



Thar Coal & Energy Board
Government of Sindh

No TCEB/Registrar/2-2/2015
March 18, 2017

**DECISION OF THAR COAL & ENERGY BOARD IN
THE MATTER OF MOTION FOR LEAVE FOR REVIEW
OF FEASIBILITY STAGE TARIFF DATED
9TH JANUARY, 2017 FOR SINO SINDH RESOURCES
Pvt. LIMITED PAKISTAN MINE OF 7.8 MTPA AT
BLOCK-I THAR COALFIELDS, DISTRICT
THARPARKAR, SINDH, PAKISTAN**





Thar Coal & Energy Board Government of Sindh

No TCEB/Registrar/2-2/2015
March 18, 2017

**Decision of Thar Coal & Energy Board in the Matter of Motion
for Leave for Review of Feasibility Stage Tariff dated
January 09, 2017 for Sino Sindh Resources Pvt. Limited Mine
of 7.8 MTPA at Block-I Thar Coalfields, District Tharparkar,
Sindh, Pakistan**

Thar Coal Tariff Determination Committee

Constituted in Pursuance of Rule 3(1) of Thar Coal Tariff Determination Rules, 2014

Dr Abdul Ghani Pathan
Member

Mr Sultan Farooq Ahmed Khan
Member

Mr Ejaz Ahmed Khan
Member / Presiding Officer





Thar Coal & Energy Board Government of Sindh

No TCEB/Registrar/2-2/2015
March 28, 2017

In pursuance of the Rule 10(5) of the Thar Coal Tariff Determination Rules, 2014, it is certified that the Thar Coal & Energy Board, on the recommendation of the Thar Coal Tariff Determination Committee, has approved the Decision regarding Motion for Leave for Review of Determination of Feasibility Stage Tariff for Sino Sindh Resources Pvt. Limited Pakistan Mine of 7.8 MTPA at Block-I Thar Coalfields, District Tharparkar, Sindh, Pakistan, appended in the following pages.

Ejaz Ahmed Khan

Managing Director
Thar Coal & Energy Board



Thar Coal & Energy Board Government of Sindh

BCM	Bank Cubic Meter
CAR	Contractors' All Risk
COD	Commercial Operations Date
CPI	Consumer Price Index
CSA	Coal Supply Agreement
ECC	Economic Coordination Committee
EPC	Engineering, Procurement & Construction
EPP	Energy Purchase Price
GCV	Gross Calorific Value
GoS	Government of Sindh
HSE	Health, Safety & Environment
IA	Implementation Agreement
ICB	International Competitive Bidding
ICC	In-pit Crushing & Conveying
IDC	Interest During Construction
IRR	Internal Rate of Return
KIBOR	Karachi Inter-Bank Offer Rate
LC	Letter of Credit
LDs	Liquidated Damages
LHV	Lower Heating Value
LIBOR	London Inter-Bank Offer Rate
MJ / Kg	Mega Joules per Kilogram
MMBtu	Million British Thermal Units
MSF	Mine Service Facilities
MTPA	Million Tonnes Per Annum
MW	Megawatt
MYT	Multi Year Tariff
NCV	Net Calorific Value
NEPRA	National Electric Power Regulatory Authority
NOC	No Objection Certificate
NTDC	National Transmission & Despatch Company
O&M	Operations & Maintenance
OGRA	Oil & Gas Regulatory Authority
PKR	Pakistani Rupee
PPA	Power Purchase Agreement
RCOD	Required Commercial Operations Date
RMB	Chinese Renminbi
RoE	Return on Equity
RoEDC	Return on Equity During Construction
SBLC	Stand By Letter of Credit
SBP	State Bank of Pakistan
SCOD	Scheduled Commercial Operations Date
SEPA	Sindh Environmental Protection Agency
SSRPL	Sino Sindh Resources Private Limited
TCP	Tariff Concession Period
TCEB	Thar Coal & Energy Board
TT & OD	Telegraphic Transfer & On Demand
US	United States
USD	United States Dollar

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Against SSRL Coal Tariff Determination Order dated 09-01-2017
Case No TCEB/Registrar/2-2/2015



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The Thar Coal and Energy Board (TCEB) vide its decision No. TCEB/Registrar/2-2/2015 dated January 09, 2017 determined the Feasibility Stage Coal Tariff for Sino Sindh Resources Private Limited (SSRPL) for a 7.8 MTPA mining capacity at Block I Thar Coalfield District Tharparkar, Sindh, Pakistan. The Coal Tariff Determination Order of TCEB was notified vide Notification No. SO(COORD)/ED(Coal)/4-3/2015 dated January 09, 2017 in the Sindh Government Official Gazette. SSRL on January 23, 2017 filed motion for leave to review the decision of TCEB dated January 09, 2017.

The TCEB considered and admitted the review motion on January 26, 2017 in accordance with Thar Coal Tariff Determination Rules, 2014.

1. GROUNDS OF REVIEW MOTION

The petitioners filed the review on the following grounds:

- Selection of Mining Technology
- Estimates of Overburden Volume
- EPC Costs & Non-EPC Costs
- Miscellaneous
- Operations & Maintenance Costs

2. HEARING

The Petitioner was afforded a hearing in the matter on February 07, 2017. A presentation was made by SSRPL on various aspects of their motion for review.

3. DISCUSSION OF THE ISSUES

On the basis of the issues raised by the petitioners, the determination of TCEB is provided in the succeeding paragraphs.

3.1. Selection of Mining Technology

TCEB in its Determination had recommended the following in the context of (long term) selection of appropriate mining technology (last para Section 2.1):

Quote:

..... with respect to equipment selection and deployment parameters the Petitioner is advised to take cognizance of cost and performance efficiencies that can be possibly achieved. It is advised that appropriate assessment be carried out prior and during contract negotiations so that benefits accruing out of the more efficient deployment configurations are reflected in the subsequent tariff

Unquote

The above was a recommendatory aspect of the TCEB determination with some guidelines on CAPEX and OPEX.

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SSRPL has submitted explanations to the effect of certain calculations which present their perspective that all things remaining the same the tariff is likely to be increased by USD 0.34 per ton of coal, most notably due to the impact of higher Capex which as per their computations is not offset by reduced Opex.

It is to be noted that choice of appropriate and optimum machinery size and deployment has to be consistent with the dynamics of mine growth and expansion, a case in point being a recent communication of SSRPL to TCEB, seeking guidelines on tariff computations of their planned production is potentially enhanced to 9 MTPA. Accordingly and notwithstanding the initial computations of SSRPL, the Petitioner is advised to review the machinery selection for a more dynamic business plan, lest the present choice of equipment sizing becomes a restricting inertia for future mine expansion.

3.2 Estimation of Overburden Volumes

In the Review Petition, SSRPL has revised its estimates of total overburden volumes from 1930 million bcm to 1839 million bcm. Subsequently, pit-shell files and Block Model of the mining area was submitted in support of the recalculated values of overburden (waste material) removal.

TCTDC has reviewed this information and finds that the revised overburden volumes are compatible with its (TCTDC) calculations of overburden volumes as derived from, the submitted pit-shell files. Accordingly, the following table reflects the Feasibility Stage benchmarks of overburden volumes along with the Lignite Production volumes.

Stripping Ratio 32 Yrs.			
	OB Removal	Lignite Production	Stripping Ratio
Resubmitted for Review by	1839.04	234	7.86

3.3 EPC & NON-EPC Costs

SSSRPL has recast its Petition with respect to classification of EPC & Non-EPC Costs. This is noted to be consistent with general norms and practice. The magnitude of non-EPC Costs is composed of Development Costs and estimates of future costs. The Development Costs would be subject to review of audited Balance Sheets of the Company. Relevant documentation will be required to be submitted at the Contract Stage Tariff Petition. Estimates of future costs are noted and will be subject to review at the Contract Stage Petition and thereafter as per the respective timelines of the spend.

The Review Petition also recasts and modifies the anticipated EPC Costs. Some of these cost components are based upon specific technical information and engineering computations. These include inter alia:

- Costs related to Overburden removal (Overburden volumes, etc.)
- Computation of machinery requirements and their respective deployment
- Civil Works

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Other costs composing the EPC estimates are inter-alia:

- Salaries and wages of SSRL Management
- Labour Costs of Contractor
- Fuel
- Training
- Travel & Logistics
- Office Supplies, etc.

It is noted that the Review Petition entreats these costs as best estimates, subject to more stringent controls during the Contract Stage Tariff Petition. This position of the Petitioner is generally consistent with the status of a Feasibility Stage Petition where reasonable estimates, consistent with the market are righted at the Contract Stage. Notwithstanding, it is distinguished that some estimates are way above the prevailing market norms and requires corrective direction even at this stage of the Petition. The following are according adjusted based upon prudent estimates consistent with market norms as well as engineering computation:

- **Machinery Requirements / Deployment and Equipment Costs:**

The requirements of 7 m³ Hydraulic Excavators and 60 Tons Dump trucks are reconciled with optimum usage and deployment resulting in reduction of 7 cu.m Hydraulic Excavators cumulative numbers (over 32 years) from 107 units to 89 units and 60 T Dump Truck requirements rationalized from 1857 units to 1761 units.

The quoted costs of miscellaneous equipment are considered budgetary at this stage.

- **Contractor Salaries & Wages:**

The estimates for Contractor Wages are not reflective of the prevalent labour wages at Thar. Additionally, especially in light of a Training Program for local labor, the proportionate deployment of Pakistani labour force is relatively small and subsequently pushes the base costs higher at the expense of a higher tariff in a cost plus regime. It is expected that the subsequent stage tariff petition will design labour deployment plans that encourages larger proportion of local labour force.

A 20% correction is applied to the quoted wages at this stage and it is expected that the Contract Stage Tariff Petition these costs will be rigorously controlled and appropriately and significantly reduced further.

- **Civil Works:**

Civil works costs relating to development of tracks, roads, pathways etc. also contain estimation that is grossly in excess of what would be in a stringently controlled cost regime. The Petitioner is advised to take due consideration of this notation and apply diligent estimates in the subsequent stage of tariff petition.

- **Other Cost Estimates:**

Other cost heads as mentioned above such as travel costs, leave relaxations, management salaries, supplies etc. are not addressed in detail at this stage and it is expected that cost heads reflective of appropriate diligence and targeted towards more efficient tariff regimes will be attuned and adjusted in the Contract Stage Petition. Notwithstanding, the fares

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estimated in the travel costs are excessive and not consistent with market rates. The quoted fares are not reflected of the lowest available fares in the Class of travel and tend to burden the rate payer with higher costs. Travel fares for respective class of travel is to correspond to the lowest available fare in that class. The Petitioner is advised to adjust these estimates to the prevailing fares as per the baseline defined above and adjust the travel costs to a downward number in the subsequent petition.

- **Miscellaneous:**

- *Asset Replacement Reserve Building Rate* of 0.25% is disallowed. The Contract Stage Petition is expected to include an applicable discount that commensurate with the income derived on bank deposits of the asset build-up reserve.
- *Cost of Foreign Debt* at LIBOR+4.5% (as per the latest submittal of the Petitioner) is noted. Actual numbers will be adjusted at Financial Close Stage Tariff Determination, subject to the cap of LIBOR+4.5%.
- *Calculation of ROEDC* at 20% IRR is on a 6-Monthly computation.
- *Cost of Diesel* adjusted to PKR 85/litre to reflect the current fuel price & the ensuing trend of upward adjustments.

- **Summary of major Project Costs as Adjudicated:**

The following table reflects summarized Project Costs as adjudicated:

Summary of Adjudicated Costs (USDm)	
Total Overburden Removal	270.45
Total Civil Works	149.55
Total Equipment & Installation	206.63
Other EPC Costs	43.00
Total Capital Expenditure (Mining Construction+Civil+Equipment+Other)	669.64
Total Cost of Land Acquisition & Rehabilitation	87.58
Other Project Costs	291.87
Total Project Costs	1049.09



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4 REVISED ORDER

No. TCEB/Registrar/2-2/2015: The Thar Coal and Energy Board (TCEB) vide its decision No. TCEB/Registrar/2-2/2015 dated January 09, 2017 determined the Feasibility Stage Coal Tariff for Sino Sindh Resources Private Limited (SSRPL) for a 7.8 MTPA mining capacity at Block I Thar Coalfield District Tharparkar, Sindh, Pakistan. The Coal Tariff Determination Order of TCEB was notified vide Notification No. SO(COORD)/ED(Coal)/4-3/2015 dated January 09, 2017 in the Sindh Government Official Gazette. SSRPL on January 23, 2015 filed motion for leave to review the decision of TCEB dated January 09, 2017.

The TCEB has considered the Motion for Review Petition and the following Decision with respect to review petition is adjudicated in accordance with Thar Coal Tariff Determination Rules, 2014.

4.1. Estimation of Overburden Volumes

SSRPL has revised its estimates of total overburden volumes from 1930 million bcm to 1839 million bcm.

TCTDC has reviewed this information and finds that the revised overburden volumes are compatible with its (TCTDC) calculations of overburden volumes as derived from, the submitted pit-shell files. Accordingly, the following table reflects the Feasibility Stage benchmarks of overburden volumes along with the Lignite Production volumes.

Stripping Ratio 32 Yrs.			
	OB Removal	Lignite Production	Stripping Ratio
Resubmitted for Review by	1839.04	234	7.86

4.2. Equipment Requirements/Deployment & Costs

The requirements of 7 m³ Hydraulic Excavators and 60 Tons Dump trucks are reconciled with optimum usage and deployment resulting in reduction of Hydraulic Dump Truck cumulative numbers (over 32 years) from 107 units to 89 units and 60 T Dump Truck requirements rationalized from 1857 units to 1761 units.

4.3. Contractor Salaries & Wages

The estimates for Contractor Wages are not reflective of the prevalent labour wages at Thar. Additionally, especially in light of a Training Program for local labour, the proportionate deployment of Pakistani labour force is relatively small and subsequently pushes the base costs higher at the expense of a higher tariff in a cost plus regime. It is expected that the subsequent stage tariff petition will design labour deployment plans that encourages larger proportion of local labour force.

A 20% correction is applied to the quoted wages at this stage and it is expected that the Contract Stage Tariff Petition these costs will be rigorously controlled and appropriately and significantly reduced further.

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4.4. Miscellaneous

4.4.1. Asset Replacement Reserve Building Rate of 0.25% is disallowed. The Contract Stage Petition is expected to include an applicable discount that commensurate with the income derived on bank deposits of the asset build-up reserve.

4.4.2. Cost of Foreign Debt at LIBOR+4.5% is noted

4.4.3. Debt:Equity Ratio of 75:25 is noted

4.4.4. Calculation of ROEDC at 20% IRR is on a 6-Monthly computation

4.4.5. Cost of Diesel adjusted to PKR 85/litre to reflect the current fuel price and the ensuing trend of upward revisions.





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4.5. Summary

The following Tables represent a Summary of major Project Costs and associated tariff as adjudicated:

Summary of Adjudicated Costs (USDm)	
Total Overburden Removal	270.45
Total Civil Works	149.55
Total Equipment & Installation	206.63
Other EPC Costs	43.00
Total Capital Expenditure (Mining Construction+Civil+Equipment+Other)	669.64
Total Cost of Land Acquisition & Rehabilitation	87.58
Other Project Costs	291.87
Total Project Costs	1049.09

Tariff Summary Review Petition		
	Petitioned Tariff Review Motion	Tariff Determination Review Petition
Variable O&M	8.78	8.98
Asset Replacement	3.47	2.25
Royalty	3.55	3.33
Total Production Payments	15.80	14.55
Fixed O&M	11.95	10.82
Insurance	1.23	1.16
Working Capital	0.40	0.38
ROEDC	2.54	2.06
ROE	6.91	6.75
Principal	6.50	6.30
Interest	1.94	2.34
Total Capacity Payments	31.47	29.81
Tariff	47.27	44.36





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ANNEXURE A

Revised SSRPL Coal Tariff Table for 7.8 MTPA Mine (USD/ton)											
Year	Variable O&M	Fixed O&M	Working Capital Interest	Insurance	Asset Replacement Reserve	Royalty	ROEDC	ROE	Principal	Interest	Tariff
2020	10.5760	12.5174	0.4848	1.1590	5.0079	4.2015	2.0586	6.7534	7.7994	5.4621	56.0201
2021	9.8420	12.4980	0.4563	1.1590	2.9170	3.9686	2.0586	6.7534	8.2359	5.0256	52.9143
2022	9.7110	11.3425	0.4453	1.1590	2.9170	3.8634	2.0586	6.7534	8.6968	4.5647	51.5116
2023	9.2046	11.0577	0.4398	1.1590	2.9170	3.7988	2.0586	6.7534	9.1835	4.0780	50.6504
2024	8.7715	10.8075	0.4349	1.1590	2.8941	3.7411	2.0586	6.7534	9.6974	3.5641	49.8816
2025	9.0735	10.7021	0.4359	1.1590	2.8941	3.7571	2.0586	6.7534	10.2401	3.0214	50.0953
2026	7.7974	10.2460	0.4241	1.1590	2.8941	3.6157	2.0586	6.7534	10.8132	2.4484	48.2098
2027	8.5234	10.2044	0.4277	1.1590	2.7954	3.6635	2.0586	6.7534	11.4183	1.8432	48.8469
2028	9.1893	10.1602	0.4129	1.1590	1.0565	3.5717	2.0586	6.7534	12.0573	1.2042	47.6231
2029	8.5976	10.1299	0.4083	1.1590	1.0545	3.5208	2.0586	6.7534	12.7320	0.5295	46.9435
2030	9.2618	10.2371	0.2690	1.1590	1.0545	2.4968	2.0586	6.7534	-	-	33.2901
2031	8.8529	10.1204	0.2654	1.1590	1.0545	2.4538	2.0586	6.7534	-	-	32.7180
2032	8.4622	10.1525	0.2630	1.1590	1.0545	2.4246	2.0586	6.7534	-	-	32.3278
2033	8.8414	10.3454	0.2669	1.1590	1.0545	2.4713	2.0586	6.7534	-	-	32.9504
2034	7.5357	10.1185	0.2564	1.1590	1.0545	2.3462	2.0586	6.7534	-	-	31.2822
2035	8.2165	10.1299	0.2611	1.1590	1.0545	2.4027	2.0586	6.7534	-	-	32.0357
2036	8.8293	10.5416	0.2690	1.1590	1.1313	2.4926	2.0586	6.7534	-	-	33.2347
2037	8.5876	10.1600	0.2655	1.1590	1.2055	2.4478	2.0586	6.7534	-	-	32.6374
2038	9.4904	10.1387	0.2716	1.1590	1.2055	2.5198	2.0586	6.7534	-	-	33.5969
2039	8.9920	10.2918	0.2700	1.1590	1.2798	2.4977	2.0586	6.7534	-	-	33.3023
2040	8.7785	10.2642	0.2681	1.1590	1.1966	2.4712	2.0586	6.7534	-	-	32.9496
2041	9.2460	10.2707	0.2714	1.1590	1.1966	2.5099	2.0586	6.7534	-	-	33.4656
2042	7.8071	10.2519	0.2505	1.1590	0.1967	2.3090	2.0586	6.7534	-	-	30.7861
2043	6.4467	9.5880	0.2329	1.1590	0.1967	2.1434	2.0586	6.7534	-	-	28.5786
2044	6.9481	9.5924	0.2364	1.1590	0.1967	2.1847	2.0586	6.7534	-	-	29.1293
2045	6.5703	9.5746	0.2315	1.1590	-	2.1363	2.0586	6.7534	-	-	28.4837
2046	7.3877	9.5981	0.2373	1.1590	-	2.2049	2.0586	6.7534	-	-	29.3989
2047	7.0461	9.6202	0.2351	1.1590	-	2.1788	2.0586	6.7534	-	-	29.0512
2048	6.7371	9.5855	0.2327	1.1590	-	2.1508	2.0586	6.7534	-	-	28.6771
2049	7.0363	9.5880	0.2348	1.1590	-	2.1754	2.0586	6.7534	-	-	29.0054
Levelized Cost	8.98	10.82	0.38	1.16	2.25	3.33	2.06	6.75	6.30	2.34	44.36



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