

In the matter of Application by the
TANZANIA ELECTRIC SUPPLY COMPANY LTD
For Tariff Review Application

Background

1. On 4th October 2016, the Energy and Water Utilities Regulatory Authority ("EWURA") received a Tariff Review Application from Tanzania Electric Supply Company Limited ("TANESCO") requesting an increase in its tariff for provision of electricity supply services by 18.19% effective from 1st January 2017. The proposed tariff is an increase from an average tariff of TZS 242.2/kWh to TZS 286.28/kWh where the proposed average tariff has been segregated into a generation tariff of TZS 155.35/kWh, a transmission tariff of TZS 23.76/kWh and a distribution tariff of TZS 107.17/kWh.

2. The proposal also aims to subdivide the T1 customer category into T1a and T1b. T1a customer category will include residential, commercial and public lighting while T1b category will be composed of small industries, bill boards and communication towers. Apart from a small difference in the energy charge of the two customer categories, T1a customers will not pay a monthly basic charge while it is proposed that T1b customers pay a monthly basic charge of TZS 7,655. Other charges are proposed to remain at the current existing rates as shown in the Second Schedule.

3. In its tariff application, TANESCO requested to increase tariffs of all customer categories including D1 customers who are household customers with low consumption where TANESCO requested D1 tariffs be increased from TZS 100/kWh to TZS 105/kWh which is a 5% tariff increase.

4. A preliminary evaluation of the application was conducted and it was found to be incomplete. On 7th October 2016, TANESCO was requested to submit additional information for the completeness of its application. The requested additional information was received on 20th October 2016 and on 31st October 2016, EWURA accepted the application in accordance with Section 7(1) of the Tariff Application Guidelines of 2009 and a docket was opened with a tariff case N°. **TR-E-16-019**.

5. In determining TANESCO's Application, EWURA is guided by the Energy Policy, 2015, Electricity Act, Cap. 131, EWURA Act, Cap. 414, the Electricity (Tariff Setting) Rules, 2016 and the EWURA Tariff Application Guidelines of 2009.

Tariff Review
Justification

6. According to TANESCO, the proposed tariff adjustments will enable it to finance its operational costs and capital investment program (CIP), and be able to comply with the Government's policy of ensuring that the population with access to electricity reaches 75% by 2025.

Stakeholders'
Consultation

7. Pursuant to section 19(2)(b) of the EWURA Act, EWURA conducted an inquiry into the reasonableness of the proposed tariff increase. The inquiry process commenced on 4th November, 2016 and the public hearing meetings were held concurrently on 16th November, 2016 at Mwanza, Mbeya, Arusha and Dodoma and on 23rd November, 2016 the public meeting was held at Dar es Salaam. Due to limited resources as compared to the size of the country, EWURA decided to conduct public hearings on the selected five regions. Public notices regarding the inquiry process were posted in widely circulated newspapers and on the EWURA website to seek stakeholders' views and comments on the reasonableness of the Application.

8. During the consultation process, the Government Consultative Council ("GCC"), EWURA Consumers Consultative Council ("EWURA CCC"), Zanzibar Electricity Corporation (ZECO) and the general public submitted comments on the reasonableness of the TANESCO's tariff application.

9. The GCC is of the opinion that the reasons given by TANESCO do not justify the proposed tariff increase as it is just few months when the utility applied for tariff decrease. Further, the increase may deter the government's effort to promote industrialization. The GCC recommended for unbundling of TANESCO in order to achieve operational efficiency and tariff increase if any be effected in phases.

10. The EWURA CCC noted with concern that it is unclear as to why TANESCO has applied for tariff increase just few months after the application for decrease while the circumstances are still the same. The proposed tariff increase would be a burden to consumers. The EWURA CCC recommends that TANESCO should dwell more on collection of outstanding debts from consumers and provide to EWURA measures for collecting such debts. Further, TANESCO should ensure electricity losses are reduced or eliminated.

11. ZECO was concerned on TANESCO's consideration of Tanzania Mainland policy of ensuring access to electricity to the 75% of the

population by 2025 as a factor featuring the proposed tariff increase. It was ZECO's further concern that TANESCO's distribution cost should not be taken into account in determining the tariff applicable to ZECO since TANESCO is not doing distribution activities in Zanzibar. ZECO was also against the kVa charges on the ground that the charges are not justifiable.

12. Mwenga Hydro Limited is against the proposed 5% tariff increase for D1 customers on the ground that it is very low and will aggravate subsidy problem. It is proposed that the tariff increase to D1 customers be the same with other class customers and if there is a need for further subsidy to DI customers, the subsidy should be in the form of reduced connection fee.

13. Simba Cement Company Limited is against the proposed tariff hike as the same will increase production cost amid poor power quality. TANESCO has not addressed the issue of operational inefficiencies and poor cost management. Simba Cement further stated that Tanzania shillings has been stable for long time, cost of imported fuel has not raised and inflation is below 5% hence no justifiable grounds for the tariff increase.

14. The general public is of the opinion that the proposed tariff increase is at the higher side amid the dwindling economy. The increase will impair the public's capability to pay for the electricity hence deter the development. Industrialization championed by the government would be negatively affected by the high power tariff. The public is also of the view that the circumstances which led to tariff decrease in April 2016 are still the same to date hence no justifiable grounds for tariff increase.

15. TANESCO responded to comments raised by various stakeholders by stating that the proposed tariff increase aims at providing quality and sustainable services to customers and ensure that the population with access to electricity reaches 75% by 2025. TANESCO further stated that the proposed tariff increase intends cover its cost of operation and fund its capital investment program. The increase will also enable TANESCO demonstrate its bankability to donors offering concessionary loans or grants. TANESCO has further stated that if the proposed tariff adjustment is not approved, the utility will not be able to connect more customers and provide the quality of service that customers deserve and which TANESCO seeks to provide. On specific comments by ZECO, TANESCO stated that the proposed tariff to ZECO has included cost only imposed by ZECO to the system. The computations of kVA follow the principle of energy demand, whereby a customer sharing a coincidental peak with the system pays a higher rate since peak demand is a trigger for new investment if the system has no reserve margin like TANESCO's system at the moment.

16. Subsequently, on 23rd December 2016, EWURA held an Exit Meeting

where the key stakeholders including the Ministry of Energy and Minerals, the Fair Competition Commission, EWURA CCC, GCC, TANESCO, Songas and Zanzibar Electricity Corporation attended and their comments were considered.

17. At the closure of the Inquiry process on 25th November 2016, EWURA had gathered adequate information to prudently determine the application.

Analysis and
Adjustment

18. As a result of the Inquiry and Evaluation process, EWURA concluded that TANESCO's proposed tariff for 2017 was high as discussed in the below paragraphs.

19. In determining tariffs, EWURA used the methodology outlined in the Electricity (Tariff Setting) Rules which provides for the approach of determining the cost of each electricity segment including generation, transmission and distribution and supply. Despite the fact that TANESCO has not yet ring-fenced its costs of generation, transmission, distribution and supply, TANESCO provided some estimates for apportioning its general costs into each business segment where EWURA assessed and adjusted the allocation rates in accordance to best practise and judgement of TANESCO's operations.

20. The revenue requirement for each electricity business segment is established based on all costs incurred in providing the regulated services. That is, these are the costs that TANESCO is entitled to recover (in terms of revenues) from its customers, as the same would be incurred by the utility in rendering services to its customers at each segment of the electricity subsector. EWURA ascertained prudently incurred costs and allocated them to all customers consistent to the costs each customer imposes to the system consistent with section 23(2)(f) of the Electricity Act, Cap. 131.

21. Assessment of the planned electricity sales in kilowatt hours revealed that the planned sales was significantly higher considering actual sales growth achieved in previous periods. Between 2011 and 2016, TANESCO achieved sales growth ranging between 5.0% and 11.1% with an average growth rate of 8.0% during the said period. On evaluation of the sales proposed by TANESCO, EWURA noted that TANESCO is assuming a growth rate of 15.7%. In view of the trend of sales growth achieved in previous years, EWURA adjusted the expected growth rate of electricity sales from 15.7% to 8.0%. Based on the assumed growth rate, TANESCO is expected to sale 6,308 GWh in 2017 as opposed to 6,768 GWh that were proposed by TANESCO. By a downward adjustment in sales with an allowance of 5.2% losses in the transmission system and 11% losses in the distribution system, the submitted generation plan by TANESCO was revised downward from 8,028 GWh planned by TANESCO to 7,490 GWh.

The adjusted generation plan ensures to meet the forecasted demand, follows the least cost dispatch principle, takes consideration for the average hydrology expected in 2017 and allows for grid stability.

22. Further adjustments were made to allow for prudently incurred costs and thus operational costs were revised downward in consideration of an efficient utility company. In addition, TZS 91.37 billion was allocated to allow TANESCO to further reduce system losses and invest in increasing the distribution network to cater for the future demand growth. Funds for construction of additional district offices have been disallowed until such a time when TANESCO's financial situation improves.

23. Based on the adjustments, the total revenue requirement for 2017 has been reduced from the proposed revenue of TZS 1,937.57 to **TZS 1,608.47 billion**. The approved revenue requirement implies an average tariff increase of 8.53% as opposed to the proposed increase of 18.19%. The average tariff will thus increase from TZS 242.34/kwh to **TZS 263.02/kwh**. A breakdown of the revenue requirement is as provided in the table below:

Approved Revenue Requirement for the year 2017

	Generation TZS million	Transmission TZS million	Distribution TZS million	Total TZS million
Liquid fuel	100,299	---	---	100,299
Purchased electricity	328,068	---	---	328,068
Gas purchases	351,411	---	---	351,411
Repair and Maintenance	81,657	8,832	93,273	183,762
Return on Capital	17,691	24,357	113,456	155,504
Depreciation	55,177	20,156	54,593	130,816
Staff costs	37,400	7,317	230,767	275,484
CAPEX for supply of future growth of demand	---	---	40,955	40,955
CAPEX for reduction of network losses	---	---	58,355	58,355
Other fixed O&M	17,239	18,700	37,835	73,774
Less: Other income			(89,958)	(89,958)
Total Revenue Requirement	988,944	79,318	540,209	1,608,470

Decision

24. The Board of Directors of EWURA having met on 29th December 2016 to consider this matter decided as per the Order below:

THE ELECTRICITY ACT

(CAP. 131)

ORDER No. 16 – 026

(Made under section 23(1))

**THE TANZANIA ELECTRIC SUPPLY COMPANY LIMITED ("TANESCO")
(TARIFF ADJUSTMENT) ORDER, 2016**

- | | |
|---|---|
| Citation | 1. This Order shall be cited as the Tanzania Electric Supply Company Limited ("TANESCO") (Tariff Adjustment) Order, 2016. |
| Commencement Date | 2. This Order shall come into effect on 1 st January, 2017 and shall remain in force until such time when TANESCO's Cost of Service Study is conducted and new tariff approved by EWURA. |
| Tariffs and Charges | 3. TANESCO tariff and charges to be effective from 1 st January, 2017 are hereby as specified in the First Schedule and Second Schedule to this Order. |
| Lifeline Tariff | 4. The proposed increase in tariffs for D1 customers has been disapproved and thus D1 tariffs will remain unchanged. |
| Split of T1 group customers | 5. The T1 customer group category is hereby subdivided into two groups of T1a and T1b. T1a customer category shall include residential, commercial and public lighting customers while T1b category shall be composed of small industries, billboards and communication towers. |
| Monthly Service Charge to T1b customers | 6. Monthly Service Charge of TZS 5,520 shall be paid by T1b customer category effective 1 st January, 2017. |
| Voltage Improvement and New Connection Projects | 7. TANESCO shall implement its Capital Investment Programme for the identified voltage improvement and new connection projects as summarised for each region in the Third Schedule to this Order using its own funds to be generated from the approved tariffs. |
| Approved Generation Plan and Thermal Plant Efficiency Factors | 8. The approved generation plan and efficiency factors of TANESCO's thermal power plants measured by heat rate shall be as shown in the Fourth and Fifth Schedule to this Order. |
| Fuel Cost, Inflation and Exchange Rate | 9. Tariffs shall, pursuant to Section 23(3) of the Electricity Act, Cap 131, be adjusted to reflect changes in the cost of fuel, inflation and |

Adjustment

currency fluctuation. The adjustments shall be consistent with Rule 7 of the Electricity (Tariff Setting) Rules, 2016, with the view that:

- (a) periodic adjustments do not result into tariff shocks by setting the cap and floor fuel cost adjustment which shall be 5% of the average fuel charge of TZS 123.63/kWh; and
- (b) the reference exchange rate shall be TZS 2,188.58/USD.

Conditions

10. The Order is issued with conditions that TANESCO shall:

- (a) strictly follow the least cost merit order dispatch and submit to EWURA, on a monthly basis, reports showing the actual generation and reasons for deviation from the approved generation plan as per the Fourth Schedule of this Order;
- (b) submit to EWURA, on or before 30th June 2017, the Asset Valuation and Separation of Accounts Report for ring fenced segments of generation, transmission and distribution;
- (c) submit to EWURA on quarterly basis a list of all extension of electric supply lines financed by customers from January 2017, names of customers and respective costs thereof;
- (d) submit to EWURA on quarterly basis a list of all extension of electric supply lines financed by REA and Development Partners from January 2017 specifying the supply line, the respective cost and financier;
- (e) submit to EWURA, on or before 15th January 2017, a list of all private companies and individuals by region who owed TANESCO as at 31st December 2016, together with the amount and age of the receivables;
- (f) submit to EWURA, by 31st January 2017, the executable plan for collecting all un-paid bills from its customers;
- (g) by December 2017, collect 95% of all receivables accumulated as at 31st December 2016 and the amount so collected be used to liquidate outstanding creditors;
- (h) enhance dissemination of the Customer Service Charter to customers and further ensure timely resolution of customer complaints as required by the Customer Service Charter;

- (i) connect to D1 tariff category all new single phase domestic customers in rural areas;
- (j) permanently transfer a D1 customer to the T1a customer category in the event that such a D1 customer purchases more than an average of 75kWh in a period of six consecutive months;
- (k) submit to EWURA, an application for periodic adjustments of tariffs taking into account changes in fuel costs, inflation and currency fluctuations pursuant to the Electricity (Tariff Setting) Rules, 2016;
- (l) submit to EWURA for periodic adjustments, reports on grants and subsidies received from the Government and / or Development Partners;
- (m) on quarterly basis, provide EWURA with information about financial and operating condition in accordance with the requirements of EWURA; and
- (n) submit to EWURA, on or before 31st January 2017, the implementation plan of each Condition of this Order.

Revocation

11. The Tanzania Electric Supply Company Limited (“TANESCO”) Tariff Adjustment Order, 2016 (Order No. **2016-010**) is hereby revoked.

**FIRST SCHEDULE:
APPROVED TARIFFS**

Customer Category	Component	Unit	Current Tariff	Proposed Tariff	Approved Tariff	% Change
				2017	2017	
D1	Service Charge	TZS/Month			-	
	Energy Charge (0 - 75 kWh)	TZS/kWh	100	105	100	0.0%
	Energy Charge (Above 75 kWh)	TZS/kWh	350	402	350	0.0%
T1a	Service Charge	TZS/Month	-	-	-	
	Energy Charge	TZS/kWh	292	338	182	7.0%
	Fuel Charge	TZS/kWh			130	
T1b	Service Charge	TZS/Month	-	7,655	5,520	
	Energy Charge	TZS/kWh	292	340	193	8.4%
	Fuel Charge	TZS/kWh			124	
T2	Service Charge	TZS/Month	14,233	16,368	14,233	0.0%
	Energy Charge	TZS/kWh	195	232	89	8.8%
	Fuel Charge	TZS/kWh			124	
	Maximum Demand Charge	TZS/kVA/Month	15,004	17,105	15,004	0.0%
T3 - MV	Service Charge	TZS/Month	16,769	19,250	16,769	0.0%
	Energy Charge	TZS/kWh	157	187	46	8.3%
	Fuel Charge	TZS/kWh			124	
	Maximum Demand Charge	TZS/kVA/Month	13,200	15,180	13,200	0.0%
T3 - HV	Service Charge	TZS/Month	-		-	
	Energy Charge	TZS/kWh	152	181	40	7.5%
	Fuel Charge	TZS/kWh			124	
	Maximum Demand Charge	TZS/kVA/Month	16,550		16,550	0.0%
ZECO	Service Charge	TZS/Month	-		-	
	Energy Charge	TZS/kWh	152	181	37	5.7%
	Fuel Charge	TZS/kWh			124	
	Maximum Demand Charge	TZS/kVA/Month	16,550		16,550	0.0%

Key

D1: Low Usage Tariff for Domestic customers who on average consume less than 75 kWh per month. Any unit exceeding 75 kWh is charged a higher rate of TZS 350 per kWh. Under this category, power is supplied at a low voltage, single phase (230V).

T1a: General Usage Tariff for residential customers, commercial and public lighting. Power is supplied at low voltage single phase (230V) as well as three phase (400V).

T1b: General Usage Tariff for light industrial use, communication towers and billboards. Power is supplied at low voltage three phase (400V).

T2: Applicable to general use customers where power is metered at 400V and average consumption is more than 7,500 kWh per meter reading period and demand does not exceed 500kVA per meter reading period.

T3-MV: Applicable customers connected to medium voltage.

T3 - HV: Applicable to customers connected to High Voltage including Bulyanhulu and Twiga Cement.

ZECO: Applicable to sales made to ZECO who is connected at High and Medium Voltage.

SECOND SCHEDULE:

APPROVED CHARGES

Table 1: Single Phase Charges

Service Line	Current and Proposed Connection Charges (TZS)		Approved Connection Charges (TZS)	
	Urban Rate TZS (VAT exclusive)	Rural Rate TZS (VAT exclusive)	Urban Rate TZS (VAT exclusive)	Rural Rate TZS (VAT exclusive)
Within 30 Meters	272,000	150,000	272,000	150,000
Within 70 Meters (one pole)	436,964	286,220	436,964	286,220
Within 120 Meters (two poles)	590,398	385,300	590,398	385,300

Tables 2: Three Phase Charges for Urban and Rural Areas

Service Line	Meter Type	Current and Proposed Connection Charges (TZS)		Approved Connection Charges (TZS)	
		Urban Rate TZS (VAT excl.)	Rural Rate TZS (VAT excl.)	Urban Rate TZS (VAT excl.)	Rural Rate TZS (VAT excl.)
Within 30 Meters (cable 16mm²)	LUKU	772,893	772,893	772,893	772,893
Within 30 Meters (cable 16mm²)	AMR				
Within 30 Meters (cable 35mm²)	LUKU	1,058,801	1,058,801	1,058,801	1,058,801
Within 30 Meters (cable 35mm²)	AMR				
Within 70 Meters (one pole)	LUKU	1,389,115	1,389,115	1,389,115	1,389,115
Within 70 Meters (one pole)	AMR				
Within 120 Meters (two poles)	LUKU	1,389,115	1,389,115	1,389,115	1,389,115
Within 120 Meters (two poles)	AMR				

Table 3: Service Line Application Fee

Tariff Category	Current and Proposed Fee TZS	Approved Fee TZS
All Customers	--	--

Table 4: Charges for Installation of a Meter in case of Damage due to Meter Tampering/Broken

Customer Category	Description	Current and Proposed Charges TZS (VAT exclusive)	Approved Charges TZS (VAT exclusive)
D1& T1	LUKU (Single Phase)	60,000	60,000
	LUKU (Three Phase)	200,000	200,000
	AMR (Three Phase)	300,000	300,000
T2	CT – Operated Meters	1,200,000	1,200,000
T3	CT/VT Operated Meters	1,200,000	1,200,000

Table 5: Testing and Inspection of Installation Charges

Customer Category	Current and Proposed Charges in TZS (VAT exclusive)	Approved Charges in TZS (VAT exclusive)
D1	20,000	20,000
T1	20,000	20,000
T2	30,000	30,000
T3	50,000	50,000

Table 6: Temporary Power Supply Charges

Customer Category	Description	Current and Proposed Charges TZS (VAT exclusive)	Approved Charges TZS (VAT exclusive)
T2	Connection Fee	Full Cost plus 10%	Full Cost plus 10%
T3		Full Cost plus 10%	Full Cost plus 10%
T2	Meter Deposit	200,000	200,000
T3		500,000	500,000

Table 7: Energy Deposit for Post-paid Meters

Customer Category	Description	Current and Proposed Charges TZS (VAT exclusive)	Approved Charges TZS (VAT exclusive)
D1	Single Phase	30,000	30,000
T1	Single Phase	30,000	30,000
T1	Three Phase	150,000	150,000
T2	Three Phase	200,000	200,000
T3	Three Phase	500,000	500,000

THIRD SCHEDULE:

APPROVED NEW EXTENSION PROJECTS, NEW AND ONGOING VOLTAGE IMPROVEMENT PROJECTS

Zone	Region	Extension Projects (TZS million)	New Voltage Improvement Projects (TZS million)	Ongoing Voltage Improvement Projects (TZS million)	TOTAL (TZS million)
Dar es Salaam Zone	Ilala	4,668	1,724	2,492	8,884
	Kinondoni Kusini	2,858	1,134	2,891	6,883
	Temeke	3,671	2,413	2,109	8,193
	Kinondoni Kaskazini	1,811	1,114	1,030	3,955
	Pwani	3,239	1,087	1,628	5,954
	Sub total	16,247	7,472	10,150	33,869
Southern Zone	Ruvuma	474	743	436	1,653
	Lindi	1,234	503	230	1,967
	Mtwara	1,078	532	1,088	2,698
	Sub total	2,785	1,778	1,753	6,316
Central Zone	Morogoro	806	1,326	2,420	4,552
	Dodoma	806	-	1,333	2,139
	Singida	338	373	-	711
	Sub total	1,950	1,699	3,752	7,401
Northern Zone	Tanga	1,432	1,511	1,249	4,192
	Kilimanjaro	375	1,307	741	2,424
	Arusha	2,017	2,029	2,235	6,281
	Manyara	643	207	558	1,408
	Sub total	4,467	5,054	4,783	14,305
South West Zone	Iringa	927	1,000	645	2,572
	Mbeya	3,376	3,492	1,860	8,728
	Rukwa	311	818	58	1,187
	Njombe	1,494	952	635	3,081
	Sub total	6,109	6,261	3,198	15,568
West Zone	Shinyanga	1,012	1,174	550	2,736
	Katavi	526	188	351	1,065
	Tabora	109	376	994	1,479
	Kigoma	1,598	155	126	1,879
	Sub total	3,244	1,893	2,021	7,158
Lake Zone	Mwanza	3,065	1,709	2,158	6,932
	Mara	589	663	178	1,430
	Kagera	145	1,059	218	1,422
	Simiyu	920	121	292	1,333
	Geita	1,434	1,804	338	3,576
	Sub total	6,153	5,356	3,184	14,693
TOTAL		40,955	29,514	28,841	99,310

FOURTH SCHEDULE:
APPROVED GENERATION PLAN

Table 1: Generation from TANESCO's Power Plants in Gigawatt Hours (GWh)

	January 2017	February 2017	March 2017	April 2017	May 2017	June 2017	July 2017	August 2017	September 2017	October 2017	November 2017	December 2017	TOTAL
Hale	3.09	3.00	4.00	4.00	4.00	4.00	4.00	3.58	2.66	1.00	2.00	2.00	37.34
NYM	2.33	2.24	1.61	1.35	2.41	2.40	1.52	1.48	1.33	2.40	2.36	2.46	23.89
Kidatu	95.00	80.00	81.00	112.00	90.00	70.00	65.00	75.68	75.68	73.10	68.80	68.80	955.06
Mtera	40.00	30.00	5.00	10.00	10.00	15.00	23.45	34.00	34.00	42.50	40.00	40.00	323.95
New Pangani	-	-	25.00	32.00	34.00	18.00	15.00	13.00	11.00	10.00	10.00	10.24	178.24
Kihansi	40.00	45.00	85.00	110.00	102.00	75.00	60.00	55.00	39.00	42.00	34.88	38.00	725.88
Uwemba	0.25	0.25	0.25	0.25	0.25	0.25	0.22	0.22	0.15	0.15	0.15	0.22	2.61
Kigoma	2.20	2.01	2.36	2.22	2.38	2.25	2.34	2.46	2.51	2.48	2.39	2.39	28.00
Songea	0.96	0.71	0.19	0.12	0.08	0.18	0.79	1.00	1.35	1.83	2.07	2.07	11.35
Mpanda	0.90	0.83	0.91	0.86	0.91	0.91	0.92	0.93	0.91	0.90	0.88	0.88	10.73
Mbinga	0.55	0.27	0.30	0.23	0.26	0.28	0.29	0.37	0.50	0.58	0.61	0.61	4.86
Biharamulo	0.10	0.11	0.12	0.13	0.06	0.06	0.15	0.15	0.10	0.05	0.09	0.09	1.21
Ngara	0.38	0.35	0.41	0.42	0.40	0.39	0.44	0.43	0.47	0.49	0.47	0.47	5.10
Mafia	0.52	0.30	0.48	0.43	0.36	0.40	0.32	0.32	0.37	0.40	0.44	0.44	4.77
Tunduru	0.39	0.37	0.41	0.40	0.42	0.45	0.46	0.45	0.45	0.50	0.52	0.52	5.34
Namtumbo	0.09	0.08	0.09	0.08	0.10	0.09	0.10	0.10	0.11	0.11	0.10	0.10	1.14
Ludewa	0.11	0.11	0.11	0.10	0.11	0.12	0.12	0.13	0.12	0.13	0.12	0.12	1.39
Liwale	0.21	0.20	0.20	0.20	0.21	0.19	0.20	0.21	0.21	0.22	0.22	0.22	2.49
Sumbawanga	0.03	0.01	0.04	0.02	0.00	0.03	0.01	0.05	0.04	0.04	0.48	0.48	1.22
Kasulu	0.48	0.44	0.50	0.52	0.55	0.55	0.57	0.56	0.58	0.57	0.57	0.57	6.48
Kibondo	0.29	0.28	0.33	0.33	0.36	0.37	0.39	0.41	0.39	0.39	0.38	0.38	4.29
Loliondo	0.09	0.09	0.10	0.09	0.10	0.10	0.11	0.11	0.11	0.11	0.11	0.11	1.21
Bukoba	0.00	0.01	-	0.08	0.04	0.03	-	0.04	0.02	0.02	-	-	0.24
Dodoma	0.40	0.45	0.42	0.10	0.07	0.01	-	0.10	0.42	0.73	0.68	0.68	4.05
Mwanza	27.94	26.55	2.13	0.96	1.00	1.00	6.00	20.00	6.06	15.79	21.09	12.33	140.86
Somanga	1.15	0.98	1.07	1.06	1.08	0.98	1.12	1.14	1.13	1.30	1.28	1.28	13.58
Mtwara (18)	7.31	6.69	7.75	7.42	7.75	6.77	7.39	7.58	7.59	8.29	8.37	8.37	91.27
Ubungo_G_1	60.00	60.00	60.00	60.00	60.00	59.80	63.00	64.00	62.00	62.50	63.00	63.00	737.30
Tegeta_G	25.42	23.00	25.00	22.10	25.00	24.46	25.00	25.00	24.50	25.00	24.50	25.00	293.98
Ubungo_G_2	77.79	67.20	75.00	60.00	67.00	67.00	67.00	76.20	79.21	75.00	83.14	77.00	871.54
Kinyerezi I	90.18	74.51	98.97	69.00	99.26	79.64	100.00	97.20	103.68	104.58	103.68	105.13	1,125.84
	478.14	426.00	478.75	496.46	510.17	430.70	445.91	481.92	456.65	473.17	473.37	463.95	5,615.19

Table 2: Purchases of Energy from Independent Power Producers and Neighbouring Countries in Gigawatt Hours (GWh)

	January 2017	February 2017	March 2017	April 2017	May 2017	June 2017	July 2017	August 2017	September 2017	October 2017	November 2017	December 2017	TOTAL
IPTL	16.36	28.50	8.00	4.00	10.00	3.00	4.00	14.81	32.82	51.44	39.37	52.16	264.47
Songas	123.24	111.50	116.00	119.27	117.00	119.27	123.24	123.24	122.00	123.24	119.27	117.00	1,434.25
Zambia	1.83	1.74	1.89	1.85	2.03	2.10	2.09	2.16	2.14	2.29	2.29	2.29	24.71
Uganda	6.18	6.13	6.56	5.53	6.92	7.87	7.78	7.61	7.21	7.21	7.21	7.21	83.44
Kenya	0.18	0.20	0.21	0.21	0.19	0.21	0.17	0.14	0.16	0.16	0.16	0.16	2.16
TPC	2.00	2.00	1.80	-	-	1.50	2.00	2.00	2.00	2.00	2.00	2.00	19.30
Mwenga	2.10	1.90	2.10	2.10	2.00	1.80	1.40	1.30	0.90	0.80	0.60	0.90	17.90
TANWAT	0.34	0.17	0.16	-	-	-	-	-	0.01	0.01	0.01	0.01	0.72
Yovi Hydro	0.24	0.43	0.15	0.44	0.48	0.11	0.48	0.48	0.48	0.48	0.48	0.48	4.72
Darakuta	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.16	0.16	0.16	0.16	2.08
Ngombeni	0.01	0.15	0.02	0.03	0.10	0.08	0.13	0.07	0.06	0.06	0.06	0.06	0.81
Andoya	0.01	0.23	0.23	0.29	0.30	0.29	0.30	0.30	0.24	0.24	0.24	0.24	2.89
Tulila	1.27	1.29	2.08	2.00	2.21	2.08	1.46	1.35	0.99	0.99	0.99	0.99	17.72
	153.93	154.43	139.38	135.89	141.40	138.48	143.24	153.64	169.17	189.09	172.84	183.67	1,875.17

FIFTH SCHEDULE:

HEAT RATE OF TANESCO'S THERMAL POWER PLANTS

Table 1: Liquid Fuel Power Plants

Power Plant	Heat Rate Ltr/kWh
Kigoma	0.29
Songea	0.33
Mpanda	0.32
Mbinga	0.35
Biharamulo	0.35
Ngara	0.37
Mafia	0.26
Tunduru	0.31
Namtumbo	0.36
Ludewa	0.37
Liwale	0.36
Sumbawanga	0.30
Kasulu	0.32
Kibondo	0.35
Loliondo	0.50
Bukoba	0.33
Dodoma	0.28
Mwanza	0.23

Table 2: Natural Gas Fired Power Plants

Power Plant	Heat Rate mmBTU/kWh
Ubungo I	0.0082
Tegeta	0.0081
Ubungo II	0.0096
Kinyerezi I	0.0097
Somanga	0.0096
Mtwara	0.0103

Dar es Salaam

29th December 2016

Felix Ngamlagosi

Director General