforesaid notice requested the Respondent to

inter alia confirm that the use of Bio-mass pellets will qualify as Change in Law as per PPA and acceptance of additional consequential costs incurred by the Petitioner for the same.

2.5 In the meantime, MoP vide its letter dated 23.09.2021 issued a model Standard Operating Procedure for Biomass pellet cofiring in PF Boilers (**Model SOP**). It is pertinent to highlight that the Model SOP issued by MoP *inter alia* provides for the following:

- (i) Handling, storage and blending of pellets;
- (ii) Monitoring of chemistry parameters;
- (iii) Impact of biomass co-firing on combustion;
- (iv) Unit operational issues while handling pellets;
- (v) Actions to be taken in a milling system having a fire during Biomass firing;
- (vi) Combustion issues in pellet firing;
- (vii) Safety aspects of pellet-firing; and
- (viii) Infrastructural requirements of biomass pellet handling.

From the above, it becomes abundantly clear that usage of Bio-mass pellets as fuel for the Project shall lead to increase in costs of the Petitioner towards establishment of pellet handling infrastructure, impact of Bio-mass co-firing on the Net Quoted Heat Rate of the Project, compliance with fire safety measures, procurement of Bio-mass pellets, etc.

2.6 On 17.09.2021, a meeting was taken by the Minister of Power and New and Renewable Energy, which was attended by various officials including the Chief Secretary, GoP and CMD of PSPCL, the minutes whereof were issued by MoP vide OM dated 28.09.2021. It is pertinent

to highlight that after detailed discussions in the said meeting, it was decided that CPCB and the AQM Commission would impose penalty for those plants that do not comply with the mandate to compulsorily use Bio-mass pellets in TPPs, which would be higher for projects situated within 300 kms of Delhi NCR.

2.7 PSPCL' *vide* its letter dated 01.10.2021 in reply to the Petitioner's notice' did not dispute the occurrence of the Change in Law, however, it took a stand that PPA as on date does not contain any clause which allows NPL to use biomass pellet as 'fuel' to generate electricity and suggested that NPL shall approach the Commission seeking necessary directions as well as approval of the Change in Law in terms of Article 13 of the PPA.

2.8 MoP by way of its OM dated 05.10.2021 has also forwarded the copy of Direction No. 42 issued by the AQM Commission to PSPCL amongst others. Further, MoP by way of its OM dated 08.10.2021 issued the Revised Policy for Biomass Utilisation for Power Generation through Co-firing in Coal based Power Plants, categorically stating that for projects set up under Section 63 of the Electricity Act, the increase in ECR due to bio-mass co-firing can be claimed under Change in Law provisions.

2.9 In view of the above, The Petitioner is obligated to utilize Bio-mass pellets after blending with coal as 'fuel' for generating electricity from the Project:

a) This would result in the Petitioner having to incur additional cost towards procuring the Bio-mass pellets. However, the PPA executed between the Petitioner and PSPCL categorically defines

'fuel' as 'coal' and accordingly, all provisions pertaining to tariff, particularly Schedule 7 of the PPA, provide for payment of costs towards procurement and utilization of coal (F^{COAL}_n).

- b) It will also impact operational parameters, such as the Net Quoted Heat Rate, Auxiliary Power Consumption, etc. NTPC has already carried out trial operations by using blending 5-10% of biomass pellets at its Dadri Plant and presented that the use of the biomass pellets along with coal has led to a decrease in boiler efficiency by around 0.33%. Accordingly, the relief in the boiler efficiency amounting to 0.33% should be granted to NPL by giving effect of 0.33% in the Net Quoted Heat Rate of 2268 Kcal/kWh.
- c) Additionally, as the quantity of Bio-mass pellets to be utilized by the Petitioner increases, the Petitioner will be required to construct infrastructure for unloading, storage, safety and blending of Bio-mass pellets. These would also lead to loss of revenue and increase in expenditure/costs for the Petitioner.

2.10 At this juncture, since the exact cost implication of the Change in Law is not ascertained at present; NPL by way of the present petition is seeking inter alia in-principle approval for the expenditure to be incurred by NPL pursuant to the aforesaid Change in Law. In this regard, NPL refers to and relies upon the judgment of the Hon'ble APTEL dated 12.10.2021 in Appeal No. 251 of 2021 (whereby the RERC has been directed to consider the claim for Change in Law at the time of tariff adoption) and judgment dated 16.11.2021 in Appeal No. 163 of 2021 (wherein the Hon'ble APTEL has recognized the MERC order dated 18.07.2019 granting in-principle approval for Change in Law).

2.11 This Change in Law event has taken place during the Operating Period of the Project which achieved CoD on 10.07.2014. It is pertinent to submit that the Respondent has only provided a fortnightly Letter of credit of Rs. 153.65 Crore. Further, the Change in Law detailed in the present Petition entails a cumulative increase in cost to the Petitioner (i.e., the Seller) which is more than 1% of the Letter of Credit (i.e. Rs 1.53 Crore). Therefore, the Petitioner satisfies the 1% threshold limit prescribed under Article 13.2 (b) of the PPA.

3. The petition was taken up for hearing on admission on 30.11.2022. After considering the averments made by the Ld. Counsel for the petitioner, petition was admitted with directions to PSPCL to file their reply to the petition.

4. PSPCL filed their reply on 18.01.2023, submitting as under:

4.1 Direction No. 42 issued by the CAQM for the use of biomass pellets in coal based thermal plants constitutes a Change in Law within the meaning of Article 13 of the PPA. However, in-principle approval for expenditure to be incurred by NPL is not in accordance with the terms of the PPA, as is clear from the following submissions:

a) Any compensation for costs arising out of a Change in Law event should be in accordance with the terms of the PPA. The present PPA, executed pursuant to competitive bidding under Section 63 of the Electricity Act, 2003, does not provide for or contemplate an in-principle approval for any cost to be incurred by NPL. Hon'ble Tribunal' decision dated 12.10.2021 in Appeal No. 251 of 2021 in the case of Green Infra Renewable Energy Limited v Rajasthan Electricity Regulatory Commission and Ors. is distinguishable

inasmuch as the same was in the context of a specific change in law event that was required to be considered by the State Commission at the stage of adoption of the bid under Section 63 of the Electricity Act, 2003.

b) NPL is entitled to compensation on account of the Change in Law event, but only after the amount has been incurred and approved by the Commission after prudence check to discard any unnecessary or imprudent expenses. Further, the amount incurred has to be in excess of the threshold criteria laid down in Article 13.2(b).

4.2 On 01.10.2021, PSCPL has replied to NPL's Change in Law notice. In the said letter, PSCPL clarified that the relevant powers to hold the CAQM Act and the Directions issued thereunder as a Change in Law, as well as the subsequent determination of its financial implications vests with the Commission.

4.3 On the issue of additional implications on account of constructing new infrastructure for unloading, storage etc. of biomass pellets, in the meeting held under the Chairmanship of Chairman PPCB to discuss the use of Biomass pellets in Thermal Power Plants in the State of Punjab, NPL has admitted that it is already having requisite basic Infrastructure and can use biomass pellets along with coal with minor modifications in the plant. The MoM dated 13.09.2019, records as under:

"2. Thereafter, the representatives of the Thermal Power Plants discussed the problems being faced by them in using the biomass pellets as under:

a) Sh. R.S.Lall, GM, Nabha Power Limited, Rajpura informed that.....

.....As far as the use of biomass pellets by the NTPC in its Dadri plant is concerned, they have only fired it in the test boilers but not in the running 210 MW plant. Moreover, Nabha Power Limited is already having requisite basic Infrastructure and can use biomass pellets along with coal with minor modifications in the plant.”

- 4.4 As regards the O&M cost of handling biomass pellets, it is submitted that co-firing of 5% biomass pellets would also lead to a reduction in coal usage by NPL and therefore, only the differential implication (if at all) may be considered. Further, NPL is required to quantify any increase in cost on account of O&M expenses for handling biomass pellets after deducting the benefits due to reduction in the coal usage as well as to quantify the cost on account of impact in auxiliary power (if any). It is however re-iterated that the claim on account of impact in auxiliary power etc. are premature at this stage.
- 4.5 Further, as regards the Station Heat Rate, NPL has assumed a 0.33% decrease in boiler efficiency on account of use of biomass pellets and is claiming the consequential impact on the Station Heat Rate from 2268 kCal/kWh to 2275.5 kCal/kWh, NPL has sought to place reliance on the presentation made by NTPC Limited in respect of its Dadri Thermal Power Project. The comparison with the NTPC Dadri Plant is misplaced for the following reasons
- a) The unit capacity of NTPC Dadri plant is 210 MW having sub-critical technology, whereas unit capacity of Rajpura thermal power plant is 700 MW based on latest super-critical technology. Also, NTPC Dadri units are old units (commissioned probably in 1991 to 1994), whereas M/s NPL thermal units are comparatively new being commissioned in 2014. The configuration, technology

and vintage of the Rajpura Thermal Power Project are entirely different.

- b) Also, the Boiler performance analysis conducted by NTPC was with respect to 8 % blending of biomass pellets for the four units of the 210 MW plant.
- c) Therefore, the NTPC's presentation cannot be the benchmark for the impact of co-firing 5% biomass pellets in the more recently commissioned Rajpura Thermal Power Station of 2 X 700 MW. NPL is required to quantify the impact on net quoted heat rate on actual basis.

4.6 The revised Policy for Biomass Utilization for Power Generation through Co-firing in Coal based Power Plants issued by the MoP on 08.10.2021 makes it clear that the purchase of power through the co-firing will be considered towards fulfilment of RPO of the concerned Distribution Company. Since PSPCL is the sole beneficiary of the power generated from NPL, the power purchase through co-firing of biomass pellets shall accrue towards the RPO of PSPCL. Accordingly, NPL shall be required submit the requisite information/data to PSPCL and/or PEDDA for taking into account the energy produced from biomass pellets while co-firing with coal for consideration of the same with PSPCL's RPO compliance. NPL shall also update the stock position of biomass pellets on its website and shall provide it to PSPCL.

4.7 It is relevant to note that in a similar petition bearing Petition No. 32 of 2022 filed by PSPCL for consideration of additional cost on account of use of Biomass Pellets along with coal and oil to be used as fuel, the Commission in Order dated 27.10.2022, had allowed for the pass

through of the final cost on the basis of actual accurate data on pricing of pellets and other factors. And, the Commission has not considered/approved any impact on the Station Heat Rate/Auxiliary Consumption and shall consider the same as per the applicable MYT Regulations.

- 4.8 Article 13 of the PPA requires the Commission to determine the compensation in respect of the additional expenditure incurred on account of a Change in Law event. Further, Article 18.1 provides that any amendment in the terms of the PPA must be undertaken through a written agreement between the parties followed by an approval of the Appropriate Commission to that effect. Accordingly, NPL's contractual obligations under the PPA mandate the filing of the present petition for declaration of Change in Law event and inclusion of biomass pellets in the definition of fuel under the PPA. Therefore, no litigation costs can be imposed on PSPCL in this regard.
- 4.9 PSPCL has provided a letter of credit of Rs.153.65 crore to NPL revolving fortnightly. The amount of letter of credit in aggregate for this contract year comes out to be $\text{Rs.}153.65 \times 24 = \text{Rs.} 3687.60$ crore. Therefore, 1% threshold limit prescribed under Article 13.2(b) of the PPA comes out to be Rs.36.876 crore. NPL shall have to establish that the compensation sought exceeds 1% of the LC value in aggregate for the Contract Year.
- 4.10 The procurement/usage of pellets including the sourcing shall be subject to the same scrutiny/sampling/analysis as being exercised in the case of coal procurement or any such methodology as may be laid down by the Commission. NPL shall be required to duly furnish the requisite details as sought for by PSPCL/PEDA for availing the

benefits of RPO, energy generated using biomass pellets, and also the landed cost of biomass pellets including but not limited to the basic cost of biomass pellets, its transportation cost, its insurance cost, GCV of the pellets, procured quantity, consumption and stock position of biomass pellets, etc.

4.11 PSPCL is already participating in the tender proceedings initiated by NPL for procurement of biomass pellets. The same may not however be construed as a tacit approval of the expenses being incurred by NPL and the same would be subject to adjudication by the Commission

5. NPL filed its rejoinder on 29.03.2023 submitting that, the contentions raised by PSPCL in the Reply, even after admitting that utilization of Biomass pellets is a Change in Law event have been made to delay the adjudication of the present Petition and in turn grant of reliefs to which the Petitioner is entitled in terms of the PPA. NPL, further submitted as under:

5.1 PSPCL in its Reply has specifically admitted that utilization of biomass pellets for generation of power in terms of CAQM Act and Direction No. 42 issued thereunder constitutes a Change in Law. Therefore, the Commission may graciously be pleased to allow prayer (i) and (ii) of the Petition as being undisputed.

5.2 The Commission has already adopted the Central Electricity Regulatory Commission's (**CERC**) order dated 18.02.2020, passed in Suo-Motu Petition No. 12/SM/2019 in toto *vide* its order dated 27.10.2022 in Petition No. 32 of 2022. Accordingly, Petitioner is also entitled to Fuel costs of Biomass pellets in terms of the same. However, once bio-mass pellets are declared to be fuel in terms of the PPA, Schedule 7 of PPA shall apply and the fuel cost shall be

determined in accordance with the same. Further, since the Project was set up under Section 63 of the Electricity Act, a different mechanism is required to be developed with respect to adjustment of Station Heat Rate and Auxiliary Power Consumption in order to ensure complete restitution.

- 5.3 Since this is not a change in law event relating to mere infrastructure investment, but also has an impact on the fuel cost which is recurring in nature. Therefore, a workable formula is required to be adopted in advance for the procurement of biomass pellets as the cost of biomass pellets being fuel needs to be reimbursed in terms of Schedule 7 of the PPA.
- 5.4 The Respondent's contentions that the PPA does not envisage grant of in-principle approval or that the present Petition is entirely untenable. In this regard, it is submitted that:
- (i) Hon'ble **APTEL** vide its judgment dated 23.04.2014 in Appeal No. 207 of 2012 *inter alia* granted in-principle approval for the additional expenditure to be incurred by the Petitioner in construction of the Railway Siding on account of change in scope of work.
 - (ii) Similarly, Hon'ble APTEL vide its judgment dated 28.08.2020 in Appeal No. 73 of 2019 has *inter alia* granted in-principle approval for the expenditure to be incurred in installation and operation of the Flue Gas Desulphurization equipment and associated system to comply with emission levels of SO₂.
 - (iii) It is reiterated that Hon'ble APTEL vide its judgment dated 12.10.2021 in Appeal No. 251 of 2021 directed the Hon'ble Rajasthan Electricity Regulatory Commission to consider the

claim for Change in Law at the time of tariff adoption. Further, Hon'ble APTEL vide its judgment dated 16.11.2021 in Appeal No. 163 of 2021 recognized the Hon'ble Maharashtra Electricity Regulatory Commission's order dated 18.07.2019 granting in-principle approval for Change in Law.

Thus, there are enough precedents where in-principle approval has been granted with respect to a Change in Law in a competitively bid out project.

5.5 In any case, the PPA defines fuel as domestic coal, whereas the present Change in Law event requires the Petitioner to utilize biomass pellets as fuel. Therefore, in order to comply with Direction No. 42 issued by the AQM Commission, the approval of the Commission for utilization of biomass pellets as fuel is required. Accordingly, the present Petition cannot be said to be premature by any stretch of imagination.

5.6 The Minutes of Meeting dated 13.09.2019 cited by PSPCL also states that 'M/s Nabha Power Ltd. have shown keen interest in using the biomass pellets alongwith coal subject to availability of Torrefied biomass pellets, inclusion of biomass pellets as fuel in the power purchase agreement, regulatory clearances by Competent Authority and minor modification in the plant'. Thus, it is clear that from the very inception of the Change in Law event, it was the considered stand of the Petitioner that using biomass pellets is subject to *inter alia* inclusion of biomass pellets in the PPA and regulatory clearances by Competent Authority, which has been sought by the Petitioner in the said Petition.

5.7 The basic infrastructure referred in the MoM dated 13.09.2019 means Boiler, Turbine and Generator. It does not include the other infrastructure required for storing, unloading, handling of the Biomass pellets, etc. Needless to say, biomass pellets require separate storage and handling facilities in addition to the existing facilities available for coal handling and storage. Further, coal is reaching the Plant through railway siding and unloaded through wagon tippers, whereas biomass pellets will be transported through road mode which would require additional machinery, manual labour, and separate area etc. for unloading. Therefore, the Respondent's reliance on the MoM dated 13.09.2019 is misconstrued, and the Petitioner is required to include additional infrastructure in alignment with the SOP dated 23.09.2021 which will impose an additional burden on the Petitioner.

5.8 NTPC's presentation holds a persuasive value to ascertain the impact of Change in Law in components such as SHR and Auxiliary Consumption apart from additional cost implications. It is a well-known fact that usage of biomass pellets for power generation increases SHR of the Project. In this regard, reliance is placed on the policy of the Ministry of Power for Biomass Utilization for Power Generation wherein it has been explicitly stated that '*the appropriate commission will determine the compensation (...) to be allowed in tariff for increase in cost of generation on account of using biomass pellet, increase in auxiliary power consumption (APC) and plant heat rate (HR) etc*'.

5.9 In case the Commission is of the view that the Petitioner should carry out a study of its own plant regarding the impact on SHR, the Petitioner will do the same. However, as an interim measure the relief

with regard to increase in SHR may kindly be granted in terms of the presentation prepared by NTPC.

5.10 It is pertinent to mention herein that Revised Pellets Policy provides for the procedure to be followed for utilization of biomass pellets. The said policy framed by the Central Government not only provides for the quantum of biomass pellets to be co-fired with coal but also provides for the method for procuring the same as well as the standard draft model RfP and Contract. Thus, biomass pellets can only be procured through Tender Process and the utilization of the biomass pellets shall be strictly in terms of revised pellets policy which shall be in force till the useful life of Thermal Power Plants or 25 years whichever is earlier. Thus, the Central Government has already provided for the prudence check measures in the policy itself, which may be adopted by this Hon'ble Commission.

5.11 In addition to the above, it is submitted that the present Project being a Case 2 Scenario IV project, wherein energy charges is a complete pass through, any reduction in coal usage will automatically get passed through to the Respondent in terms of Schedule 7 of PPA. Lastly, the Respondent's contentions regarding utilization of biomass pellets in the Project being included in its RPO compliance is beneficial to the Respondent and thus the acceptance of the claims raised by the Petitioner is in the interest of both the parties.

6. In the hearing held on 24.05.2023, Ld. Counsel of NPL, while referring to a Meeting held with bidders in the presence of PSPCL, submitted a copy of MoM dated 11.04.2023 containing the outcome of the bids/negotiations for procurement of Biomass Pellets for the project indicating a discovered price of Rs. 2.42/Mcal. Further, assuming 5% bio-mass co-firing with the

actual coal consumption observed in FY 2022-23, NPL calculated the estimated impact of co-firing biomass as 10.2 paise and 11.2 paise in the Average ECR, considering the SHR of 2268 kCal/kWh and 2275.5 kCal/kWh respectively. After hearing the parties, the Order was reserved.

7. After the Order was reserved, the Petitioner vide affidavit dated 06.06.2023 submitted the additional 'Short Written Submissions'. The same was objected to by PSPCL vide communication dated 21.06.2023, with the submission that the matter has been reserved for Order and no direction or liberty had been granted for the same by the Commission. Subsequently, on 08.07.2023, PSPCL also filed its reply to the Petitioners' submissions. Taking note of PSPCL's objection, the Commission decides to not take on record the submissions made by the parties after reserving of the Order.

8. Observations and the decision of the Commission

The Commission has examined the submissions and arguments thereon by the parties. The issues raised the Petitioner are examined as under:

8.1 Prayer to declare that the enactment of Commission for Air Quality Management (CAQM) Act, 2021 and the Direction no. 42 dated 17.09.2021 issued by CAQM thereunder constitutes 'Change in Law' in terms of Article 13 of the PPA, for which the Petitioner is entitled to reliefs there under.

The Commission refers to the Article 13.1.1 of the PPA, which reads as under:

"Change in Law" means the occurrence of any of the following events after the date, which is seven (7) days prior to the Bid Deadline:

(i) the enactment, bringing into effect, adoption, promulgation, amendment, modification or repeal, of any Law or.."

Thus, the Commission is of view that the enactment of the 'Commission for Air Quality Management (CAQM) Act' and the 'Direction no. 42 dated 17.09.2021' issued there under to initiate immediate steps to co-fire biomass based Pellets, Torrefied Pellets/Briquettes (with focus on paddy straw) with Coal (up to 5-10%) in the power plants situated within a radius of 300 km of Delhi, is a 'Change in Law' in terms of Article 13 of the PPA. Further, as there is no dispute regarding the Petitioners' project being situated within a radius of 300 km of Delhi, the said CAQM directions are also applicable on its project. The Commission observes that PSPCL is also agreeable to the same. Moreover, PSPCL has already obtained the Commission's approval for consideration of addition of cost on account of use of Biomass Pellets along with Coal on account of said enactment/directions in case of its own thermal plants, in Petition No. 32 of 2022.

Thus, the Petitioners' prayer to treat this enactment (CAQM Act of 2021) and the directions issued thereunder as 'Change in Law' as per Article 13 of the PPA is allowed.

8.2 Prayer to declare that under the PPA dated 18.01.2010, Bio-mass pellets can be co-fired/used as "fuel" along with coal to generate electricity, and to give effect to the same under the Power Purchase Agreement dated 18.01.2010, particularly Schedule 7 thereof:

The Petitioners' plea is that the co-firing of Bio-mass with coal would result in incurring of additional costs towards procuring the Bio-mass pellets. However, the PPA executed between the Petitioner and PSPCL categorically defines 'fuel' as 'coal' and accordingly, all provisions pertaining to tariff, particularly Schedule 7 of the PPA, provide for

payment of costs towards procurement and utilization of coal only. It was submitted that the Commission in Petition No. 32 of 2022 has already allowed the cost of Biomass Pellets to be added to the total Fuel cost in respect of PSPCL thermal plants, thus, for all intent and purpose, Biomass Pellets are to be treated as fuel by PSPCL for generating electricity in its thermal plants.

To examine the issue, the Commission refers to the relevant provisions of 'CAQM Directions' and 'PSERC Tariff Regulations, 2022' which reads as under:

(i) CAQM Direction No. 42 dated 17.09.2021:

“8. Whereas, the matter of utilisation of biomass pellets for co-firing in thermal power plants was discussed in the meetings held in the Commission on 09.12.2020, 13.07.2021 and also 5th Meeting of the Commission held on 19th August 2021 and 24th August, 2021;

9. Where, NTPC, based on the trials and experimentation has confirmed that it is technically feasible and implementable to co-fire bio –mass pellets with coal in proportion upto 5-10% in Thermal Power Plants without any modification in the boilers;

.....

14. NOW THEREFORE, in view of the above position and the compelling need to control air pollution from burning of paddy straw and its effective utilization as a resource, the Commission constituted under the provision of “Commission for Air Quality Management in National Capital Region and Adjoining Areas, Act, 2021”, hereby directs the Coal based Thermal Power Plants situated upto a radius of 300 Km of Delhi:

- I. *To initiate immediate steps to co-fire biomass based Pellets, Torrefied Pellets/Briquettes(with focus on paddy straw) with Coal (upto 5-10%) in the power plants through a continuous and uninterrupted supply chain and*
- II. *To take all necessary steps to ensure that co-firing of biomass pellets in Thermal Power Plants begins without any delay.”*

(ii) PSERC Tariff Regulations, 2022:

“38. LANDED COST OF FUEL

The landed cost of fuel for the month for the purpose of computation of energy charge shall be as specified in Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, as amended from time to time:”

Further, the ‘Landed Fuel Cost’ has been defined in CERC Tariff Regulations, 2019 as under:

“(41) ‘Landed Fuel Cost’ means the total cost of coal (including biomass in case of cofiring), lignite or the gas delivered at the unloading point of the generating station and shall include the base price or input price, washery charges wherever applicable, transportation cost (overseas or inland or both) and handling cost, charges for third party sampling and applicable statutory charges;”

From above, it is evident that the Bio-mass pellets can be co-fired/used as “fuel” along with coal in the mandated proportion in Thermal Power Plants without any modification in the boilers. Moreover, the ‘cost of coal’ also stands clarified in the PSERC/CERC Regulations as the ‘cost of coal (including biomass in case of co-firing)’. Accordingly, the parties are free to amend

the relevant section(s) of the PPA to that extent, so as to be in line with the statutory provisions.

8.3 Prayer to grant in-principle approval and compensation for the expenditure/costs to be incurred by the Petitioner pursuant to the aforesaid Change in Law on account of requirement of utilizing Bio-mass pellets for power generation:

PSPCL, while submitting that there is no provision in the PPA for the in-principle approval, however agreed that the petitioner is entitled to compensation on account of the Change in Law event after the amount has been incurred and approved by the Commission upon prudence check to discard any unnecessary or imprudent expenses. PSPCL further submitted that the Petitioner is entitled to compensation on account of the Change in Law event, but only after the amount has been incurred and approved by the Commission after prudence check to discard any unnecessary or imprudent expenses. Further, the amount incurred has to be in excess of the threshold criteria laid down in Article 13.2(b).

Whereas, the Petitioner has cited judgements by Hon'ble APTEL *inter alia* granting in-principle approval for the expenditure to be incurred by the projects on account of 'Change in Law'. It was also submitted that the Petitioner is entitled to compensation in the form of upward tariff adjustment and pass through in accordance with Article 13 of the PPA.

The Commission examines the components of costs raised by the Petitioner as under:

8.3.1 By way of pass through in the Energy Charges formula

a) Cost of biomass pellets:

The Commission refers to the Order dated 27.10.2022 in Petition No. 32 of 2022 filed by PSPCL, wherein, while referring to the already adopted “CERC methodology for estimation of electricity generated from biomass in biomass co-fired power plants” issued after following the due process vide CERC Order dated 18.02.2020 in Petition no. 12/SM/2019 (Suo-Motu), in toto, the Commission has allowed the addition of cost of biomass pellets along with Coal on account of usage of biomass pellets co-fired with coal in PSPCL’s own thermal power plants in line with the said CERC Order, with the following observations:

“7. iii) CERC vide order dated 18.02.2020 in suo-motu petition no. 12/SM/2019 has already defined the methodology for estimation of electricity generated from such co-fired biomass-based Pellets, Torrefied Pellets/Briquettes with Coal (up to 5-10%). Addl. Chief Secretary, Department of NRES, Government of Punjab has also recommended that the Biomass co-firing be allowed based on CERC methodology. The commission also notes the submission of PEDA that the order passed by CERC is complete and can be well relied upon in the instant case since it is already being followed by NTPC etc.

.....

v) As the increase in generation cost shall be borne by the consumers of Punjab State against which burning of paddy straw is required to be reduced in Punjab, accordingly, the Commission directs PSPCL to procure the biomass-based Pellets, Torrefied Pellets/Briquettes subject to the conditions that the pellets are manufactured using biomass (paddy straw/stubble) procured preferably from within Punjab as far as possible and as long as price is competitive so as to have the maximum positive environmental impact.

Further, to reduce the cost of transportation of pellets, pellets manufacturer situated in Punjab may be preferred to avoid double transportation cost.

vi) Keeping the above in view, the Commission adopts CERC Order issued on dated 18.02.2020 in Suo Moto Petition No. 12/SM/2019 in toto and allows the addition of cost of biomass pellets along with Coal to add to the total Fuel cost of PSPCL Thermal Generating Units (GGSSTP Ropar & GHTP, Lehra Mohabbat) for ARR, FCA and other purposes on account of usage of biomass pellets co-fired with coal in thermal power plants in line with the above referred Order. However, MOD shall be calculated without considering the impact of Biomass Pellets.

The final cost for pass through will be calculated on the basis of actual accurate data on pricing of pellets and other factors

Further, PSPCL shall submit the requisite data for quantifying the energy produced from biomass in biomass co-firing for verification/inspection by PEDDA, being the State Agency for monitoring of RPO compliance by the obligated entities in Punjab, for qualification of same as PSPCL's RPO compliance."

Accordingly, the Commission is of the view that the similar findings can also be made applicable to the Petitioner for co-firing of Bio-mass fuel with coal in its thermal plant. However, in order to ensure the availability of the biomass-pellets at a reasonable cost and to avoid unnecessary litigation between the parties, it would be proper if the Petitioner procure the same through a transparent and competitive bidding process, in consultation with the sole procurer of power i.e. PSPCL, who may also participate in the procurement process undertaken by the petitioner. Both parties shall extend full cooperation in this regard to each other.

Further, the procurement/usage (including the sourcing) of bio-mass shall be subject to the same scrutiny/sampling/analysis as already being exercised in the case of coal procurement or any such methodology as may be laid down by the Commission.

Also, the Petitioner shall furnish the requisite details, as sought for by PSPCL/PEDA for assessment of generation of RE energy for RPO compliance, i.e. the energy generated using biomass, its landed cost (including the basic cost, transportation, insurance etc.), GCV, procured quantity, consumption and stock position, etc.

b) Issue of compensation on account of change in its 'Net Quoted Heat Rate' and 'Auxiliary Power Consumption' on implementation of CAQM Directions to co-fire Bio-mass with coal:

The Petitioners' plea is that co-firing of Biomass with coal will also impact its operational parameters, such as the 'Net Quoted Heat Rate', 'Auxiliary Power Consumption' etc. It was submitted that NTPC has already carried out trial operations by blending 8% of biomass pellets at its Dadri Plant indicating a decrease in the boiler efficiency by around 0.33%. The Petitioner also submitted that in case the Commission is of the view that the Petitioner should carry out a study of its own plant, it will do the same. However, as an interim measure the relief with regard to increase in SHR may kindly be granted in terms of the presentation prepared by NTPC.

Whereas, PSPCL's contention is that reliance cannot be placed on the NTPC presentation based on the trial operation in its Dadri

Plant, which is an old plant of sub-critical technology when compared to the newer and higher capacity plants of the Petitioner with super-critical technology. PSPCL submitted that the Petitioner is required to quantify the impact on actual basis.

The Commission agrees with PSPCL that the findings contained in the NTPC presentation, prepared way back in 2016, based on its data/ experiences in respect of only the test boiler of its Dadri Thermal Power Plant, a comparatively older and smaller / sub-critical unit of 200 MW series, cannot be applied in toto on the newer super-critical technology units of the Petitioner. No other study was placed before the Commission for consideration.

Thus, the Commission is of view that, in the absence of adequate relevant data the actual impact on the 'SHR' and 'Auxiliary Power Consumption' on account of co-firing of bio-mass along with coal cannot be quantified at this stage, for the purpose of consideration of compensation on account of same to the Petitioner. The Commission also feels that addition of Biomass pellets possibly having higher GCV may ultimately result in better performance parameters. Moreover, presently no relaxation in performance parameters has been determined/ allowed by CEA/CERC for use of Biomass in co-firing with coal for generation of power, including for the NTPC plant cited by the Petitioner.

However, noting PSPCL's contention that the Petitioner is required to quantify the impact on actual basis and also the Petitioners' willingness to carry out a study of its own plant, the Commission finds it appropriate to grant liberty to the Petitioner to come up with a study of its own plant, conducted

jointly with PSPCL, to quantify the impact of Bio-mass co-firing on the 'SHR' and 'Auxiliary Power Consumption' on actual basis, upon successful commencement of biomass co-firing in its thermal station.

8.3.2 Issue of compensation to the Petitioner for actual costs to be incurred towards capital expenditure and operation & maintenance(O&M) etc. due to provision for usage of Bio-mass pellets for power generation

a) Capital expenditure for additional infrastructure requirements:

The Petitioners' plea for compensation towards capital expenditure on account of additional infrastructure requirements for co-firing of Biomass was objected to by PSPCL with the submission that as per the MoM dated 13.09.2019 of the meeting held under the Chairmanship of Chairman PPCB to discuss the use of Biomass pellets in Thermal Power Plants in the State of Punjab, NPL has admitted that it is already having requisite basic infrastructure and can use biomass pellets along with coal with minor modifications in the plant. Accordingly, it can be inferred that there may not be any requirement for any major capital expenditure. However, PSPCL agreed that the petitioner is entitled to compensation on account of the Change in Law event, but only after the amount has been incurred and approved by the Commission after prudence check to discard any unnecessary or imprudent expenses. Further, the amount incurred has to be in excess of the threshold criteria laid down in Article 13.2(b).

Whereas, the Petitioner, while agreeing to its submissions in the said meeting, has clarified that the basic infrastructure referred therein

meant Boiler, Turbine and Generator. It does not include the other infrastructure required for unloading, storing and handling of the Biomass pellets, etc. Biomass pellets will require separate storage and handling facilities in addition to the existing facilities available for coal handling and storage. Further, coal is transported through railway siding and unloaded through wagon tippers, whereas, biomass pellets will be transported through road mode requiring additional machinery, labour and separate area for unloading. The Petitioner also referred to the “Model Standard Operating Procedure for Biomass pellet co-firing in PF Boilers” issued vide MoP letter dated 23.09.2021 indicating the infrastructural requirements of biomass pellet handling system in addition to the increase in costs of the Petitioner on account of its impact on the performance parameter and procurement cost, etc.

The Commission agrees with the Petitioner that some additional infrastructure may be required for handling of the biomass fuel to be used for co-firing with coal, on account of said Change in Law event, for which it need to be compensated appropriately. However, the Commission is also in agreement with the PSPCL’s contention that the entitlement of the compensation can be checked only after ascertaining the actually incurred amount, upon prudence check by the Commission, and subject to the fulfilment of threshold criteria of ‘1% of the LC in aggregate for a contract Year’ laid down in Article 13.2(b) of the PPA.

Thus, the Petitioner shall be at liberty to approach the Commission after finalizing additional infrastructural requirements of the biomass pellet handling system, for

implementation of directions on biomass co-firing in its coal based power plant, through a transparent and competitive bidding process, in consultation with PSPCL, who should also be associated and participate in the planning of required infrastructure, procurement and construction/installation process undertaken by the Petitioner.

b) Additional Operation & maintenance (O&M) costs:

On the issue of the Petitioners' claim for compensation citing increase in the O&M costs on account of handling of biomass pellets, the Commission is in agreement with PSPCL that the addition of biomass in the fuel shall also entail corresponding reduction in coal requirement and consequently the O&M costs involved in handling of coal.

The Commission is also of the view that, addition of Biomass pellets possibly having higher GCV may ultimately result in lower O&M costs.

Since, at present there is inadequate data to assess the true picture, the Petitioner is required to come up with a study of its own plant, conducted jointly with PSPCL, to quantify the differential impact of Bio-mass co-firing on its O&M costs on actual basis after accounting for reduction in O&M costs on account of reduced coal intake, upon successful commencement of biomass co-firing in its thermal station.

Thus, the Commission is of the view that the compensation on account of the above Expenditure/ Costs (if any) shall be considered by the Commission as per the provisions of the PPA subject to fulfillment of threshold limit stipulated therein. The

Compensation on these accounts, as decided by the Commission, shall be applicable from the date of actual incurring of the same, along with carrying cost, if any.

8.4 Prayer for directions to PSPCL to attend the tender proceedings for supply of Bio-mass pellets to the Project:

PSPCL has submitted that it is already participating in the tender proceedings initiated by the petitioner for procurement of biomass pellets, however the same may not however be construed as a tacit approval of the expenses being incurred by it, which may be subject to the adjudication by the Commission.

The Commission observes that participation of the sole procurer of power i.e. PSPCL is also evident from the copy of MoM dated 11.04.2023 containing the outcome of the bids/negotiations for procurement of Pellets for the project, submitted by the Petitioner in the hearing held on 24.05.2023.

However, in order to ensure transparency, competitiveness and also to avoid unnecessary litigation, it would be incumbent on the parties to continue with the joint proceedings for all activities involved therein, for successful implementations of the CAQM mandate.

8.5 Prayer to allow Cost of litigation

PSPCL has submitted that the Article 13 of the PPA requires the Commission to determine the compensation in respect of the additional expenditure incurred on account of a Change in Law event. Further, Article 18.1 provides that any amendment in the terms of the PPA must be undertaken through a written agreement between the parties followed by an approval of the Appropriate Commission to that effect. Accordingly,

NPL's contractual obligations under the PPA mandate the filing of the present petition for declaration of 'Change in Law' event and inclusion of biomass pellets in the definition of fuel under the PPA. Therefore, no litigation costs can be imposed on PSPCL in this regard.

The Commission agrees with PSPCL that no litigation costs can be imposed on PSPCL in the instant case.

Petition is disposed of in light of the above analysis and observations of the Commission.

Sd/-
(Paramjeet Singh)
Member

Sd/-
(Viswajeet Khanna)
Chairperson

Chandigarh

Dated: 14.07.2023