



Registrar

National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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E-mail: registrar@nepra.org.pk

No. NEPRA/TRF-194/KPCL-2011/10807-10809
December 11, 2012

Subject: **Decision of the Authority in the matter of Motion for Leave for Review filed by Karot Power Company (Pvt.) Ltd. (KPCL) 720 MW Karot Hydropower Project [Case No. NEPRA/TRF-194/KPCL-2011] - Intimation of Decision of Tariff pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997)**

Dear Sir,

In continuation of this office letter No. NEPRA/TRF-194/KPCL-2011/4825-4827 dated May 29, 2012 whereby decision of the Authority in the matter of tariff petition filed by Karot Power Company Ltd. for approval of Feasibility Stage Tariff in respect of 720 MW Karot Hydropower Project was sent. Please find enclosed herewith the decision of the Authority along with Annex-I & II (19 pages) in the matter of Motion for Leave for Review filed by Karot Power Company Ltd. (KPCL) on 11.06.2012 against NEPRA's Determination dated 29.05.2011 in Case No. NEPRA/TRF-194/KPCL-2011.

2. The Decision of the Authority is being intimated to the Federal Government for the purpose of notification in the official Gazette pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997) read with Rule 16(11) of the National Electric Power Regulatory Authority Tariff (Standards and Procedure) Rules, 1998.

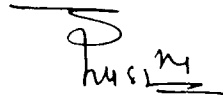
3. Please be informed that the Order of the Authority earlier intimated vide para 21 of the Authority's Determination dated May 29, 2005, stands modified to the extent as detailed in para 12 of the subject decision of the Authority along with Annex-I & II. Please note that Order of the Authority at para 12 along with Annex-I & II is required to be notified in the official Gazette.

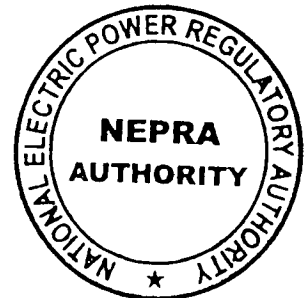
Enclosure: As above

Secretary
Ministry of Water & Power,
'A' Block, Pak Secretariat
Islamabad.

CC:

1. Secretary, Cabinet Division, Cabinet Block, Islamabad.
2. Secretary, Ministry of Finance, Islamabad.


(Syed Safer Hussain)



**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
(NEPRA)**

No. NEPRA/TRF-194/KPCL-2011

Decision of the Authority

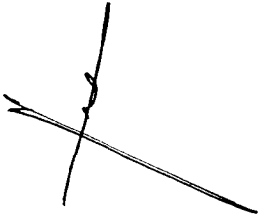
in the matter of

Review Motion Filed by

Karot Power Company

(Pvt.) Ltd. (KPCL)

720 MW Karot Hydropower Project



NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
(NEPRA)

No. NEPRA/TRF-194/KPCL-2011

~~November~~ 11th, 2012
December

Petitioner

Decision of the Authority in the matter of Review Motion filed by Karot Power Company (Pvt.) Ltd. (KPCL)

Authority

Khawaja Muhammad Naeem
Member (Tariff)



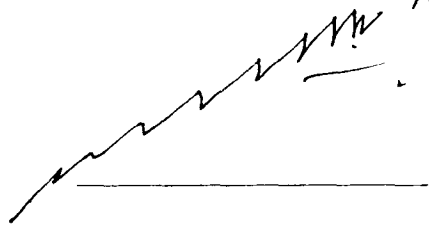
23/11/12

In light of my dissenting note dated 25.05.2012 on tariff determination of M/s Karote Power Company Limited dated 29.05.2012 and my note of dissent dated 31.07.2012 on admission for leave for review, which are on record, I decline the instant Motion for leave for review of M/s Karote Power Company Ltd. - Shaukat Ali Kundi

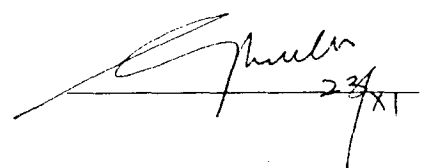
Shaukat Ali Kundi
Member

10.12.12

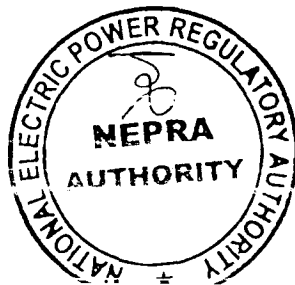
Habibullah Khilji
Member



Ghiasuddin Ahmed
Acting Chairman



23/11



Decision of the Authority in the matter of
Motion for Leave for Review filed by Karot Power Company (Pvt) Limited
720 MW Karot Hydropower Project

Karot Hydropower Company (Pvt.) Limited (hereinafter referred to as "KPCL" or the "Petitioner") has filed Motion For Leave For Review on June 7, 2012 (hereinafter referred to as "Review Petition") under rule 16(6) of the NEPRA Tariff (Standards and Procedure) Rules 1998 (hereinafter referred to "Tariff Rules") against tariff determination of the Authority for 720 MW Karot Hydropower project issued on May 29, 2012.

2. The Authority considered the review petition and decided to hold pre-admission hearing on July 3, 2012. The Pre-admission hearing was postponed on request of the Petitioner and re-scheduled for July 24, 2012. Accordingly, the pre-admission hearing was held on the aforementioned date which was attended by the petitioner along with its Chinese partner (Three Gorges). The Petitioner presented its case and the bases forming grounds for filings of review petition before the Authority. After hearing the Petitioner the Authority was convinced that there is a prima-facie case to reconsider its earlier determination. The Authority, therefore, admitted the review petition and in order to meet with ends of justice, decided to hold hearing of the review petition by inviting the petitioner and other major stakeholders. Accordingly, representatives of the Ministry of Water and Power, Ministry of Finance, Private Power Infrastructure Board (PPIB), the power purchaser i.e. Central Power Purchasing Agency (CPPA) and the Petitioner were invited through written notices to attend the hearing schedule for August 08, 2012.

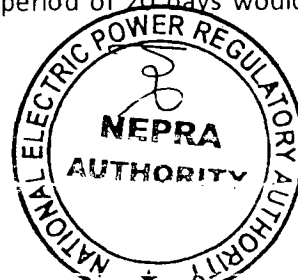
3. The aforesaid hearing was postponed on the Petitioner's request due to non-availability of its main sponsors (Three Gorges). Accordingly, the hearing of review petition of KPCL was held on August 28, 2012, which was attended by the representatives of PPIB, CPPA and the Petitioner; however no representation was made by the ministry of Water & Power and ministry of Finance. In the hearing the Petitioner accompanied with its proposed Chinese lenders made a detailed presentation of its case on various aspects of the review petition. CPPA and PPIB were provided an opportunity by the Authority to offer their comments/view point either in favor or against the review petition. The comments of these stakeholders have been discussed where appropriate, under the relevant issues of the review motion.

4. **Submissions of the Petitioner**

4.1. KPCL through its initial submissions and subsequently at the time of hearing raised various issues relating to the approved project cost and other financial parameters, which have been consolidated and discussed hereunder.

5. **Reduction in net electrical output**

5.1 The Petitioner has submitted that review of the Power and Energy studies carried out by the Consultants and incorporated in the Feasibility Study suggests a flushing period of 10 days per year for flushing out accumulated sediments in the reservoir of project. which is insufficient and unviable for such an important operation. According to the petitioner a period of 20 days would be required for



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sediment flushing, which would have a negative impact on the initial estimated annual energy production as per its approved project feasibility. The Petitioner, therefore, proposed that its annual energy production may be reduced from 3401 GWh previously approved by the Authority to revised estimated annual energy production of 3249.78 GWh.

5.2 While supporting its claim for the proposed increase in flushing time to 20 days the Petitioner submitted that appropriate time of flushing is essential for smooth operation and better useful life of the power plant. The petitioner submitted that it has carried out a detailed study on requirements of flushing time for Karot Hydropower Project through our expert whereby it has been observed that original feasibility report does not contain any study relating to sediment flushing modeling through the reservoir using either SHARC or HEC-RAS Model. The mentioned flushing duration of 10 days was just based on the experience of the Consultant's expert. The Petitioner further submitted that it has submitted detailed report on revised flushing time to PPIB for review by its Panel of Experts.

5.3 PPIB vide its letter dated August 27, 2012 has endorsed the Petitioner's revised proposed flushing duration of 20 days as reproduced hereunder.

"Kindly note that a detailed report on sediment flushing from the reservoir of Karot Hydropower Project (the 'Project') based on updated data of River Jhelum (1970-2008) was submitted by KPCL to PPIB. The report concluded the requirement of sediment flushing time of 20 days instead of 10 days earlier estimated in the feasibility study of the project and correspondingly reduction in mean annual energy from 3415.15 GWh to 3249.78 GWh".

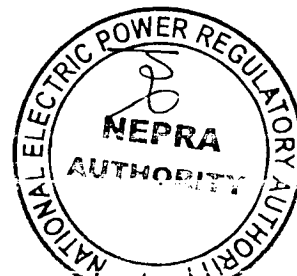
"The said report was forwarded to the panel of Experts (POE) for their review and comments. The Panel of Experts (POE) in its meeting held on 21st June 2012 at PPIB deliberated the above said report and approved 20 days flushing time, resulting in reduction of mean annual energy to 3249.78 GWh. All other parameters of the Project as approved in the feasibility study report remain unchanged".

5.4 The Power Purchaser (CPPA) and PPIB in the hearing of the review petition offered their comments in favor of the Petitioner on the issue of revised proposed net annual energy.

5.5 The Authority in the original determination had approved net annual energy for the petitioner based on its approved feasibility. The revised annual energy of 3249.78 GWh as recommended by PPIB due to increase in flushing time to 20 days is also based on estimates which may change after detailed engineering of the project to be carried by the Petitioner and therefore will be reviewed by the Authority at EPC stage tariff. Nevertheless, keeping in view the Petitioner's requirement for an appropriate flushing time as well as based on recommendation of Panel of Experts of PPIB, the Authority has decided to allow the petitioner its revised net annual energy of 3249.78 GWh.

6. Terms of debt financing

6.1 The Petitioner in its review petition has submitted that based on our initial understanding with the foreign lenders, 100% foreign debt financing was envisaged from Chinese banks. However, as a



result of ongoing negotiations with the main lenders i.e. Industrial and Commercial Bank of China (ICBC), it has been indicated by the consortium of Chinese banks that they would prefer participation of local banks to the extent of 20% of the total debt. According to the Petitioner, the requirement of local financing has been necessitated due to lenders revised terms as well as the fact that some portion of the project works will be awarded to the local contractors who will be paid contract money in local currency through the local commercial banks. The Petitioner has therefore requested that revised composition of debt i.e. 80% foreign financing and 20% local financing may be approved by the Authority.

6.2 The Petitioner in support of its aforementioned claim has provided a copy of letter dated June 7, 2012 by its main lenders lender i.e. Industrial and Commercial Bank of China (ICBC) which is reproduced hereunder.

“Further to our previous correspondence on the subject, we would like to inform you that considering escalation in demand for funding of ongoing projects, particularly in China and in general, globally, we would prefer as follows:

- | | | |
|-----|--|-----|
| i) | Funding by Consortium of Chinese Banks | 80% |
| ii) | Funding by Local (Pakistan) financial institutions | 20% |

“Participation of Home Country (Pakistan) financial institutions will not only improve the confidence level of us but also reduce the cost to be incurred on Sinosure Insurance and currency exchange. In such arrangement Sinosure is supported to be only responsible for debt arranged from Chinese Banks”.

6.3 The Petitioner has further submitted that based on its initial discussions, the local commercial banks have indicated their willingness to provide funding for the project at KIBOR plus 350 basis points.

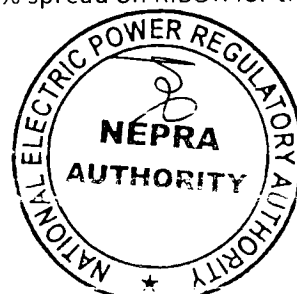
6.4 The Authority in its determination for KPCL dated May 29, 2012 has approved 100% foreign debt based on LIBOR as per submissions of the Petitioner. The petitioner, however, at para 5.3.2 of its original petition had mentioned about provision of other than LIBOR based financing as mentioned hereunder.

“For the purpose of the tariff petition, it has been assumed that debt financing shall be sourced through LIBOR based financing sources. However, it is reasonable to anticipate the arrangement of a portion of such debt finance through EURIBOR and KIBOR based financing sources”.

6.5 The Authority has already allowed debt financing on the basis of mix of foreign and local debt in other cases as per request of the Petitioners. The Government of Pakistan Policy for Power Generation Projects 2002 does not impose any restriction on composition of debt (foreign or local).

6.6 The Authority, therefore, considers that petitioner’s request for revised debt composition i.e. 80% foreign based on LIBOR and 20% local based on KIBOR is justified hence approved by the Authority.

6.7 Regarding proposed spread of 350 basis (or 3.50%) for the local financing, the Authority observed that it has already approved a maximum of 3.25% spread on KIBOR in other hydropower projects. Accordingly the Authority has decided to approve 3.25% spread on KIBOR for the Petitioner.



7. **Spread on LIBOR**

7.1 The petitioner in its review petition has requested that spread on LIBOR at 4.50% allowed by the Authority is not acceptable to its lenders due to low credit rating of Pakistan in the international market. The Petitioner in support has submitted letter of Intent of Credit by its proposed lenders consortium i.e. Bank of Communication Beijing China and China Development Bank Corporation, both dated July 20, 2012, whereby the banks have indicated spread on LIBOR in the range of 6.0% to 8%.

7.2 The Petitioner in the hearing held on August 28, 2012 mentioned that the project sponsors expect to get best rate for foreign financing at LIBOR plus 5.50%. The petitioner further submitted that the aforementioned requested spread may be adjusted at the subsequent stage tariff petition (EPC stage) on the basis of finalized term sheet of loan with the lenders. The Petitioner has further submitted that reasons for the increasing trend of spread on foreign financing are as follows.

- Deteriorating country risk profile
- Prevailing circular debt issue
- Increased cost of funding for overseas projects

7.3 The Authority understands that in the current economic situation of the country it has become difficult for the investors to negotiate with foreign lenders at favorable terms. The Authority is also cognizant of the fact that there is comparatively higher risk of investment in the hydropower projects and particularly in the instant case while considering the project size and volume of investment required by the petitioner.

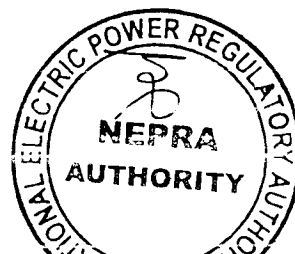
7.4 The Authority has considered the petitioner's request for increase in spread from 4.50% already approved in its determination to the proposed spread of 5.50% and observed that the Petitioner in its original tariff petition had asked for spread of 4.75%. In the opinion of the Authority the petitioner through its review petition can seek review of costs/tariff components on the basis of fresh documentary evidence, which have not been allowed by the Authority in the determination as per request of the petitioner made in its original petition. The Authority further noted that it has allowed maximum spread of 4.75% for foreign financing in other hydropower projects.

7.5 In view of the aforementioned, the Authority has decided to allow spread of 4.75% for the foreign financing based on LIBOR to the petitioner. The spread will be adjusted on the basis of finalized terms of loan with the lenders subject to the maximum of 4.75% at the second stage (EPC stage) tariff petition to be filed by the Petitioner.

7.6 Based on above decision of the Authority, the revised debt service schedule based on reference LIBOR at 0.73% plus 4.75% spread and reference KIBOR at 12.0% plus 3.25% spread is attached herewith as Annex-II.

8. **Cost of contingencies and additional costs**

8.1 The Petitioner in its review petition has submitted that the Authority has deducted US\$ 53.789 million on account of project contingencies and miscellaneous cost which was part of the cost estimates



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provided in the project feasibility conducted by the renowned international consultants (SMEC) and approved by the Panel of Experts of PPIB. The Petitioner has submitted that according to its evaluation, the cost estimates of civil works and hydro-mechanical works given in the feasibility are already on the lower side based on Chinese standard considering the size of project and complexity in terms of geological conditions. The Petitioner has therefore requested that the amount of civil works US\$ 424.500 million, hydro-mechanical works US\$ 204.650 million as well as the amount of contingencies US\$ 104.130 million may be allowed as per the original petition without any deduction.

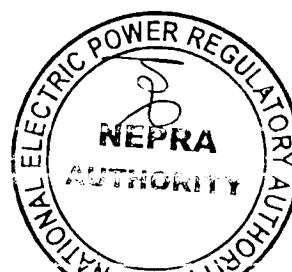
8.2 Further, the petitioner through letter No. ATL-012/753 dated July 18, 2012 addressed to PPIB has submitted that during detailed review of the Feasibility Study Report it has been observed that the Consultants had not accounted for the cost of following essential and integral items needed for the Project.

- Access tunnel to the Underground (carvan type) Power House. (US\$ 6.20 million)
- Bus Duct Shaft (US\$ 0.30 million)
- Ventilation Shaft (US\$ 0.09 million)
- Boulder Trap and Boulder Removal Arrangement (US\$ 10.64 million)
- Reservoir Monitoring Equipment (US\$ 3.55 million)
- Surveillance System for Reservoir – project house, project periphery (US\$ 9.30 million)
- Other associated costs (US\$ 19.92 million).

8.3 PPIB vide letter No.I(101) PPIB-2021-03/PRJ dated August 15, 2012 addressed to the Authority has submitted that KPCL has submitted certain additional technical requirements related to sediment flushing from the reservoir and Boulder Trap and it is suggested that all such costs related to sediment flushing system and boulder trap etc may be considered provisionally to be finalized at Detailed Design/EPC stage of the project.

8.4 The Authority has considered the petitioner's request for reconsideration of its earlier decision regarding the cost of miscellaneous works and contingencies and noted that cost of all unforeseen works such as Access tunnel, Bus Duct Shaft, Ventilation Shaft etc is already covered in the amount of contingencies already allowed to the petitioner. The Project Feasibility Consultants in their communication with the project sponsors and copies thereof submitted to the Authority have also indicated that cost of such items not taken into account at the time of preparation of project feasibility is covered under the amount of contingencies. The Authority therefore does not find any justification to reconsider its previous decision with respect to cost of contingencies.

8.5 The Authority however feels that cost associated with increase in sediment flushing time from 10 to 20 days is a subsequent development and was neither known nor considered by the consultants in the project feasibility. Further PPIB in the aforementioned letter to the Authority as well as CPPA while offering comments in the hearing have acknowledged additional cost associated with the increase in sediment flushing time. The Authority therefore is convinced that the petitioner's request for its additional cost to the extent of cost associated with increase in sediment flushing of the reservoir is justified. The Authority in its original determination dated May 29, 2012 had deducted US\$ 14.783



million on account of miscellaneous cost under the cost heads of civil works and mechanical works, which is being allowed to cater for additional cost of boulder trap equipment and other associated costs. Accordingly, total cost of civil works and mechanical works approved by the Authority works out to be US\$ 424.500 million and US\$ 204.650 million respectively. The revised EPC cost of the petitioner while incorporating the aforementioned additional cost allowed by the Authority works out to be US\$ 868.006 million and therefore approved by the Authority.

9. **Sinosure Fee**

9.1 The Petitioner in its original tariff petition had claimed Sinosure Fee on debt and equity at per annum rate of 1.2% (on semi-annual basis) to be applicable on outstanding amount of debt and equity during the project construction period as well as the project operational period.

9.2 The Authority in its determination dated May 29, 2012 approved Sinosure Fee on debt portion only at the requested Sinosure Fee per annum rate of 1.2% (on semi annual basis) for the project construction period of 4 years and debt repayment period of 12 years after COD. Accordingly US\$ 26.419 million and US\$ 74.770 million were approved for project construction period and operation period respectively. However, the Authority did not approve Sinosure Fee on Equity due to non provision of any credible documentary evidence by the Petitioner, despite the fact that sufficient time for provision of reliable documentary evidence by the Petitioner to justify its claim of Sinosure Fee on Equity was allowed by the Authority.

9.3 The Petitioner through its review petition has requested the Authority to reconsider its decision on Sinosure Fee on Equity. Further it has requested for approval of increase in the per annum rate of Sinosure Fee from 1.2% to 1.5% to be applicable on both Debt and Equity of the project. The Petitioner in support of its claim of increase in per annum rate to 1.5% has provided a letter dated July 20, 2012 of the insurance provider i.e. China Export and Credit Corporation (SINOSURE).

9.4 According to the aforementioned letter of Insurance agency (SINOSURE), the project will be provided Sinosure coverage for investment in debt and equity part at per annum rate of 1.5% which would cover, the risks of war and political violence, expropriation, currency inconvertibility and non-transfer, and breach of contract. The following revised methodology for calculation of Sinosure Fee has been indicated by the Insurance provider.

- During construction period – at a rate of 1.5% per annum of the sum of the total injected debt amount by the end of each underwriting year and the estimated interest of the above amount during the whole debt period; plus 1.5% of the undisbursed principal multiply by 15% (commitment fee)
- During debt repayment period – at the same rate per annum of the sum of the outstanding principal at the beginning of each underwriting year and the total estimated outstanding interest during the debt repayment period.
- For Equity - At a rate of 1.5% per annum of the total injected equity amount by the end of each underwriting year.



9.5 The Petitioner has not been able to provide any document relating to the stated policy of the Chinese government confirming the petitioner's obligation of Sinosure Insurance on the Equity part of project financing. The Authority considers that the aforementioned letter of Sinosure Insurance agency being interested party in the case is not sufficient documentary evidence and therefore cannot be considered. The Authority, therefore, declines to the petitioner's request for reconsideration of its earlier decision in the matter.

9.6 As far as the petitioner's request for increase in Sinosure Fee rate from 1.2% to 1.5% is concerned, the Authority considers that it has already allowed a rate of 1.2% per annum as per request of the petitioner in its original tariff petition which in the opinion of the Authority is quite sufficient to meet with its obligation of Sinosure Insurance. The petitioner has sought increase in per annum rate of 1.5% on the basis of preliminary inquires with the Sinosure agency. The Petitioner has yet to finalize its financing terms with its lenders as well as Sinosure insurance provider at a subsequent stage. The Authority, therefore, does not find any justification to reconsider its earlier decision in the matter at this stage.

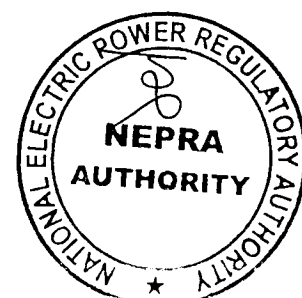
9.7 Regarding the above mentioned petitioner's revised proposed methodology for calculation of Sinosure Fee on Debt for the project construction period and project operational period, the Authority is of the view that exact methodology for calculation of per annum Sinosure Fee will be known once the Petitioner finalizes terms of Sinosure Insurance requirement with the Sinosure agency. In view of the aforementioned, the Authority has decided that methodology for calculation of Sinosure Fee will be reviewed at the second stage tariff determination based on finalized terms/methodology of Sinosure fee with the insurance agency upon production of verifiable documentary evidence by the Petitioner.

10. Other Issues

10.1 The Petitioner in its initial submissions had requested for reconsideration of the Authority in respect of some other project costs namely, Financial charges, L/C Confirmation charges and Per annum O&M cost. The Petitioner however, during the course of the proceedings as well as hearing of the instant review petition has neither reiterated its request for reconsideration of the Authority's earlier decision in respect of the aforementioned project costs, nor provided any fresh documentary evidence in this regard. The Authority therefore, has not considered petitioner's request for reconsideration of its aforementioned costs.

10.2 The Petitioner vide letter No. KPCL/012/094 dated November 08, 2012 has submitted revised drawdown plan of debt and equity for the project construction period of 4 years. The petitioner has stated that in order to expedite the construction of the project on fast track basis it has revised its debt and equity disbursement plan as given hereunder.

Debt & Equity Draw Down Schedule	Original	Revised
1 st Year	30%	40%
2 nd Year	25%	35%
3 rd Year	20%	15%
4 th Year	25%	10%
Total	100%	100%



10.3 According to the petitioner, the revised improved debt & equity draw down plan will help them in securing finances.

10.4 The Authority in its determination for KPCL issued on May 29, 2012 had worked out the tariff based on assumed debt and equity disbursement plan given in the project feasibility of the petitioner.

10.5 The Authority observed that the aforementioned petitioner's request of revised proposed debt & equity disbursement plan for the project construction period is based on assumptions and the actual percentage of debt & equity disbursement during the project construction period of 4 years may vary significantly. The Authority considers that the final tariff to be allowed to the Petitioner shall be worked out at COD on the basis of actual disbursement of debt & equity along with other adjustable components of tariff. Notwithstanding the above the Authority considers that the petitioner request for revised debt & equity disbursement plan for expeditious completion of the project is in the best interest of both the project sponsors as well as the consumers of electricity. In view of the aforementioned the Authority has, therefore, decided to approve revised proposed debt and equity disbursement plant for the project construction period of 4 years as per request of the Petitioner.

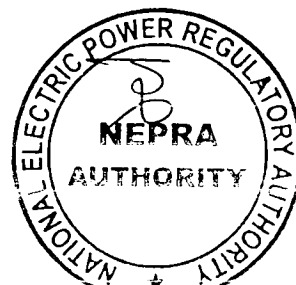
10.6 The amount of debt and equity injected during the project construction period shall be adjusted on the basis of actual at COD on similar lines as allowed to other power projects.

11. Based on Authority's decisions in the preceding paragraphs, the original order of the Authority as per its tariff determination dated May 29, 2012 has been modified to the extent as mentioned herein below.

Order

12. Pursuant to Rule 6 of the NEPRA Licensing (Generation) Rules, 2000, Karot Power Company (Private) Limited (KPCL) is allowed to charge the following tariff for delivery of electricity to the Central Power Purchasing Agency (CPPA) for onward delivery to Ex-WAPDA distribution companies.

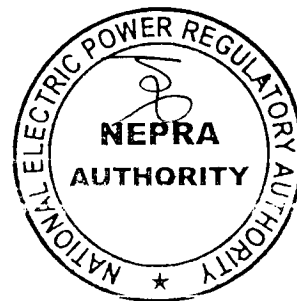
Tariff Components	Year 1-12	Year 13-30	Indexation
Variable Charge (Rs/kWh)			
Variable O&M - Local	0.0918	0.0918	WPI
Variable O&M - Foreign	0.0918	0.0918	PKR/US\$, US CPI
Water Use Charge	0.1500	0.1500	WPI
Fixed Charge (Rs/kW/M)			
Fixed O&M - Local	52.3217	52.3217	WPI
Fixed O&M - Foreign	52.3217	52.3217	PKR/US\$, US CPI
Insurance	109.5967	109.5967	PKR/US\$
Debt Service	1297.0499	-	LIBOR, PKR/US\$
Return on Equity	428.4522	428.4522	PKR/US\$
Return on equity during construction (ROEDC)	170.8888	170.8888	PKR/US\$



- i. The reference tariff has been calculated on the basis of net contracted capacity of 712.8 MW and net annual energy production of 3249.780 GWh.
- ii. In the above tariff, no adjustment for Carbon Emission Reduction receipts (CERs) has been accounted for. However, upon actual realization of CERs, the same shall be distributed between the Power Purchaser and KPCL in accordance with the GOP Policy for Power Generation Projects 2002 as amended from time of time.
- iii. The above tariff is applicable for a period of thirty (30) years on BOOT basis commencing from Commercial Operation Date (COD).
- iv. Debt service will be paid in the first 12 years of commercial operation of plant after COD.
- v. Redemption of equity has been allowed after 12 years of commercial operation of the plant.
- vi. The Petitioner is entitled to adjustment of cost reopeners and cost escalation in the civil works. Such adjustment will be allowed subject to provision of the required information/data in accordance with the Mechanism for Determination of Tariff for Hydropower Projects approved by NEPRA.
- vii. Sinosure Fee on debt component of tariff for 12 years period after COD is allowed at per annum rate of 1.2% (calculated on semi-annual basis) is given in the tariff table attached herewith as Annex-I.
- viii. The reference PKR/Dollar rate has been assumed at 1 USD = 80 PKR.
- ix. The component wise tariff is indicated at Annex-I
- x. Debt Servicing Schedule is attached as Annex-II

I. One Time Adjustment

- a. The Principal repayment and the cost of debt will be adjusted at COD as per the actual borrowing composition and LIBOR at the relevant date.
- b. Interest During Construction (IDC) will be adjusted at COD on the basis of actual debt composition, debt drawdown of loan (not exceeding the amount allowed by the Authority) and applicable 6-months LIBOR & KIBOR during the project construction period allowed by the Authority.
- c. The specific items of project cost to be paid in foreign currency (i.e. US\$) will be adjusted at COD on account of actual variation in exchange rate over the reference PKR/US\$ exchange rate of Rs. 80.00 on production of verifiable documentary evidence to the satisfaction of the Authority.
- d. Duties and/or taxes, not being of refundable nature, imposed on the company up to the commencement of its commercial operations for the import of its plant, machinery and equipment will be adjusted on actual basis at COD, as against reference allowed amount of US\$



19.108 million, upon production of verifiable documentary evidence to the satisfaction of the Authority.

- e. Cost of land and resettlement will be adjusted in accordance with the Hydropower Mechanism based on authentic documentary evidence at COD.
- f. Insurance during construction will be adjusted at COD based on actual subject to the maximum of 2.40% of the adjusted and approved EPC cost upon production of verifiable documentary evidence to the satisfaction of the Authority.
- g. Financial charges will be adjusted at COD on the basis of actual subject to the maximum of 3% of the total debt allowed (excluding the impact of interest during construction, Sinosure fees and financial charges) on production of authentic documentary evidence.
- h. Return on Equity (ROE) and Return on Equity During Construction (ROEDC) will be adjusted at COD on the basis of actual equity injections and PKR/US\$ exchange rate variation (within the overall equity allowed by the Authority at COD) during the project construction period allowed by the Authority.
- i. The adjustment for Special return on equity in tariff for the 30 months period will be allowed at COD on the basis of actual equity injection prior to the construction start date on the basis of verifiable documentary evidence to be provided by the Petitioner.
- j. The amount of Sinosure Fee on foreign debt component for the project construction period of 4 years and operational period of 12 years after COD will be adjusted in tariff based on finalized terms with insurance provider subject to the maximum rate of 1.2% per annum on production of reliable documentary evidence to the satisfaction of the Authority.
- k. The reference tariff table shall be revised at COD while taking in to account the above adjustments. The Petitioner shall submit its request to the Authority within 90 days of COD for necessary adjustments in tariff.

II. Pass-Through Items

No provision for income tax has been accounted for in the tariff. If the power producer is obligated to pay any tax, the exact amount paid by the power producer (the Company) shall be reimbursed by the Power Purchaser to the Company on production of original receipts. This payment should be considered as pass-through payment (Rs/kW/M) spread over a twelve (12) months period in addition to fixed charges in the Reference Tariff.

Withholding tax on dividends is also a pass through item just like other taxes as indicated in the government Guidelines. Withholding tax shall be paid @ 7.5% of the return on equity (including return on equity during construction). The Power Purchaser shall make payment on account of withholding tax at the time of actual payment of dividend subject to maximum of 7.5% of 17% equity according to the following formula:

$$\text{Withholding Tax Payable} = \{[17\% * (E_{(Ref)} - E_{(Red)})] + \text{ROEDC}_{(Ref)}\} \times 7.5\%$$



Where:

$E_{(Ref)}$ = Adjusted Reference Equity at COD
 $E_{(Red)}$ = Equity Redeemed
 $ROEDC_{(Ref)}$ = Adjusted Reference Return on Equity during Construction

In case the Company does not declare a dividend in any particular year or only declares a partial dividend, then the difference in the withholding tax amount (between what has been paid in that year and the total entitlement as per the Net Return on Equity) would be carried forward and accumulated so that the Company is able to recover the same as a pass through item from the Power Purchaser in future on the basis of the total dividend payout.

III. Hydrological Risk

Hydrological Risk shall be borne by the Power Purchaser in accordance with the GoP Policy for Power Generation Projects 2002.

IV. Indexation

The following indexation shall be applicable to the reference tariff:

i) Indexation applicable to O&M

The Variable O&M cost is based on 50% local and 50% foreign expense. The Fixed O&M cost is based on 50% local and 50% foreign expense. The local part of O&M will be adjusted on account of Inflation (WPI), whereas the foreign part of O&M will be adjusted on account of Rupee/Dollar exchange rate variation and US CPI. Quarterly adjustment for local inflation, foreign inflation and exchange rate variation will be made on 1st July, 1st October, 1st January & 1st April respectively on the basis of the latest available information with respect to WPI (or alternative index as determined by the Authority), US CPI (notified by US bureau of labor statistics) and revised TT & OD Selling rate of US Dollar (notified by the National Bank of Pakistan). The mode of indexation will be as under:

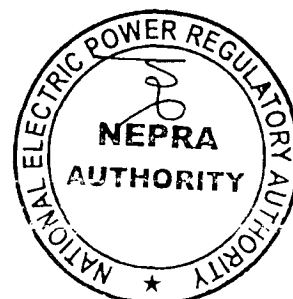
a. Fixed O&M

$$F O\&M_{(LREV)} = O\&M_{(LREF)} * WPI_{(REV)} / 209.47$$

$$F O\&M_{(FREX)} = O\&M_{(FREF)} * USCPI_{(REV)} / 229.392 * ER_{(REV)} / 80$$

Where:

$F O\&M_{(LREV)}$ = The revised applicable Fixed O&M local component of tariff indexed with WPI.
 $F O\&M_{(FREX)}$ = The revised applicable Fixed O&M foreign component of tariff indexed with US CPI and exchange rate variation.
 $O\&M_{(LREF)}$ = The reference fixed O&M local component of tariff for the relevant period.



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- $O\&M_{(REF)}$ = The reference fixed O&M foreign component of tariff for the relevant period.
- $WPI_{(REV)}$ = The Revised Wholesale Price Index (Manufacturers) / or alternative index as determined by the Authority.
- $WPI_{(REF)}$ = The Wholesale Price Index (Manufactures) of July 2011 / or alternative index as determined by the Authority and notified by the Federal Bureau of Statistics.
- $US\ CPI_{(REV)}$ = The Revised US Consumer Price Index (All Urban Consumers) notified by the Bureau of Labor Statistics.
- $US\ CPI_{(REF)}$ = Reference US CPI (All Urban Consumers) notified by the Bureau of Labor Statistics for the month of March 2012.
- $ER_{(REV)}$ = The revised TT and OD selling rate of US dollar as notified by the National Bank of Pakistan.

b. Variable O&M

$$V\ O\&M_{(LREV)} = O\&M_{(LREF)} * WPI_{(REV)} / 209.47$$

$$V\ O\&M_{(FREX)} = O\&M_{(FREX)} * USCPI_{(REV)} / 229.392 * ER_{(REV)} / 80$$

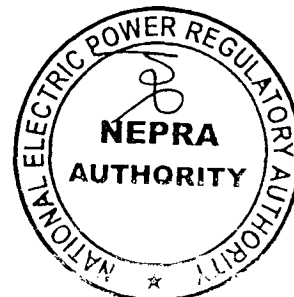
Where:

- $V\ O\&M_{(LREV)}$ = The revised applicable Variable O&M local component of tariff indexed with WPI.
- $V\ O\&M_{(FREX)}$ = The revised applicable Variable O&M foreign component of tariff indexed with US CPI and exchange rate variation.
- $O\&M_{(LREF)}$ = The reference variable O&M local component of tariff for the relevant period.
- $O\&M_{(FREX)}$ = The reference variable O&M foreign component of tariff for the relevant period.
- $WPI_{(REV)}$ = The Revised Wholesale Price Index (Manufacturers) / or alternative index as determined by the Authority.
- $WPI_{(REF)}$ = The Wholesale Price Index (Manufactures) of July 2011 / or alternative index as determined by the Authority and notified by the Federal Bureau of Statistics.
- $US\ CPI_{(REV)}$ = The Revised US Consumer Price Index (All Urban Consumers) notified by the Bureau of Labor Statistics.
- $US\ CPI_{(REF)}$ = Reference US CPI (All Urban Consumers) notified by the Bureau of Labor Statistics for the month of March 2012.
- $ER_{(REV)}$ = The revised TT and OD selling rate of US dollar as notified by the National Bank of Pakistan.

ii) Water Use Charges

Water Use Charge will be paid on units delivered basis and will be indexed with Wholesale Price Index (WPI) annually from the date of COD. The first such adjustment shall be due after one year of commercial operation from COD, according to the formula:

$$WUC_{(REV)} = WUC_{(REF)} * WPI_{(REV)} / 209.470$$



Where;

- $WUC_{(REV)}$ = The revised Water Use Charge component of tariff indexed with Whole Sale Price Index (WPI).
 $WUC_{(REF)}$ = The reference Water Use Charge component of tariff for the relevant period.
 $WPI_{(REV)}$ = The Revised Wholesale Price Index (Manufacturers) / or alternative index as determined by the Authority.
 $WPI_{(REF)}$ = 209.47, the Wholesale Price Index (Manufactures) of July 2011 / or alternative index as determined by the Authority and notified by the Federal Bureau of Statistics.

Note: -

At the time of this determination, the Authority is still in the process of establishing an alternative index for WPI (Manufacturers) which has been discontinued by FBS since August 2011. Pending determination of the alternative index by NEPRA, the last available WPI (Manufacturers) for the month of July 2011 has been used as reference. Upon determination of the alternative indexation by NEPRA, the reference indexation values shall be revised to the alternative index value for the month of March 2012.

iii) Insurance

Insurance cost component of tariff, in case insurance is denominated in foreign currency, will be adjusted on account of PKR/US\$ exchange rate variation at COD and thereafter on an annual basis at actual subject to the maximum of 1.35% of the EPC cost on production of authentic documentary evidence by the Petitioner, according to the following formula:

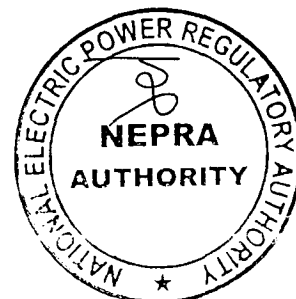
$$Ins_{(REV)} = Ins_{(REF)} * ER_{(REV)}/ER_{(REF)}$$

Where;

- $Ins_{(REV)}$ = Revised Insurance cost component of tariff adjusted with the exchange rate variation (PKR/US\$)
 $Ins_{(REF)}$ = Reference insurance cost component of tariff for the relevant period.
 $ER_{(REV)}$ = The revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan.
 $ER_{(REF)}$ = The reference TT & OD selling rate of US dollar as notified by the National Bank of Pakistan.

iv) Adjustment for LIBOR variation

- a) The interest part of fixed charge component will remain unchanged throughout the term except for the adjustment due to exchange rate variation and variation in 6 months LIBOR, while spread of 4.50% on LIBOR remaining the same, according to the following formula:



$$\Delta I = P_{(REV)} * (LIBOR_{(REV)} - 0.73\%) / 2$$

Where;

ΔI = the variation in interest charges applicable corresponding to variation in six-month LIBOR. ΔI can be positive or negative depending upon whether $LIBOR_{(REV)} >$ or $<$ 0.73%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each period under adjustment applicable on bi-annual basis.

$P_{(REV)}$ = the outstanding principal (as indicated in the attached debt service schedule to this order at Annex-II) on a semi-annual basis at the relevant calculations dates.

- b) The interest part of fixed charge component will remain unchanged throughout the term except for the adjustment due to variation in 6 months KIBOR, while spread of 3.25% on KIBOR remaining the same, according to the following formula:

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 12.0\%) / 2$$

Where;

ΔI = the variation in interest charges applicable corresponding to variation in six-month KIBOR. ΔI can be positive or negative depending upon whether $KIBOR_{(REV)} >$ or $<$ 12.0%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each period under adjustment applicable on bi-annual basis.

$P_{(REV)}$ = the outstanding principal (as indicated in the attached debt service schedule to this order at Annex-II) on a semi-annual basis at the relevant calculations dates.

v) Return on Equity

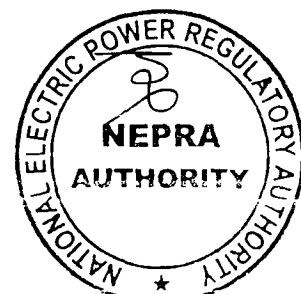
Return on equity (ROE) as well as Return on Equity during Construction (ROEDC) component of tariff shall be adjusted for variation in PKR/US\$ exchange rate according to the following formula:

~~$$ROE_{(REV)} = ROE_{(REF)} * ER_{(REV)}/ER_{(REF)}$$

$$ROEDC_{(REV)} = ROEDC_{(REF)} * ER_{(REV)}/ER_{(REF)}$$~~

Where;

$ROE_{(REV)}$ = Revised Return on Equity component of tariff expressed in Rs/kW/M adjusted with exchange rate variation.



ROEDC _(REV)	=	Revised Return on Equity during Construction component of tariff in Rs/kW/M adjusted with exchange rate variation.
ROE _(REF)	=	Reference Return on Equity component of tariff expressed in Rs/kW/M for the relevant period.
ROEDC _(REF)	=	Reference Return on Equity during Construction component of tariff expressed in Rs/kW/M for the relevant period.
ER _(REV)	=	Revised TT and OD selling rate of US dollar as notified by the National Bank of Pakistan.
ER _(REF)	=	Reference TT and OD selling rate of US dollar.

Note: -

Adjustment on account of inflation, foreign exchange rate variation and LIBOR/KIBOR variation will be approved by the Authority within fifteen working days after receipt of the petitioner's request for adjustment in tariff in accordance with the requisite indexation mechanism stipulated hereinabove.

V. Other Terms and Conditions of Tariff

Design & Manufacturing Standards:

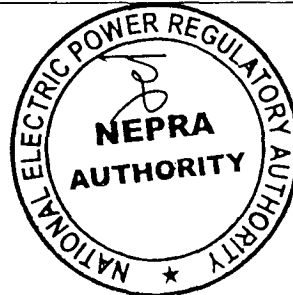
Hydel Power Generation system shall be designed, manufactured and tested in accordance with the latest IEC standards or other equivalent standards. All plant and equipment shall be new and of standard quality.

Power Curve of the Hydel Power Complex:

The power curve of the Hydel Power plant shall be verified by the Power Purchaser, as part of the Commissioning tests according to the latest IEC standards and shall be used to measure the performance of the hydel generating units.

Emissions Trading/Carbon Credits:

The Petitioner shall process and obtain emissions/carbon credits expeditiously and credit the proceeds to the Power Purchaser as per the policy issued by the Federal Government.



M.

KAROT POWER COMPANY (PVT) LTD
REFERENCE TARIFF

Year	Variable O&M Local	Variable O&M Foreign	Water Use Charge	Fixed O&M Local	Fixed O & M Foreign	Insurance	Return on Equity	ROE During Construction	Withholding Tax @7.5%	Loan Repayment	Interest Charges	Sinosure fee	Total Tariff
	Rs./kWh	Rs/kWh	Rs./kWh	Rs. / kW/M	Rs. / kW/M	Rs. / kW/M	Rs. / kW/M	Rs. / kW/M	Rs. / kW/M	Rs. / kW/M	Rs./kW/M	Rs/kW/M	Rs. / kWh
1	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	556.6674	740.3825	94.9960	6.2573
2	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	594.3773	702.6725	88.7008	6.2407
3	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	635.2565	661.7934	82.0559	6.2232
4	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	679.6511	617.3988	75.0418	6.2047
5	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	727.9533	569.0965	67.6381	6.1853
6	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	780.6086	516.4413	59.8232	6.1647
7	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	838.1230	458.9269	51.5740	6.1430
8	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	901.0726	395.9772	42.8667	6.1201
9	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	970.1142	326.9357	33.6757	6.0959
10	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	1,045.9968	251.0530	23.9740	6.0703
11	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	1,129.5765	167.4734	13.7335	6.0434
12	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	428.4522	170.8888	44.9506	1,221.8319	75.2180	2.9241	6.0149
13	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
14	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
15	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
16	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
17	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
18	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
19	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
20	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
21	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
22	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
23	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
24	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
25	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
26	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
27	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
28	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
29	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
30	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	455.4346	170.8888	46.9743				2.6697
Levelized Tariff	0.0918	0.0918	0.1500	52.3217	52.3217	109.5967	435.9320	170.8888	45.5116	560.2868	377.2096	44.9851	5.2004

Levelized Tariff (1-30 years) discounted at 10% per annum = US Cents 6.5005/kWh at reference exchange rate of 1US\$=Rupees 80.00.



KAROT POWER COMPANY (PVT) LTD

Debt Servicing Schedule

Period	Foreign Debt					Local Debt					Annual Principal Repayment Million US\$	Annual Interest Million US\$	Annual Debt Servicing Million US\$	Annual Principal Repayment Rs./kW/M	Annual Interest Rs./kW/M	Annual Debt Servicing Rs./kW/M
	Principal Million \$	Repayment Million \$	Mark-Up Million \$	Balance Million \$	Debt Service Millin \$	Principal Million \$	Repayment t Million \$	Mark-Up Million \$	Balance Million \$	Debt Service Millin \$						
1	862.3080	25.8744	23.6272	836.4336	49.5016	215.5770	3.4009	16.4377	212.1761	19.8387	59.5189	79.1617	138.6806	556.6674	740.3825	1,297.0499
	836.4336	26.5833	22.9183	809.8503	49.5016	212.1761	3.6602	16.1784	208.5158	19.8387						
2	809.8503	27.3117	22.1899	782.5386	49.5016	208.5158	3.9393	15.8993	204.5765	19.8387	63.5508	75.1297	138.6806	594.3773	702.6725	1,297.0499
	782.5386	28.0601	21.4416	754.4785	49.5016	204.5765	4.2397	15.5990	200.3368	19.8387						
3	754.4785	28.8289	20.6727	725.6496	49.5016	200.3368	4.5630	15.2757	195.7738	19.8387	67.9216	70.7589	138.6806	635.2565	661.7934	1,297.0499
	725.6496	29.6188	19.8828	696.0308	49.5016	195.7738	4.9109	14.9278	190.8629	19.8387						
4	696.0308	30.4304	19.0712	665.6004	49.5016	190.8629	5.2854	14.5533	185.5775	19.8387	72.6683	66.0123	138.6806	679.6511	617.3988	1,297.0499
	665.6004	31.2642	18.2375	634.3363	49.5016	185.5775	5.6884	14.1503	179.8891	19.8387						
5	634.3363	32.1208	17.3808	602.2155	49.5016	179.8891	6.1221	13.7165	173.7670	19.8387	77.8328	60.8478	138.6806	727.9533	569.0965	1,297.0499
	602.2155	33.0009	16.5007	569.2145	49.5016	173.7670	6.5889	13.2497	167.1781	19.8387						
6	569.2145	33.9051	15.5965	535.3094	49.5016	167.1781	7.0913	12.7473	160.0868	19.8387	83.4627	55.2179	138.6806	780.6086	516.4413	1,297.0499
	535.3094	34.8341	14.6675	500.4753	49.5016	160.0868	7.6321	12.2066	152.4547	19.8387						
7	500.4753	35.7886	13.7130	464.6867	49.5016	152.4547	8.2140	11.6247	144.2407	19.8387	89.6121	49.0685	138.6806	838.1230	458.9269	1,297.0499
	464.6867	36.7692	12.7324	427.9175	49.5016	144.2407	8.8403	10.9984	135.4004	19.8387						
8	427.9175	37.7767	11.7249	390.1408	49.5016	135.4004	9.5144	10.3243	125.8860	19.8387	96.3427	42.3379	138.6806	901.0726	395.9772	1,297.0499
	390.1408	38.8118	10.6899	351.3290	49.5016	125.8860	10.2399	9.5988	115.6461	19.8387						
9	351.3290	39.8752	9.6264	311.4538	49.5016	115.6461	11.0206	8.8180	104.6255	19.8387	103.7246	34.9560	138.6806	970.1142	326.9357	1,297.0499
	311.4538	40.9678	8.5338	270.4860	49.5016	104.6255	11.8610	7.9777	92.7645	19.8387						
10	270.4860	42.0903	7.4113	228.3957	49.5016	92.7645	12.7654	7.0733	79.9991	19.8387	111.8380	26.8426	138.6806	1,045.9968	251.0530	1,297.0499
	228.3957	43.2436	6.2580	185.1522	49.5016	79.9991	13.7387	6.0999	66.2604	19.8387						
11	185.1522	44.4284	5.0732	140.7237	49.5016	66.2604	14.7863	5.0524	51.4741	19.8387	120.7743	17.9063	138.6806	1,129.5765	167.4734	1,297.0499
	140.7237	45.6458	3.8558	95.0779	49.5016	51.4741	15.9138	3.9249	35.5603	19.8387						
12	95.0779	46.8965	2.6051	48.1814	49.5016	35.5603	17.1272	2.7115	18.4331	19.8387	130.6363	8.0423	138.6806	1,221.8319	75.2180	1,297.0499
	48.1814	48.1814	1.3202	0.0000	49.5016	18.4331	18.4331	1.4055	(0.0000)	19.8387						

