REPUBLIC OF KENYA

OFFICE OF THE AUDITOR-GENERAL

Enhancing Accountability

REPORT

OF

THE AUDITOR-GENERAL

ON

FORENSIC AUDIT ON PROCUREMENT AND USE OF HEAVY FUEL OILS

FOR THE PERIOD COVERED 1 JULY, 2018 TO 30 JUNE, 2021

THE KENYA POWER AND LIGHTING COMPANY PLC

Telephone: +254-(20) 3214000
E-mail: info@oagkenya.go.ke
Website: www.oagkenya.go.ke

OFFICE OF THE AUDITOR-GENERAL
Enhancing Accountability

HEADQUARTERS
Anniversary Towers
Monrovia Street
P.O. Box 30084-00100
NAIROBI

HIGHLIGHTS OF FINDINGS ON FORENSIC AUDIT REPORT ON PROCUREMENT AND USE OF HEAVY FUEL OILS FOR POWER GENERATION

1. Background

His Excellency the President through a Special Gazette Notice No. 3076 published on 29 March, 2021 constituted a Taskforce on PPAs to undertake a comprehensive review and analysis of all Power Purchase Agreements (PPAs) entered into between various Independent Power Producers (IPPs) and the Kenya Power and Lighting Company Limited (KPLC). The aim of the Taskforce was to develop a suitable strategy for engagement with the Independent Power Producers (IPPs) and lenders, in order to achieve relief for electricity consumers and ensure the long-term viability and sustainability of the energy sector. The Taskforce concluded its mandate and submitted its report to His Excellency the President on 29 September, 2021. To this end, the Taskforce in its report, gave nine (9) key recommendations, among them, the need for KPLC to undertake a forensic audit on the procurement and use of Heavy Fuel Oils (HFOs) in electricity generation by thermal power plants for 3 financial years from July 2018 to June 2021.

Following a request to the Auditor-General by Kenya Power and Lighting Company PLC through the Ministry of Energy for the Office to carry out forensic audits as recommended by the Taskforce, the Auditor-General on 3 November, 2021 authorized to the outsourcing to audit firms to undertake the forensic audit as per the Terms of Reference defined by the Taskforce.

The Company procured Ronalds LLP, who were appointed on 20 May, 2022 to undertake the audit on behalf of the Auditor-General and were contracted by the Company on
20 July, 2022.

2. Terms of Reference

The Terms of Reference for the audit included the areas indicated below for the three years; for undertaking forensic audit on procurement and use of Heavy Fuel Oils (HFO) in power generation.

This report serves to provide Kenya Power and Lighting Company PLC with the details of the work performed and the resultant findings and conclusions of the forensic audit of the procurement and use of heavy fuel oils.

The objectives and key tasks of the forensic audit, covering activities of at least three financial years from July, 2018 to June, 2021 were as follows;

a. To reviewing PPA provisions on procurement of HFO.

b. To review the HFO procurement process for IPPs for at least the last three years and assess whether the procurement procedures outlined in the respective PPAs and KPLC policies have been followed in procurement of HFO.

c. To review fuel supply agreements including the pricing structure and application of international benchmarks (Platts FOB, World Scale Index, and Average Freight Rate Assessment).

d. To review the monthly economic merit order of dispatch, dispatch plans, availability of all power plants, and availed monthly energy from hydro and geothermal plants, availability declarations and actual dispatch for the last one year.

e. To investigate the circumstances that led to the issuance of the Gazette Notice 2826 of 19th April 2016 and determine if the arrangement should be continued.

f. To carry out an analysis of actual specific fuel consumption compared to specific fuel consumption rates used in HFO cost recovery.

g. To determine whether there was any fraud and the extent, quantify the loss/ damage due to fraudulent and corrupt acts.

h. To assess effectiveness and application of the respective control and the oversight policies.

i. To investigate any specific noted cases of fraud and other irregularities with a view to establishing the modus operandi of the fraud and identify the responsible persons and parties.

j. To establish procedures for assessment and verification of technical specification, physical completion, and price competitiveness of each Fuel Supply Agreement (FSA) in the selected representative sample.

k. To establish whether adequate systems are in place to verify pricing of HFO as per the respective FSA and PPAs.

Highlights of Findings

A summary of the findings for each of the focus area is as detailed below;

a. Existence and Compliance with PPA Provisions on Procurement of HFO

1. The audit noted that there are no HFO procurement guidelines in place or in use. Neither KPLC or the IPPs have procurement guidelines for the procurement of HFO.

2. Although the PPAs mandates KPLC to undertake oversight over IPPs on Procurement of HFOs, the oversight role spelt out in the PPAs had not been operationalized in the actual implementation of procuring HFO.

b. Review of the HFO Procurement Process for IPPs for at Least the Last Three Years and Compliance with the Procurement Procedures Outlined in the Respective Procedures for PPAs and KPLC Policies

There should be standardized/procurement of HFO by IPPs, however, the following were noted:-

There were no standard tender document for HFO procurement by IPPs. Each IPP has its own format of tender documents.

The current tender documents do not have well prepared, fair, transparent, and clear evaluation criteria, it only spells out documentary requirements without stating the criteria to be met by each bidder.

IPPs used different evaluation Models. Some IPPs used point scores and others used formulae for combining technical and financial scores in the evaluation of bids, leading to a subjective academic exercise of scoring points for each bid, which had little bearing on the selection of a suitable qualified bidder.

There is lack of a systematic bid evaluation procedure for assuring award of contract to an eligible, technically responsive, and qualified bidder with the lowest evaluated price.

c. **Review of Fuel Supply Agreements including the Pricing Structure and Application of International Benchmarks**

The pricing of HFO should always be guided by world market prices and adjusted to the local conditions to arrive at fair value. However, the following observations were made:-

1. KPLC and IPPs have no access to primary sources of international pricing indices, therefore it was not possible to assess fair prices.

2. There were variations in the HFO pricing formulae for different FSAs and IPPs introduces gaps which make it difficult to have true like for like fuel price comparison between IPPs.

3. There was wide range in premiums quoted for supply to the 6 IPPs ranging from 37 USD per MT to 106.19 USD per MT over the audit period.

4. There was a wide variability in freight rates quoted by different fuel suppliers ranging from O USD/MT to 54 USD/MT, a cost transferred to consumers.

5. There was rapid unexplained downward movement of local transport costs within a short period of 36 months.

6. Quoted overhead costs indicated great variability between IPPs.

7. In the HFO pricing, taxes, duties and other levies are added to the Unit price for HFO to get the total price on which VAT is also then applied, even though the VAT is recovered by the IPPs

8. MOPs show cyclic variability with months where prices have a tendency to be low while others have higher prices.

9. Overhead costs in the formulae and across fuel tender responses vary widely and inexplicably without logical correlations to other pricing indices.

d **Review the Monthly Economic Merit Order of Energy Dispatch, Dispatch Plans, Availability of all Power Plants, and Availed Monthly Energy from Hydro and Geothermal Plants, Availability Declarations and Actual Dispatch for the Last One Year**

Merit order for dispatch of energy needs to be documented and any changes justified by detailed analysis.

i. There were instances of merit order dispatches without documentation to support the basis of priority used.

ii. Although the merit order of energy dispatch is done monthly, the actual act of power dispatch is live, meaning there is a lag between the actual forecast and actual dispatch.

e. Investigate the Circumstances that Led to the Issuance of the Gazette Notice 2826 of 19 April, 2016 and Determine if the Arrangement should be Continued

The Gazette Notice of 19 April, 2016 was issued by the Energy Regulatory Corporation (ERC) predecessors to Energy Petroleum Regulatory Authority (EPRA) and granted two concessions to the 6 thermal IPPs as follows:-

1. That the IPPs were no longer required to maintain minimum security stock as required by the PPAs; and

2. That KPLC was to allow minimum dispatch for the plants to meet manufacturer requirements.

These concessions were available to the IPPs from April, 2016 and were revoked by EPRA (formerly ERC) in December 2021 following recommendations by the Presidential Taskforce.

The Gazette Notice of 19 April, 2016 was as a result of lobbying from the IPPs due to low dispatch occasioned by the commissioning of new geothermal projects and good hydrology. The concession was granted to IPPs and not KENGEN who commissioned 280MW geothermal plants at Olkaria in 2015 leading to a drop in dispatch of the thermal power plants from an average of 33% to 12%. The IPPs argued that the low dispatch coupled with high stockholding meant that the requirement for minimum security stocks was unnecessarily tying up the IPPs and the fuel suppliers' working capital estimated at USD 14,942,369.97. There was no downward review of capacity charges to benefit the consumer.

There was no discussion or considerations made by IPPs or EPRA on the concessions/benefits accruing to KPLC and consumers from this waiver.

From our assessment, the Gazette Notice released working capital requirements of USD 8,313, 258.68 for four IPPs as indicated in the table below. This did not include interest charges that the IPPs would have incurred. However, this benefit was not passed to consumers.

IPP Name	Minimum Stockholding Requirement April 2016 to Dec 2021 (MT)	Actual Stockholding from April 2016 to Dec 2021 (MT)	Variance (MT)	Estimated Working Capital Released (USD)
Gulf Power	57,859.82	53,433.20	4,426.62	3,262,183.59
Triumph Power	48,506.18	44,289.22	4,216.96	1,753,698.13
Thika Power	146,300.76	142,809.55	3,491.21	1,526,952.19
Iberafrica Power	153,229.56	149,317.92	3,911.64	1,770,424.77
TOTAL	405,896.32	389,849.89	16,046.43	8,313,258.68

Two IPPs, Rabai Power and Tsavo Power maintained security stocks of above 4,500MT in the entire period and did not take up the concessions.

Following the low dispatch in 2015 and 2016, Gulf Energy and Vivo Kenya who were the fuel suppliers for KenGen Kipevu III, Iberafrica, Gulf Power, Triumph Power, Thika Power and Tsavo Power wrote to ERC claiming compensation of USD 9,745,775.50, equivalent to Kshs.1,010,149,631 at an exchange rate of Kshs.103.67, citing additional storage and financing costs. After deliberations, ERC approved the request and the amount was recovered from electricity consumers effective 1 July, 2017. There was no justification of the payment as the concession had already benefitted IPPs. There was also no basis for the fuel compensation since the FSAs were signed between the fuel suppliers and the IPPs and neither the Government nor KPLC had guaranteed fuel uptake from the suppliers. All fuel orders from the IPPs were to be based on non-binding monthly estimates depending on projected energy dispatch levels.

f. Analysis of Actual Specific Fuel Consumption (SFC) Compared to Specific Fuel Consumption Rates used in HFO Cost Recovery

KPLC is supposed to continuously monitor actual fuel against specific fuel consumption rates used for fuel cost recoveries. However, KPLC are not actively involved with this monitoring of stocks levels.

The Specific Fuel Consumption rates for Gulf Power and Triumph Power were higher than those agreed on the PPA, however, the standard was the basis for payment. The other 4 IPPs attained lower SFC however payment was also based on the PPA agreed rates.

An analysis of the actual cost of fuel consumed vs the invoice due to fuel cost recovery, revealed a positive variance in the following IPPs. Tsavo Power, Rabai Power, Iberafrica Power and Thika Power which resulted to an overpayment of USD 3,379,568 since the fuel recovery amount was in excess of the actual cost of fuel consumed yet it is considered a pass through cost. The overpayment was passed over to the consumer by KPLC.

g. Determination whether there was any Fraud and the Extent, Quantify the Loss/ Damage due to Fraudulent and Corrupt Acts

Irregularities noted included the following;

i. Procurement award of the HFO supply tenders to Gulf Energy who were not the lowest bidders and without any justification led to losses that would have been avoided. The losses Gulf Power (losses of USD 2,926,713.56) Thika Power (loss USD4,439,625.46) and Triumph Power costs of USD1,810,481.01) in the years 2014, 2019 and 2013 respectively were all passed to the consumer.

ii. Conflict of interest between fuel suppliers and IPPs. As at 2014, Gulf Energy owned 80% stake in Gulf Power Kenol Kobil, who were the lowest bidders, were unfairly disqualified on technical grounds despite demonstrating capacity to deliver to Rabai Power.

iii. In the case of the 2019 Thika Power tender, Total Limited, a multinational firm, and R H Devani were the lowest bidders, but were disqualified. The tender evaluation report stated the Gulf Energy bid as the lowest, despite evidence to the contrary. The FSA signed with Gulf Energy in 2013 and was irregularly extended for an additional two years despite being renewable for a maximum term of four years. The Gulf Energy FSA therefore, was implemented for 6 years from 2013 to 2019. Two years supply was not warranted or justified.

iv. Gulf Energy was awarded for the Triumph Power 2013 supply despite Kenol Kobil and Hass Petroleum submitting lower bids. There was no justification for not awarding the lowest bidders. Additional costs were loaded to customer bills.

h. Assessment of Effectiveness and Application of Controls and the Oversight Policies

i. **Procurement** – There were gaps in the procurement process as set out in specific key task (b), such as; lack of clear procurement guidelines, lack of standard tender documents, use of combined technical and financial scores rather than conform /not conform basis. The PPA set out the procedures for procurement of HFO. It was noted that the IPPs do not have internal procedures supporting HFO procurement since the PPAs provisions were deemed to be sufficient. KPLC maintains an oversight role on the procurement process and is involved at the following stages: drafting of the tender document, bid opening; review and approval of the tender evaluation report; award of the FSA and renewal of the FSA.

ii. **Pricing** – There was a gap in oversight from KPLC for international indices, as KPLC does not independently obtain this data from reputable publishers to ascertain fairness of the prices during the invoice reconciliation process. The

iii. pricing of HFO is defined in the PPA and the FSA, respectively. Fixed costs such as supplier premium, overheads and transport costs are maintained throughout the life of the FSA, based on the winning bids from the fuel suppliers. Variable costs are derived from international indices such as the Means of Platts and Average Freight Rate Assessment (AFRA). Taxes are updated based on changes communicated by the regulator, EPRA, arising from government policies.

iv. **Stocks** – KPLC obtained regular stocks data from the IPPs but did not undertake physical stock verifications at the IPPs storage facilities through dips and stockcounts that are done on a monthly basis by IPPs Management. This was a serious lapse in the oversight mandate of KPLC, in ensuring adequacy of stocks as per PPA provisions, as they could not verify the fund adjustments made on the monthly billing. The PPA requires each IPP to maintain adequate stocks to prevent instances of unavailability of power plants due to lack of HFO stock. This requirement was suspended through Gazette Notice 2826 of April 2016 and which was later revoked in December 2021.

i. Investigation of any Specific Noted Cases of Fraud and other Irregularities

There were no fraud incidences noted. The irregularities have however been highlighted under section g.

j. Establishment of Procedures for Assessment and Verification of Technical Specification, Physical Completion and Price Competitiveness of each Fuel Supply Agreements (FSA)

Fuel received from suppliers is received by the power plants. Samples are extracted and tested for water content before the acceptance for use in generation of energy by the IPPs.

There is in place, pricing formulae for use by IPP in determining the price of each batch of fuel received. However, the variables vary from one FSA to another based on the time of onboarding the fuel suppliers and also location of the plant.

k. **Assessment of Presence of Systems Governing the Pricing of HFO in Line with FSA and PPAs**

i. There are variances in prices for power computed using the PPA formula between KPLC, IPP and also the consultant.

ii. KPLC and IPPs have no access to primary sources of international pricing indices for HFOs for comparison with the charges loaded to the consumers.

iii. There is variance in the pricing formulae used by IPPs. Spot purchases by Gulf Power and Triumph Power did not follow the FSA HFO pricing formula. This brings challenges in comparison between spot purchase prices and tender prices.

iv. There were variances in prices for HFO computed using the FSA formulae between KPLC, IPP and Fuel suppliers.

v. There was no evidence of regular reconciliation of re-computed price variances and remedial actions to avoid recurrence.

vi. The IPPs carried out HFO procurements for purchases outside the executed FSA framework leading to less competitive pricing for HFO compared to open tenders and therefore higher consumer recharges.

Recommendations

1. KPLC in consultation with the IPPs should prepare procurement guidelines for HFO. The procurement guidelines and standard bidding documents will also enhance the supervisory role of KPLC.
2. KPLC in consultation with the IPPs should prepare one complete standard bidding documents for HFO
3. The standard bidding form for HFO should be prepared with a section complete with eligibility criteria, technical evaluation criteria, financial evaluation criteria, qualification evaluation criteria and award criteria.
4. Evaluation of bids for HFO and fuels, as goods, should be done on pass/fail or conform/not conform basis without allocation of points or ranks.
5. The procurement guidelines prepared should contain guidelines on the evaluation procedures, preliminary examination, technical evaluation, financial evaluation, qualification evaluation and award.
6. KPLC and IPPs need to subscribe to the international pricing indices.
7. There is need for KPLC to harmonise the definition of all the key elements in the FSA in order for fuel price supply formulae to achieve uniformity and make it easier to compare like for like in price analysis for fuel supply amongst the six IPPs.
8. KPLC should explore mechanisms for improving the competitive structure of the tendering process to result in more aggressive bidding with quotes for premiums for example by putting more volume for tenders.

9. KPLC should adopt a proactive approach of disaggregation of cost elements in the pricing formulae, such as local transport, to ensure they are competitively quoted for, to get best value.

10. IPPs should acquire or contract the procurement expertise and systems which could address concerns like the overheads and other costs that could have been challenged at the initial stages of design of HFO tender documents to identify and eliminate such hidden skewed costs, like overheads, which influence the overall unit prices in the tenders for HFO.

11. The benefits in terms of release of working capital should be passed to consumers potentially through lower capacity charges.

12. KPLC to maintain monthly reports on unavailability of power plants including reasons for unavailability.

13. The decision to compensate Gulf Energy and Vivo Kenya for losses of USD 9,745,775.50 arising from the low dispatch of thermal IPPs should be reviewed as it was not supported by the FSAs signed between the suppliers and the IPPs. Action should be taken on all parties involved should it be established that the suppliers received an unfair benefit at the expense of consumers. Further, the ERC sought counsel from the Office of the Attorney General who did not give explicit approval to the commission to go ahead with the payment to the aggrieved fuel suppliers.

14. We recommend that the Consumer Protection Department of the Competition Authority of Kenya be involved in the regulation of the HFO as a pass through cost to the electricity costs charged to consumers with input in critical decisions such as the decision to award Gulf Energy and Vivo Kenya at the expense of consumers for losses incurred outside the FSAs. This is in line with Section 94 of the Consumer Protection Act of 22012 which stipulates that "There shall be consumer representation on all regulatory bodies and the respective appointing authorities shall have due regard to accredited consumer organizations and the (Consumer Protection) Advisory Committee in making such appoints.

15. KPLC should keep a clear log for such incidences for reference purposes. The analysis should detail the percentage of power dispatched to the system out of merit and identify gaps to be addressed.

16. If the frequency is enhanced on a weekly or daily basis, there is likelihood of savings since NCC dispatches plants on the basis of a merit order that is expected to deliver to the lowest cost tariff yet it is done on a monthly basis.

17. KPLC should have a representative to validate the physical stock takes monthly or employ services of independent inspectors to witness monthly stock takes as witnessed for Tsavo Power (Kipevu II).

18. KPLC should renegotiate the SFCs in the PPAs for a more competitive rate as they have the most direct impact on the fuel cost recovery.

19. KPLC should consider to recover USD 3,379,568 overpaid over the period of the audit and consider revising the PPAs for IPPs to charge the lower of the actual output vis a vis the predetermined Specific Fuel Consumption (SFC) rate. Incentives should be considered for the IPPs that achieve high outputs at lower use of HFO and pass through the benefits to the consumers.

20. Gulf Power, Triumph Power and Thika Power should be held responsible for the losses occasioned through the procurement of more expensive HFO despite availability of cheaper qualified fuel suppliers. Such actions should include recovery measures.

21. Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregular award of the HFO supply tenders to Gulf Energy

22. KPLC and EPRA should enhance their oversight role in the procurement process to ensure that only the suppliers that offer the cheapest HFO prices with the required specification are procured to avoid overburdening consumers.

23. The no-objection process from KPLC following completion of tender award should be enhanced through appointment of a third-party procurement expert to independently review the procurement process leading to the award and provide a written advisory to KPLC for consideration prior to their decision on the tender award.

24. KPLC and IPPs need to establish a mechanism to fine-tune the computation of the value of power invoiced to KPLC to eliminate the variability of what is charged for power as per PPA formula and the variances that occur should be resolved instantly. A register of debit and credit notes should be maintained.

25. A work plan and SOP needs to be developed between the parties and ensure it is followed with an accountability mechanism to prevent potential loss through overpayment or underpayment for fuel supplied to IPPs due to needless variations.

26. KPLC should structure and monitor the competitive procurement for HFO and investigate and sanction any violations that lead to IPPs to resorting to spot purchases.

27. KPLC should urgently research the benefits of aggregation of all IPP HFO and tender through an open tender system (OTS) similar to OTS conducted by the Ministry of Energy and EPRA for white products.

CPA Nancy Gathungu, CBS
AUDITOR-GENERAL

19 December, 2022

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Abbreviations

Abbreviation	Detail
AFRA	Average Freight Rate Assessment
AU	Alternate Unit
CAK	Competition Authority of Kenya
CIF	Cost, Insurance and Freight
COD	Commercial Operation Date
EPRA	Energy and Petroleum Regulatory Authority
FIFO	First In First Out
FOB	Free On Board
FSA	Fuel Supply Agreement
FY	Financial Year
GT	Gas Turbine
GW	Giga Watts
HFO	Heavy Fuel Oil
IPP	Independent Power Producer
ISA	International Standards of on Auditing
ITB	Invitation to Bid
KDP	Kipevu Diesel Power
KENGEN	Kenya Electricity Generating Company PLC
KETRACO	Kenya Electricity Transmission Company
KG	Kilograms
KJ	Kilo Joules
KPLC	Kenya Power and Lighting Company PLC
KV	Kilo Volt
KW	KiloWatt
KW	Kilo Watts
KWH	Kilo Watts Hour
LIFO	Last In Last Out
LNG	Liquefied Natural Gas
LOE	Letter of Engagement
LTD	Limited
MOP	Mean of Platts
MSD	Medium Speed Diesel
MT	Metric Tonne
MW	Mega Watt
NCC	National Control Centre
NEO	Net Electrical Output
NOC	National Oil Corporation
NSE	Nairobi Securities Exchange
NuPEA	Nuclear Power and Energy Agency
OTS	Open Tender System
PO	Purchase Order
PPA	Power Purchase Agreements
PPP	Public Private Partnership
PPPD	Power Planning and Purchase department
PT	Presidential Taskforce
RFQ	Request for Quotations
SFC	Specific Fuel Consumption
TOR	Terms of Reference
USD	United States Dollar
V	Volt
WSI	World Scale Index

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1 Introduction

The Energy sector is divided into five sub-sectors: Generation, transmission, distribution, regulation and policy. The Kenya Power and Lighting Company Limited is part of the Energy Sector in Kenya It consolidates various laws relating to energy and amended the Energy Act 2006, the Kenya Nuclear Electricity Board Order 2013 and the Geothermal Resources Act 1982.

In addition, the act establishes the Energy and Petroleum Regulatory Authority (EPRA) which is the successor to the Energy Regulatory Commission (ERC) with an expanded mandate of inter alia regulation of upstream petroleum and coal.

The Energy Act regulates:
1. the establishment of energy sector entities;
2. the promotion of renewable energy, through the FiT;
3. the production, supply and use of geothermal energy;
4. midstream and downstream petroleum and coal activities; and
5. other energy sources.

Kenya's electricity supply industry structure is based on a single buyer model, with all generators selling power in bulk to Kenya Power and Lighting Company.

The Energy Act has opened up the market by authorizing EPRA to license other distributors, generators, transmitters and retailers of electricity:
1. Kenya Power is now responsible for the distribution and supply of electricity.
2. KETRACO is responsible for the transmission of electricity.
3. KenGen and IPPs are responsible for generation.

As KPLC is a government organization, EPRA serves as its regulator, and it is governed by the Ministry of Energy. The entity must make sure they control the entire process of electricity from generation to transmission in order to fulfill their obligation to transmit electricity to the general public. Collaboration with its primary stakeholders, the generating plants, is required for this. To meet the need for electricity, KPLC uses thermal, geothermal, wind, and hydroelectric power plants

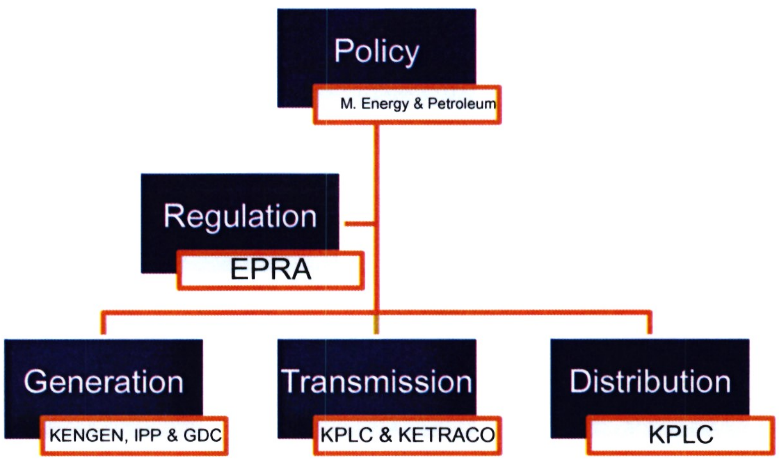

Figure 1: Energy Sector and Sub - sector players

1.1 Kenya Power and Lighting Company

The Kenya Power and Lighting Company Limited formerly known as East African Power and Lighting Company Limited was established in 1922 to serve Kenya, Tanzania, and Uganda. In 1983, it changed its name to the Kenya Power and Lighting Company Limited (KPLC).

KPLC is a publicly listed company on the Nairobi Securities Exchange (NSE). It is primarily owned by the Kenyan government, which holds a 50.1 percent interest, and private investors, who hold a 49.9 percent shareholding.

KPLC oversees all generating stations on behalf of the government prior to a significant restructure of the power sector in 1997. The Company now oversees government-owned hybrid and diesel power generating facilities that are not wired into the national grid.

The company's vision is to become Kenya's go-to provider of energy solutions by offering dependable service that will help people to live better lives and advance the socioeconomic development of the nation.

KPLC is Kenya's national system operator and distributor of power. KPLC produces, transmits, and distributes electricity. Electrical energy is produced in Kenya at voltages ranging from 11 kV to 15 kV for transmission and distribution, stepping up electricity to 132kV or 220kV for transmission to substations. At several feeder sites, it is stepped down to 66kV, 33kV, and 11kV before being distributed to end users. High voltages up to a maximum of 132 kV are offered to large industrial and commercial users. For home consumers, electricity is stepped down to 415v/240v.

KPLC obtains bulk electric power from several generators, including Kenya Electricity Generating Company PLC (KenGen), Independent Power Producers (IPPs), and neighbouring nations, in order to accomplish its objectives and satisfy the demand for electricity from its clients (Uganda, Tanzania and Ethiopia). Power Purchase Agreements (PPAs) approved by the Energy & Petroleum Regulatory Authority (EPRA) created in accordance with Section 9 of the Energy Act 2019 serve as the guidelines for the purchase of electricity from all of these generators.

Year of Incorporation	1922
Headquarters	Stima Plaza Kolobot Road, Parklands P.O. Box 30099-00100, Nairobi
Regions	Central Rift, North Rift, Mt. Kenya, North Eastern, Coast, South Nyanza, Nairobi and Western.
Regulator	EPRA

Table 1: KPLC Information

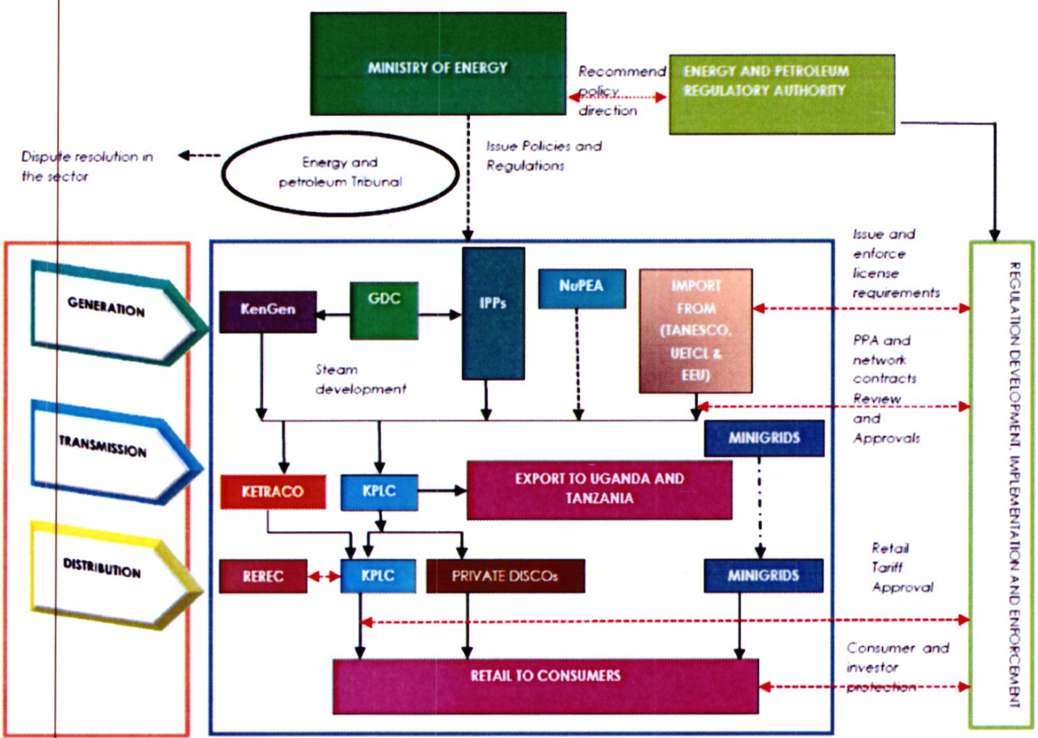

Figure 2: Power generation Flow Chart

KPLC has the national grid and control centre that is an interconnected system of transmission and distribution lines that makes up the nation's electricity system. Distribution lines cover up to 55,405 kilometers, while transmission lines cover 4,054 kilometers. KPLC is in charge of dispatching power plants via the National Control Centre in Nairobi and operates and maintains the nation's national grid. The core idea behind dispatch is finding the most cost-effective approach to balance power production and demand. The NCC's duties are broken down into three categories: dispatch, grid monitoring, and acting as a national control center to oversee activities across the country.

Providing quick reaction and resuming supply in the event of a power outage, facilitating power outages, and ensuring safety, quality, and reliable sources of power supply in the most cost-effective manner are additional secondary tasks. The national control centre consists of six regional control centers which are: Nairobi (located within the NCC compound), Rabai (which oversees the coastline region), Kiganjo (which oversees the Mt. Kenya Region), Lessos (which oversees the areas within the North Rift region), Lanet (which oversees the areas within the Central and Southern Rift regions), and Kisumu (takes care of Nyanza and western region).

Since each regional control center has the authority to monitor and manage transmission, they all do so. However, the National Control Centre has the authority to override them all. NCC uses the

Supervisory, Control and Data Acquisition (SCADA) system to manage and control the distribution of power.
The engineers that operate in the control room alternate between three shifts. The control room is staffed round-the-clock. The engineers in the control room work three shifts each day (8am-2pm, 2pm-8pm, and 8pm-8am). NCC concentrates on offering consumes high-quality electricity by ensuring that systems are operated properly to prevent overloads, that consumers receive a regular supply of energy, and that personnel in the grid are safe.

The primary objective of dispatch is to ensure the reliability of the voltage and frequency of power that is delivered to the consumers in order to maintain a constant balance between the generation and consumption of electricity. The system is always set to run at 50 Hertz at all times. If the voltage is higher or lower, the NCC will conduct load shedding by turning off generators, conducting tap changes from transformers, or switching on/off generators.

Between 0300 and 0430 hours, there is typically a minimum demand for power of about 1000MW. Wind, solar, and hydropower are the main intermittent energy sources used to power this. Peak demand for power normally occurs between 1930 and 2030, requiring about 2060 MW. The additional electricity is supplied by the thermal HFO plants. Kenya has a higher domestic user demand; hence all thermals may be turned on during peak hours to meet this need.

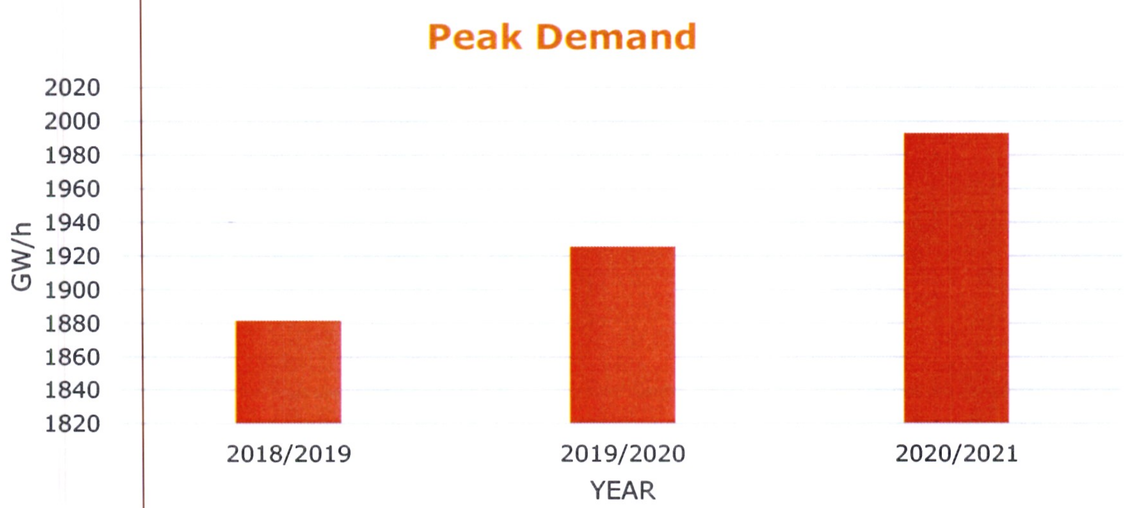

Figure 3: Electricity Demand over the three financial years

In order to dispatch power plants, economic merit is taken into account. The cost of power from the various IPPs is used to calculate this merit order each month. Dispatch planning is updated every 30 minutes and mainly depends on historical data. This is referred to as the settlement time in PPAs. This means that a power plant will be regarded as unavailable if it is unable to deliver the required amount of power within 30 minutes.

The following steps are the guidelines for dispatch planning;

Must run plants; These comprise base load units such as hydrothermal, geothermal, and wind power facilities (both large and small). Even though wind and solar electricity are renewable sources of energy, their transmission costs are relatively significant. The IPPs are ranked first on the basis of merit because their tariffs are on take or pay.
The thermal plants are delivered in accordance with the economic merit order after all must run plants. The IPPs do not receive the economic metric order directly. The NCC is prohibited from sharing information about rivals. Kengen gives a daily declaration of its capacity to the NCC, whereas IPPs only do so once a week.

Merit order; This employs variable energy costs, starting with the least expensive plants, and taking into account the plants' availability declarations. Dispatch outside of the merit order is done based on the system voltage support or cost transmission overload. Since the NCC is responsible for making sure that consumers on the grid receive a high-quality supply of energy, two generators from Rabai Power are run out of merit order due to the nature of the IPP's equipment, which can regulate voltage spikes caused during transmission.

To ensure that the IPPs' declaration is practical, the energy purchasing team contrasts actuals with readings from power plant meters. Thermal plants transmit orders that are meritorious based on the declared availability and pricing. The cancellation of the planned outage and the intermittent nature of renewable energy sources like wind and solar could both have an impact on the actual dispatch, demand shifts brought on by events like holidays, the Olympics, the return of a load that has been out, or the large loss of a load. Projecting holiday-related abrupt fluctuations is challenging.

Whenever there is a system blackout or breakdown, the NCC will employ the nearest plant(s) until the system breakdown is fixed in accordance with the merit order.

The current energy mix in Kenya predominantly consists of green energy with geothermal, hydro, wind, and solar accounting for approximately 90% generation in FY 2020/2021. The remainder is substituted by thermal, biomass, and imports.

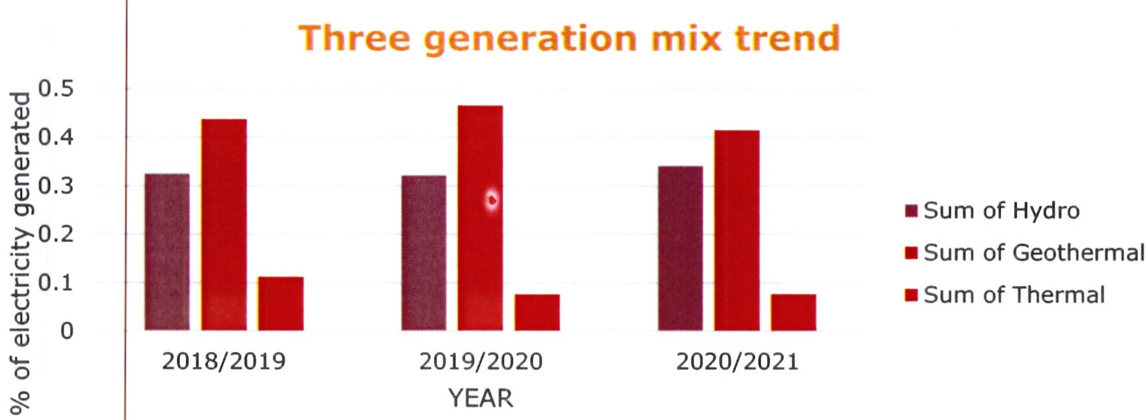

Figure 4: Three power generation mix trend

1.2 The Independent Power Plants

Independent Power Producers are non-utility private companies who build, own and operate power stations. They sell the power generated in bulk to KPLC only.

From the early 1990s, virtually all power generation throughout Africa was financed by public funds; including concessionary loans from Development Finance Institutions. Around the same time, a confluence of factors signalled a significant change;

- ❖ Multilateral and Bilateral development institutions like the International Monetary Fund and the World Bank largely withdrew from funding state owned power projects citing decades of poor performance by state run utilities.
- ❖ Global power trends shifted towards encouraging power sector participation in infrastructure with concessionary funding being targeted at Health and Social Services.
- ❖ With many governments experiencing insufficient public funds for new generation and a growing demand for energy, Kenya adapted a new standard model for their power systems; which mostly involved unbundling of their power systems and the introduction of private participation and competition.
- ❖ As a proven model IPPs had started developing power in various parts of the globe in the late 1970s and early 1980s to complement the seemingly inefficient and limited public utilities.

During this period, 70% of the country's energy supply was generated from hydropower. However, climate change and unpredictable weather patterns pointed to an urgency for the Government of Kenya to invite IPPs to help in power generation because;

i. The demand for electricity was growing and the rains were failing. During this time, domestic and commercial consumers would go 12 hours a day without grid power.
ii. With no new non-weather dependent power generation, it became urgent to fix power supply.

Kenya therefore invited IPPs to help in power generation; as demand for electricity was growing. In response; under the Energy Sector Recovery Programme of the World Bank, and the International Monetary Fund, Kenya welcomed IPPs into the generation value chain, in fulfilment of the condition for the access of funds from multilateral organizations. Kenya therefore restructured the power sector to promote private sector investment under the development policy paper titled 'Economic Recovery Strategy for Wealth Creation and Economic Development.'

In 1997, through the enactment of the Electric Power Act, an independent regulator for the energy sector was created. The World Bank released and supported Kenya to tender and negotiate for the first emergency interim IPP – Iberafrica – A 56MW Heavy Fuel Oil Plant in Nairobi and a 40MW barge mounted gas fired power plant – Westmont in Kipevu. These were both for 7 years in 2004. Westmont was retired but Iberafrica PPA was restructured and extended.

The thermal plants were mostly deployed to stabilize the grid in particular localities like the Coast, Nairobi and Western Kenya. It must be appreciated that privately sourced capital was more expensive than the publicly acquired capital from the Bilateral and Multilateral Development Partners. As a result, tarrifs from IPPs on similar technologies were expected to be higher than those from publicly owned utilities

.

Summary of the Independent Power Plants

For the period under review for the Forensic audit of the Procurement and Use of the HFO there were 6 thermal independent power plants as follows:

Company	Owners and Year of Commissioning	Generators' details and plant capacity	Average dispatch levels
Rabai Power Limited	Burmeister & Wain Scandinavian Contractor A/S (BWSC) of Denmark and Aldwych International (Aldwych) of the United Kingdom. Anergi- 34.5%- sponsor + equity FMO- 20%- equity BWSC-25.5%- sponsor + equity IFU- 20%- equity The Effective Engineering Procurement Contract (EPC) was flag shipped in Oct. 2008 and full commencement operational date was 11th May, 2010. Its PPA runs for 20 years.	Capacity – 90MW 5 Wärtsilä 18V46C reciprocating diesel engines: 17.4 MW, 500 rpm ABB AMG 1600 air-cooled generators: 21.3 MVA, 11 kV 5 Aalborg (Alfa Laval) Waste Heat Recovery Steam Boilers: 11.8 kg/s, 13.5 bar, 365ºC 1 Dresser Rand (Peter Brotherhood) Condensing Steam Turbine: 7.85 MW 1 Bronswerk Air Cooled Condenser: 2 Areva Step-Up Transformers: 75 MVA, 132/11 kV 3 4,500 M^3 HFO Storage Tanks. Rabai Power Plant has a total capacity of approximately 90 MW,	Previously 80%. Currently 40 - 50%
Gulf Power Limited	The plant is co-owned by two organizations i.e. Noora Power and Gulf Energy Limited who form the board management and are financed by 3 major financiers notably: • Standard Bank • IFC Loan • OPEC Fund for International Development Begun operation in the year 2014 for the next 20years	Capacity - 80.32MW The engines comprise ten Wartsila 20V32 medium-speed diesel units with a total gross installed capacity of about 82.3 MW.	At start: 60-65% Currently- 11%

Triumph Power Generating Company Limited	The 83MW diesel plant is located in Athi River (Kitengela) Triumph Power Generating Company was set up in Kenya by Board Holdings Ltd. (UK) a family-owned company whose principal shareholder is Abdirahman Haji Abass and his family. Board Holdings owns 40% of the company, with the majority of the balance of the shareholding being held by other family-owned companies such as Tecaflex Ltd, Interpel Investments Ltd and Southern Intertrade Ltd. The total project cost is US$157 million, structured on a limited recourse basis with a debt-equity ratio of 75:25 amounting to around US$118 million in debt and around US$39 million in equity. Debt Providers include: • Standard Bank of South Africa • CFC Stanbic Bank It was commissioned in 2015 and has a lifespan of 20 years to 2035	Capacity of 83 MW Generator Description • Ten (10) Hyundai Himsen 18H 32/40V MSD diesel engine generator sets with a total net capacity of 77 mw with all silencing Equipment • A steam turbine Generator with a net output of 6 MW Utilizing excess energy recovered from exhaust gase4s from diesel units The primary fuel used is heavy fuel oil (HFO) with distillate fuel oil (DFO) as a backup fuel.	At start- 60-65% Currently-7.5%-10%
Tsavo Power Company Limited	Wartsila, a Finnish company, operates the Plant. It has a stock ownership as shown below: Aga Khan Fund for Economic Development & Cinergy Global Power Inc.- 47% CDC Group- 15% Norfund- 15% Wartsila- 13% International Finance Cooperation- 10% Began its operations in September 2001 on a twenty-year PPA, which was set to expire in 2021.	Capacity - 74MW. 7 units of medium speed diesel units rated at 10.9 MW	Dispatch by KPCL for the first 10 years was between 78% to 80% but from 2010 onwards, the dispatch was low and reduced to 6% and later towards the end of the agreement, it increased to between 25% to 35%
Thika Power Limited	A.P. Moller Capital from Melec PowerGen and Africa Energy Resources acquired power in March 2022.	Capacity - 87MW. 5 HFO generators and 7MW steam turbines	The initial dispatch was at 45 % but later dropped to the ranges of 4-5%.

	The Plant was commissioned in 2013. Its entire power output is contracted to KPLC on a twenty-year Power Purchase Agreement, from 2013-2033.		
Iberafrica Power East Africa Limited	A.P. Moller Capital from Naturgy Energy Group, formerly Gas Natural Fenosa. The Plant was commissioned in 1998 for the first plant that was decommissioned in August 2019 and Plant II was commissioned in 2009 Its entire power output is contracted to KPLC on a twenty five-year Power Purchase Agreement, from 2009-2034.	Capacity – 53 MW	The average dispatch for the past 2 years was at 10%.

Table 2: Summary of the Six Thermal IPPs

The thermal IPPs generate power using Heavy Fuel Oils (HFO), which are procured by the IPPs with guidance and approvals of KPLC. After the procurement is approved, the IPPs enters into a Fuel Supply Agreement (FSA) with the approved supplier.

Below is a summary of the FSAs done by the IPPs for the period under audit.

IPP	Terms & Effective Year	Fuel Specification	Inventory level	Invoicing Terms	Inventory Management	Payment due date
1. Gulf Power Limited	Gulf Energy Limited Dated 10 June 2014 Term:2 years with extension period of 1 year	Net Calorific Value-Minimum 41,100 KJ/kg Density-940-991 kg/m3 at 20'° C Water levels-0.5 percent volume Viscosity- Maximum 180 cSt at 50'° C Sulphur content-2.0 percent max	Not Provided in FSA	Second business day of each month contract.	First In First Out	45 days after the date of receipt of each monthly invoice
	Vivo Energy Kenya Limited Dated 18 February 2021 Term:2 years with extension period of 1 year	Net Calorific Value-Minimum 41,100 KJ/kg Density-940-991 kg/m^3 at 20'° C Water levels-0.3% volume Viscosity- Maximum 100-180 cSt at 50'° C Sulphur content-2.0 percent max	2,500 Metric Tonnes	On or before 10:00 am of the first business day of each month.	First In First Out	Sixty days after the date of receipt of each monthly invoice.
2. Triumph Power Generating Company Limited	Gulf Energy Limited Dated 4 March 2014 Term:4 years renewable every 2 years with no extension period	Net Calorific Value-Minimum 41,100 KJ/Kg Density-0.96 kg/litre at 20'° C Water levels-0.75% volume	Not Provided in FSA	First business day of each month contract.	First In First Out	45 days after the date of receipt of each monthly invoice

IPP	Terms & Effective Year	Fuel Specification	Inventory level	Invoicing Terms	Inventory Management	Payment due date
		Viscosity- Maximum 100-180 cSt at 50'^{0}C Sulphur content-2.0 percent max				
	a. Ramji Haribhai Devani Dated 1 October 2019 Term:4 years renewable every 2 years Extension: Current	Net Calorific Value-Minimum 41,100 KJ/Kg Density-0.96 Kg/litre at 20'^{0}C Water levels-0.75% volume Viscosity- Maximum 100-180 cSt at 50'^{0}C Sulphur content-2.0 percent max	Not Provided in FSA	First business day of each month contract.	First In First Out	45 days after the date of receipt of each monthly invoice
3. Thika Power Limited	Gulf Energy Limited Dated May 2013 Term:2 years with extension period of 2 years	Net Calorific Value-Minimum 40,585 KJ/kg Density- Maximum 0.991 kg/m3 at 15'^{0}C Water levels-0.5 percent volume Viscosity- Maximum 180 cSt at 50'^{0}C Sulphur content-2.0 percent max	Not Provided in FSA	First business day of each month contract.	First In First Out	Not later than 45 days after the date of receipt of each monthly invoice.
	Ramji Haribhai Devani Dated 31 July 2020	Net Calorific Value-Minimum 40,585 KJ/kg Density- Maximum 0.991 kg/m3 at 15'^{0}C Water levels-0.5 percent volume	4,500 Metric Tonnes	On or before 10:00 am of the first business day of each month.	First In First Out	Not later than 50 days after the date of receipt of each monthly invoice.

IPP	Terms & Effective Year	Fuel Specification	Inventory level	Invoicing Terms	Inventory Management	Payment due date
	Term:2 years with extension period of 2 years	Viscosity- Maximum 180 cSt at 50'°C Sulphur content-2.0 percent max				
4. Tsavo Power Company Limited	Ramji Haribhai Devani Dated 1 August 2017 Term:4 years with room for termination by both parties after 2 years	Net Calorific Value- Minimum 40,585 KJ/kg Density- Maximum 0.991 kg/m3 at 15'°C Water levels-0.75 percent volume Viscosity- Maximum 380 cSt at 50'°C Sulphur content-2.5 percent max	Not Provided in FSA	At the end of each month	First In First Out	Within 50 days of the company's receipt of such invoice or any other period mutually agreed by either party
5. Rabai Power Limited	Kenol-Kobil Limited Dated 31 July 2015 Term:2 years with extension period of 3 years	Net Calorific Value- Minimum 40,585 KJ/kg Density- Maximum 1.007 kg/litre at 20'°C Water levels-0.75 percent volume Viscosity- Maximum 180 cSt at 50'°C Sulphur content-2.0 percent max	8,400 Metric Tonnes	First business day of each month contract.	First In First Out	45 days after the date of receipt of each monthly invoice

IPP	Terms & Effective Year	Fuel Specification	Inventory level	Invoicing Terms	Inventory Management	Payment due date
	Dalbit Petroleum Dated 10 July 2020 Term:2 years with extension period of 1 year	Net Calorific Value- Minimum 40,585 KJ/kg Density- Maximum 1.007 kg/litre at 20'^{0} C Water levels-0.75 percent volume Viscosity- Maximum 180 cSt at 50'^{0} C Sulphur content-2.0 percent max	8,400 Metric Tonnes	First business day of each month contract.	First In First Out	Date of receipt of each monthly invoice
	Dalbit Petroleum Dated 18 August 2020 Term:2 years with extension period of 1 year	Net Calorific Value- Minimum 40,585 KJ/kg Density- Maximum 1.007 kg/litre at 20'^{0} C Water levels-0.75 percent volume Viscosity- Maximum 180 cSt at 50'^{0} C Sulphur content-2.0 percent max	8,400 Metric Tonnes	First business day of each month contract.	First In First Out	45 days after the date of receipt of each monthly invoice

IPP	Terms & Effective Year	Fuel Specification	Inventory level	Invoicing Terms	Inventory Management	Payment due date
6. Iberafrica Power (EA) Limited	Gulf Energy Limited Dated October 2015 Term:2 years with extension period of 1 year	Net Calorific Value- Minimum 40,585 KJ/kg Density- Maximum 0.930-0.991 kg/m^3 at 20'^{0} C Water levels-0.5 percent volume Viscosity- Maximum 180 cSt at 50'^{0} C Sulphur content-1.8 percent max	4,500 Metric Tonnes	Second business day of each month contract.	First In First Out	45 days after the date of receipt of each monthly invoice
	Gulf Energy Limited Dated October 2019 Term:2 years	Net Calorific Value- Minimum 40,585 KJ/kg Density- Maximum 0.930-0.991 kg/m^3 at 20'^{0} C Water levels-0.5 percent volume Viscosity- Maximum 180 cSt at 50'^{0} C Sulphur content-1.8 percent max	1,500 Metric Tonnes	Second business day of each month contract.	First In First Out	45 days after the date of receipt of each monthly invoice

IPP	Terms & Effective Year	Fuel Specification	Inventory level	Invoicing Terms	Inventory Management	Payment due date
	Ramji Haribhai Devani Dated November 2021 Term: Not indicated	Net Calorific Value-Minimum 40,585 KJ/kg Density- Maximum 0.930-0.991 kg/m³ at 20'⁰ C Water levels-0.5 percent volume Viscosity- Maximum 180 cSt at 50'⁰ C Sulphur content-1.8 percent max	3,000 Metric Tonnes	Second business day of each month contract.	First In First Out	95 days after the date of receipt of each monthly invoice

Table 3: Summary of FSA terms and specifications

1.3 Laws and Regulations governing the Energy Sector

The sector is regulated and governed by various statues as listed below:

a) Constitution of Kenya 2010

The Constitution provides that natural resources vest in the people of Kenya and gives the government power to regulate and administer natural resources on behalf of the public. The Ministry of Energy is responsible for establishing the energy policy under the Fourth Schedule to the Constitution.

b) Energy Act 2019 and its subsidiary legislation

The Energy Act is the main Act regulating all energy activities in Kenya through EPRA. The Energy Act consolidates various laws relating to energy. The Energy Act 2019 was an amendment of the Energy Act 2006, the Kenya Nuclear Electricity Board Order 2013 and the Geothermal Resources Act 1982. The Energy Act regulates:

- The establishment of energy sector entities;
- The promotion of renewable energy, through the FiT Policy
- The production, supply and use of geothermal energy;
- Midstream and downstream petroleum and coal activities; and
- Other energy sources.

c) FiT Policy 2012

Kenya adopted the Feed-in Tariff (FiT) Policy to meet its targets for tackling climate change by reducing reliance on fossil fuels. The FiT Policy promotes the generation of electricity from renewable energy sources by enabling power producers to sell electricity generated at a predetermined tariff for a given period. Tariffs are available for energy generated from wind power, biomass, small-hydro, geothermal, biogas, and solar resources.

d) Public Private Partnerships Act 2013 (PPP Act)

The PPP Act provides for the:

- Participation of the private sector in the financing, construction, development, operation, and maintenance of government infrastructure and development projects through concession and other contractual arrangements; and

- Institutions that regulate, monitor and supervise the implementation of project agreements relating to infrastructure or development projects.

e) Public Procurement and Asset Disposal Act 2005 (PPADA).

The PPADA governs procurement processes in power projects, by setting out the procedures for efficient public procurement and asset disposals by public entities.

f) Public Procurement and Asset Disposal Regulations 2020 (PPADR).

The PPADR came into effect on 2 July 2020 and seek to harmonize and operationalize the public procurement procedure. The PPADR provide further guidance on:

- various aspects of the procurement and asset disposal process;
- procurement contracts;

- e-procurement; and
- Preferences and reservations to be applied by procuring entities.

There are also various other laws that have an impact on the energy sector, including the:
- Land Act 2012.
- Public Finance Management Act 2012.
- National Construction Authority Act 2011.
- Environmental Management and Co-ordination Act 1999.
- Income Tax Act (Cap. 470 Laws of Kenya).
- National Transmission Grid Code.
- National Distribution Grid Code.

The regulatory authorities in the Energy sector are;

- **Ministry of Energy (MoE):** The MoE is responsible for drafting energy policies (for example, FiT policies) and setting the strategic direction for the growth of the energy sector.

- **Energy and Petroleum Regulatory Authority (EPRA):** EPRA is an independent regulatory agency that regulates the entire energy sector and its subsidiary agencies, except for the licensing of nuclear facilities and regulation of downstream petroleum activities.

- **Rural Electrification and Renewable Energy Corporation (REREC):** REREC was set up under the Energy Act and is responsible for, among others:
  - Accelerating the pace of rural electrification;
  - Developing, promoting and managing the use of renewable energy (excluding geothermal); and
  - Offering clean development mechanisms, such as carbon credit trading.

- **Renewable Energy Resource Advisory Committee (RERAC):** RERAC is an inter-ministerial committee responsible for advising the responsible cabinet secretary on matters concerning the:
  - Allocation of renewable energy resources;
  - Licensing of renewable energy resource areas;
  - Management of water towers and catchment areas;
  - Development of multi-purpose projects such as dams and reservoirs; and
  - Management and development of renewable energy resources.

- **Energy and Petroleum Tribunal (EPT):** The EPT hears and determines disputes and appeals relating to the energy and petroleum sector arising from the Energy Act 2019 and other statutes.

- **Nuclear Power and Energy Agency (NuPEA) Board:** The NuPEA Board's mandate is to:
  - License nuclear facilities;
  - Develop and implement Kenya's nuclear energy programme; and
  - Fast track the development of nuclear electricity generation to enhance the production of affordable and reliable electricity.

- **Public Private Partnership Unit (PPPU):** The PPPU was established under the PPP Act as a Special Purpose Unit of the National Treasury. The PPPU serves as the secretariat and technical arm of the PPP Committee, which is responsible for assessing and approving PPP projects in Kenya.

- **National Environmental Management Authority (NEMA):** NEMA was established under the Environmental Management and Co-ordination Act No. 8 of 1999 (EMCA). Its function is to supervise and co-ordinate all environmental matters in Kenya.

The IPPs role in assisting KPLC meet its demand also had other benefits as follows:

i. Attract private investment to meet rapidly growing electricity needs when Government's budgetary resources are inadequate to meet the infrastructural investment necessary for power development.
ii. Reduce the cost of electricity through competitive procurement of power projects.
iii. Assign risk to the parties who can manage the risks better.

2 Background

2.1 Background of the Forensic Audit on Procurement and Use of Heavy Fuel Oils

Kenya's long term development blueprint, the Vision 2030, aims at transforming Kenya into a globally competitive, newly industrialised, middle income and prosperous country. Efficient, accessible, and reliable infrastructure is identified as an enabler to achieving sustained economic growth, development and poverty reduction by lowering the cost of doing business and improving the country's global competitiveness.

The energy sector is expected to play a critical role towards achievement of the Kenya's Vision 2030. Access to adequate, affordable, and reliable energy supply is necessary to reduce the cost of doing business and spur growth of enterprises and industries. Consequently, the Government has allocated substantial resources for the development of energy infrastructure, including exploitation of renewable energy resources.

Unfortunately, Kenya continues to suffer from a significant energy over - supply, and consumer tariffs remain high. Current PPAs' costs are perceived to be high, placing a large financial burden on both KPLC and consumers. It is for this reason that the Taskforce on Review of PPAs was established by H.E. Hon. Uhuru Kenyatta, the former President and Commander in Chief of the Kenya Defence Forces on 29th March 2021 vide Kenya Gazette Notice No. 3076.

Following this presidential a Presidential Taskforce on PPAs Review (The taskforce) was appointed to undertake a comprehensive review and analysis of all power purchase agreements (PPA) entered into between various independent power producers (IPPs) and the Kenya Power and Lighting Company Limited (KPLC). The aim of the Taskforce was to develop a suitable strategy for engagement with the Independent Power Producers (IPPs) and lenders, in order to achieve relief for electricity consumers and ensure the long-term viability and sustainability of the energy sector. To this end, the taskforce in its report, gave nine (9) key recommendations, among them, the need for KPLC to undertake a forensic audit on the procurement and the use of Heavy Fuel Oils (HFO) in electricity generation by thermal power plants in the last 5 years, hence the appointment of Ronalds LLP.

2.2 Objectives of the Forensic Audit

In line with the agreed Terms of Reference (TORs) documented in our contract dated 20 June 2022, KPLC contracted Ronalds LLP to conduct a forensic audit on the procurement and use of heavy fuel oils.

The objectives of the forensic audit are as follows:

a) To understand the procurement and contracting procedures, processes and documentation followed by the IPPs and KPLC in purchasing HFO, in order to determine whether they were carried out in accordance with the respective PPAs and KPLC policies and identify cases of deviation or inappropriate practices that may have or continue to expose KPLC to likely losses.

b) To ascertain the selection criteria used to identify the eventual HFO suppliers to the IPPs.

c) To undertake critical analysis of the fuel pricing arrangement in the Fuel Supply Agreements and the PPAs, and identify any gaps.

d) Through a comparative analysis of HFO plants in Kenya, determine rationale for differences in HFO pricing as experienced in the tariff.

e) Analysis of power dispatch to determine whether it is carried in accordance with prudent operating practice.

f) To confirm if there are any incidents of malpractices in procurement and use of HFO and quantify the exposure or loss to KPLC from such anomalies.

2.3 Terms of Reference for the Forensic Audit

This report serves to provide Kenya Power and Lighting Company PLC with the details of the work performed by Ronalds LLP and the resultant findings and conclusions of the forensic audit of the procurement and use of heavy fuel oils.

The specific key tasks of the forensic audit, covering at least the last 3 years, were as follows;

a. To review PPA provisions on procurement of HFO.
b. To review the HFO procurement process for IPPs for at least the last three years and assess whether the procurement procedures outlined in the respective PPAs and KPLC policies have been followed in procurement of HFO.
c. To review fuel supply agreements including the pricing structure and application of international benchmarks (Platts FOB, World Scale Index, and Average Freight Rate Assessment).
d. To review the monthly economic merit order of dispatch, dispatch plans, availability of all power plants, and available monthly energy from hydro and geothermal plants, availability declarations and actual dispatch for the last one year.
e. To investigate the circumstances that led to the issuance of the Gazette Notice 2826 of 19 April 2016 and determine if the arrangement should be continued.
f. To carry out an analysis of actual specific fuel consumption compared to specific fuel consumption rates used in HFO cost recovery.
g. To determine whether there was any fraud and the extent, quantify the loss/ damage due to fraudulent and corrupt acts.
h. To assess effectiveness and application of the respective control and the oversight policies.
i. To investigate any specific noted cases of fraud and other irregularities with a view to establishing the modus operandi of the fraud and identify the responsible persons and parties.
j. To establish procedures for assessment and verification of technical specification, physical completion, and price competitiveness of each Fuel Supply Agreement (FSA) in the selected representative sample.
k. To establish whether adequate systems are in place to verify pricing of HFO as per the respective FSA and PPAs.
l. To identify weaknesses which impede good performance, for example, adequacy of resources, lack of equipment and competence and identify potential areas of improvement on the oversight role.
m. To assess whether appropriate controls are in place to prevent or detect material irregularities.

2.4 Period under Review

The period under review is 3 years from 1 July 2018 to 30 June 2021.

2.5 Scope of the Forensic Audit

The Forensic Audit covered the review of the Procurement and Use of Heavy Fuel Oils in the 6 Independent Thermal Power Plants, namely; Gulf Power Limited, Tsavo Power Limited, Rabai Power Limited, Iberafrica Power (EA) Limited, Thika Power Limited and Triumph Power Generating Company Limited.

The period under review was from 1 July 2018 to 30 June 2021. However due the the nature of procurement that is for a three-year period we have where applicable drawn our conclusion from 1 January 2014.

The forensic audit exercise was conducted between the commencement of the contract between KPLC and Ronalds on 20 June 2022 and 1 December 2022.

The forensic audit was based on review of documents, data analysis, observation and interviews with KPLC and all the 6 IPPs. We also carried out a physical inspection of the power plants which are located in Athi River (Gulf Power Ltd), Mombasa (Tsavo Power Ltd), Kilifi (Rabai Power Limited), Industrial Area (Iberafrica Power (EA) Ltd), Thika (Thika Power Limited) and Kitengela (Triumph Power Generating Company Ltd).

2.6 Presentation of the Forensic Audit Report

The report is presented in seven (7) separate sections, in accordance with the TORs. These are highlighted below:

- Introduction
- Background
- Executive Summary
- The Investigation Approach
- The Investigation Findings;
- Conclusion; and
- Appendices & Annexures

2.7 Limitations of Scope

The following were the limitation of scope that we encountered during the forensic audit's execution;

2.7.1 Information not available for review

a. From the IPPS

i) Iberafrica Power- KPLC Approval for the 2015 tender document.
ii) Triumph Power - Correspondences between KPLC and the IPP about the tender process, tender opening minutes, the tender evaluation report and approvals for the tender document and draft FSA from KPLC in regards to the 2013 tender.
iii) Thika Power - Tender notice, tender opening minutes, evaluation criteria and correspondences with KPLC about the 2013 tender. KPLC approval of the tender document for 2019 and Letter from KPLC to Thika Power dated 7 August 2019

b. From EPRA:

i) Minutes of the board/management decision approving the Gazette Notice 2826 of 2016.
ii) Letters from the Vivo Kenya lobbying for the concessions contained in the Gazette Notice 2826 of 2016.
iii) Letters from Gulf and Vivo for the claims made on losses of USD 9,745,775.50.
iv) Minutes or report from the team that was set up to review Gulf and Vivo claims.

c. From KPLC:

i) Actual Merit order report
ii) Report of out of merit order dispatch.
iii) Report of instances of IPP unavailability due to lack of HFO.
iv) Copies of Debit and Credit notes issued due to variances in monthly invoices to KPLC.
v) Availability for Kengen KDP 1 and KDP 3; July 2020 – October 2020.
vi) Merit Order for Muhoroni GT 2 ((Reactive); August 2020 – November 2020.
vii) Availability for Kengen Olkaria 1AU, 4 5; July 2020 – October 2020.
viii) Availability for Olkaria 1; Feb 2021 – June 2021.
ix) Availability for Kengen Eburu and wellheads 37, 43 and 914; July 2020 – June 2021.
x) Availability for Small hydros; July 2020 – June 2021.
xi) Availability and Merit Order for Kipeto Wind; July 2020 – June 2021.
xii) Availability for Lake Turkana Wind Power; July 2020 – June 2021.
xiii) Availability for Biojoule Thermal Power; July 2020 – June 2021.
xiv) Availability and Merit Order for Selenkei; July 2020 – June 2021.
xv) Availability for Garissa Solar; July 2020 – June 2021.

2.7.2 Recommendations of the Presidential Task Force

We take note of the recommendations of the Presidential Task Force Report in regards to the Forensic Audit of the Procurement and Use of the HFO which referred to thermal power plants and for 5 years. We however were contracted to audit the same only for the 6 thermal IPPs with KENGEN thermal plants of Kipevu I and III excluded from the scope of audit. In addition, our Terms of Reference were specific to 3 fiscal years. We have therefore limited the audit to the requirements of the TORs.

2.8 Our work did not constitute a statutory audit

Our work constituted a forensic audit, which involved the acquisition and examination of information through interviews with third parties such as the IPPs, vendors as well as the review and analysis of documentation and other records made available to us. Unless otherwise indicated, such information was not independently verified or audited. The work performed as per our brief did not constitute a statutory audit and therefore, we do not express an audit opinion in accordance with International Standards of Auditing.

2.9 Corroboration of Information

The scope of our work and nature of the investigation was limited to an inspection and analysis of the documentation and information provided to us during the course of the forensic audit. You should not depend on our work and our report as being exhaustive in the situations where we were unable to uncover the pertinent corroboration of evidence since we might not have been made aware of all the facts or information that you might consider significant. Any inferences drawn during our forensic investigation have been described in the relevant sections of this paper and are intended to be sensible and unbiased.

2.10 We do not express a legal opinion

Although the work performed incorporates our understanding of the law as it stands, we do not express a legal opinion on any issue, but merely state the facts as they have come to our attention. Our discussion of the relevant laws is intended solely to serve as a backdrop for the discussion and application of the relevant facts of the matter. It should be noted that where we do not comment on matters of law and any interpretation should be referred to your legal advisors. We also do not comment on the innocence or guilt of any person, but merely report on the facts at our disposal. It is the domain of the respective adjudicating body to pronounce upon the guilt or innocence of an individual.

2.11 Restriction on Distribution of Report

This document should not be distributed to any other party and is solely for the purpose set out above and for the information of KPLC. The report should not be used for any other purpose nor distributed to other parties without our prior written consent. We do not accept any responsibility to third parties for breaches of this obligation or for any opinion expressed or action taken because of the information included in this document.

3 Executive Summary

This executive Summary forms part of the report and serves as a summary of key findings and as such it should be read together with the detailed findings contained in the Section: *Forensic Audit Findings* of this document.

3.1. Summary of Methodology and approach to the Forensic Audit

Specific Key Task	Approach
a. To review PPA provisions on procurement of HFO.	• We reviewed the Power Purchase Agreements from KPLC and the IPPs and analyzed their content especially on clauses relating to procurement of HFO. We compared the clauses in the PPAs with best practices and legislations to determine compliance.
b. To review the HFO procurement process for IPPs for at least the last three years and assess whether the procurement procedures outlined in the respective PPAs and KPLC policies have been followed in procurement of HFO.	• Reviewed the PPA to see provisions for the technical and financial evaluation of tenders; • Reviewed the bids provided by the competing suppliers and check against the tender evaluation report to ascertain fairness and transparency in the evaluation process; • Established whether the tender evaluation committee was properly constituted in line with the IPP internal policy and best practice; • Ascertained whether the tender evaluation committees signed conflict of interest declarations; • Conducted due diligence on the bidders based on publicly available information to establish whether there were undisclosed conflicts of interest with the IPP evaluation committee members and; • Reviewed the documentation of the evaluation process, historical, financial and other information supplied by tenderers.
c. To review fuel supply agreements including the pricing structure and application of international benchmarks (Platts FOB, World Scale Index, and Average Freight Rate Assessment).	• We obtained and analysed the Power Purchase Agreements for all IPPs with relation to fuel prices calculations; • For each PPA, mined and modelled formulas as per indices indicated in the PPA; • The pricing model was mapped as defined in the PPA to create a model that captures all variable data elements in the power pricing invoice; • Obtained invoices raised by the IPPs to KPLC and reviewed the completeness of the supporting documentation and appendices attached as required by the respective PPAs; • Established from the invoices the various indices as per attached documents on the invoices, mined the same data and keyed in the designed model (as per the PPA) to obtain prices as per our re-computation; • Confirmed whether certain indices that are dependent on the Fuel supplier's invoices, i.e. the unit price of a metric tonne of fuel has been captured correctly in the computation of the invoice amount and following the stock control processes as determined in the respective PPAs; and • Derived inferences from the data analysis and reported on the same.

Specific Key Task	Approach
d. To review the monthly economic merit order of dispatch, dispatch plans, availability of all power plants, and availed monthly energy from hydro and geothermal plants, availability declarations and actual dispatch for the last one year.	• Obtained and reviewed the daily planned and actual dispatch; • Reviewed the Net Electrical Output from the respective IPPs and compared with the data from NCC; • Reviewed the monthly economic merit order of dispatch; • Reviewed the availability data of all power plants; and • Conducted a comparative analysis with other generation sources, i.e. hydro and geothermal
e. To investigate the circumstances that led to the issuance of the Gazette Notice 2826 of 19th April 2016 and determine if the arrangement should be continued.	• Obtained and reviewed a copy of the Gazette Notice No.2826 of 19 April 2016; • Reviewed the Presidential Taskforce Report to understand the background of the ToR; • Conducted interviews with KPLC, Representative from the Task Force, EPRA, CAK and IPP staff to understand the circumstances that led to the issuance of the Gazette Notice; • Reviewed relevant documents including dispatch data, stock records, minutes of meetings, letters to ERC from stakeholders among others • Computation of the cost of stock holding and the effect of the implementation of the gazette notice with the effect on the working capital cost to the IPPs and subsequently the evaluation of potential cost savings to the consumers; and • Conducted data analysis on the dispatch levels, stockholding and other relevant data to validate the information gathered from the interviews and document review
f. To carry out an analysis of actual specific fuel consumption compared to specific fuel consumption rates used in HFO cost recovery.	• Extraction of data on actual monthly fuel consumption for the 3-year audit period for each IPP to identify trends and patterns that could signal any red flag activity in particular IPPs; and • Matching the cost of actual fuel consumed against fuel costs recovered from KPLC for significant variances, and quantified any losses or gains identified based on the analysis.
g. To determine whether there was any fraud and the extent, quantify the loss/ damage due to fraudulent and corrupt acts and as required in *key specific task under i.*	• Reviewed the PPAs and FSAs for all the 6 IPPs to establish the specific monitoring and oversight mechanisms put in place to manage the risks of overcharging, fraud and wastage; • Reviewed the Presidential Taskforce Report to understand the background of the ToR; • Conducted interviews with KPLC, Representative from the Task Force, EPRA, CAK and IPP staff to understand the circumstances that could lead to fraud in the procurement and use of HFO. • Reviewed relevant documents pertaining to procurement, pricing, HFO stock management and dispatch of power plants data, stock records, minutes of meetings, letters to ERC from stakeholders among others; • Undertook governance structure review of KPLC and the IPPs in the implementation of the PPAs;

Specific Key Task	Approach
	• Undertook a overview due diligence check of the holders of the FSAs to establish any risk of conflict of interest with the IPPs; • Conducted data analysis on the procurement, pricing, stockholding and dispatch data to validate the information gathered from the interviews and document review to ascertain whether there were any incidents of fraud and/or irregularity.
h. To assess effectiveness and application of the respective control and the oversight policies.	• Obtained and reviewed a copy of the Gazette Notice No.2826 of 19th April 2016; • Reviewed the Presidential Taskforce Report to understand the background of the ToR; • Conducted interviews with KPLC, Representative from the Task Force, EPRA, CAK and IPP staff to understand the controls and oversight mechanisms in place for management of procurement and use of HFO at the IPPs; • Reviewed relevant documents including standard operating procedures (SOPs), stock records, minutes of meetings, letters to ERC from stakeholders among others; • Conducted data analysis on the procurement, pricing, stockholding and other relevant data to validate the information gathered from the interviews and document review.
i. To investigate any specific noted cases of fraud and other irregularities with a view to establishing the modus operandi of the fraud and identify the responsible persons and parties.	• Reviewed the PPAs and FSAs for all the 6 IPPs to establish the specific monitoring and oversight mechanisms put in place to manage the risks of overcharging, fraud and wastage; • Reviewed the Presidential Taskforce Report to understand the background of the ToR; • Conducted interviews with KPLC, Representative from the Task Force, EPRA, CAK and IPP staff to understand the circumstances that could lead to fraud in the procurement and use of HFO. • Reviewed relevant documents pertaining to procurement, pricing, HFO stock management and dispatch of power plants data, stock records, minutes of meetings, letters to ERC from stakeholders among others; • Undertook governance structure review of KPLC and the IPPs in the implementation of the PPAs; • Undertook a overview due diligence check of the holders of the FSAs to establish any risk of conflict of interest with the IPPs; • Conducted data analysis on the procurement, pricing, stockholding and dispatch data to validate the information gathered from the interviews and document review to ascertain whether there were any incidents of fraud and/or irregularity.
j. Establish procedures for assessment and verification of technical specification, physical completion and price	• Reviewed the FSAs on the agreed technical specification to ensure that it is compliant with the PPA • Evaluated the procurement procedures to ensure the specifications are communicated to bidders and thereafter evaluation is done based on the same

Specific Key Task	Approach
competitiveness of each fuel supply agreements (FSA)	• Reviewed the evaluation of the bids to establish price competitiveness and value for money are achieved
k. To establish whether adequate systems are in place to verify pricing of HFO as per the respective FSA and PPAs.	• We analysed the IPP computations of the HFO supplied in line with the model as per the FSA. • We reviewed computations done on the same by KPLC before approving invoice payments. • We also relied on our independent computations in line with the FSA model and figures issued by the fuel Supplier, in corroboration with the attached supporting evidences on the invoices.
l. Identify weaknesses which impede good performance, for example adequacy of resources, lack of equipment and competence and identify potential areas of improvements on the oversight roles	• Obtained an understanding of the organizational structure and narrowed to the departments that work with the IPPs • Reviewed the specific monitoring and oversight mechanisms put in place at KPLC to manage the risks of overcharging, fraud and wastage that could arise from mismanagement of the PPAs; • Sought understanding of the oversight roles from KPLC to the IPPs in regards to the Procurement and Use of HFO.
m. Assess whether appropriate controls are in place to prevent or detect material irregularities	• Obtained and reviewed a copy of the Gazette Notice No.2826 of 19th April 2016; • Reviewed the Presidential Taskforce Report to understand the background of the ToR; • Conducted interviews with KPLC, Representative from the Task Force, EPRA, CAK and IPP staff to understand the controls and oversight mechanisms in place for management of procurement and use of HFO at the IPPs; • Reviewed relevant documents including standard operating procedures (SOPs), stock records, minutes of meetings, letters to ERC from stakeholders among others; • Conducted data analysis on the procurement, pricing, stockholding and other relevant data to validate the information gathered from the interviews and document review.

Table 4: Summary of Methodology and Approaches to addressing the ToRs

3.2. Summary of Findings

Specific Task and Summary of Findings	Recommendations
a. To review PPA provisions on procurement of HFO.	
• Neither KPLC or the IPPs have procurement guidelines for the procurement of HFO • The oversight role spelt out in the PPA has not been operationalized in the actual implementation of procuring HFO.	The KPLC in consultation with the IPPs should prepare procurement guidelines for HFO. The procurement guidelines and standard bidding documents will enhance the supervisory role of KPLC.
b. To review the HFO procurement process for IPPs for at least the last three years and assess whether the procurement procedures outlined in the respective PPAs and KPLC policies have been followed in procurement of HFO	
• There is no standard tender document for HFO. Each IPP has its own format of tender documents based on their own business requirements • The current tender documents do not have well prepared, fair, transparent, and clear evaluation criteria; it only spells out documentary requirements without stating the criteria to be met by each bidder. • Some IPPs used point scores and formula for combining technical and financial scores, in the evaluation of bids, leading to a subjective academic exercise of scoring points for each bid, which had little bearing on the selection of a suitable qualified bidder. • There was a lack of a systematic bid evaluation procedure leading to award of contract to an eligible, technically responsive, and qualified bidder with the lowest evaluated price • The main cost elements with significant impact on fuel prices that could be managed through a competitive bidding process are the premiums, sea freight, and local transport.	• The KPLC in consultation with the IPPs should prepare one complete standard bidding documents for HFO with parts covering instructions to bidders, bid data sheet, evaluation criteria, bidding forms, specifications, and fuel supply agreement. • The standard bidding form for HFO should be prepared with a section complete with eligibility criteria, technical evaluation criteria, financial evaluation criteria, qualification evaluation criteria and award criteria; these criteria will be customized by the IPP for each fuel tender. • Evaluation of bids for HFO and fuels, as goods, should be done on pass/fail or conform/not conform basis without allocation of points or ranks. • The procurement guidelines so prepared should contain guidelines on the evaluation procedure: preliminary examination, technical evaluation, financial evaluation, qualification evaluation and award.

<table>
<tr><td></td><td>• The financial evaluation of bids should be focused on achieving the lowest price possible when these costs are compared, in addition to review of the overall bid price.</td></tr>
<tr><td colspan="2">c. To review fuel supply agreements including the pricing structure and application of international benchmarks (Platts FOB, World Scale Index, and Average Freight Rate Assessment).</td></tr>
<tr><td>• KPLC and IPPs have no access to primary sources of international pricing indices.
• Variation in the HFO price formula for different FSAs and IPP introduces gaps which make it difficult to have true and like for like fuel price comparison between IPPs.
• There was a wide range in Premiums quoted for supply to the 6 IPPs from 37 USD per MT to 106.19 USD per MT over the audit period.
• The wide variability in rates quoted for freight by fuel suppliers ranging from 0 USD/MT to 54 USD/MT; which shows an opportunity to secure lower freight rates.
• The audit revealed a rapid downward movement of local transport costs within a short period of 36 months without KPLC intervention
• Quoted overhead costs show great variability between IPPs.
• In the HFO pricing, taxes, duties and other levies are added to the Unit price for HFO to get the total price on which VAT is then applied.
• MOPs show cyclic variability with months where prices have a tendency to be low while others have higher prices.
• Overheads costs in the formula and across fuel tender responses vary widely and inexplicably without logical correlations to other pricing indices.</td><td>• KPLC and IPPs need to subscribe to the international pricing indices so that they have access to primary sources of the data needed to verify prices of HFO charged by fuel suppliers and use the same for clearance of Fuel invoices to IPPs.
• There is a need for KPLC to harmonise the definition of all the key elements in the FSA fuel price supply formula to achieve uniformity and make it easier to compare like for like in price analysis for fuel supply amongst the six IPPs.
• KPLC to explore mechanisms for improving the competitive structure of the tendering process to result in more aggressive bidding with quotes for premiums e.g. putting more volume for tenders.
• The influencing factors need to be studied and explored further. This could include factors like increased common volumes tendered for shorter delivery periods like the case for white oils through the Open Tender System (OTS) framework in Kenya.
• KPLC should adopt a proactive approach of disaggregation of cost elements in the pricing formula, such as local transport, to ensure they are competitively quoted for to get best value.
• These are pass through costs and KPLC needs to take a proactive approach in understanding their makeup and potential instances for reduction. Given that taxes are levied on the aggregate pass-through costs of HFO the need to control the cost to the minimum reasonable</td></tr>
</table>

	has a greater impact on the absolute tax which is still a leading cost component to the consumer, a relief of which could reduce the burden to the consumer. • The MOP trends show market prices tend to be lower in December to January, May and September over the period of study. Fuel companies should target to place their orders around these months. Higher MOP prices were observed to be around the February to April, June to July and October to November periods which should be avoided where possible for placement of fuel orders by fuel companies. • Competitive open bidding geared towards minimal overheads would yield rates that are competitive and contribute to lower power rates. • IPPs should acquire or contract the procurement expertise and systems which could address concerns like the overheads and other costs that could have been challenged at the initial stages of design of HFO tender documents to identify and eliminate such hidden skewed costs, like overheads, which influence the overall unit prices in the tenders for HFO.
d. To review the monthly economic merit order of dispatch, dispatch plans, availability of all power plants, and availed monthly energy from hydro and geothermal plants, availability declarations and actual dispatch for the last one year.	
• Though the merit order is being followed on a month-on-month basis, we identified instances when the dispatch is subjective. • The merit order is done monthly and the actual act of power dispatch is live meaning there is a lag between the actual forecast and actual dispatch	• It's recommended that KPLC keep a clear log for such incidences for audit purposes. The analysis would detail the percentage of power dispatched to the system out of merit and identify gaps to be addressed. • If the frequency is enhanced to weekly or daily, there is a likely savings since NCC dispatches plants on the basis of a merit order that is

expected to deliver to the lowest cost tariff and it's communicated on a monthly basis.

e. To investigate the circumstances that led to the issuance of the Gazette Notice 2826 of 19 April 2016 and determine if the arrangement should be continued. (See Section (e) in the main report for more details)

The Gazette Notice of 19th April 2016 was issued by the ERC now EPRA and granted two concessions to the 6 thermal IPPs as follows:

1. That the IPPs were no longer required to maintain minimum security stock as required by the PPAs; and
2. That KPLC was **to allow minimum** dispatch for the plants to meet manufacturer requirements.

These concessions were available to the IPPs from April 2016 and were revoked by EPRA (formerly ERC) in December 2021 following recommendations by the Presidential Taskforce.

We established that the Gazette Notice of 19th April 2016 was as a result of lobbying from the IPPs due to low dispatch occasioned by the commissioning of new geothermal projects and good hydrology. KENGEN commissioned 280MW geothermal plants at Olkaria in 2015 leading to a drop in dispatch of the thermal power plants from an average of 33% to 12%. The low dispatch coupled with high stockholding meant that the requirement for minimum security stocks was unnecessarily tying up the IPPs and the fuel suppliers' working capital. As at the Gazette Notice date, the 6 IPPs held the following stocks.

IPP name	Stocks held in MT	Weighted Average Price (USD)	Stock Value (USD)
Gulf Power	4,726.04	838.58	3,963,160.95
Triumph Power	498.08	411.81	205,113.98
Thika Power	4,492.67	470.52	2,113,891.09
Iberafrica	4,968.28	369.63	1,836,425.34
Rabai Power	8,200.21	255.19	2,092,611.59
Tsavo Power	8,552.04	553.22	4,731,167.02
TOTAL			14,942,369.97

We held discussion with the IPPs' management and EPRA to ascertain how the decision to reduce the minimum stocks and provide minimum dispatch was arrived at. We established that following the joint letter to ERC from the IPPs dated 28 August 2015 and a subsequent

The ToRs required us to assess whether the concessions provided by the Gazette Notice 2826 of 19th April 2016 should be maintained. To ascertain this, we reviewed the impact of the removal of the security stock requirement in terms of affecting availability of the plants. From our discussions with KPLC and review of availability data from 2016 to 2021, we noted that there were no major incidences of unavailability affecting the thermal IPPs. We noted there were instances of out of merit order dispatch however there was no documentation of the reasons. Additionally, KPLC did not maintain adequate data on cases of unavailability by the thermal power plants and there was also no documentation on reasons for such unavailability. We are therefore of the view that the concessions granted vide the Gazette Notice can be continued with the following conditions:

- The benefits in terms of release of working capital should be passed to consumers potentially through lower capacity charges.
- KPLC to monitor stock levels at the IPPs on an ongoing basis to mitigate the risk pertaining to unavailability due to lack of fuel stocks. This should include participating in the monthly physical dips undertaken at each IPP.
- KPLC to maintain monthly reports on unavailability of power plants including reasons for unavailability.
- The decision to compensate Gulf Energy and Vivo Kenya for losses of USD 9,745,775.50 arising from the low dispatch of thermal IPPs

meeting with the regulator, ERC board met and decided to grant the two concessions via the Gazette Notice. We enquired from EPRA as to whether there was a discussion on the concessions/benefits accruing to KPLC and consumers from this waiver upon which we were informed that no such considerations were made. From our assessment, the Gazette Notice released working capital requirements of USD 8,313,258.68 for four IPPs as follows. This does not include interest charges that the IPPs would have incurred. However, this benefit was not passed to consumers. From our reading of the PPAs, the IPPs are compensated for their capital costs in the capacity charges. In our assessment, a reduction in the working capital requirements should have a commensurate reduction in the capacity charges. (table below) Rabai Power and Tsavo Power maintained security stocks of above 4,500MT in the entire period and did not take up the concessions. We also established that following the low dispatch in 2015 and 2016, Gulf Energy and Vivo Kenya who were the fuel suppliers for KenGen Kipevu III, Iberafrica, Gulf Power, Triumph Power, Thika Power and Tsavo Power wrote to ERC claiming compensation of USD 9,745,775.50 citing additional storage and financing costs. After deliberations, ERC approved the request and the amount was recovered from electricity consumers effective 1 July 2017. We were unable to determine the basis for this compensation since the FSAs signed between the fuel suppliers and the IPPs did not guarantee fuel uptake from the suppliers and all orders from the IPPs were to be based on non-binding monthly estimates depending on the dispatch levels.	should be reviewed as it was not supported by the FSAs signed between the suppliers and the IPPs. Action should be taken on all parties involved should it be established that the suppliers received an unfair benefit at the expense of consumers. Further, the ERC sought out the counsel from the office of the Attorney General who did not give explicit approval to the commission to go ahead with the payment to the aggrieved fuel suppliers. • We recommend that the Consumer Protection Department of the Competition Authority of Kenya be involved in the regulation of the HFO as a passthrough cost to the electricity costs charged to consumers with input in critical decisions such as the decision to award Gulf Energy and Vivo Kenya at the expense of consumers for losses incurred outside the FSAs. This is in line with Section 94 of the Consumer Protection Act of 2012 which stipulates that "There shall be consumer representation on all regulatory bodies and the respective appointing authorities shall have due regard to accredited consumer organizations and the (Consumer Protection) Advisory Committee in making such appointments."

IPP name	Minimum stockholding requirement April 2016 to Dec 2021 (MT)	Actual stockholding from April 2016 to Dec 2021 (MT)	Variance (MT)	Estimated working capital released (USD)
Gulf Power	57,859.82	53,433.20	4,426.62	3,262,183.59
Triumph Power	48,506.18	44,289.22	4,216.96	1,753,698.13
Thika Power	146,300.76	142,809.55	3,491.21	1,526,952.19
Iberafrica	153,229.56	149,317.92	3,911.64	1,770,424.77
TOTAL	405,896.32	389,849.89	16,046.43	8,313,258.68

In addition to the compensation to the fuel suppliers and the concessions to the IPPs through Gazette Notice 2826 of 2016, we noted that Gulf Power was allowed to change its fuel accounting method from First In First Out (FIFO) to Last In First Out (LIFO). This allowed for the IPP to be dispatched and to gradually deplete the expensive 2015 stocks it was holding while allowing electricity consumers to enjoy the lower fuel prices in the subsequent years without adjustment to the fuel cost charge. Gulf Power reverted to FIFO method of accounting after fully depleting the expensive 2015 stocks in 2021. From the above findings, we found that there was inadequate consideration of the interests of electricity consumers by KPLC and EPRA in their decision making. There is need for more public participation and involvement of consumers in such matters that greatly affect their economic welfare.	
f. To carry out an analysis of actual specific fuel consumption compared to specific fuel consumption rates used in HFO cost recovery.	
• KPLC does not take an active role in monitoring the stocks at the Thermal IPPs. The IPPs submit monthly as an attachment to the invoice the recordings of the daily dipping done, to KPLC. However, KPLC are not actively involved with this monitoring of stocks levels as they do with the reading of the metre where the two parties co-sign on the readings for accountability. • Explore the possibility of having consignment stocking at all IPPs as practiced by Kengen and Tsavo Power.	• KPLC should have a representative to validate the physical stock takes monthly or employ services of independent inspectors to witness monthly stock takes as witnessed for Tsavo Power (Kipevu II). The risk and hence the cost of stock holding passes to the Fuel supplier in the FSA.
• Minimum stock holding below the contractual requirement: Following the repeal of the Gazette Notice 2826, the IPPs should revert to the security stock levels stipulated in the PPAs However, we observed the contrary and KPLC should follow up to ensure adherence of the IPPs to their agreed minimum stock levels.	Closely monitor the minimum stock holding for the IPPs after the lifting of the Gazette Notice No. 12306 of 12th November 2021 to ensure this is maintained or the penalties are applied.
• The actual specific fuel consumption rate was lower than the specific fuel consumption rates used in HFO recovery for Rabai Power, Iberafrica Power, Thika Power and Tsavo Power for the period under audit. We determined the actual Specific Fuel Consumption (SFC) rate by dividing the Actual Fuel Consumed in (MT) by the Net Energy Generated (Kwh). Thereafter, we took into consideration each IPPs rate as prescribed in their respective IPPs and did a comparative analysis which resulted in the following inference: The SFC for the coastal based IPPs;	• While the PPAs were not specific on the measures for efficiencies on the output obtained, KPLC should consider to recover USD 3,379,568 overpaid over the period of the audit and consider revising the PPAs for IPPs to charge the lower of the actual output vis a vis the predetermined Specific Fuel Consumption

Tsavo Power and Rabai Power averaged 0.20Kg/Kwh while those for greater Nairobi averaged 0.22Kg/Kwh. With the exception of Gulf Power and Triumph Power, the average actual SFC was significantly lower than the stipulated PPA SFC value.

- The analysis below illustrates the same:

IPP	Average SFC (g/Kwh)	Standard in PPA (g/Kwh)
Rabai	196	208
Thika	199	215
Tsavo	211	214
Gulf	215	215
Iberafrica	218	224
Triumph	220	210

- An analysis of the actual cost of fuel consumed vs the invoice due to fuel cost recovery, revealed a positive variance in the following IPPs: Tsavo Power, Rabai Power, Iberafrica Power and Thika Power. We deemed this as an overpayment of USD 3,379,568 since the fuel recovery amount was in excess of the actual cost of fuel consumed. Where the IPP experiences inefficiency, the IPP absorbed the losses. Based on this, the reverse should also apply whereby, a benefit of efficiency should not be at the cost of the consumer since ideally, fuel costs are a passthrough cost.

(SFC) rate. Incentives should be considered for the IPPs that achieve high outputs at lower use of HFO and pass through the benefits to the consumers.

- Renegotiate the SFCs in the PPAs for a more competitive rate possible as they have the most direct impact on the fuel cost recovery.

g. To determine whether there was any fraud and the extent, quantify the loss/ damage due to fraudulent and corrupt acts. (See Section (g) in the main report.)

Our review established irregularities in procurement pertaining to the award of the HFO supply tenders to Gulf Energy by Gulf Power, Thika Power and Triumph Power in 2014, 2019 and 2013 respectively. The irregularities involved unfairness and subjectivity in the procurement of the supplier leading to cheaper fuel suppliers being disregarded on invalid technical grounds despite having demonstrated capacity to deliver through past experience. It is notable that at the time of the 2014 tender, Gulf Energy owned 80% stake in Gulf Power which could be an indicator of potential conflict of interest. Kenol Kobil, who were the lowest bidders, were unfairly disqualified on technical grounds despite demonstrating capacity to deliver to Rabai Power.

- Gulf Power, Triumph Power and Thika Power should be held responsible for the losses occasioned through the procurement of more expensive HFO despite availability of cheaper qualified fuel suppliers. Such actions should include recovery measures.

- Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of

In the case of the 2019 Thika Power tender, Total Limited, a multinational firm, and R.H Devani were the lowest bidders but were disqualified on technical grounds. We also noted that the tender evaluation report erroneously stated the Gulf Energy bid as the lowest despite evidence to the contrary. Furthermore, we established that the earlier FSA signed with Gulf Energy in 2013 was irregularly extended for an additional two years despite being renewable for a maximum term of four years. The Gulf Energy FSA therefore was implemented for 6 years from 2013 to 2019

For the Triumph Power 2013 tender, we noted that Gulf Energy was awarded despite Kenol Kobil and Hass Petroleum submitting lower bids.

The impact of these irregularities is that they led to electricity consumers paying more in fuel costs than they should have, had the lowest bidders been considered. The potential loss due to these irregularities is summarized below:

Losses due to the 2015 Gulf Power tender

Gulf Unit Price (USD) - A	Kenol Unit Price (USD) - B	Variance	Volume supplied in MT - C	Estimated Loss (USD) (A-B) * C
867.55	818.80	48.75	60,035.15	2,926,713.56

Losses due to the irregular extension of the Thika Power 2013 tender

Gulf Fixed Price (USD) - A	Kenol Fixed Price (USD) - B	Variance	Volume supplied in the period – MT - C	Estimated Loss (USD) (A-B) * C
112.97	50.5	62.47	71,068.12	4,439,625.46

Losses due to the irregular award of the Thika Power 2019 tender for 6 months short – term tender

Gulf Price (USD) - A	Kenol Fixed Price (USD) - B	Variance	Volume supplied in MT in the period - C	Estimated Loss (USD) (A-B) *C
634.72	607.70	25.02	2,992.02	74,860.34

electricity consumers in the irregular award of the HFO supply tenders to Gulf Energy.

- KPLC and EPRA should enhance their oversight role in the procurement process to ensure that only the suppliers that offer the cheapest HFO prices with the required specification are procured to avoid overburdening of consumers. This can be done through the following additional safeguards:

  ❖ The tender evaluation process should be enhanced by having independent observers preferably from EPRA and/or the Consumer Protection Department of the Competition Authority of Kenya (CAK) to sit through the evaluation discussions. The observers would then prepare their own independent report on the conduct of the evaluation;

- The no-objection process from KPLC following completion of tender award should be enhanced through appointment of a third-party procurement expert to independently review the procurement process leading to the award and provide a written advisory to KPLC for consideration prior to their decision on the tender award.

- The final approval by KPLC should be made by a Special Committee formed to review HFO tenders and which should comprise senior KPLC management and representation in the form of procurement specialists from the Supply Chain Department. This Special Committee should report directly to the KPLC Board of Directors.

Losses due to irregular award of the Triumph Power 2013 tender

Gulf Price (USD) - A	Kenol Price (USD) - B	Variance (USD)	Volume supplied in the period - MT	Estimated Loss (USD) (A-B) * C
899.06	862.48	36.58	49,493.74	1,810,481.01

- EPRA and KPLC should provide policy guidance on conflicts of interest arising from parties to the PPAs being vendors for supply of HFO.
- KPLC and IPPs should review the HFO procurement process with a view to addressing the procurement gaps noted in this report particularly under sections (b).

h. To assess effectiveness and application of the respective controls and the oversight policies.

We reviewed the controls in place as defined in the PPAs and FSAs pertaining to the three areas of our review i.e. procurement, stocks and pricing. Our findings are as follows:

1. Procurement – The PPA sets out the procedure for procurement of HFO. We noted that the IPPs do not have internal procedures supporting HFO procurement since the PPAs provisions were deemed to be sufficient. KPLC maintains an oversight role on the procurement process and is involved at the following stages:
   a) Drafting of the tender document
   b) Bid opening
   c) Review and approval of the tender evaluation report
   d) Award of the FSA
   e) Renewal of the FSA

   We established that there were gaps in the procurement process:
   - There is no standard tender document for HFO. Each IPP has its own format of tender documents based on their own business requirements
   - The current tender documents do not have well prepared, fair, transparent, and clear evaluation criteria; it only spells out documentary requirements without stating the criteria to be met by each bidder.
   - Some IPPs used point scores and formula for combining technical and financial scores, in the evaluation of bids, leading to a subjective academic exercise of scoring points for each bid, which had little bearing on the selection of a suitable qualified bidder.
   - There was a lack of a systematic bid evaluation procedure leading to award of contract to an eligible, technically responsive, and qualified bidder with the lowest evaluated price

Recommendations:

- KPLC should develop procurement guidelines in line with the PPA that direct the IPPs on the specific procedures to be followed in HFO procurement.
- A standard tender document for HFO procurement should be developed and adopted by all the IPPs.
- A data sheet should be included as part of the tender document.
- The evaluation and qualification criteria should be properly defined in the tender document.
- Bidding forms should be introduced so as to standardise the bids from different suppliers.
- The price schedule should be in a standard format to be filled by each supplier so as to ensure uniformity in price quotation.
- Any issues noted during the tender opening such as arithmetic errors or any other material issue likely to affect the outcome of the tender evaluation should be formally noted in the minutes of the opening ceremonies.
- The FSA clause on automatic renewal of the agreement after expiry of the initial terms should be amended to include conditions for the renewal such as evidence of satisfactory performance of the contract.

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The main cost elements with significant impact on fuel prices that could be managed through a competitive bidding process are the premiums, sea freight, and local transport.
2. Pricing – The pricing of HFO is defined in the PPA and the FSA respectively. Fixed costs such as supplier premium, overheads and transport costs are maintained throughout the life of the FSA based on the winning bids from the fuel suppliers. Variable costs are derived from international indices such as the Means of Platts and AFRA. Taxes are updated based on changes communicated by the regulator EPRA arising from government policies. We noted that there was a gap in the oversight from KPLC for the international indices where KPLC does not independently obtain this data from reputable publishers during the invoice reconciliation process.
We also established that there were instances where meter readings for Net Electrical Output (NEO) were not signed off by KPLC representatives.
3. Stocks – The PPA requires each IPP to maintain adequate stocks to prevent instances of unavailability of power plants due to lack of HFO stocks. This requirement was suspended through Gazette Notice 2826 of April 2016 and revoked in December 2021. We ascertained that while KPLC obtained regular stocks data from the IPPs they were not involved in stock verification at the IPPs through dips and stock counts done on a monthly basis. We noted that this was a lapse in the oversight mandate of KPLC in ensuring adequacy of stocks as per PPA provisions.
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The oversight role of KPLC in the renewal of FSAs should be expanded to a no-objection process where the IPP will be required to provide sufficient evidence to demonstrate effective performance of the contract by the fuel supplier.
Any extensions of the FSAs beyond the contractual limits should be approved by EPRA.
On pricing, we recommend that KPLC subscribes to the international indices such as MOPAG and AFRA so as to ensure that the indices included in the invoices from the IPPs are accurate.
KPLC should ensure that all meter readings are signed off by their representatives.
KPLC should be involved in the monthly fuel stock dips at the IPPs to ensure that there are adequate security stocks maintained at the power plant HFO tanks.

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Gulf Power, Triumph Power and Thika Power should be held responsible for the losses occasioned through the procurement of more expensive HFO despite availability of cheaper qualified fuel suppliers. Such actions should include recovery measures.
Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregular award of the HFO supply tenders to Gulf Energy.

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evidence to the contrary. Furthermore, we established that the earlier FSA signed with Gulf Energy in 2013 was irregularly extended for an additional two years despite being renewable for a maximum term of four years. The Gulf Energy FSA therefore was implemented for 6 years from 2013 to 2019.

For the Triumph Power 2013 tender, we noted that Gulf Energy was awarded despite Kenol Kobil and Hass Petroleum submitting lower bids.

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Losses due to the irregular extension of the Thika Power 2013 tender

Gulf Fixed Price (USD) - A	Kenol Fixed Price (USD) - B	Variance	Volume supplied in the period – MT - C	Estimated Loss (USD) (A-B) * C
112.97	50.5	62.47	71,068.12	4,439,625.46

Losses due to the irregular award of the Thika Power 2019 tender for 6 months spot purchase:

Gulf Price (USD) - A	Kenol Fixed Price (USD) - B	Variance	Volume supplied in MT in the period - C	Estimated Loss (USD) (A-B) *C
634.72	607.70	25.02	2,992.02	74,860.34

- KPLC and EPRA should enhance their oversight role in the procurement process to ensure that only the suppliers that offer the cheapest HFO prices with the required specification are procured to avoid overburdening of consumers. This can be done through the following additional safeguards:

  - ❖ The tender evaluation process should be enhanced by having independent observers preferably from EPRA and/or the Consumer Protection Department of the Competition Authority of Kenya (CAK) to sit through the evaluation discussions. The observers would then prepare their own independent report on the conduct of the evaluation;

- The no-objection process from KPLC following completion of tender award should be enhanced through appointment of a third-party procurement expert to independently review the procurement process leading to the award and provide a written advisory to KPLC for consideration prior to their decision on the tender award.

- The final approval by KPLC should be made by a Special Committee formed to review HFO tenders and which should comprise senior KPLC management and representation in the form of procurement specialists from the Supply Chain Department. This Special Committee should report directly to the KPLC Board of Directors.

- EPRA and KPLC should provide policy guidance on conflicts of interest arising from

Losses due to irregular award of the Triumph Power 2013 tender

Gulf Price (USD) - A	Kenol Price (USD) - B	Variance (USD)	Volume supplied in the period - MT	Estimated Loss (USD) (A-B)*C
899.06	862.48	36.58	49,493.74	1,810,481.01

parties to the PPAs being vendors for supply of HFO.

KPLC and IPPs should review the HFO procurement process with a view to addressing the procurement gaps noted in this report particularly under sections (b).

j. Establish procedures for assessment and verification of technical specification, physical completion and price competitiveness of each fuel supply agreements (FSA)

The procurement process ensures that the technical specifications are adhered to by the Fuel Suppliers from the tendering stage. As batches of fuel are received by the power plants, samples are extracted from therein and tested before the acceptance of the batches. Some of the test parameters are water content and viscosity of the fuel.

The pricing formulae provides for the competitiveness among the FSAs however the variables vary from one FSA to another based on the time of onboarding the fuel suppliers and also location of the plant.

- A data sheet should be included as part of the tender document where the specifications of the HFO for each fuel supplier are clearly indicated to assess for any departure from the stated technical specification.
- Bidding forms should be introduced so as to standardise the bids from different suppliers to ensure price competitiveness.
- The price schedule should be in a standard format to be filled by each supplier so as to ensure uniformity in price quotation.
- Any issues noted during the tender opening such as difference in technical specifications or any other material issue likely to affect the outcome of the tender evaluation should be formally noted in the minutes of the opening ceremonies.

k. To establish whether adequate systems are in place to verify pricing of HFO as per the respective FSA and PPAs.

- There are variances in prices for power computed using the PPA formula between KPLC, IPP and also the Auditor.
- KPLC and IPPs have no access to primary sources of international pricing indices.
- Spot purchases by Gulf Power and Triumph Power did not follow the FSA HFO pricing formula. This brings challenges to compare spot purchase prices with Tender prices.
- There were variances in prices for HFO computed using the FSA formula between KPLC, IPP and Fuel suppliers.

- KPLC and IPPs need to establish a mechanism to fine-tune the computation of the value of power invoiced to KPLC to eliminate the variability of what is charged for power as per PPA formula and whatever variances that occur are resolved instantly and a register of debit and credit notes are maintained.
- KPLC and IPPs need to subscribe to the international pricing indices so that they have

• No evidence of regular reconciliation of re-computed price variances and remedial actions to avoid recurrence. • A number of spot purchases were undertaken outside the FSA framework. Spot purchases deliver less competitive pricing for HFO compared to open tenders.	access to primary sources of the data needed to verify prices of HFO charged by fuel suppliers and use the same for clearance of Fuel invoices to IPPs • KPLC should also clearly define the process for stop gap procurement, price formula, mode of quotation and price and terms of evaluation by IPPs to engage with fuel suppliers in case of an emergency spot purchase. Stop gap purchase is a purchase that needs to be as competitive as possible and be comparable with other purchases made under FSA formula. • KPLC, IPPs, and HFO fuel suppliers need to establish a mechanism to fine-tune the computation of the value of fuel invoiced to IPPs to reduce and eliminate the variability of what is charged for fuel. • A work plan and SOP need to be put in place between the parties and ensure it is followed with an accountability mechanism to prevent potential loss through overpayment or underpayment for fuel supplied to IPPs due to needless variations. • KPLC should structure and monitor the competitive procurement for HFO and investigate and sanction any violations that lead IPPs to resort to spot purchases. • KPLC should urgently research the benefits of aggregation of all IPP HFO and tender through an open tender system (OTS) similar to OTS conducted by Ministry of Energy and EPRA for white products. • KPLC needs to invest in a cost benefit analysis for conversion from HFO to LNG as a source of thermal power to inform future strategies for the sector and IPPs. All the IPPs run engines that could handle LNG with little modifications. LNG is a cleaner fuel and produces higher Thermal Energy.

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KPLC needs to correctly apply the HFO fuel formula and PPA Power invoice formula for each IPP each month and ensure correct computation of fuel prices for each IPP and correct power invoices from each IPP to KPLC. Where there are differences with IPP computations, these should be reconciled immediately and debit and credit notes exchanged. Without a doubt, the power tariffs will be different for each IPP due to differences in the factors in the HFO price formula and differences in the factors in the power formulae for each IPP. This is the amount that will be reflected in the power tariff and it influences the Merit Order for that particular month.
For economies of scale in the HFO trade, thermal power generation in Kenya consumes little fuel. This is made worse when each of the 6 IPP runs their own tender process for their HFO requirements. The premiums, sea freight and import related charges can decrease with higher volumes.
Establish the rationale for each IPP having a different power invoice each month as it affects the Tariff. This is due to variation of the parameters that go into computing the HFO invoices for each IPP.

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<tr><td colspan="2">I. Identify weaknesses which impede good performance, for example adequacy of resources, lack of equipment and competence and identify potential areas of improvements on the oversight roles</td></tr>
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Staff in the Power Purchase department had technical qualifications in Engineering, rather than all the required diverse skills such as finance, legal, procurement which are required to provide oversight on the procurement and use of the HFO. A team comprising of individuals with various diverse skill sets offer expertise that would ultimately strengthen

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Establish a fully technically equipped and fully competent department with staff that have an array of skills.

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<tr><td>the power purchase and planning department in the management and enforcement of the PPAs and FSAs.

• The initial review of the procurement process of HFO by the IPPs revealed that the entire procurement process and approvals was conducted by an ad hoc committee for the various procurement at the IPPs. However, we take note that this is currently not the practice and a standing committee has been put in place. The previous ad hoc committee lacked expertise such as procurement. These inadequacies would deem the process inefficient as they failed to identify some critical lapses in procurement procedures, such as; the use of technical and financial combined scores during evaluation rather than the pass/fail basis in various IPPs. They could not also provide appropriate guidance on the tender document form and the evaluation criteria.
In addition, the lack of finance experts in the team lead to inaccuracies in the invoices that were not identified on time and the amounts were at times overcharged to the electricity consumers.

• In the Power Purchase Division, the contract management team is currently not operational.</td><td>• We recommend a tender review committee; however, this has subsequently been adopted.

• Operationalize the contract management team that would support the PPP department when engaging in the PPAs with IPPs.</td></tr>
<tr><td colspan="2">m. Assess whether appropriate controls are in place to prevent or detect material irregularities</td></tr>
<tr><td>We reviewed the controls in place as defined in the PPAs and FSAs pertaining to the three areas of our review i.e. procurement, stocks and pricing. Our findings are as follows:

1. Procurement – The PPA sets out the procedure for procurement of HFO. We noted that the IPPs do not have internal procedures supporting HFO procurement since the PPAs provisions were deemed to be sufficient. KPLC maintains an oversight role on the procurement process and is involved at the following stages:
a) Drafting of the tender document
b) Bid opening
c) Review and approval of the tender evaluation report
d) Award of the FSA
e) Renewal of the FSA

We established that there were gaps in the procurement process such as:
• There is no standard tender document for HFO. Each IPP has its own format of tender documents based on their own business requirements</td><td>• KPLC should develop procurement guidelines in line with the PPA that direct the IPPs on the specific procedures to be followed in HFO procurement.
• A standard tender document for HFO procurement should be developed and adopted by all the IPPs.
• A data sheet should be included as part of the tender document.
• The evaluation and qualification criteria should be properly defined in the tender document.
• Bidding forms should be introduced so as to standardise the bids from different suppliers.
• The price schedule should be in a standard format to be filled by each supplier so as to ensure uniformity in price quotation.</td></tr>
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• The current tender documents do not have well prepared, fair, transparent, and clear evaluation criteria; it only spells out documentary requirements without stating the criteria to be met by each bidder. • Some IPPs used point scores and formula for combining technical and financial scores, in the evaluation of bids, leading to a subjective academic exercise of scoring points for each bid, which had little bearing on the selection of a suitable qualified bidder. • There was a lack of a systematic bid evaluation procedure leading to award of contract to an eligible, technically responsive, and qualified bidder with the lowest evaluated price • The main cost elements with significant impact on fuel prices that could be managed through a competitive bidding process are the premiums, sea freight, and local transport. 2. Pricing – The pricing of HFO is defined in the PPA and the FSA respectively. Fixed costs such as supplier premium, overheads and transport costs are maintained throughout the life of the FSA based on the winning bids from the fuel suppliers. Variable costs are derived from international indices such as the Means of Platts and AFRA. Taxes are updated based on changes communicated by the regulator EPRA arising from government policies. We noted that there was a gap in the oversight from KPLC for the international indices where KPLC does not independently obtain this data from reputable publishers during the invoice reconciliation process. We also established that there were instances where meter readings for Net Electrical Output (NEO) were not signed off by KPLC representatives. 3. Stocks – The PPA requires each IPP to maintain adequate stocks to prevent instances of unavailability of power plants due to lack of HFO stocks. This requirement was suspended through Gazette Notice 2826 of April 2016 and revoked in December 2021. We ascertained that while KPLC obtained regular stocks data from the IPPs they were not involved in stock verification at the IPPs through dips and stock counts done on a monthly basis. We noted that this was a lapse in the oversight mandate of KPLC in ensuring adequacy of stocks as per PPA provisions.	• Any issues noted during the tender opening such as arithmetic errors or any other material issue likely to affect the outcome of the tender evaluation should be formally noted in the minutes of the opening ceremonies. • The FSA clause on automatic renewal of the agreement after expiry of the initial terms should be amended to include conditions for the renewal such as evidence of satisfactory performance of the contract. • The oversight role of KPLC in the renewal of FSAs should be expanded to a no-objection process where the IPP will be required to provide sufficient evidence to demonstrate effective performance of the contract by the fuel supplier. • Any extensions of the FSAs beyond the contractual limits should be approved by EPRA. • On pricing, we recommend that KPLC subscribes to the international indices such as MOPAG and AFRA so as to ensure that the indices included in the invoices from the IPPs are accurate. • KPLC should ensure that all meter readings are signed off by their representatives. • KPLC should be involved in the monthly fuel stock dips at the IPPs to ensure that there are adequate security stocks maintained at the power plant HFO tanks.

Table 5: Summary of findings and recommendations

Responsibility and Irregularity Matrix

S/No.	Malpractice/ Irregularity	Quantum of the Loss/ Damage/ Amount in USD	Responsibility (Office/Department etc)	Recommendations
1	Irregular award of the Gulf Power 2014 tender	2,926,713.56	Gulf Power	We recommend that action be taken against Gulf Power for the excess fuel charge paid by the consumers
2	Irregular extension of the Thika Power 2013 tender	4,439,625.46	Thika Power	We recommend that action be taken against Thika Power for the excess fuel charge paid by the consumers
3	Irregular award of the Thika Power 2019 tender	74,860.34	Thika Power	We recommend that action be taken against Thika Power for the excess fuel charge paid by the consumers
4	Irregular award of the Triumph Power 2013 tender	1,810,481.01	Triumph Power	We recommend that action be taken against Triumph Power for the excess fuel charge paid by the consumers
5	Payment to Fuel Suppliers (Gulf Energy Ltd and Vivo Kenya Ltd) outside the FSA	9,745,775.50	EPRA Gulf Energy Ltd Vivo Kenya Ltd	• We recommend that the Consumer Protection Department of the Competition Authority of Kenya be involved in decisions affecting electricity consumers such as the decision to award Gulf Energy and Vivo Kenya at the expense of consumers for losses incurred outside the FSAs. • Action should be taken on all parties involved should it be established that the suppliers received an unfair benefit at the expense of consumers.
	TOTAL	**18,997,455.87**		

Table 6: Responsibility/Culpabiity and Irregularity Matrix

Our conclusions drawn based on the investigation findings include:

a. KPLC in consultation with the IPPs should develop standard procurement guidelines for HFO since there are clear gaps in the PPA deeming it insufficient in regards to offering direction on HFO procurement.
b. There are lapses in the various procurement stages as illustrated in the detailed findings of this report that would need to be addressed for the procurement process to enriched and strengthened.
c. The pricing formulae needs to be understood in depth as it has various cost elements aggregated. This is to ensure that the consumers' interests are protected since fuel charge is a pass-through cost.
d. The gazette notice 2826 did alleviate working capital for the IPPs, however, the concessions given did not impact the consumer.
e. There are efficiencies experienced among the IPPs whenever their actual specific fuel consumption rate is less than the stipulated rate in the PPA, which is used during invoicing. These benefits should be passed forward to the consumer whenever the selected power generation companies are used or concessions granted to the IPPs that are efficient to ensure the same practise across board.
f. Action should be taken against the IPPS and KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregularities observed in the HFO tender supply to Gulf Energy, given by Gulf Power Ltd, Thika Power Ltd and Triumph Power Generation Company Ltd. The instances of irregularities warrant severe assessment of gross misconduct and action to be taken on the responsible parties.
g. KPLC, IPPs, and HFO fuel suppliers need to establish a mechanism to fine-tune the computation to reduce and eliminate the variability of what is ultimately charged for fuel.
KPLC should implement Standard Operating Procedures (SOPs) between KPLC, IPP and HFO suppliers and ensure it is followed with an accountability mechanism to prevent potential loss through overpayment or underpayment for fuel supplied to IPPs due to needless variations.
h. KPLC should ensure the correct interpretation and application of the formulae all through by all industry players to ensure price competitiveness.
i. The Power Planning and Purchase department should be fully operationalized for optimization of resources and cohesiveness in the planning and execution of electricity generation in the country.
j. A review of KenGen thermal plants is necessary due to its significant capacity and its contribution to the electricity generation industry. Kengen thermal power plants during the FY 2020/2021 generated an average of 2% of the system gross whereas the six thermal independent power plants combined contributed averagely 5%of the system gross. This goes to prove the significant importance to review and assess its affairs.
k. KPLC should enhance their oversight roles as stipulated in the PPA with inclusion of recommendations made within this report to strengthen their oversight capacity.
l. Policies and controls should be implemented to ensure the efficiency of power generation.
m. There's lack of strict adherence to FSA guidelines as seen through irregular extensions of tenders. Fuel suppliers should not be allowed to extend their contract beyond the allowable period stipulated in the Fuel Supply Agreement.
n. There are more issues that afflict the IPPs beyond the procurement and use of HFO as the forensic audit assignment was skewed. There is urgent need to review the entire operations of the IPPs and their overall contribution in the generation of electricity.
o. The conflict of interest between Gulf Energy and Gulf Power shows serious lapse in KPLC's oversight mandate, a matter that should be further investigated.

HFO Supply Matrix

The table below illustrates the quantity of the HFO supplied across the IPPs by the following various suppliers. In the period July 2018 to June 2021, there were five HFO suppliers who delivered fuel worth a total value of **USD 158,331,783.06.**

Fuel Supplier	Gulf Energy		Vivo Kenya		Kenol Kobil		Dalbit Petroleum		RH Devani	
IPP	**Quantity MT**	**Amount USD**	**Quantity MT**	**Amount USD**	**Quantity MT**	**Amount USD**	**Quantity MT**	**Amount USD**	**Quantity MT**	**Amount USD**
Tsavo	-	-	-	-	-	-	-	-	94,188.00	41,028,662.81
Gulf	10,778.90	6,642,444.80	242.57	140,709.46	-	-	-	-	-	-
Rabai	-	-	-	-	75,565.92	38,688,429.67	45,570.04	20,816,585.92	-	-
Iberafrica	31,380.14	16,659,774.62	-	-	-	-	-	-	-	-
Thika	30,992.24	18,920,648.19	-	-	-	-	-	-	18,092.40	9,113,869.24
Triumph	1,778.07	1,155,361.04	-	-	-	-	-	-	9,735.58	5,165,297.30
TOTAL	**74,929.34**	**43,378,228.66**	**242.57**	**140,709.46**	**75,565.92**	**38,688,429.67**	**45,570.04**	**20,816,585.92**	**122,015.98**	**55,307,829.35**
Weighted Average Price		**578.92**		**580.08**		**511.98**		**456.80**		**453.28**

Table 7: HFO Supply Matrix

4 Forensic Audit Approach

4.1 Background to the Forensic Investigation

The price of power had significantly increased for consumers over the past five years. Consumers expressed public outrage about this increased price and hence a presidential task force was created to look at this issue. As a result, The Presidential Task Force on PPAs Review (The Taskforce) was established in response to a presidential directive through a special Gazette Notice No. 3076 that was published on March 29, 2021 (the Gazette Notice). The purpose of the Gazette Notice was to direct the KPLC to conduct a thorough review and analysis of all power purchase agreements (PPAs) entered into between various independent power producers (IPPs) and KPLC. Further there was a recommendation to audit the procurement and use of HFO used by the thermal plants due to the high cost of electricity.

The aim of the Taskforce was to develop a suitable strategy for engagement with the Independent Power Producers (IPPs) and lenders, in order to achieve relief for electricity consumers and ensure the long-term viability and sustainability of the energy sector.

4.2 The Investigation Methodology

We utilized our investigation methodology as required to fulfil the assignment's objectives. This is as described below:

Steps taken	Details
Interviews	We interviewed parties relevant to the investigation such as varu=iuos departments of KPLC, the IPP and EPRA in order to obtain the necessary information to corroborate our findings.
Document reviews	We obtained and reviewed documentation that were considered necessary to aid in accomplishing the assignment objectives.
Data Analysis	We conducted data analytics on all areas of our review to identify trends and key features of information submitted for our audit by KPLC and IPPs. We performed expert analysis of documents to identify trends and
Business Intelligence checks	We obtained information from publicly available sources on individuals and entities suspected to be involved in fraud or malfeasance at KPLC and the IPPs. We also investigated any business relations with third

Table 8: Methodology and Approach to the Investigation

4.3 Interviews and meetings Conducted

We conducted interviews and held discussions with relevant parties during the course of the forensic review and have listed these individuals in the table below:

Organisation	Meeting Dates	Name and Designation
Gulf Power	5 July 2022	1. Norman Wanyiri – General Manager 2. Ali Abubakar – Chief Financial Controller 3. Benson Njiru – Chief Technical Officer
Tsavo Power	5 July 2022	1. Eng Julius Riungu – Managing Director 2. George Ngugi – Chief Financial Controller
Thika Power	6 July 2022	1. George Njenga – CEO 2. Fiona Ngethe – Internal Auditor 3. Stephen Mwaura – Chief Technical Controller
Triumph Power	7 July 2022	1. Rufa Abbas – Director 2. Siva Shankar – General Manager 3. James Karanja – Finance Director
Iberafrica Power	7 July 2022	1. Henry Muthanji - Chief Executive Officer 2. Laurie Akinyi – Management Accountant 3. Fiona Ng'ethe - Internal Auditor 4. Bernard Mwaniki - Operations Manager 5. Simeon Githagui - Chief Technical Officer 6. Lawrence Musyoka - Supply Chain Manager
Rabai Power	12 July 2022	1. Thomas Hedebroe - General Manager 2. Zablon Okwoku - Finance Manager 3. Joseph Alex Odhoch - Technical Officer
KPLC	4 July 2022 7 September 2022	1. Charles Cheruyiot – General Manager Internal Audit 2. George Mbaabu – 3. John Ihuthia – GM Business Strategy 4. Susan Ombuya – Manager in PPP 5. Paul Mwangi – Ag GM Networking 6. Cyril Bett – Assistant control Engineer 7. Carol Mwani – Dispatch Planning Engineer 8. Yida Kemoli – Board Director
EPRA	29 August 2022	1. Leonard Yegon – Electricity Pricing Expert 2. Shelia Tonui – Pricing Officer (ST) 3. Mohammed Omar - Internal Auditor

Table 9: Interviews Conducted and Discussions Held

4.4 Documentation Reviewed

During the course of our procedures, we reviewed several documentations relevant to the forensic review. These included Requests for Quotations (RFQs), quotations, purchase orders (POs), contracts, invoices, delivery notes, GRNs, Power Purchase Agreements (PPAs), Fuel Supply Agreements (FSAs) and other information supporting procurement and use of heavy fuel oil. Where reference is made in the report to any information obtained from the documentation above, a corresponding annexure is provided in the Annexures section of this report.

4.5 Procedures conducted during the forensic investigation

The review was conducted in phases described below in order to achieve the assignment's objectives. The procedures conducted are discussed in detail in the following sub-sections:

Phase 1: Engagement Preparation and Planning

As part of the assignment's preparation and planning stage, we conducted the following procedures:

i. We held preliminary meetings with the KPLC team to understand the background of the forensic investigation request and to agree on the assignment objectives and timelines.
ii. Obtained and reviewed the Presidential taskforce report in order to understand recommendations and findings related to thermal IPPs.
iii. We obtained the Power Purchase Agreements to understand the relationships between KPLC and the IPPs and the legal framework governing the same.

Phase 2: Engagement Execution

The procedures conducted during the execution phase of the forensic investigation are reported together with the respective findings.

Phase 3: Presentation of forensic investigation findings

The findings from the procedures conducted have been outlined in the proceeding sections. The procedures involved subjecting documentation and other forms of information made available to us to a series of tests that were designed to address the terms of reference as enumerated in this report. Tests results are presented in a tabular format where possible.

5 Forensic Audit Findings

5.1 Specific Key Task (a)- Review PPA provisions on Procurement of HFO

The procurement of HFO is guided by the power purchase agreements commonly referred to as the PPA. The PPA timeframe is between 20 to 25 years, it stipulates how the procurement of HFO is to be carried out by the IPPs and is provided for in the PPA clause 9.13. The provisions of the PPA with regards to procurement include:

a) Tender documents - the IPP was required to prepare the tender documents and issue to KPLC for comments and approvals. KPLC was to review within 10 business days and provide comments if any; in the event of comments being provided the IPP doing the tender will revise the tender within 4 business days and for cases where KPLC fails to respond within the agreed timelines the tendering process will continue.

b) Tender opening- KPLC is required to send a representative to observe the opening of the tender if the IPP gives them seven days' written notice of when they intend to do so.

c) Evaluation report: After an evaluation is completed by an IPP, a report is produced and submitted to KPLC for approval. Upon receiving the report, KPLC is obligated to respond within seven business days. They must then notify the IPPs in writing that they can proceed with the award because they have no objections. KPLC will explain the reasons for not issuing IPPs if there was no objection raised.

d) Fuel supply agreement- the contract with the proposed supplier is to be signed after KPLC has issued no objection to the evaluation report.

5.1.1 Tender Documents

The PPA Clause 9.13.2 requires that the IPP shall prepare and provide to KPLC a copy of the proposed tender documents, without specifics on the basic content and structure of the tender documents. The resultant fuel supply agreement is expected to contain (a) fuel specifications, (b) quantity and quality control procedures of delivered fuel, (c) supplier sample of delivered fuel, (d) security stock, (e) delivery and credit arrangements, (f) pricing structure, proposed base price and escalation indices.

Findings

Lack of Standard Tender Forms for the Purchase of HFO

The PPA did not have standard tender documents for HFO to guide the IPPs on the procurement. Each of the IPPs therefore used its own format of tender documents. KPLC used the different tender documents from the IPPs for review purposes although they were missing crucial information for the tender process. The following are the major gaps in the tender forms used;

i. The tender documents lacked bidding forms, which bidders ought to use in the preparation of their bids and submit in standardized format for ease of evaluation and comparison;

ii. The tender documents lacked a section on evaluation and qualification criteria; and

iii. The forms lacked Data Sheet, which ought to have been customized for the specific tender

Risk

a) The bidding documents are lacking crucial requirements, making it impossible to standardize the submission of bids, and subsequent evaluation of bids,

b) Due to lack of standardized formed there are frequent changes to the instructions to tenderers which may raise confusion in the tender process and may also lead to the risk of litigation due to potential procurement mishaps,

c) The absence of evaluation criteria causes bids to be evaluated incorrectly or subjectively as a result of the submissions' vast discrepancies regarding the papers that are truly required. This puts the entire procurement process at risk for dubious awards and achieving value for money.

Recommendation

The KPLC in consultation with the IPPs should prepare procurement guidelines for HFO. The procurement guidelines and standard bidding documents will enhance the supervisory role of KPLC.

5.2 Specific Key Task (b) - Review of HFO procurement processes for at least the last three years and assess whether the procurement procedures outlined in the respective PPAs and KPLC policies have been followed in procurement of HFO

Procurement Rules and Processes

The procurement of HFO was provided for in the PPAs. The Seller (IPP) is required to procure HFO in accordance with the fuel procurement process provided in Clause 9.13 of the PPA. The Seller shall at its own cost call for tenders, evaluate tenders, prepare the Fuel Tender Evaluation Report, and issue it to KPLC, recommending the proposed fuel supplier and obtain KPLC's consent prior to entering into any Fuel Supply Agreement.

It was noted that the applicable procurement rules in the PPA were brief and did not detail the specific procurement procedures and processes to be followed by IPPs in the procurement of HFO. All the IPPs audited did not have detailed procurement guidelines or standard operating procedures to guide the procurement of HFO. They instead considered what was provided for in the PPAs as adequate. However, our audit show weaknesses attributed to lack of standard procurement guidelines for HFO. Most of the findings contained in this chapter can be addressed through a procurement guideline prepared for use by the IPPs in procuring fuels.

Evaluation Criteria

In this report, five forms of criteria are reviewed in this subsection: (a) eligibility evaluation criteria used to check if the Bidder is eligible and meets the statutory documents and licenses, (b) qualification evaluation criteria to check if the Bidder is qualified to perform the contract, (c) technical evaluation criteria to compare the offered versus required specifications, (d) financial evaluation criteria used to adjust and compare prices across Bidders, and (e) award criteria to provide for the specific award of the contract, expected to be the Bidder with the lowest evaluated price. The findings on these four sets of criteria are presented below.

Eligibility Evaluation Criteria

The findings regarding the eligibility criteria are set in the tender documents across the six IPPs. For the IPPs reviewed, we identified irregularities with respect to the eligibility cfriteria in Rabai Power, Iberafrica Power and Gulf Power as follows:

Findings

i) The eligibility criteria were not consistently set and applied across all IPPs;
ii) There was no separate section for setting of criteria in the tender documents;
iii) Lack of clear guidelines on how the eligibility criteria shall be applied during bid evaluation.
iv) The tender documents provided the mandatory documents required for the bidders to qualify their bids for technical evaluation. However, during evaluation Rabai Power, Iberafrica and Gulf Power used of point scores to evaluate the bidders in mandatory requirements as per the below tables;

Rabai Power - Tender for 2020

Rabai Power allocated points to the mandatory required documents as follows:

Details	Reference	MAX RATING	Kenol	Dalbit	Vivo	Devani	Oxford
Clause RFP-10	Compliance and completeness of the tender documents comprising the tender	2	2	2	2	1	2
Clause RFP-14	Tender security of two hundred thousand US Dollars US$ 200,000	2	2	2	1	2	1
Clause RFP-14	Power of attorney of the person signing for the tender security for the issuing bank	3	3	3	3	3	3
Clause RFP-15	Provision of one (i)original and three (3) copies of documents of the tender as described in a clause RFP-10 clearly marked original or copy	2	2	2	2	1	2
Clause RFP-15	Availability of the original signature, seals stamps on all tenders' documents on the photocopies	2	2	2	2	2	2
Clause RFP-15	Power of attorneys of the person. Signing the tender document	3	3	3	3	3	3
Clause RFP-15	Certificate of incumbency and authority of the person signing the tender documents	3	3	3	2	3	3
Clause RFP-15	Indication of full company name and proper address where notices are to be served	1	1	1	1	1	1
Clause RFP-11	Form of Board resolutions approving the fuel supply agreement and fuel supply direct agreement as provided in ANNEX C of the tender document	3	3	3	3	3	3

	TOTAL	**21**	**21**	**21**	**19**	**19**	**20**

Table 10:Rabai Power technical scores for 2020 tender evaluation

Iberafrica Power – Tender for 2021

Iberafrica Power allocated percentages in the evaluation of mandatory documents as follows;

Details	Rubis	Jaguar	R.H.	One
Tax compliance / EPRA license	5.00%	4.75%	5.00%	5.00%
Provision of bid security	5.00%	2.99%	5:00%	4.75%

Table 11: Iberafrica Power technical scores for 2021 tender evaluation

Gulf Power – Tender for 2020

Gulf power used point scoring for overall mandatory requirements evaluation however one of the tenderers Dalbit missed on having the City County business license but their tender was proceeded to technical evaluation.

Requirements	Fuel Suppliers		
	Dalbit	Jaguar	Vivo
Petroleum, business license issued by EPRA	✓	✓	✓
Valid Tax compliance	✓	✓	✓
PIN certificate	✓	✓	✓
Certificate of incorporation	✓	✓	✓
City county business license	Missing	✓	✓
Vat certificate of registration	✓	✓	✓
Total Points awarded	5	6	6

Table 12: Gulf Power evaluation for 2020 tender

i. The tender security aims at protecting the procuring entity against the risk of the bidders conduct during the tendering period. Practices were observed where Rabai Power, Iberafrica power, did set this criterion (a) using point scores, (b) requiring tender security valid for one year where 120 days would suffice to cover the bidding period; (c) setting too high tender security amounts given the value of annual contract this is seen in the case of Gulf power who requested to be provided with a tender security worth USD 500,000. Triumph power on the other hand requested for the tender security to provide as part of the bid documents Invitation to Bid 7.1 on document comprising the bid section c, yet while performing the audit it was not used as part of the evaluation.

ii. The power of attorney of the person signing the tender is very crucial and should be a mandatory requirement. The power of attorney of the person signing the tender security in the issuing bank is not necessary. Rabai power and Tsavo Power required that the bidders supply tender security with signatures from the person issuing it from the bank. The signature of the person signing the tender security from the bank is not mandatory requirement. The most important requirement is that at evaluation stage, the IPP should write to the bank to confirm the authenticity of the issued tender security.

iii. The requirement for copies is generally a good practice. Triumph power, Tsavo Power and Rabai Power during the tender process informed the bidders they were required to submit four copies of their bids that is;1 original and 3 copies. This provision to the IPPs is time consuming and has a lot of cost associated with preparation of the documents. The evaluators during the evaluation of the bids did not use all the four bids during evaluation.

iv. The bidders were required to provide certificate of incumbency and authority of the person signing the tender documents. This requirement in Tsavo Power and Rabai Power was evaluated on scoring basis yet it should have been on a pass or fail basis during evaluation, this means any Bidder that did not provide this document would not be considered further, thereby negating the use of points.

v. Rabai Power and Tsavo power requested the bidders to provide form of board resolution as part of their bid documents and scored point on them during evaluation. This requirement is important to ensure that the Bidder would not renege on the specified clauses in the fuel supply agreement. This means that it should be evaluated on a pass-fail basis at the mandatory evaluation stage and not point scores evaluation at this stage. Bids that do not have a board resolution are eliminated at the preliminary examination stage and not considered further in evaluation process.

vi. The tender letter is a critical one as a formal offer to supply the fuel. The tender letter was supposed to be completed and signed by the suppliers and submitted as part of the bid documents. At Tsavo Power this requirement was evaluated using points. This requirement was to be evaluated on a pass or fail basis in that if the bidder has not provided the tender document one is disqualified.

vii. Tsavo Power and Rabai Power as part of their tender requirements, the company profile was supposed to be provided by the bidders. The company profile provides a snapshot of the company to assess its management and history, which is useful information required to get to know the Bidder. In the evaluation it was scored using points, this criterion is unnecessary and adds no value in the evaluation process. This criterion is for information purposes and serves little evaluative value.

viii. The certificate of incorporation provides evidence of capacity to contract and identifies the complete name and nature of the company that constitutes the Bidder. Gulf Power and Triumph Power requested for the Certificate of Incorporation however Triumph Power did not evaluate this and Gulf Power used point form for this evaluation.

ix. The bidders were required to provide CR12 as part of their bid documents. The CR12 provides information about the directors and shareholders of the Bidder and that records exist in the registrar of companies, which is important to establish if there was any conflict of interest.

x. The beneficial ownership declaration is a requirement under Companies Act and further provides information about the Bidder and who the real owners are.

xi. Tax compliance is a legal requirement during the submission of the bid document. It informs the procuring entity on the status of the supplier with regards to tax payments. Iberafrica Power and Gulf Power had the requirement in the ITB, as they carried the evaluation, they scored using points. This should have been evaluated on a pass or fail basis, that is if the supplier did not provide the tax compliance one was disqualified and would not be evaluated for the next criteria. Triumph Power requested for tax compliance and did not conduct an evaluation on this requirement. Rabai Power, Tsavo Power in the ITB did not request for the submission of tax compliance certificate from Kenya Revenue Authority.

xii. Gulf Power and Iberafrica Power used the evaluation criteria of scoring points for the requirement on EPRA Petroleum License The license is evidence authorizing the Bidder to trade in fuel in Kenya and also show that they are valid during the tender period. This evaluation is supposed to be done on a pass or fail basis

Recommendations

a) The provision of the criterion on completeness of bid is a good evaluation criterion that ensures that all the required Bidding Forms have been provided by the bidders to enable effective evaluation of bids. However, such a criterion should be set to be applied on a pass-fail basis

b) As an eligibility criterion, the tender security should be set in the tender documents so as to be applied on a pass-fail basis during evaluation, without using point scores. A bid without sufficient bid security shall be disqualified at the preliminary examination stage.

c) The power of attorney should be required for the person signing the tender on behalf of the Bidder, but not the person signing the tender security in the issuing bank. This eligibility criterion should be set in the tender documents and applied at evaluation stage on pass/fail basis, instead of point scores.

d) For ease and reduced cost of tendering and evaluation, the Bidders should be required to submit the original bid with the requirement for copies only as necessitated. Also, this criterion should be set to be applied on a pass/fail basis instead of point scores.

e) The eligibility criterion on certificate of incumbency should be set but not be allocated points. Instead, it should be set to be evaluated on a pass-fail basis.

f) The criterion on board resolution should be set on a pass-fail basis in the tender documents and also applied on pass-fail without use of points during evaluation of bids. The procurement guidelines should indicate if the bidder does not provide this document; shall be eliminated outright or asked to submit it before end of evaluation process.

g) The format for tender letter [called the bid submission form, or letter of bid, or form of tender] should be provided in the tender documents, to be assessed on a pass/fail basis as part of the assessment of the completeness of bids, and without point scores.

h) The submission of company profile may be required in the tender documents for information purposes but should not subject of scoring during evaluation of bids.

i) Bidders should be required to submit a copy of the certificate of incorporation together with the bid. The procurement guidelines should provide guidance on whether those that forget to submit it are given a second change to submit it before end of evaluation process.

j) Bidders should be required to submit copies of the latest CR12 dated at least within the last 30 days of the date for submission of bids.

k) Bidders should be required to submit the Beneficial Ownership Declaration forms as part of their bids.

l) Bidders should be required to submit a valid tax compliance certificate from KRA in their bids, which should be evaluated on a pass-fail basis.

m) All bidders should be required to submit the EPRA petroleum licensed and assessed on pass-fail basis.

Qualification Evaluation Criteria

The qualification evaluation criteria are used to assess if the Bidder is qualified to perform the contract:

(a) Bidders were required to own the storage facilities when the general industry practice is to lease the storage for use from time to time,

(b) Required to have fully dedicated storage of HFO for the plant when the practice is for the supplier to draw from the common storage tanks;

Findings

i. The tender documents in all the IPPs stated the following qualifications that were vague and could not be used for evaluation;
   - a copy of the Bidder's audited financial statements for the last three years as evidence that the Bidder is financially qualified to perform the contract, without stating the specific financial indicators that Bidders should meet to be considered qualified;
   - The Bidder's history and detailed fuel supply experience in Kenya of a similar nature, without stating the minimum quantity and contract value that is considered as experience to qualify as a supplier;
     Documentary evidence of sufficient, adequate and dependable road transport; this criterion did not specify what the IPP considered to be "sufficient", "adequate", and "dependable" road transport; etc.

ii. The bidders were required to provide a copy of the tenderers audited financial reports and/or other audited material for the most recent past three complete fiscal years, substantiating the tenderers financial capability of meeting the requirements of this tender document and of the fuel supply agreement. The criterion on financial capacity was vague on the indicators to be computed to determine the Bidder's financial capacity. Such indicators usually relate to minimum values for current ratio, net worth, return on equity, and debt ratio.

iii. Rabai Power set the criteria that the supplier should provide evidence that the tenderer's annual average revenue realized in Kenya was equal to at least US$100,000,000 during each of the three years proceeding to the submission of the tender. A common practice is to provide different bands or range of turnovers and allocate scores based on the different ranges/levels over the past three to five years.

iv. The tender documents for Tsavo Power stipulated the need for:

   - A brief company history and corporate profile, including a resume demonstrating tenderers prior experience in the delivery of fuel defined as residual fuel oil to similar projects;
   - The tenderer or an affiliate thereof has traded at least 1,000,000 MT of fuel per year with customers located in Africa for two years preceding the submission of the tender;
   - The tenderer has traded at least 250,000 MT of fuel, diesel, or kerosene per year with customers located in Kenya in the past two years;
   - Evidence that fuel storage facilities for fuel, kerosene and/or diesel with capacity of at least 10,000 MT will be available to the tenderer in Mombasa, Kenya throughout the term of fuel supply agreement; at least 5000 MT of the fuel storage capacity used by the tenderer exclusively in connection with the project throughout the term of the fuel supply agreement; at least 5000 MT of the fuel capacity shall be owned or leased by the tenderer throughout the term of the fuel supply agreement.

This qualification criterion on Bidder experience is vague, does not state the minimum quantity and value of previous contracts dealing with HFO. The company corporate history and resume is not evidence to demonstrate experience but are for informative purposes. Tsavo Power did set the criteria of the requirement for 1,000,000 MT, for each year for a period of 2 years which may be considered as too high and should be commensurate with the annual consumption of HFO in the plant. Moreover, evidence of delivery within the past two years is too restrictive and could reduce the level of competition in the bidding process. The criterion as set was not specific to storage capacity for HFO to include kerosene and diesel, requires Bidders to have fuel capacity exclusively for the IPP at a stage no contract had been signed yet, part of the criterion is futuristic and may not be possible to be applied in the evaluation of bids

vi. Iberafrica tender for 2021 and Gulf tender for 2020 required details on the availability and sourcing arrangements for the fuel. The criterion is too broad and does not elaborate what documentary evidence is required to be submitted by the Bidder to demonstrate it is qualified to perform the contract.

vii. For Thika Power, Iberafrica, Gulf Power and Triumph Power the tenders required documentary proof of fuel transport arrangements, including lease arrangements or other arrangements satisfactory to the purchaser, evidencing that a number of trucks sufficient to deliver the required quantities, taking into consideration transit time, uploading time and other constraints such as holidays and breakdown, was required to be dedicated to the plant. This qualification criteria on transportation of fuel does not provide information on the minimum number of trucks and the estimated quantity of HFO to be transported annually. The other factors such as transit time, loading time and holidays are important information for contractual agreement but are not objective for evaluation purposes.

Recommendations

a) The qualification criteria on financial capacity should be clearly set, definite, and fair. The following example may be adapted for use in the tender documents and applied on conform/not-conform basis during evaluation and a decision made whether the bid materially met the criterion: The Bidder shall submit audited balance sheets and financial statements acceptable to the Company, for the last three years and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability as follows:
   i. *Current Ratio* [Current Assets divided by Current Liabilities] shall be greater than 1 (one) for each year.
   ii. *Net-Worth* [Total Assets less Total Liabilities] shall be positive for each year.
   iii. *Return on Equity* [Annual Net Profit Before Taxes divided by the Net-Worth, expressed as a percentage] shall be greater than 20% for each year.
   iv. *Debt Ratio* [Total Liabilities divided by Total Assets] shall be less than 100% for each year

b) The criterion on annual average turnover should state the turnover is for HFO supply, and the minimum average turnover for the three years, for example: the Bidder shall demonstrate a minimum average annual HFO supply turnover of US$ 10 million equivalent, calculated as total certified payments received for HFO contracts in progress and/or completed within the last three years, divided by three years.

c) The qualification criterion on the Bidder experience should be stated clearly with minimum quantities and value of similar HFO contracts, for example: the Bidder shall submit documentary evidence in the form contract agreements or purchase orders to demonstrate at least *three* similar contracts for HFO supply each of a minimum annual quantity of 250,000 MT and annual value of US$ 150 million that have been satisfactorily and substantially completed within the past three years.

d) The qualification criterion on storage capacity should be set clearly, for example: the Bidder shall provide documentary evidence in the form of ownership titles, lease agreements, or letter of comfort from the storage service provider to demonstrate that it has the capability to meet the requirement for HFO storage of at least 10,000 MT per year available throughout the term of the fuel supply agreement.

e) The Bidder shall submit documentary evidence in the form a letter from an international oil supplier or certificate of origin that they shall meet the HFO requirements over the period of the fuel supply agreement.

f) The Bidder shall submit documentary evidence in the form of ownership, lease or hire of at least 20 trucks capable of transporting at least 15,000 MT of HFO per year over the period of the fuel supply agreement. The bidder as of the evaluation was supposed to dedicate a given number of trucks to be providing fuel to the power plant. An example is given below.

Technical Evaluation Criteria

The technical evaluation criteria are used to assess if the Bidder offered technical specifications for HFO conforming to the required specifications in the tender documents. In the review of the awarded contracts, bidders were required to comment on the fuel specifications. There was no provision on how the offered specifications will be evaluated to check if they conform to the requirements. This omission in the tender documents led to subjective evaluation of bids and lack of a coherent and inconsistent strategy on how to evaluate bids conformance to the required technical specifications for the HFO.

Whereas the tender documents had the required specifications, there was no bidding form for the bidders to prepare and submit their bids. An outline of such a bidding form should contain the required specifications, offered specification, statement of deviations and exceptions to the required technical specifications, comments on whether there was a major or minor deviation from the required specifications.

Findings

i. In the evaluation by Gulf Power 2020 tender on the requirement of specific commentary on the fuel specifications demonstrating substantially responsiveness and commitment to those specifications, the five points were not provided for in the tender documents; the Bidders were to write their comments on the fuel specifications to state whether they will meet the specifications. Hence, evaluation should have been done on *conform/not conform* basis making the allocation of 5 points redundant.

   In Iberafrica tender for 2020, it was unclear how the evaluated scores of 9.25 points, 9.75 and 8.25 points for the four bids on "fuel specification" were arrived at, suggesting subjective scoring of bids.

ii. On the requirement of evidence of the bidders' respect for norms on environmental regulation and compliance to product specification, Tsavo Power introduced point scores at the evaluation stage wherein all Bidders scored the maximum score of 5 points, meaning that they conformed to the criteria. This underscores the fact that the criteria should have been evaluated on conform/not conform basis.

Recommendations

i. The technical evaluation of bids should be done on a *conform/not conform* basis to check if the offered HFO product met the required specifications provided in the tender documents. The use of merit points introduced subjectivity in the evaluation of bids and should not be used in evaluating the bids.

Financial Evaluation Criteria

The financial evaluation criterion was used to evaluate bid prices and compare evaluated prices to determine the lowest evaluated price. However, the lowest evaluated price criterion was *not* stated as clearly in the tender documents for all the IPP tenders reviewed for the audit.

The financial and technical capability of the Bidder was required to be stated clearly in the tender documents. This is crucial as the qualification of the bidder should be measured as part of the tendering process. The bids were corrected for errors and standardized for comparison.[37]

The main cost elements with significant impact on fuel prices that could be managed through a competitive bidding process are the premiums, sea freight, and local transport. The financial evaluation of bids should be focused on achieving the lowest price possible when these costs are compared, in addition to review of the overall bid price.

Award Criteria

The award criteria were used to determine the successful bidder that was awarded the contract. However, in all the IPPs tenders, the award criteria were convoluted and unclear on how the award was to be made. The following is an example of such an award criterion that are not specific on the award decision:

> *Promptly after the opening of the Tenders, the Company will undertake a detailed evaluation of the Tenders received and may seek any necessary clarifications and verifications of information supplied. The Company shall evaluate the qualifications of the Tenderers based on the financial, historical, and other information provided in the Tenders. The Company may reject any Tenderers that, in the Company's sole discretion, are not qualified to perform the Fuel Supplier's obligations under the Fuel Supply Agreement. In evaluating the Tenders, the Company will give preference to the Tenderers who meet the criteria described in Clauses 28 (c), (d) and (f). When the Company has reached a decision regarding which Tenderer is in its best interests, all Tenderer(s) will be so notified. The Company reserves the right to waive any insignificant discrepancies or deviations in the Tenders received and to negotiate with one or more Tenderers. Although price competitiveness is one of the award criteria, the Company is not obligated to accept the lowest priced Tender.*

Rabai Power, Tsavo Power, and Gulf Power used point scores coupled with a conversion formula where the evaluation and the award was based on combining a technical weight 70% and financial weight 30%. The IPPs used the formula: S = (St x t%) + (Sf x p%), where St is the technical score, Sf is the financial score =100xFM/F, T is weight of technical evaluation, P is weight of financial evaluation, Fm lowest price proposed for each fuel. F is the price proposal under consideration. This type of formula in procuring goods such as HFO should not be used because it can lead to award of contract to a bidder that is not necessarily the lowest evaluated price.

The award criteria for all the IPPS were different.

i. Thika Power ref (ITB 6.2), Rabai Power (Ref ITT 22), Gulf Power (Ref ITB 6.2) Tsavo Power (Ref ITT) Promptly after the opening of the bids, the purchaser will undertake a detailed study and analysis of the bids received and may seek any necessary clarifications and verifications of information supplied. The purchaser shall review the qualifications of the bidding parties based on financials historical and other information provided in the bids

ii. Triumph Power (Ref ITB F) in the absence of prequalification the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the cheapest evaluated responsive bid is qualified to perform the contract satisfactorily; in accordance with the criteria listed in Sub-Clause 7.1 (b). The determination will take into account the Bidder's financial, technical, storage and importation capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to paragraph 11, as well as such other information as the Purchaser deems necessary and appropriate.

[37] Annexure 36: Standardized Financial Evaluation Criteria for all IPPs

Iberarica Power (Ref ITB 6.2.1) the purchaser will award the contract to the successful bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the bidder is determined to be qualified to perform the contract satisfactorily.

Approvals and Oversight

The PPA provides the guidelines to how the procurement and tendering process of heavy fuel oil was supposed to be carried out. The purpose of KPLC is to provide oversight authority in the procurement process. In the undertaking of the procurement process of HFO, KPLC has to provide reviews, make comments and approve the process. The PPA stipulate the grounds for which KPLC can reject the selected supplier. It includes:

a) That the cost passed through to KPLC would not be the lowest cost which KPLC could be expected to pay in the light of compliant tenders received by the Seller.

b) That the proposed fuel supplier lacks the necessary financial and technical capability to perform its obligations under the proposed fuel supply agreement.

c) That the terms in the proposed fuel supply agreement are prejudicial to KPLC's interests under the agreement.

d) That the performance of the proposed fuel supply agreement shall be or become incompatible with any legal requirements.

e) That the Seller, in preparing the fuel tender evaluation report, has erred in its assessment of tenders, or acted fraudulently or negligently.

Findings

a) The awarding of the contract should be done to the bidder with the lowest evaluated cost. This is the qualified bidder that satisfactorily meets the technical specifications and requirements, apart from offering the lowest evaluated price. The problem however is that the tender documents are vague and subjective about the award criteria.

b) Due to lack of bidding documents and incorrect setting of qualification criteria, it was difficult for KPLC to assess this criterion at award.

c) KPLC often made comments on the FSA, but such comments should have been addressed through standardized FSAs with clauses that are not often changed and a section for customizing the terms.

d) KPLC often assessed this legal criterion; the risks would be greatly reduced with standardized tender documents and procurement guidelines.

e) Often KPLC wrote, "We have read the fuel tendering evaluation report, but we are unable to grant approval as requested due to lack of sufficient supporting documents", pointing to lack of basic procurement guidelines with clear responsibilities on documents required for oversight. The evaluation reports were prepared and sent to KPLC for approval and direction to move to the next step. KPLC would write to inform they are not satisfied with the way the evaluations were conducted and this called for them to provide more information and clarity to the information needed by KPLC. Below is a table showing correspondences between KPLC and Tsavo power.

Recommendations

1. The KPLC in consultation with the IPPs should prepare one complete standard bidding documents for HFO with parts covering instructions to bidders, bid data sheet, evaluation criteria, bidding forms, specifications, and fuel supply agreement.
2. The standard bidding form for HFO should be prepared with a section complete with eligibility criteria, technical evaluation criteria, financial evaluation criteria, qualification evaluation criteria and award criteria; these criteria will be customized by the IPP for each fuel tender.
3. The procurement guidelines so prepared should contain guidelines on the evaluation procedure: preliminary examination, technical evaluation, financial evaluation, qualification evaluation and award.
4. The financial evaluation of bids should be focused on achieving the lowest price possible when these costs are compared, in addition to review of the overall bid price.

5.3 Specific Key Task (c) – Review Fuel Supply agreements including the pricing and application of international benchmarks (Platts FOB, World Scale Index, and Average Freight Rate Assessment.

5.3.1 Fuel Pricing Arrangement in the Power Purchase Agreement

Fuel pricing arrangement are covered in the Fuel Supply Agreement (FSA) which in itself is anchored in the Power Purchase Agreement (PPA). To undertake a critical analysis of the fuel pricing arrangement in the FSAs and PPAs and identify any gaps. We adopted a methodical approach. The approach presented below was applied to each PPA and FSA for the six Independent Power Producers (IPPs).

Findings

We established that the PPA pricing formulas were solid and consistent. However, none of them defined the decimal point level to be used in computations thus ensuing variances between the computations by IPP, re-computation by the auditors and re-computations by KPLC as shown below. However, there are larger variances for the power invoices which needed further investigation to establish the underlying cause to such large variance for instance Triumph power invoiced value variance of USD (35,492.92) as re-computed by the Auditor while KPLC re-computation established USD (141,727.29); Gulf Power invoice variance of USD 86,630.84 as re-computed by KPLC; Tsavo Power invoice variance of USD 62.760.45 as recomputed by KPLC and Rabai Power invoice variance of USD 50.306.17 as recomputed by KPLC.

Credit and debit notes for these variances between KPLC and all the six IPPs were sought by the Auditor to close the variances and complete the reconciliation between KPLC and IPPs. These were yet to be provided by KPLC and therefore the variances in the respect of the audit are unexplained;

Power Invoice variances		
IPP	**Audit variance**	**KPLC variance**
	USD	**USD**
Gulf Power Ltd	(15.34)	86,630.84
Triumph Power Ltd	(35,492.92)	(141,727.29)
Tsavo Power Ltd	1.68	62,760.46
Rabai Power Ltd	(513.85)	(50,306.17)
Thika Power Ltd	(9.96)	2,025.48
Iberafrica Ltd	(8.57)	(1,221.95)
Total	**(36,038.96)**	**(41,838.63)**

Table 13: Invoice variances

Recommendation

KPLC and IPPs need to establish a mechanism to fine-tune the formula used to computate the value of fuel recovery cost invoiced to KPLC. This would eliminate the variability of what is charged for fuel as per PPA formula and whatever variances that may occur should be resolved instantly and a register of debits and credits is maintained.

5.3.2 Fuel Supply Agreement in Fuel Pricing Arrangement

The FSA is anchored in the PPA for each IPP. The FSA has been developed to govern HFO purchase agreement between the fuel supplier and the IPPs. All the fuel price invoices are raised in accordance with the FSA pricing model and its elements are discussed in detail in subsequent sections below. The standard formulas are annexed in this report[38]

We reviewed the PPAs for each IPP and mapped each power invoice according to the PPA power pricing model. There were a number of gaps and differences noted in the use of the power invoice model as per PPA and equally in the use of the fuel invoice model as per the FSA.

Findings of FSA Gaps and Differences

Based on our review of the current practices we established the following gaps in the application of the fuel formula:

i. The sea freight is fixed for period of the FSA. Sea freight rates are influenced by shipping capacity and market prices for HFO which is the fuel that fires ship's engines. Prices for fuel relates directly to Means of Platts which varies daily according to market forces of demand and supply. Price offers for sea freight which remains fixed over a period of time relies on the risky practice of fuel price hedging. Hedging is a gamble which leaves the fuel supplier missing benefits of the low freight prices when the market prices are down and but shields the fuel supplier when the market prices swing upwards

ii. Taxes and Levies are again taxed a 16% VAT. Since Levies and other taxes are elements in the fuel price build-up which makes the unit cost upon which are then levied 16% VAT. This could amount to double taxation

iii. Using different periods of Mean of Platts bill of lading dates from the current month for Gulf Power, Triumph Power, Iberafrica, Thika Power and Rabai IPPs and previous month (M-1) for Tsavo exposes the 6 IPPs to different market price dynamics. This is one of the key reasons that comparison of unit prices on a month-by-month basis, brings up differences. This makes it difficult to compare unit prices over a wider period.

iv. No uniformity in the treatment of indices, especially the overheads across the IPPs in the formulae for HFO. For instance, in Thika Power's Gulf Energy 2013 FSA, overheads include profit, overheads, financial cost, import costs, storage costs, inventory losses, insurance and other administrative costs. In Rabai Power - Kenol Kobil FSA, Overhead costs represent management fees, while inventory loss and import costs are charged separately.

v. Overall, the IPPs applied the formulae in their respective PPA and FSAs. The HFO purchase orders were made as per the FSA which is signed between IPPs and their selected fuel suppliers.

vi. However, for various reasons, Gulf Power and Triumph Power made spot purchases which did not follow the FSA HFO purchase formula. The main reasons given were that there was a need to either avoid the IPP shutting down due to fuel stock outs occasioned by failure of delivery from the contracted supplier or to allow for conclusion of an ongoing tender. In this respect, the FSA HFO pricing model had limitations due to its design that it was not suitable for spot purchases for fuel oil.

vii. Due to urgency in arranging for spot purchases, competition among suitable suppliers was limited and prices quoted were not always the most competitive compared with open tender prices under the FSA framework. To illustrate, a comparison was made between the spot prices and the market prices based on prices supplied to other IPPs in the same month. As Table 14 reveals, of the total US$2,225,025.92 spent on spot purchases, the IPPs could have saved US$ 14,472.58 if they applied competitive market prices and through timely procurement, a saving that could be translated to consumers.

[38] Annexure 29: Standard formulas for PPA and FSA across all IPPs

#	Date	IPP	Supplier	MT	Unit price	Market Price	Total Buy	Total Market Price	Variance
1	Nov-20	Gulf power Ltd	RH Devani	514.30	450.95	445.57	231,922.56	229,157.98	2,764.58
2	Feb-21	Gulf Power Ltd	RH Devani	513.94	450.95	489.43	231,760.22	251,535.51	(19,775.30)
3	Apr-19	Triumph Power Ltd	Gulf Energy	520.08	604.35	618.93	314,310.35	321,891.75	(7,581.41)
4	Apr-19	Triumph Power Ltd	Gulf Energy	518.92	604.35	618.93	313,609.30	321,173.80	(7,564.50)
5	Apr-19	Triumph Power Ltd	Gulf Energy	484.08	604.35	618.93	292,553.75	299,610.37	(7,056.62)
6	Jul-19	Triumph Power Ltd	Gulf Energy	290.66	606.86	574.76	176,390.77	167,058.86	9,331.92
7	Jul-19	Triumph Power Ltd	Gulf Energy	130.38	606.86	574.76	79,122.41	74,936.81	4,185.60
8	Aug-19	Triumph Power Ltd	Gulf Energy	468.46	606.86	568.15	284,291.88	266,153.64	18,138.24
9	Aug-19	Triumph Power Ltd	Gulf Energy	78.22	606.86	568.15	47,468.82	44,440.37	3,028.45
10	Sep-19	Triumph Power Ltd	Gulf Energy	208.64	606.86	561.39	126,615.88	117,128.71	9,487.17
11	Sep-19	Triumph Power Ltd	Gulf Energy	209.24	606.86	561.39	126,979.99	117,465.54	9,514.45
Total							**2,225,025.92**	**2,210,553.34**	**14,472.58**

Table 14. Comparison of spot prices and market prices

Recommendations

1. There is a need for KPLC to harmonise the definition of all the key elements in the FSA fuel price supply formula to achieve uniformity and make it easier to compare like for like in price analysis for fuel supply amongst the six IPPs.
2. KPLC should also clearly define the process for stop gap procurement, price formula, mode of quotation and price and terms of evaluation by IPPs to engage with fuel suppliers in case of an emergency spot purchase. Stop gap purchase is a purchase that needs to be as competitive as possible and be comparable with other purchases made under FSA formula.

5.3.3 Application of International benchmarks

This section presents results from a review of the fuel supply agreements including the pricing structure and application of international benchmarks such as Platts, FOB, World Scale Index, and Average Freight Rate Assessmentt. The objectives are twofold;

i) to check whether the correct indices were used in determining fuel prices,
ii) to establish if each element of the international benchmarks was applied correctly in the fuel pricing.

In the following subsections, each element of the fuel formula is examined to identify areas of improvement in practices.

In the HFO pricing formula, a number of variables apply for each HFO purchase as per the FSA. These include Means of Platts, Sea Freight, Premium, local transport, overheads and Taxes and levies. Therefore, these variables maybe referred to as group variables. These variables or elements were analyzed for this report.

Findings on International Benchmark Indices

All open tenders for HFO for IPP applied the FSA pricing formula as the basis for determining the final tender prices. The HFO pricing model as applied by all the IPPs uses international trade market indices, notably Means of Platts, World Scale Index and Average Freight Rate Assessment and also applies the government taxes and levies. The formula also includes bidders' quoted rates such as premiums and overheads.

Whereas some of the international indices remain constant over defined period of the FSA, parameters such as Platts change every day based on fuel trading. Since these indices are crucial in determining prices for HFO, all stakeholders in the FSA value chain such as the IPPs, KPLC, and Fuel suppliers to IPPs are expected to have primary access to these indices to aid them in making key decisions during tendering and invoicing.

However, it was established that all key parties in the purchase and sale of HFO ranging from fuel suppliers, IPPs and KPLC did not have access to primary sources of these indices. The fuel regulator EPRA only subscribed to these indices recently in January 2021. These stakeholders relied on indices submitted by the fuel suppliers, who in turn obtained them from international fuel suppliers. The risk with such a source of crucial information is the possible use of the wrong data to make key decisions, an omission that could easily be exploited.

The audit established that lack of primary access to the key indices limited the ability of the IPPs and KPLC to independently verify the authenticity of prices in the invoices where such indices were applied. The risk from lack of access to these key indices means the KPLC is limited in its oversight role of ensuring the submitted invoices were correct.

Recommendation

KPLC and IPPs need to subscribe to the international pricing indices so that they have access to primary sources of the data needed to verify prices of HFO charged by fuel suppliers and use the same for clearance of Fuel invoices to IPPs

5.3.4 Means of Platts Findings

As noted earlier, Platts is one of the key international indices for buying fuel on the international fuel market. Platts indices are market driven and influenced by daily market forces of demand and supply. The Platts used for HFO pricing is defined as the mean of Platts for five trading days around the bill of lading date for the specific cargo that is sold to an IPP. At the tendering stage, a common bill of lading date is provided for comparison of bid prices.

All the199 fuel invoices presented to the six IPPs for supplies between July 2018 and Jun 2021 were analyzed to pick out the MOP as invoiced. The market Means of Platts (MOP) obtained from the EPRA subscription for the relevant period were also tabulated. The market Mean of Platts was compared with the invoice Means of Platts used by the ffuel suppliers for HFO cargos shipped to IPPs between July 2018 to June 2021 as shown in *Figure 5*. Save for a few minor values, there was no significant difference between the market means of Platt and those used in the supplier invoices and therefore the trend curves for MOP invoice and MOP market prices overlap perfectly. The MOP were the lowest in September 2020 during the Covid period at US$95.819 per MT.

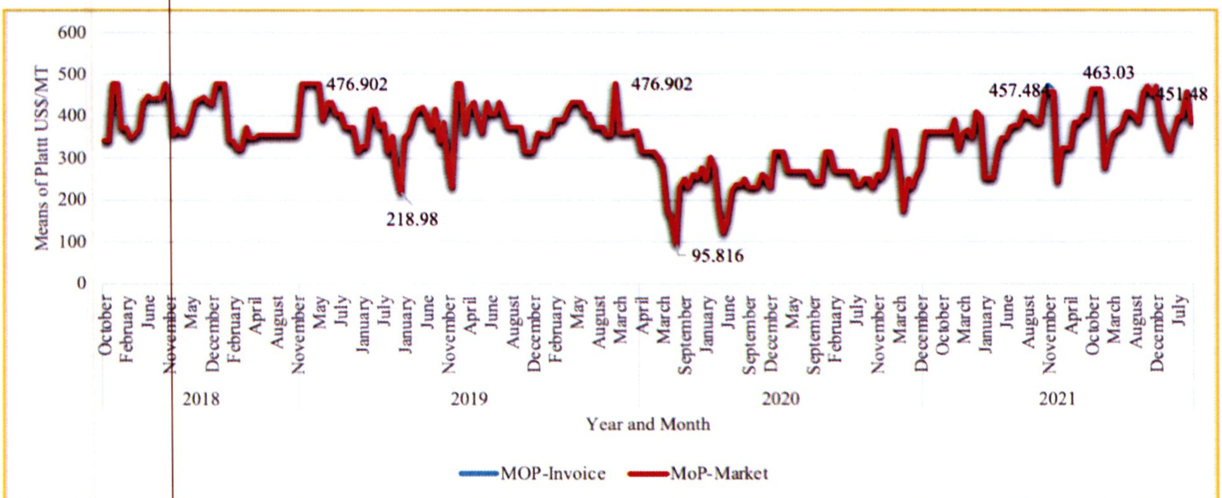

Figure 5: Market Means of Platt versus rates used in supplier invoices

Across the period from the financial year ended June 2018 to 2021, a clear pattern in trends reflected the impact of international events on the Platts quoted on the prices in the HFO market in the Arab Gulf where Kenyan HFO molecules are sourced from.

Across the six IPPs, the average Means of Platt over the four-year period averaged US$351, the highest being in 2018 at US$392 (see Figure 6). The lowest Means of Platt was in 2020 at US$256 mainly due to the Covid-19 that reduced economic activity and lower demand for fuel worldwide.

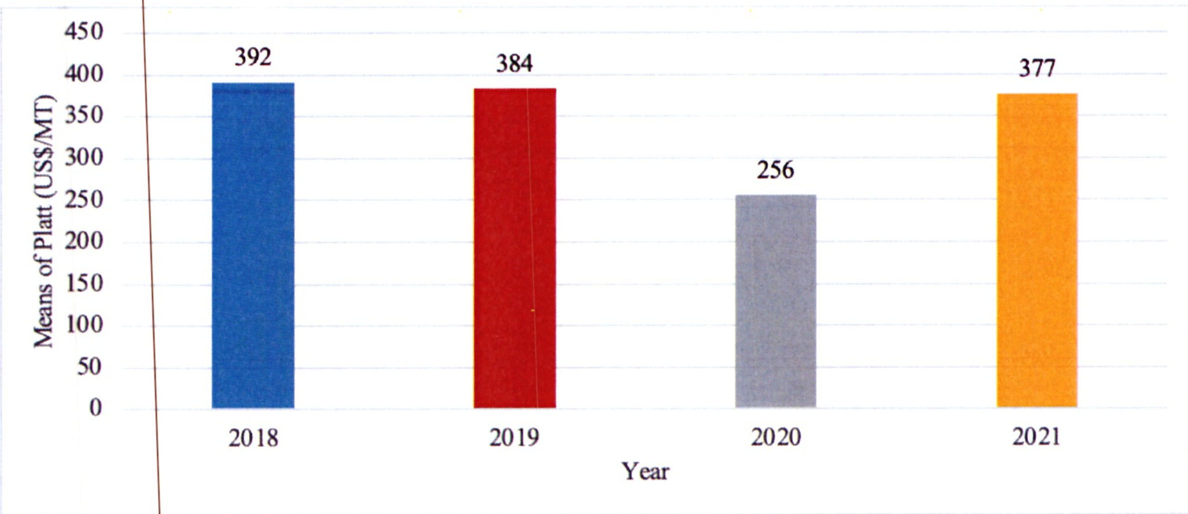

Figure 6. Means of Platts over a four-year period

The Means of Platts were compared across the six IPPs; the results are presented in Figure 7. The Gulf Power Company Ltd had the highest Means of Platts at US$390 while Rabai Power had the lowest at US$333. These differences had an effect on the difference in prices across IPPs.

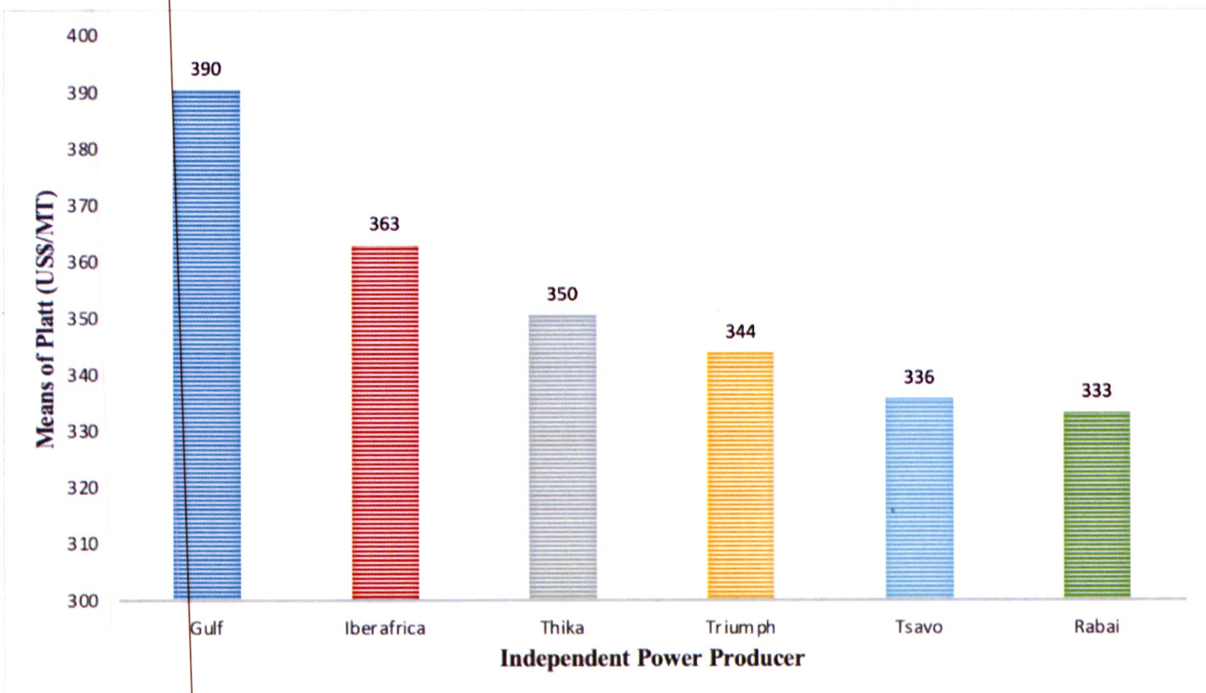

Figure 7. Means of Platts applied by each IPP over the three- year period 2018 to 2021

The Means of Platts were analysed by month as illustrated in Figure 8 showing the variations month on month following the market trends. To observe the calendar year (January to December) cyclic trends, the data was analysed over four years (January 2018 to Dec 2021) whih period covered 6 months before and 6 months after the Audit period. Over the four year period, the average Means of Platt were lowest in January at US$326 per MT and the highest in July and November at US$371 per MT.

It appeared that January, May, September and December were the best months of the year over the audit period to access lower Means of Platt in fuel prices. The findings are limited to four years. The same trend analysis could be done over a 12-year period to determine the best months to arrange deliveries for lowest MOP, policy formulation, and oversight.

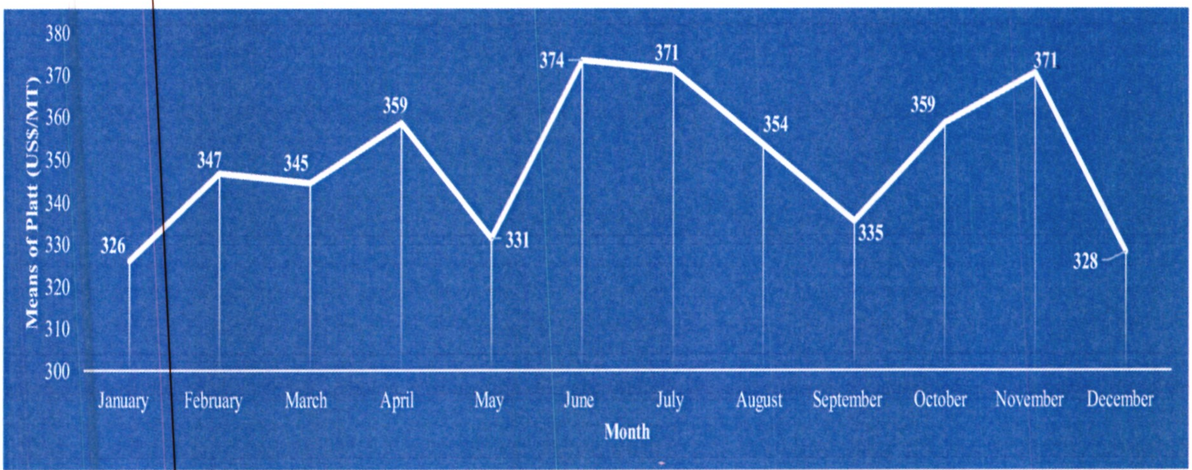

Figure 8. Means of Platt by month 2018 to 2021

To summarize, based on a sample of 255 supplier invoices concluded between 2018 and 2021, the Means of Platt used were the same as those in market Means of Platts reviewed for this report. The review also revealed differences in means over the years, with the highest indices being in 2018 at US$392 per MT and the lowest in 2020 at US$256 per MT. The Gulf Power Company Ltd had the highest Means of Platts at US$390 while Rabai Power had the lowest at US$333. Over the four year period, the average Means of Platt were lowest in January at US$326 per MT and the highest in July and November at US$371 per MT. Given the high MOP for Gulf, this affected its dispatch and triggered the need for use of LIFO and the Gazette Notice 2826 of 19th April 2016.

Recommendation

The MOP trends show market prices tend to be lower in December to January, May and September over the period of study. The IPPs should target to place their orders around these months. Higher MOP prices were observed to be around the February to April, June to July and October to November periods which should be avoided where possible for placement of fuel orders by the IPPs.

5.3.5 Bidder Premiums Findings

Premium is the profit element for fuel suppliers in the HFO price formula, which remains constant over the duration of the FSA. It is one of the most competitive price-influencing elements that could tip the winner in open bidding.

To study annual and monthly cyclic trends over the audit period, the data for bidder premiums for the period of January 2018 to December 2021 has been analysed as it enveloped the audit period of July 2018 to June 2021. The average premiums charged to the IPP were compared over a period of four years as shown in *Table 15*. Gulf Power Ltd paid the highest premiums to suppliers at an average of US$68 per MT. The highest portion of this amount was incurred in 2021 when the IPP paid an average of US$104 per MT to Vivo Energy Ltd.

Over the four-year period, the average premium paid was US$58 per MT; the highest was in 2021, largely occasioned by higher premiums of US$104 paid by Gulf Power to Vivo Energy and US$106 paid by Rabai Power to Dalbit as well as US$95 per MT paid by Thika Power in 2021 to RH Devani.

	Year				
IPP	**2018**	**2019**	**2020**	**2021**	**Average**
Gulf	56	56	56	104	68
Tsavo	49	56	56	49	53
Rabai	45	45	45	106	60
Iberafrica	37	37	42	42	40
Thika	45	45	72	95	64
Triumph	40	40	86	86	63
Average	45	47	59	80	58

Table 15. Bidder premiums by supplier and year

The rate for premium applied for each invoice is fixed as per FSA signed between IPPs and fuel suppliers arising from each tender concluded by each IPP with the respective supplier. An analysis was done by IPP, year, month, and supplier and the results are presented in this section.

Analysis done by the IPPs

The rate for premiums charged to each IPP were analyzed over the four-year period. The results show a significant difference in premiums charged across the IPPs[39]

As shown in *Figure 9*, Rabai Power was charged the highest premiums of US$71 per MT on average over the period while Iberafrica had the lowest premiums charged of US$39 per MT. The high premiums to Rabai Power were from Dalbit Petroleum that signed the FSA on 18 August 2020. The low premiums charged to Iberafrica were Gulf Energy for the FSA signed on 13 October 2015, which was extended by an addendum of 14 July 2017 with the same terms as the original agreement.

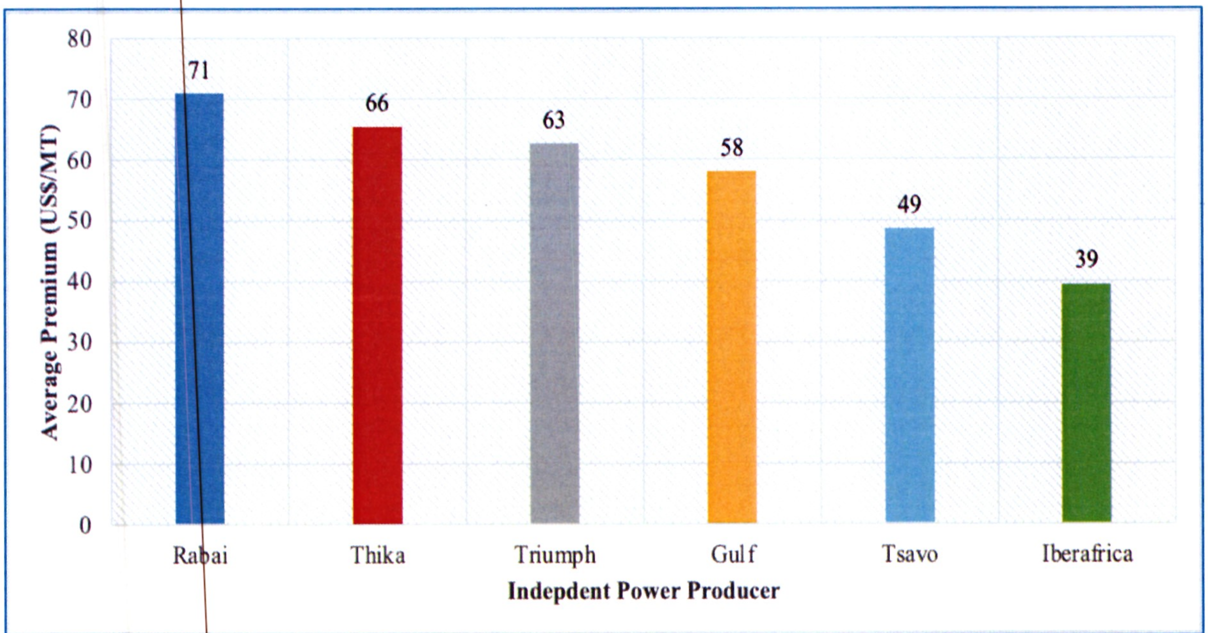

Figure 9. Average premiums charged to each IPP over the four-year period 2018 to 2021, N=189.

[39] $F\ (5, 183) = 14, p<0.05$

By Year

The premiums were compared over the four-year period and found a significant difference by year. As Figure 10 shows, the average premiums were relatively low in 2018 and 2019 but increased to US$67 in 2020 and US$81 in 2021. The high premium rates in 2020 were driven by high rate of US$85 and US$84 at Triumph Power and Thika Power respectively. For 2021 the high rates were charged to Rabai Power at 106.19 and Gulf Power at US$104.

Notably, at a time when the global demand for fuel was low and international prices were low due to COVID-19 in 2020 and 2021, that was the period the suppliers compensated with increased premium rates.

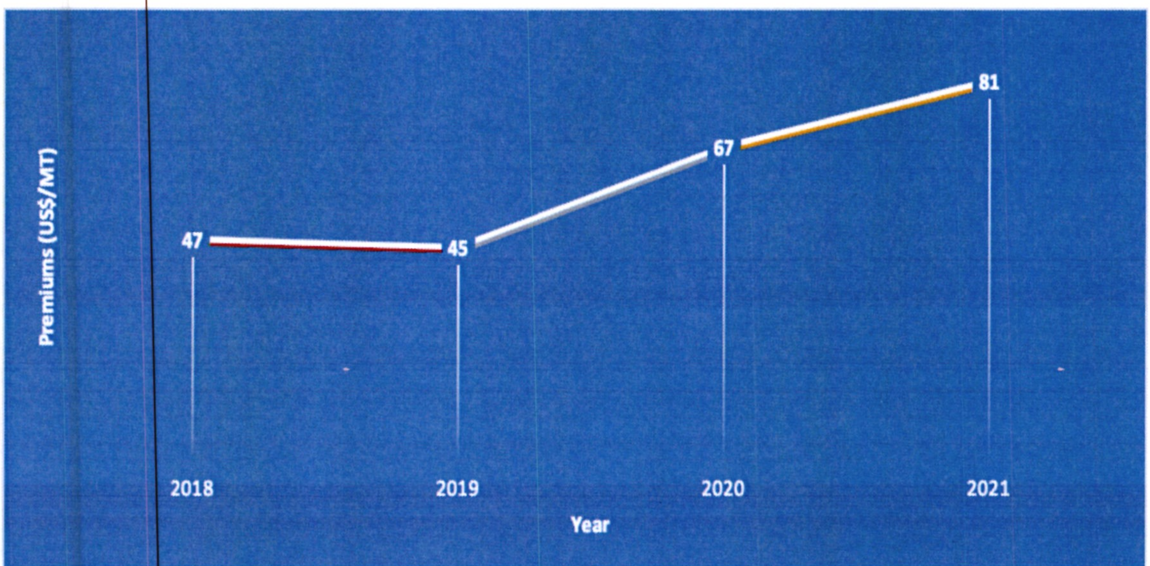

Figure 10. Premiums charged over the four-year period 2018 to 2021, N=189.

By Month

The comparison of premiums by month shown in Figure 11 shows the highest average premiums paid in December at US$ 66 per MT and the lowest in April at US$49 per MT. As noted earlier, the Means of Platts were lowest during the months of January, May, September, and December. The premiums were inversely correlated with the Means of Platts: Lower Means of Platt were associated with higher premiums charged by the suppliers. The premiums were usually set as an absolute amount per MT in the FSA, which does not change even if the FOB prices reduce over time. A possibility should be explored where the premiums are charged as a percentage of the Means of Platt.

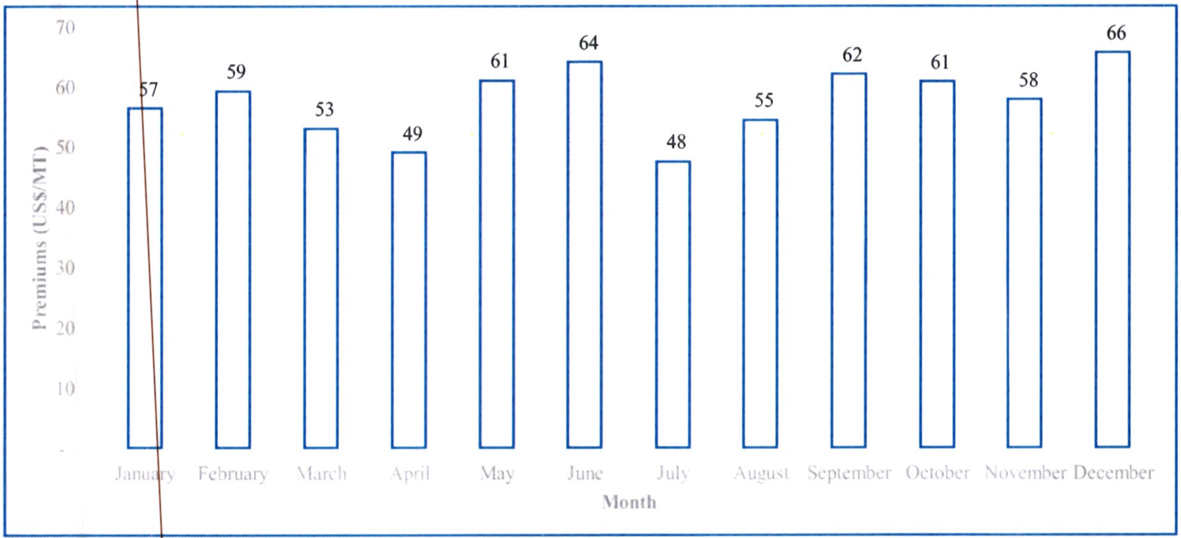

Figure 11. Premiums by month, N=189

By Supplier

An analysis of the premiums charged by each supplier across IPPs is shown in Figure *12*. The highest premiums averaging US$ 106 were charged by Dalbit Petroleum to Rabai Power in 2020 and 2021. The second highest premiums were charged by Vivo Energy to Gulf Power at US$104 per MT in 2021.

The data also reveals that Gulf Energy charged higher premiums to Gulf Power (US$56 per MT) compared to under the US$45 charged to other IPPs irrespective of the year under review. This profit motive puts into perspective issues about conflict of interest and lack of effective eligibility criteria used in the evaluation of bids from related firms.

Moreover, RH Devani had very high premiums for Thika Power (US$95 per MT) and Triumph, which were double what it charged Tsavo Power

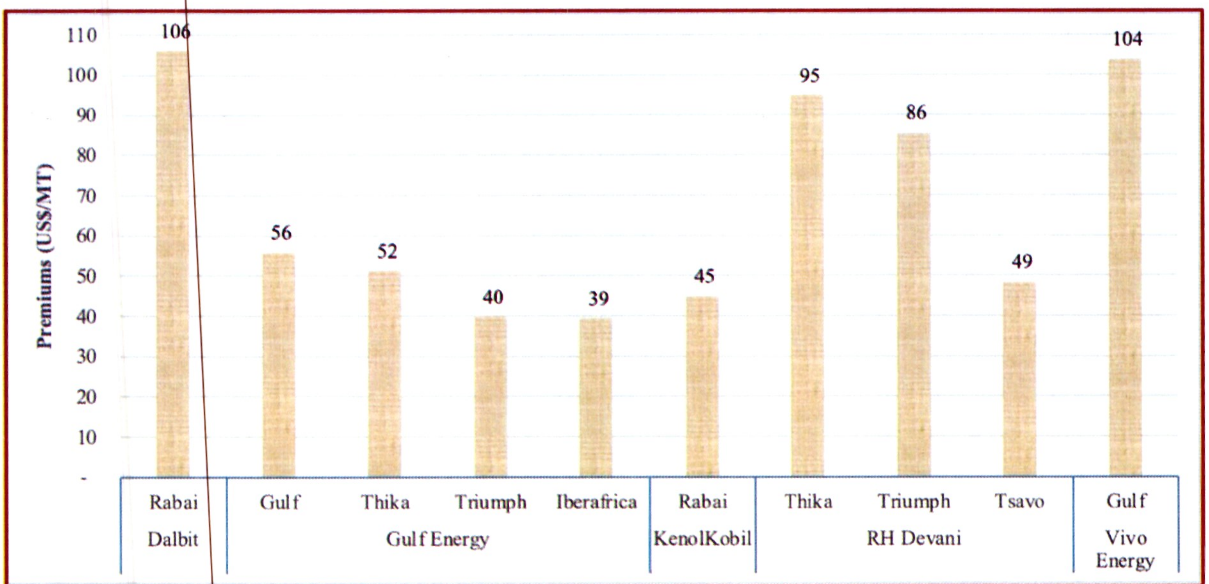

Figure 12. Average premiums by supplier to each IPP, N=189

The wide variability in the premium objective to IPPs shows that there is room to improve the competitive structure of the tendering process to result in a more effective competitive bidding that yields premiums within a narrow band.

In summary, over the four-year period, the average premium paid was US$58 per MT; the highest was in 2021, largely occasioned by higher premiums of US$104 paid by Gulf Power to Vivo Energy and US$106 paid by Rabai Power to Dalbit as well as US$95 per MT paid by Thika Power in 2021 to RH Devani. Rabai Power was charged the highest premiums of US$71 over the period while Iberafrica had the lowest premiums charged of US$37 per MT. The average premiums were relatively low in 2018 and 2019 but increased to US$67 in 2020 and US$81 in 2021. The high premium rates were driven by high charges to Triumph Power, Thika Power and Rabai Power. By supplier, it was noted that Dalbit Petroleum and Vivo Energy had the highest premiums of US$106 and US$104 respectively invoiced to Rabai Power and Gulf Energy respectively. The KPLC may obtain better value for money through effective bidding.

Recommendation

KPLC to explore mechanisms for improving the competitive structure of the tendering process to result in more aggressive bidding with quotes for premiums e.g. putting more volume for tenders for HFO purchases that have a shorter lifespan by combining cargos for a number of IPPs in one tender.

5.3.6 Sea Freight Costs Findings

Sea Freight is the amount charged by shippers for delivery of HFO from the port of loading, normally in the Arab Gulf, to Mombasa quoted as USD/MT and remains constant for the duration of the FSA. For each FSA, the sea freight computation utilises the World Scale Index, Average Freight Rate Assessment, and basis rate to determine the rate in USD/MT. These indices were not subscribed to by IPPs, KPLC and fuel suppliers. Therefore, the quoted prices were not verified based on primary data by these stakeholders. There is need for KPLC and EPRA to subscribe to these indices for use in the functions of policy formulation and oversight.

Freight is a negotiated rate between fuel traders and their shippers for the FSA contract period. In the subsections that follow, we examine the variability in sea-freight based on year, month, and IPP for possible sources of savings. To study annual and monthly cyclic trends over the audit period, the data for freight charges for the period of January 2018 to December 2021 has been analysed as it enveloped the audit period of July 2018 to June 2021.***By Month and Year***

A time series data of the sea freight per month shows great variability in prices in the four-year period *(see Figure 13).* From a low of US$6 per MT in May 2021 to a high of US$54 per MT in June 2020 at the height of Covid-19 lockdowns. The avenues for lower freight charges to be explored include having a flexible rate quoted by each shipment so that the freight rate is realistically correlated to the market fuel price at the time of shipping and demand and supply of shipping vessels.

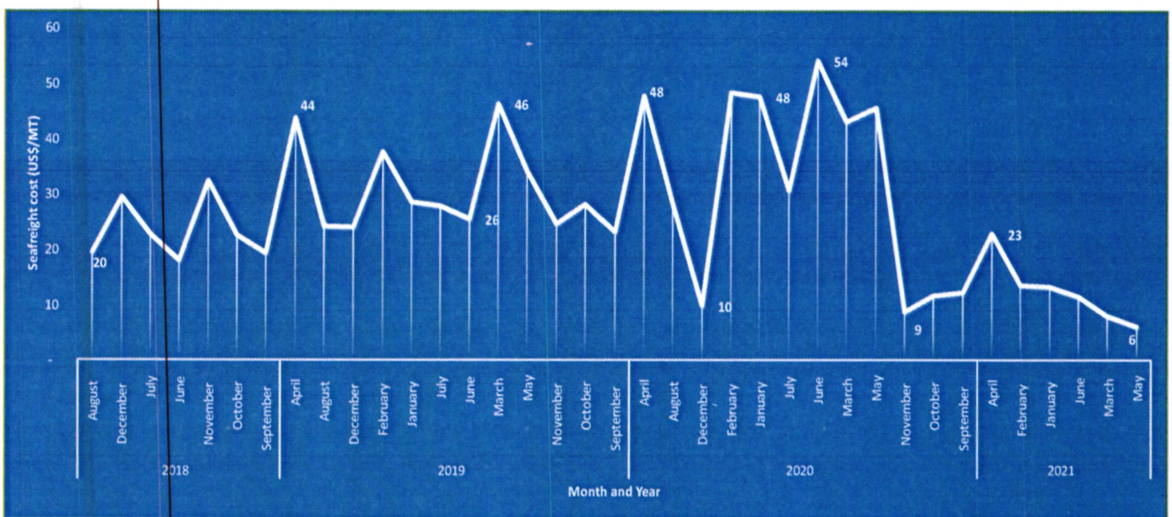

Figure 13. Sea-freight rates by month over a four-year period

By IPP

A comparative analysis of the sea-freight for each IPP are shown in Figure *14*. Iberafrica Power faced the highest sea freight charges at US$41 per MT while Rabai Power had the lowest rates at US$14 per MT.

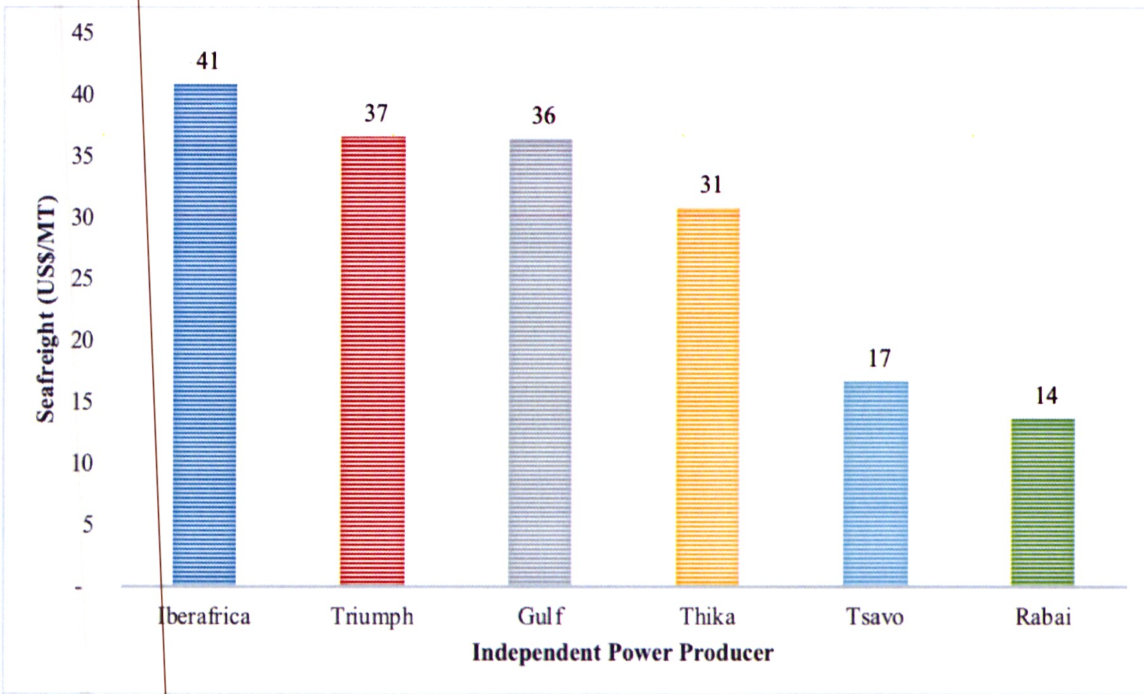

Figure 14. Sea-freight rates by IPP over a four-year period

By Supplier

The sea-freights charged by each HFO supplier were reviewed for this report. The objective was to understand the freight rates differentiation strategy by each supplier to each IPP. As illustrated in *Figure* 15, Gulf Energy as HFO supplier charged the highest sea-freight rates when suppling to Triumph Power compared with the under US$45 charged to other IPPs. Likewise, RH Devani charged higher sea-freight rates to Iberafrica Power than other IPPs. Clearly each supplier has a different strategy for charging sea-freight charges to the different IPPs. The lowest sea-freight charges were by Dalbit Petroleum to Rabai Power in 2020 and 2021.

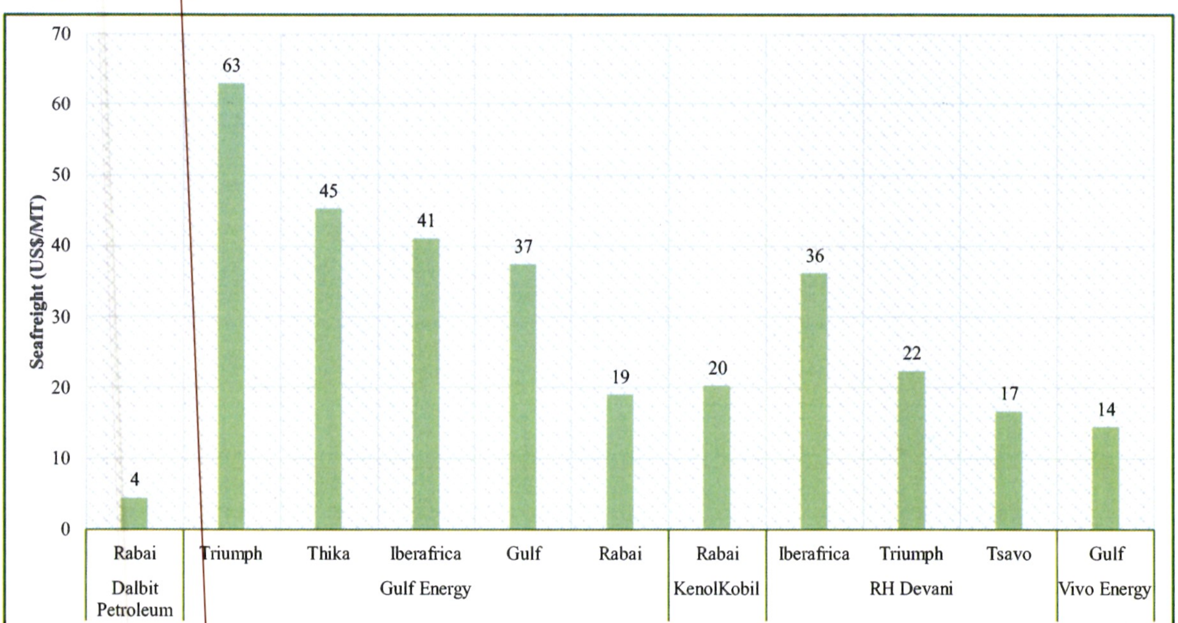

Figure 15. Average sea-freight rates charged by HFO suppliers to each IPP, N=185

To summarize, the sea-freight rates charged by suppliers ranged from a low of US$6 per MT in May 2021 to a high of US$54 per MT in June 2020 at the height of Covid-19 lockdowns. Iberafrica Power faced the highest sea freight charges at US$41 per MT while Rabai Power had the lowest rates at US$14 per MT. Gulf Energy as HFO supplier charged the highest sea-freight rates when suppling to Triumph Power compared with the under US$45 charged to other IPPs. The lowest sea-freight charges were by Dalbit Petroleum to Rabai Power in 2020 and 2021.

Recommendation

The wide variability in rates quoted for freight by fuel suppliers ranging from 0 USD/MT to 54 USD/MT which shows an opportunity to secure lower freight rates. This could be done by further study and exploration of the influencing factors. This could include factors like increased common volumes tendered for shorter delivery periods like the case for white oils tenders which are undertaken by Ministry of Energy through the OTS framework in Kenya.

5.3.7 Local Transport Costs Findings

Local transport cost is the amount charged by local transporters, mainly using trucks to move HFO product from Mombasa to the IPP plant. The transport rate in US$ per MT remains fixed for the duration of the FSA. The HFO suppliers usually organize the transport based on their own internal procedures, to which this audit did not delve into.

There are two clear price bands: Tsavo Power and Rabai Power on one hand that are in Mombasa and Kilifi respectively with lower rates and Thika Power, Gulf Power, Triumph Power and Iberafrica Power, physically located in the greater Nairobi Region and attract higher rates. Here, we examine the transport trends over the four-year period and transport rates per IPP.

By IPP

The transport costs were obtained from the FSA tenders and analyzed for this report. The transport rates charged for each IPP were standardized by Kilometer from Mombasa to the respective plants. For Tsavo Power the fuel is pumped directly from ocean vessel to the plant without the use of trucks, hence excluded in the analysis of fuel cost per km.

The average transport costs charged to each IPP were analyzed and the results are shown in Figure 16. Thika Power had the highest local transport costs per Km, generally in line with the rates charged to the IPPs located in the greater Nairobi area: Iberafrica, Gulf, and Triumph. As expected, the IPPs based at the coast region had relatively lower local transport costs compared with others.

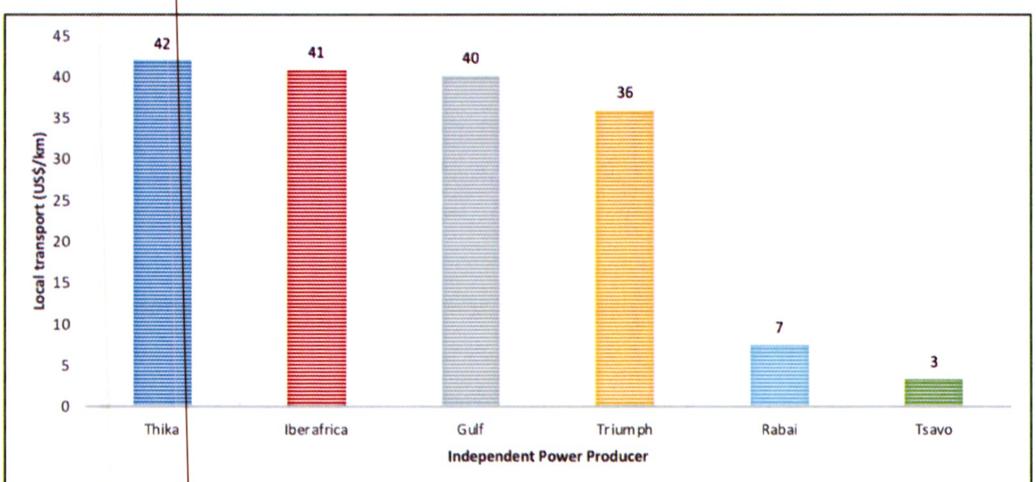

Figure 16. Average local transport costs per MT per IPP, N=540

By Supplier

The local transport rates charged by each of the five suppliers were analyzed across IPPs. As Figure *17* indicates, of the five sources of fuel, Gulf Energy charged the highest local transport costs at over US$40 per MT. In contrast, RH Devani charged about US$30 per MT for IPPs based in greater Nairobi region. Its rates were about US$10 per MT less than those charged by Gulf Energy. There is need to obtain comparable local transport rates in bid pricing.

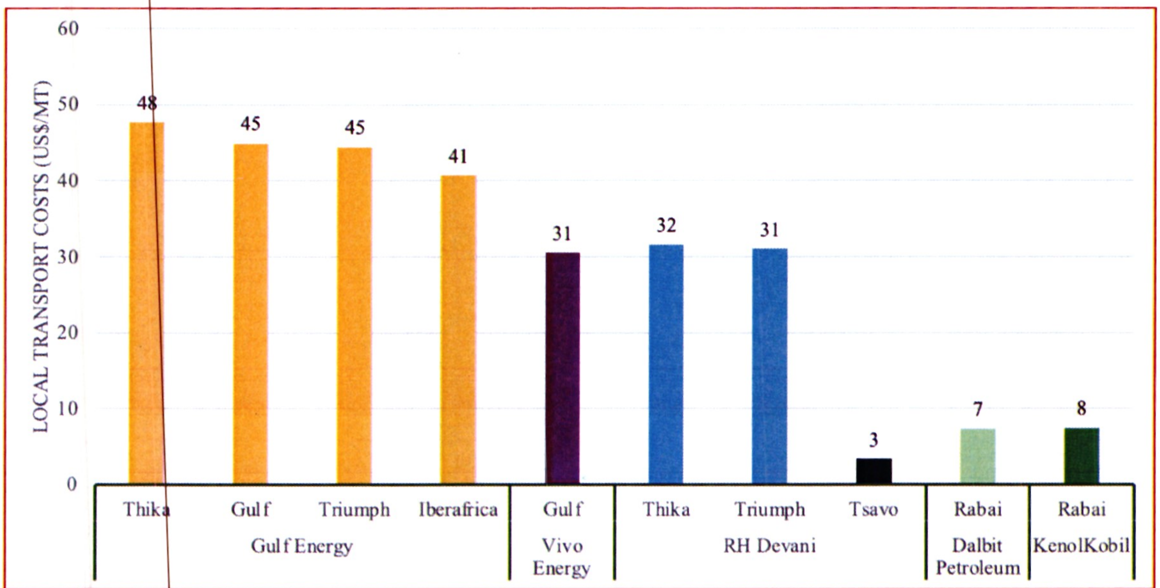

Figure 17. Local transport costs per MT by supplier and IPP, N=540

By Year

The transport rates charged over the four-year period were reviewed to understand any trends over the period *(see Figure 18)*. Over the four-year period, the local transport costs per Km have been declining by a rate of US$0.5 per month from a high of US49 per MT in January 2018 to a low of US$31 per MT in March 2021. The likely reasons for such decline that the initial high rates charged for transport attracted more entrants into the HFO transport sector resulting in a market correction of rates charged by transporters. This reveals an opportunity to enhance competitive bidding on prices related to local transport.

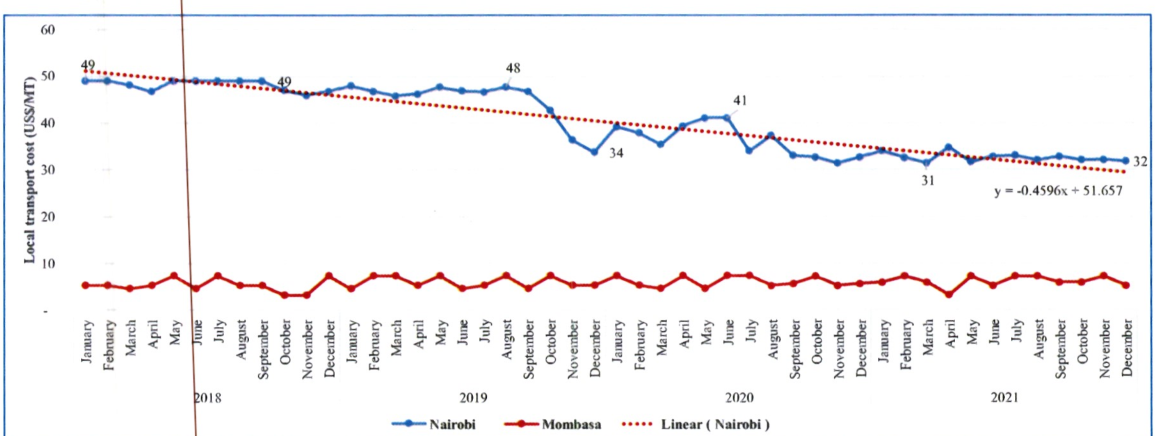

Figure 18. Local transport costs per MT over a four-year period, N=540

In summary, Thika Power had the highest local transport costs per KM, generally in line with the rates charged to the IPPs located in the greater Nairobi area. O the five sources of fuel, Gulf Energy charged the highest local transport costs over US$40 per MT. The local transport costs per KM declined by a rate of US$0.5 per month from a high of US49 per MT in January 2018 to a low of US$31 per MT in March 2021 largely driven market forces of increased supply of transporters. This clearly demonstrates that a proactive step by KPLC to unpack some of the cost elements and allowing for competitive tender can result in lower prices for unit cost of HFO.

Recommendation

Since the audit revealed a rapid downward movement of local transport costs within a short period of 36 months without KPLC intervention, KPLC needs to adopt a proactive approach of disaggregation of cost elements in the pricing formula, such as local transport, to ensure they are competitively quoted for, to get best value. KPLC needs to drive the factors in the market for local transport which influence the level of pricing as opposed to being a spectating victim of the players.

5.3.8 Supplier Overheads Findings

Overheads is a fuel cost element covering overheads, administration fees, import costs, inventory, and storage costs. The analysis of overheads was done by IPP, supplier and year.

By Year

Figure *19* shows the supplier overheads declined by US$7.3 per year from a high of US$55 per MT in 2018 to a low of US$35 per MT in 2021. The overheads were relatively low in their US$30s in the Covid years 2020 and 2021.

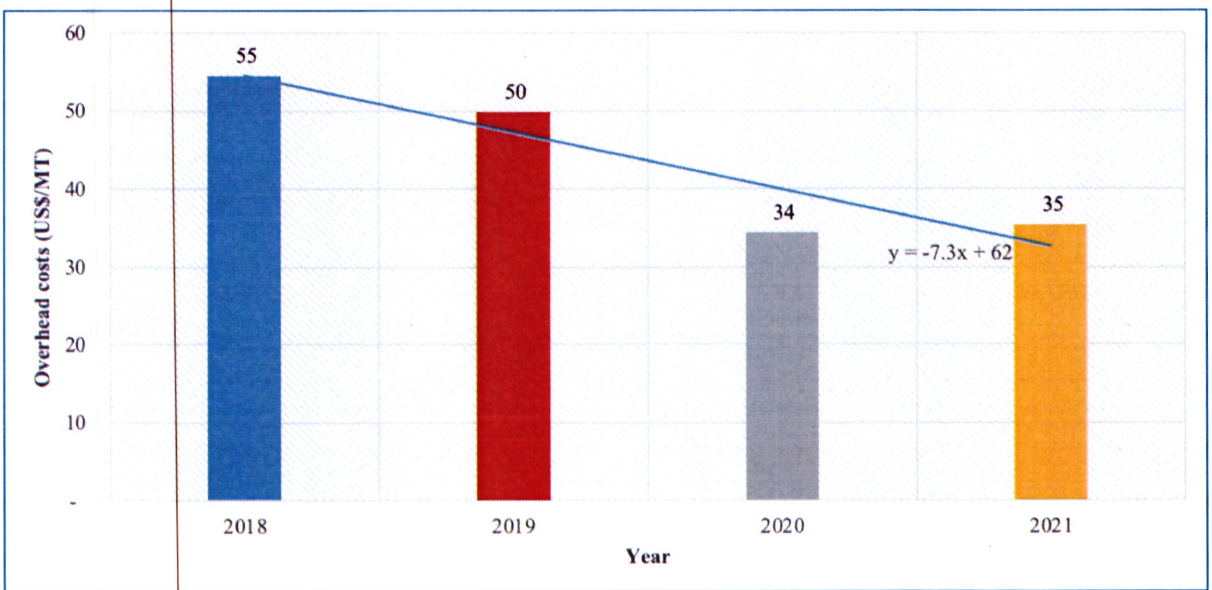

Figure 19. Fuel supplier overheads by year, N=396

By IPP

Gulf Power charged the highest rate for overheads averaging US$65 per MT while Iberafrica had the lowest at US$27 per MT over the four-year period. Higher overheads translate directly to higher power costs. There is need to design the competitive bidding process to ensure the quoted overheads are competitive, with a view to reduce power costs.

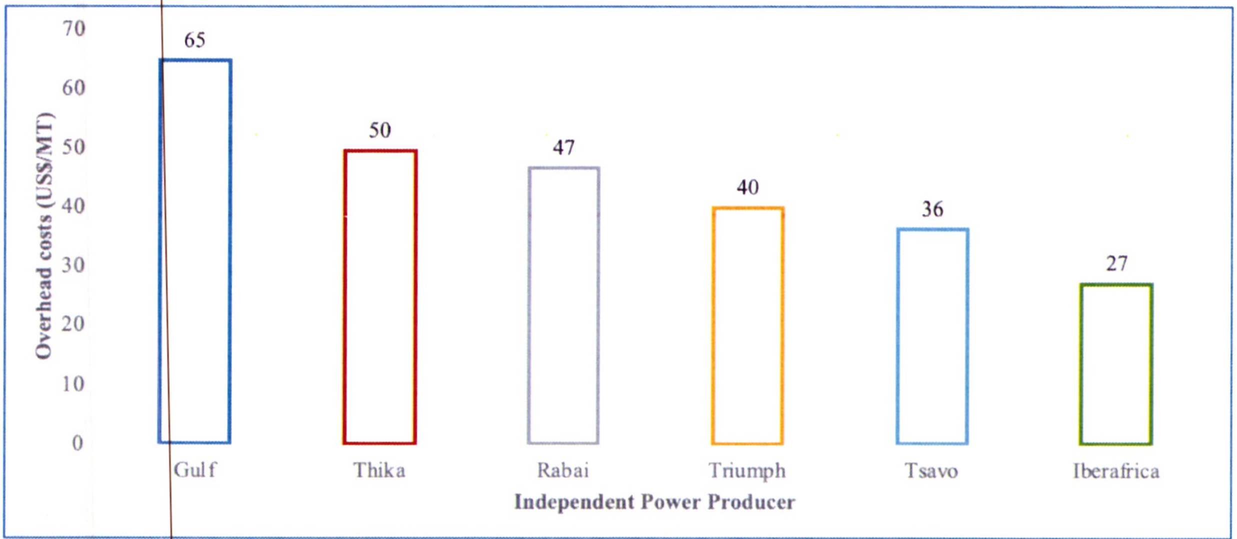

Figure 20. Fuel supplier overheads by IPP, N=396

By Supplier

The overhead rates by each supplier show Gulf Energy charging the highest at US$50 per MT compared with Vivo Energy and RH Devani at around US$30 per MT (see *Figure* 21). Competitive open bidding geared towards minimal overheads would yield rates that are competitive and contribute to lower power rates.

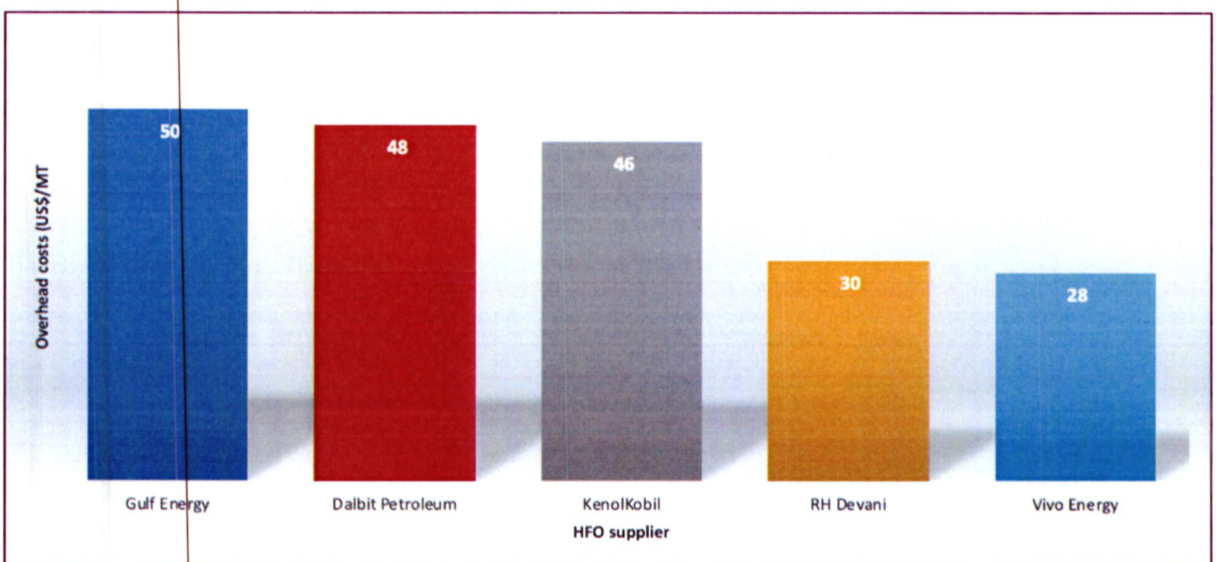

Figure 21. Fuel supplier overheads supplier, N=396

It is also doubtful that the IPPs have either the procurement expertise, systems or even contracted procurement capabilities which could address concerns like the overheads and other costs that could have been challenged at the initial stages of design of HFO tender documents to identify and eliminate such hidden skewed costs, like overheads, which influence the overall unit prices in the tenders for HFO.

Recommendations

1. Competitive open bidding geared towards minimal overheads would yield rates that are competitive and contribute to lower power rates.
2. IPPs should acquire or contract the procurement expertise and systems which could address concerns like the overheads and other costs that could have been challenged at the initial stages of design of HFO tender documents to identify and eliminate such hidden skewed costs, like overheads, which influence the overall unit prices in the tenders for HFO.

5.3.9 Findings on Taxes and Levies

Taxes and levies are stipulated by the government, which sometimes vary from time to time. They are a pass-through cost for which all the stakeholders are agents for collection and remitting the same to the government. Table 16 summarizes the average taxes and levies over the four-year period. Overall, the tax and levies excluding VAT averaged US$35.55 per MT, but slightly higher in 2021 and lowest in 2020. The major increase in 2021 was IDF fee at US$13.5 per MT and Railway Development Levy at US$8.2 per MT. The main reason for the shift was the overall increase of levies to support railway infrastructure development and increased IDF fee.

Tax or Levy	Year				Average
	2018	2019	2020	2021	
IDF Fee	10.7	10.3	10.0	13.5	11.125
Wharfage	2.6	2.6	2.5	2.3	2.5
Stevedoring	1.6	1.6	1.7	1.7	1.65
Excise Duty	6.0	6.1	6.1	6.1	6.075
Petroleum Development Levy	4.0	4.0	3.9	3.8	3.925
Railway Development Levy	7.3	7.1	6.5	8.2	7.275
Merchant Shipping Fee	0.3	0.3	0.3	0.3	0.3
Inspection Fee	0.5	0.6	0.6	0.7	0.6
Ocean Losses	2.6	2.1	1.6	2.1	2.1
Total	**35.6**	**34.7**	**33.2**	**38.7**	**35.55**

Table 16. Average taxes and levies over the four-year period

The taxes and levies were compared per the IPP as shown in *Figure* 22. Rabai Power reported paying the highest taxes and levies at US$36 per MT while Iberafrica had US$31 per MT. With standardized formula and taxes, there should not be a difference in taxes across the IPPs.

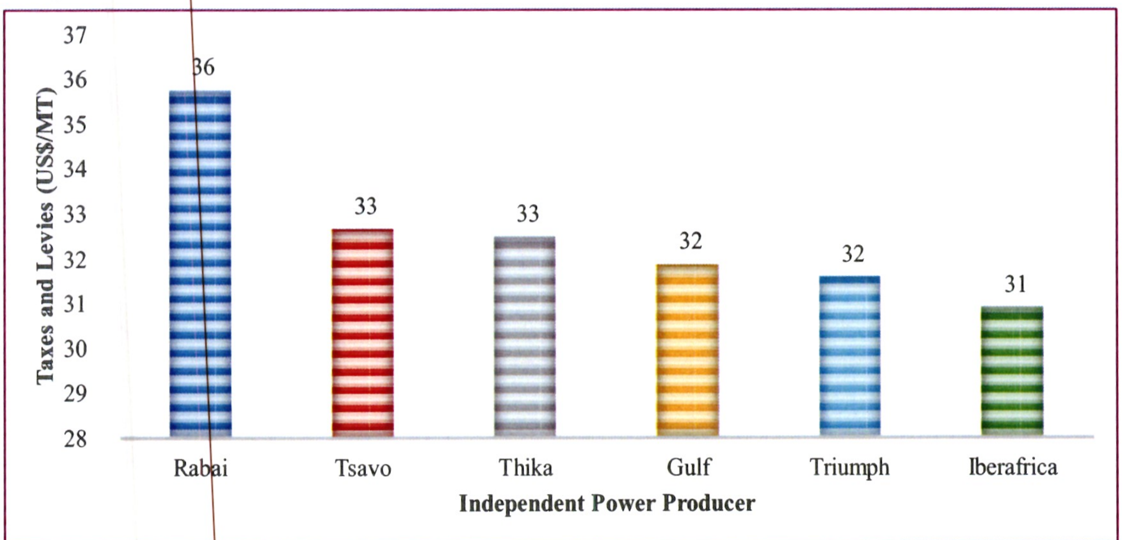

Figure 22. Taxes and levies by IPP, N=193

Recommendation

The components of fuel recovery are pass through costs and KPLC needs to take a proactive approach in understanding their makeup and potential instances for reduction, given that taxes are levied on the aggregate pass-through costs of HFO. The need to control the cost to the minimum reasonable has a greater impact on the absolute tax which is still a leading cost component to the consumer, a relief of which could reduce the burden to the consumer.

5.4 Specific Key Task (d) – Review the monthly economic merit order of dispatch, dispatch plans, availability of all power plants, availed monthly energy from hydro and Geothermal plants, availability declarations and actual dispatch for the last one year

Findings

In this chapter, we reviewed the monthly economic merit order of dispatch, dispatch plans, availability of all power plants, and availed monthly energy from hydro and geothermal plants, availability declarations and actual dispatch for the last one year. The objective of analysing the power dispatch to determine whether it was carried in accordance with prudent operating practice.

Current Practices

The dispatch of the power generating plants is centrally done at the National Control Centre (NCC). Dispatch of plants is guided by a process that involves planning and actual operation of the dispatch. During the planning stage, a dispatch schedule is developed that is supposed to be a guide for the actual running of the system. There may be some deviation between the planned and executed schedule due to prevailing system and generator status at the actual time of executing the dispatch.

There is one National Control Centre (NCC) at Dandora that over-sees the network operations nationwide with six regional control centres that are located in Nairobi, Rabai, Kiganjo, Lessos, Lanet, and Kisumu. Each of the regional control centres is responsible for their respective distribution networks.

The National Control Centre (NCC) is responsible for:

1. Grid operations,
2. Transmission network and dispatch of generation,
3. Network control operation,
4. Safety,
5. Facilitate outages,
6. Facilitate quality, secure and reliable power supply,
7. Economic dispatch,
8. Rapid response, and restoration of supply.

Planning Process of Dispatch

The following are the current practices in dispatch planning:

(a) Analysis to determine the demand to be met by looking at previous similar days.
(b) Must Run Plants: the base load units including small hydro plants, geothermal, wind, solar, and coast minimum generation.
(c) Merit order using variable energy cost starting with the least cost plants considering plants' declared availability.
(d) Dispatch of generation out of merit order due to system voltage support, such as gas turbine from West Kenya at peak hours, grid constraints such as transmission equipment overload or failure or planned maintenance, generating plant outages for planned and un-planned reasons.
(e) Include in the demand spinning capacity similar to biggest unit on bars to ensure system security.
(f) Main hydro plants dispatch within declared/availed energy by KenGen.
(g) Merit order dispatching of thermal generation based on their declared availability to meet demand.
(h) New generation under commissioning tests.
(i) Hydro declared energy correction towards the end of the month.
(j) Statutory tests as required by NEMA on thermal plants to do quarterly emission tests.
(k) Annual contracted capacity test and meter test by energy purchase.

Actual Operation of Dispatch

(a) Consider cancellation of a planned outage on transmission or distribution system
(b) Intermittent nature of Variable Renewable Energy (VRE) sources, notably wind and solar.
(c) Increase or decrease in demand due to various reasons such as holiday impact, international matches like Olympics, restoration of a load that was out, major loss of load, change in weather.
(d) Major system breakdown or blackout.
(e) Major generator breakdown.
(f) Tie line flows to or from neighbour utilities, UETCL Uganda.
(g) Restoration of a major generator that had been out on breakdown or planned work which was not availed during planning

Minimum Thermal Dispatch

Through a Gazette Notice No. 2826 of 22 April 2016, EPRA approved a minimum dispatch per plant to maintain the thermal plants in operable mode as recommended by the engine manufacturers. The request to allow the thermal IPPs to maintain a minimum dispatch was as a result of continuous low dispatch necessitated by the commissioning of the new 280 MW geothermal power plants at Olkaria in 2015. The average dispatch of the thermal IPPs drastically reduced by 10%. The purpose of maintaining minimum dispatch as lobbied by the IPPs, was to allow the IPPs to meet the manufacturer's engine maintenance requirement. This requirement was since revoked via a Gazette Notice No. 12306 of 12 November 2021.

Power Sources

The sources of power generation can be classified as small hydro, geothermal, thermal (diesel and gas turbines), wind, solar and Uganda Electricity Transmission Company Limited imports (see Table 17).
Power consumption will vary during a 24-hour period arising from their activity levels. Due to this, a decision is made on the proportion of base load plants verses peaking plants.

Base load plants operate constantly at near full capacity and tend to have limited capacity to operate at significantly below capacity or are inefficient at those levels. As such the proportion of these plants operating in the grid is the constant power consumption in a 24-hour period. Peaking plants can adjust to surges and declines in power demand efficiently and so are applied to power consumption above the base load.

1.	Must Run Plants	These include small hydro plants, geothermal, wind, solar, and coast minimum generation. Plants that must run for technical and legal reasons. The dams must maintain a minimum flow rate. Renewable plants are on take or pay contracts which require KPLC to take output or face deemed charges.
2.	Thermal Plants	Plants that have capacity charge payments and dispatched based on their variable costs considering that the capacity charges on take-or-pay basis are sunk costs.
3.	Pure Base Load	Planned to run continuously and which cannot be stored, such as geothermal, wind, and solar.
4	Peaking Plants	Plants are required to meet the surges in demand to the two higher demand levels.
5	Hydro Power	This has both peaking power or load-following and base power characteristics due to its (I) storage capacity (ii) speed of spinning up to meet demand can manage the sharp increases in power to the extent there is sufficient capacity and hydrology.

Table 17. Classification of power sources

System Limitations

The following are usually limitations in systems:

a) **Insufficient spinning reserve:**
Availability and reliability whilst the country has abundance of hydro this resource needs requires storage given the climatic conditions. Similarly, the country had abundant solar radiation and wind in certain parts of the country. These plants output needs to be matched with intra-day demand. Solar and wind plants have demonstrated periods of fluctuating output (High intermittency) on intra-day basis. As such wind and solar require the grid to maintain spinning reserve (spare) capacity to cater for declines in output. Large hydros contribute to the stability of the grid by being a reliable provider of spinning reserve. Wind and solar generation increase the need for spinning reserve due to their intermittency (or lower reliability).

b) **Transmission equipment over-loads-lines & transformers** (Kisumu-Muhoroni, Muhoroni-Chemosit, Suswa-N/North, Lessos Transmitter stations: this has to do with the grid stability -this particular point of the grid is from the generation sources the less stable the grid is in that area the localized solution is required hence the use of the thermal plant in Muhoroni. Based on this the country end up with a power generation installed capacity mix. On a continual basis, the National Control Centre (NCC) issues dispatch orders to plants to meet the power demand at that point in-time. As such, the overall power purchases" mix" (measured" in KWh) varies continually and with it the weighted average tariff.

c) **Poor system Voltages in Western Kenya and Coast regions**:
The Mombasa area HFO thermal IPPs (Tsavo and Rabai) and Muhoroni in Western Kenya have operated at comparatively higher Load Factors, due to the need to provide voltage support to the local grid, given its distance from the main power generation areas of the Seven Forks dams, the Rift Valley and Northern Kenya. The grid stability issues in Western Kenya has necessitated the continued use of the Muhoroni gas turbine. Considering the thermal plants have higher tariffs than the rest of the technologies on the grid this issue needs to be resolved.

d) **Intermittency of Variable Renewable Energy (VRE):**
Wind and solar have low reliability i.e. intermittency due to their nature. There is always high thermal consumption which is occasioned by low available wind and solar output.

Review the monthly economic merit order of dispatch, dispatch plans, availability of all power plants

a) Monthly economic merit order of dispatch

The planned monthly economic merit order of dispatch is a schedule prepared monthly by the National Control Centre (NCC), based on the ascending order of price. Usually, the NCC plan the merit order running for the coming month, based on the preceding month's costs. This allows for proper planning for the purpose of optimal electricity generation that meets the country's demand. The country therefore meets its system load and at the lowest possible cost that ultimately minimizes the cost of production.

On a monthly basis, the parameters analysed include; the variable energy cost (A), fuel cost (B), capacity/deemed cost converted to energy at the contracted load factor (C), forex adjustment charges (D), total generation cost (A+B+C+D), and the total variable cost (A+B) all in Ksh/Kwh. The merit order is determined by the total variable cost (KSH/Kwh) which is the sum of Variable Energy cost (KSH/Kwh) and Fuel cost (KES/Kwh) which thereafter, according to the least cost method, gives an IPP its rank on the Economic Merit order of Dispatch. *(See Table 18).*

A review of the planned monthly economic merit order revealed that the Heavy Fuel Oil (HFO) Thermal Power plants acquired lower rankings as the years progressed. This is due to the emergence and resurgence of power plants with renewable sources of energy; Solar, Wind, Hydro, Biogas and Geothermal. These renewable sources of energy are given preference in a bid to work towards contributing to the goal of "going green". Further, energy sources such as Solar or Wind cannot be stored and are on take or pay contracts. However, due to the intermittency and erraticism of these sources of energy, the HFO Thermal power plants still play a role of offering support during peak hours and balancing of the grid.

Among the HFO thermal power plants, it was observed that Rabai and Tsavo Power were more preferred compared to the other plants. This is due to their strategic location that is, the coastal region, that experiences low fuel cost which makes them more competitive given lower transport costs in Mombasa due to the proximity to the fuel terminals.

Out of Merit Order Dispatch

Based on the system voltage support or the cost of transmission overload, dispatch outside of the merit order can be carried out. Due to the nature of the IPP's equipment, which can control voltage spikes brought on during transmission, two generators from Rabai Power are run out of merit order because the National Control Centre has a mandate of ensuring that grid users receive a high-quality supply of energy.

IPP	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
TSAVO POWER	19	15	20	20	24	25	27	30	26	28	27	27	24	26	25	27	23	26	21	18	18	25	25	25	17	12	12	14	16	20	18	18	27	29	26	28
RABAI POWER	10	16	19	17	18	21	26	26	26	24	19	26	25	21	22	24	24	18	16	19	24	20	13	11	12	16	19	17	18	21	27	26	26	24	19	26
IBER POWER	22	20	21	25	29	29	31	33	29	26	28	30	29	27	28	29	28	28	28	28	29	28	30	29	25	29	30	26	30	31	33	30	32	32	30	32
THIKA POWER	26	19	22	21	25	24	24	29	27	27	29	29	30	28	29	30	30	31	32	33	33	31	32	30	27	30	27	24	23	30	34	31	24	26	29	34
TRIUMPH POWER	29	26	27	26	31	31	26	28	31	31	32	31	32	31	33	34	33	33	26	29	28	34	34	34	30	32	31	31	32	35	25	34	33	33	33	36
GULF POWER	24	21	22	19	30	30	32	34	30	33	34	35	35	33	32	33	32	34	34	35	35	30	27	33	32	34	34	33	34	32	31	36	35	35	35	37

Table 18. Planned merit order ranking for HFO based IPPs in FY2018 - 2021

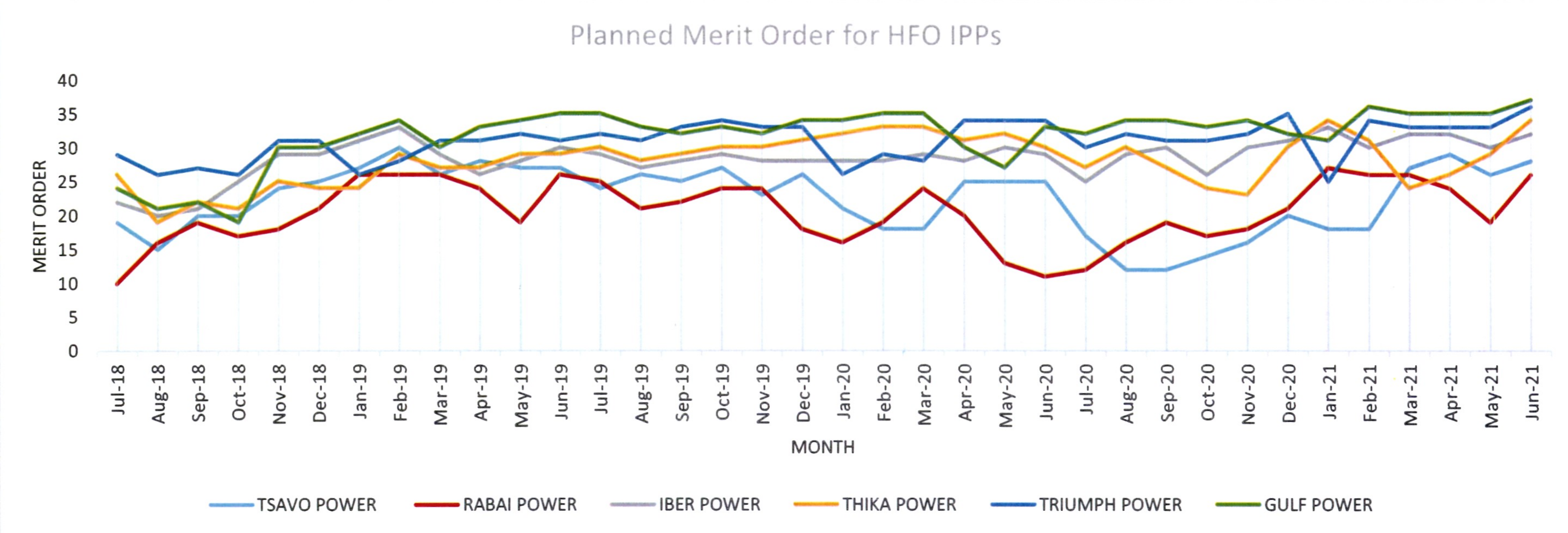

Figure 23: Graphical illustration of planned order of merit for FY 2018 - 2021

Interpretation

The graph above shows the trend of the planned order of merit for the 6 respective IPPs under audit. The trend line depicts a progressive descent in the merit order for the thermal IPPs which have seen less preference throughout the years. This is due to the preference of renewable sources of energy like hydro, geothermal, solar and wind that have low marginal costs which translate to lower electricity costs for consumers. The baseload supply mix is relatively inexpensive hence constitute the solar, wind, major and small hydro power plants but during peak demand, the thermal plants come on hence referred to us peaking power plants.

The basis of the economic merit order is founded on the principle that electricity ought to be generated at the lowest possible costs subject within operational and transmission limits. This is therefore ideal as it ensures that the consumers are protected from high costs of electricity.

b) Dispatch plans and availability for all power plants

Dispatch plans are the forecasted electricity generation schedules shared to IPPs by the National Control Centre (NCC). This planned dispatch schedule shows the expected electrical output a power producer is expected to generate the following day based on the country's demand. Across all power plants, the planned dispatch translates to 86% of the actual dispatch. This means that the forecasted dispatch is integral to the power planning of the country.

Availability refers to the total amount of energy available to the grid by the respective IPP if deemed to be at full load at that particular given time. The recommended availability for thermal IPPs is 85% of its total contracted capacity. The average availability for all power plants is approximately 50,000,000 Kwh whereas the six thermal IPPs under audit is 53,083,841 Kwh for the FY 2020 – 2021. This means that the thermal IPPs have significant availability requirements as their average surpasses the entire average yet their dispatch is dismal at 17% for the FY 2020 - 2021.

c) Availed monthly energy from hydro and geothermal plants

The availed monthly energy from hydro and geothermal power plants is significant and has the highest level of dispatch. From our review of the data collected, we established that the dispatch of electricity from the two generation sources, i.e., hydro and geothermal is approximately at 64% and 78% respectively of the monthly availability. Further a review of the planned vs actual dispatch revealed that averagely, 95% of the planned dispatch is achieved for geothermal and 101% for hydro power plants.

As part of our review, we also performed a comparative analysis of the energy generated from Hydro and Geothermal power plants with the independent HFO thermal power plants. This analysis showed that the power generated from hydro and geothermal energy sources averaged at 34% and 42% respectively of the total gross energy generated. The privately owned HFO thermal power plants constitute an average 5% cumulatively.

MONTH	TOTAL HYDRO	TOTAL GEOTHERMAL	TOTAL HFO THERMAL
Jul-20	37%	44%	5%
Aug-20	36%	43%	6%
Sep-20	36%	39%	7%
Oct-20	31%	46%	6%
Nov-20	38%	40%	4%
Dec-20	39%	39%	5%
Jan-21	32%	46%	5%
Feb-21	30%	45%	6%

Mar-21	29%	44%	3%
Apr-21	31%	43%	3%
May-21	36%	38%	7%
Jun-21	28%	37%	7%

Table 19: Percentage of power generation by source

Note: The HFO Thermal Plants relate to the 6 IPPs referred to in this report and exclude KENGEN owned Kipevu Diesel Power (KDP) 1 and 3.

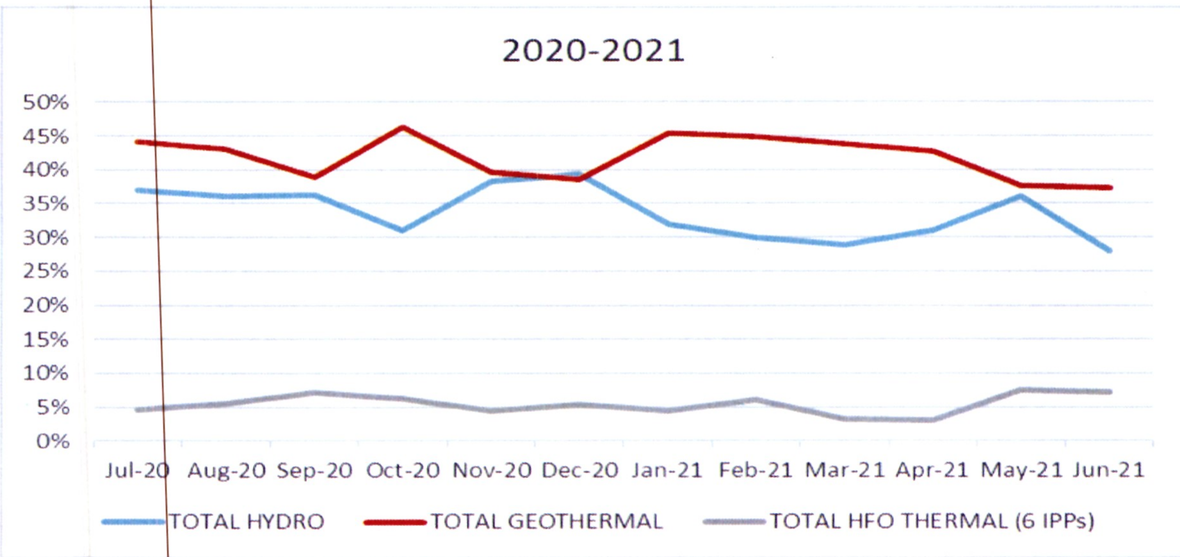

Figure 24: Statistical data of Power generation per source

Review of the availability declarations, and actual dispatch for the last one year

d) Review of Availability declarations

Monthly availability declarations are signed by the independent power plant's (IPP) representative as well as a KPLC representative on site to ensure transparency and conformity.

The cumulative average of availability declarations for the 6 power plants is 55,767,198 Kwh for the period under review. This therefore constitutes to 69% of its total capacity. We noted that this was significantly below the recommended availability of 85%. Specifically, Tsavo Power's availability was 66%, Rabai Power 65% availability, Iberafrica Power 69%, Thika Power 72% while Triumph and Gulf Power were at 68% and 72% availability respectively over the three years of review.

However, despite being available, the average level of dispatch across the six (6) HFO IPPs is approximately 14%; Tsavo Power at 26%, Rabai Power at 33%, Iberafrica Power 10%, Thika Power 11% while Triumph and Gulf Power were at 3% and 4% respectively over the three years under audit

This means that whereas the dispatch from the thermal IPPs is significantly low, the IPPs availability remains at par of which failure to adhere to attracts surcharges. This is due to the capacity payments made to the IPPs for their availability which requires that the thermal IPPs be available to KPLC at a certain percentage as per their contracted capacity stipulated in the PPA. Annually, KPLC conduct a contracted capacity test to ensure strict adherence which acts as an oversight protocol and to which, failure of the test subjects the IPP to huge penalties.

e) Review of actual dispatch for the last one year

The actual dispatch refers to the electrical output or the total electricity generated to the grid by an IPP. During the last year, that is FY 2020 – 2021, the total electricity generated per generation source is as shown in the table below:

IPP	IMPORT FROM UETCL	TOTAL HYDRO	TOTAL GEOTHERMAL	TOTAL THERMAL	TOTAL BIOGAS	TOTAL SOLAR	TOTAL WIND
Jul-20	12,165,250	360,718,289	432,364,013	55,358,398	3,121	6,824,150	110,433,755
Aug-20	13,221,168	355,377,691	425,808,674	68,873,793	12,406	6,782,562	117,675,953
Sep-20	13,265,592	354,217,886	380,757,826	85,444,885	6,733	6,802,640	139,792,450
Oct-20	11,516,454	359,982,156	425,752,497	72,124,564	11,321	7,894,440	117,405,547
Nov-20	10,015,996	382,481,998	396,251,288	53,903,327	32,235	7,591,290	149,018,249
Dec-20	10,090,795	386,325,096	379,218,611	69,407,113	26,365	6,868,395	130,756,126
Jan-21	15,827,986	325,933,184	464,690,443	69,080,203	29,087	7,491,592	137,713,803
Feb-21	19,041,631	282,371,079	422,046,087	101,173,727	43,422	6,815,945	109,973,302
Mar-21	22,074,594	304,041,089	460,739,591	57,277,885	33,890	7,761,066	200,044,482
Apr-21	14,361,251	294,377,822	409,471,358	52,669,214	56,108	7,296,330	162,000,110
May-21	23,582,882	368,136,312	384,296,690	108,953,073	38,816	7,557,553	131,127,315
Jun-21	22,959,340	308,273,503	392,892,789	79,334,752	37,262	6,690,661	187,423,496

Table 20: Dispatch per source for FY 2020- 2021

The country's current generation mix is as shown below. Over 90% of the total electricity generated is green energy. This therefore means that it is generated from renewable sources that is Geothermal, Hydro, Wind and Solar. This has been enabled due to the country, taking advantage of its natural resources to enhance a more sustainable environment.

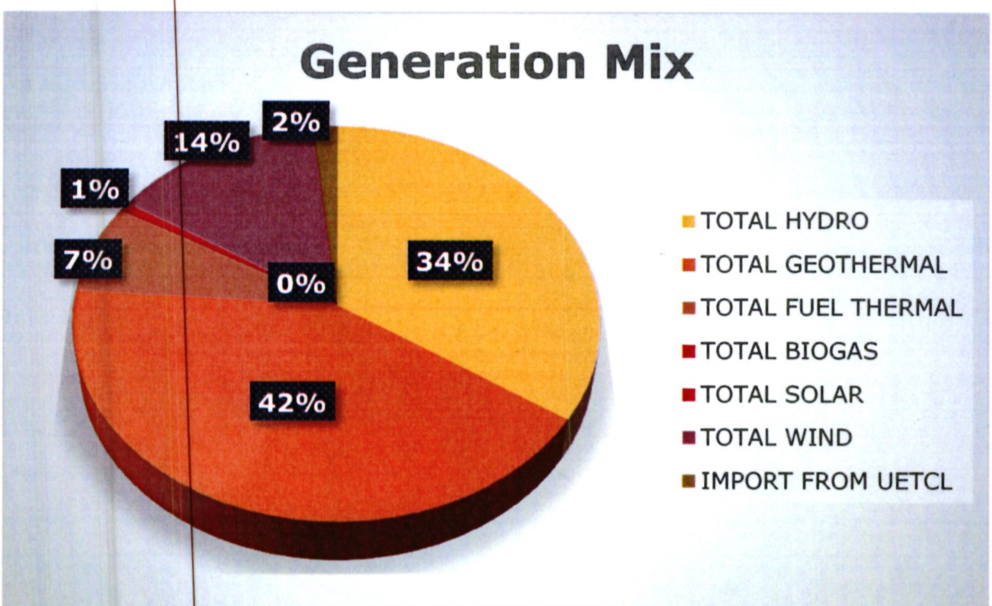

Figure 25: Pie chart showing generation mix for FY 2020 - 2021

During our audit, we determined that the HFO Thermal Power plants, have experienced inconsistent dispatch in the last year as demonstrated by the data below. However, this is with the exception of Rabai Power Ltd which has seen its dispatch nearly doubled since the start of the FY 2020/2021. This was even prior to the decommissioning of Tsavo Power.

Month	Tsavo KwH	Rabai KwH	Iber KwH	Thika KwH	Triumph KwH	Gulf KwH	TOTAL KwH
Jul-20	7,802,100	25,308,000	4,118,900	4,986,500	601,800	1,793,848	**44,611,148**
Aug-20	14,505,100	28,638,000	3,460,000	4,234,100	770,400	1,346,704	**52,954,304**
Sep-20	21,707,000	26,074,000	11,574,560	7,094,200	2,193,100	1,348,712	**69,991,572**
Oct-20	21,948,800	20,491,000	5,424,670	8,118,300	1,387,100	1,860,120	**59,229,990**
Nov-20	13,511,400	16,663,000	4,611,990	6,344,800	1,151,200	2,393,720	**44,676,110**
Dec-20	18,367,000	21,037,000	3,602,710	7,612,300	2,090,900	2,391,472	**55,101,382**
Jan-21	14,173,600	19,334,000	2,769,700	7,370,500	825,500	1,965,144	**46,438,444**
Feb-21	25,469,300	11,532,000	2,458,230	4,603,900	8,421,400	3,739,920	**56,224,750**
Mar-21	23,018,500	5,215,000	1,413,270	2,069,800	1,144,100	848,384	**33,709,054**
Apr-21	5,294,100	5,510,000	1,028,790	8,503,100	766,700	1,178,888	**22,281,578**
May-21	5,326,900	41,292,000	2,563,190	23,727,300	2,195,900	1,060,928	**76,166,218**
Jun-21	12,058,900	44,590,000	1,999,270	8,492,800	742,500	734,352	**68,617,822**
TOTAL	**183,182,700**	**265,684,000**	**45,025,280**	**93,157,600**	**22,290,600**	**20,662,192**	**630,002,372**
Average	**15,265,225**	**22,140,333**	**3,752,107**	**7,763,133**	**1,857,550**	**1,721,849**	**8,750,033**

Table 21: Monthly Net Electrical Output per IPP in Kwh

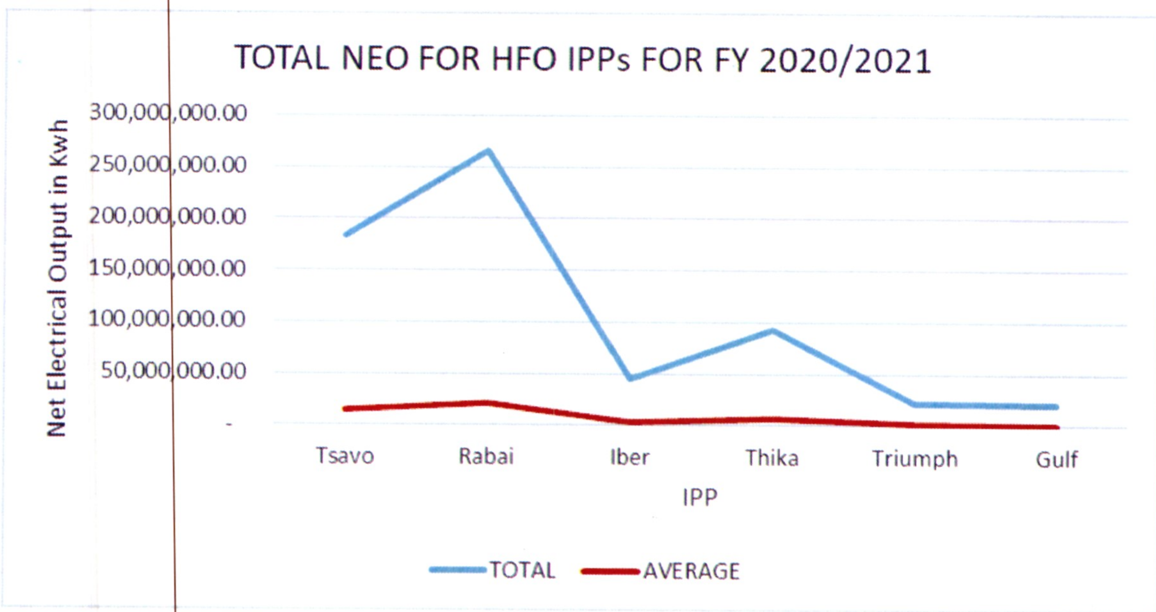

Figure 26: Graphical representation of the Total NEO per IPP for FY 2020/2021

Interpretation

The average monthly dispatch of the HFO Thermal Power plants in the FY 2020/2021 is 8,750,032.94 KWH. According to the data gathered, all the IPPs with the exception of Rabai and Tsavo (which is currently decommissioned) fall below this average. This further informs that out of the total power generated by the HFO IPPs, Rabai generates 42% and Tsavo 29% approximately. Thika Power follows at 15%, Iberafrica 7%, while Triumph Power and Gulf Power have a proportion 4% and 3% of the total respectively.

Recommendations

1. The frequency of the merit order running for the IPPs to be enhanced to weekly or daily, as there are likely savings since NCC dispatches plants on the basis of a merit order that is expected to deliver the lowest cost tariff.
2. KPLC through NCC, keep a clear log of the out of merit order dispatch for such incidences for audit purposes. The analysis would detail the percentage of power dispatched to the system out of merit and easily identify gaps to be addressed.

5.5 Specific Key Task (e) - Investigate the circumstances that led to the issuance of the Gazette Notice 2826 of 19th April 2016 and determine if the arrangement should be continued.

Findings

On 10 December 2014, KenGen commissioned 280MW of geothermal power from Olkaria comprising of 140MW Olkaria IV and the Olkaria I units 4 and 5 each with a capacity of 70MW. At the time, the country had been heavily reliant on hydro power which was intermittent and required support at peak demand from the medium speed diesel (MSD) power plants held by KenGen and 4 IPPs namely Iberafrica, Rabai Power, Tsavo Power and Thika Power (commissioned in 2013). In the same month, Gulf Power was commissioned to deliver an additional 80.32MW of thermal power to the grid. Triumph Power was also commissioned in 2015 adding an additional 83MW to the grid. The commissioning of the 280MW plants led to a decrease in demand for thermal power at a time when new thermal plants were being commissioned. Prior to the commissioning of the geothermal plants, thermal power plants were being dispatched on average at 33%. Thereafter, the dispatch rate fell to below 12%. Consequently, the IPPs separately and jointly (through a letter dated 28 August 2015[4]) wrote to KPLC and ERC with the following concerns:

i. The requirement for maintenance of security stocks while the dispatch was very low meant that a lot of working capital was unnecessarily tied up;

ii. Some of the IPPs such as Gulf Power had purchased HFO when the market prices were very high and due to the decline in prices, they could not be dispatched since they were very low in the merit order; and

iii. Low dispatch was a risk to the operations of the power plants as the engines needed to be kept running for a minimum number of hours per week to prevent major damage in accordance with manufacturer requirements.

KPLC having considered the issues raised and in support of the IPPs case, referred the matter to the regulator, ERC, to make a determination in a letter dated 27 March 2015. ERC convened meetings with the IPPs where the above concerns were discussed. Thereafter, the ERC board met and decided to grant concessions to the IPPs through Gazette Notice 2826 of 19th April 2016[5] stipulating as follows:

a) That the IPPs were no longer required to maintain minimum security stock as required in the PPA; and
b) That KPLC to allow minimum dispatch for the plants to meet manufacturer requirements.

Following the issuance of the Gazette Notice, ERC also considered issues raised by two of the fuel suppliers to the IPPs namely Gulf Energy and Vivo Kenya pertaining to losses they had incurred in the form of additional fuel storage and financing costs. The two suppliers were supplying HFO to the following power plants:

Fuel Supplier	Power Plant
Gulf Energy	✓ Gulf Power ✓ Triumph Power ✓ KenGen Kipevu III ✓ Thika Power

[4] Annexure 4: Letter from the IPPs to ERC dated 28 August 2016
[5] Annexure 1: Copy of Gazette Notice 2826 of 19 April 2016

Fuel Supplier	Power Plant
Vivo Kenya	✓ Tsavo Power ✓ KenGen Kipevu I

Table 22: List of fuel suppliers that raised issues due to losses following gazette notice 2826

Gulf Energy in a letter dated 5th July 2016, sought compensation of USD 7,324,470 for losses pertaining to additional storage and financing costs occasioned by the low dispatch which had seen it hold stocks estimated for 60 days coverage for over 360 days. ERC formed a team on 26th October 2016 to review Gulf's claim following which the claim from Vivo Kenya was received. The total claim from the two suppliers is as summarised below:

GULF ENERGY LIMITED	COSTS (USD)
Extra storage costs	3,038,559.66
Additional finance interest charges	1,770,000.00
Additional forex losses	2,221,687.00
Sub Total	**7,030,246.66**
VIVO KENYA LIMITED	**COSTS (USD)**
Difference in pricing (import minus actual) – Tsavo Power	1,265,734.00
Difference in pricing (import minus actual) – KenGen Kipevu 1	1,449,794.84
Sub Total	**2,715,728.84**
TOTAL	**9,745,975.50**

Table 23: Total compensation due to Gulf Energy and Vivo Energy

In a special meeting of the Commission dated 28th June 2017[6], ERC reviewed the report from the team and approved the above claim from Gulf Energy and Vivo Kenya for USD 9,745,775.50. The costs were recovered from consumers from 1 July 2017.

In addition to the above concessions and compensation, ERC in a letter dated 7 October 2016[7] granted a waiver to Gulf Power to allow for change of accounting method for fuel stocks from First In First Out (FIFO) to Last In First Out (LIFO). This allowed for the IPP to be dispatched and to gradually deplete the expensive 2015 stocks it was holding while allowing electricity consumers to enjoy the lower fuel prices in the subsequent years without adjustment to the fuel cost charge. Gulf Power reverted to FIFO method of accounting after fully depleting the expensive 2015 stocks in 2021.

[6] Annexure 2: Extract Minutes of ERC special meeting on 28 June 2017
[7] Annexure 5: Letter from ERC to Gulf Power dated 7 October 2016

Data Analysis

To ascertain the assertion by the IPPs, EPRA and KPLC that the Gazette Notice was issued due to low dispatch levels and high levels of stockholding, we performed an analysis of the dispatch rates and stock levels in the period January 2014- April 2016 as follows.

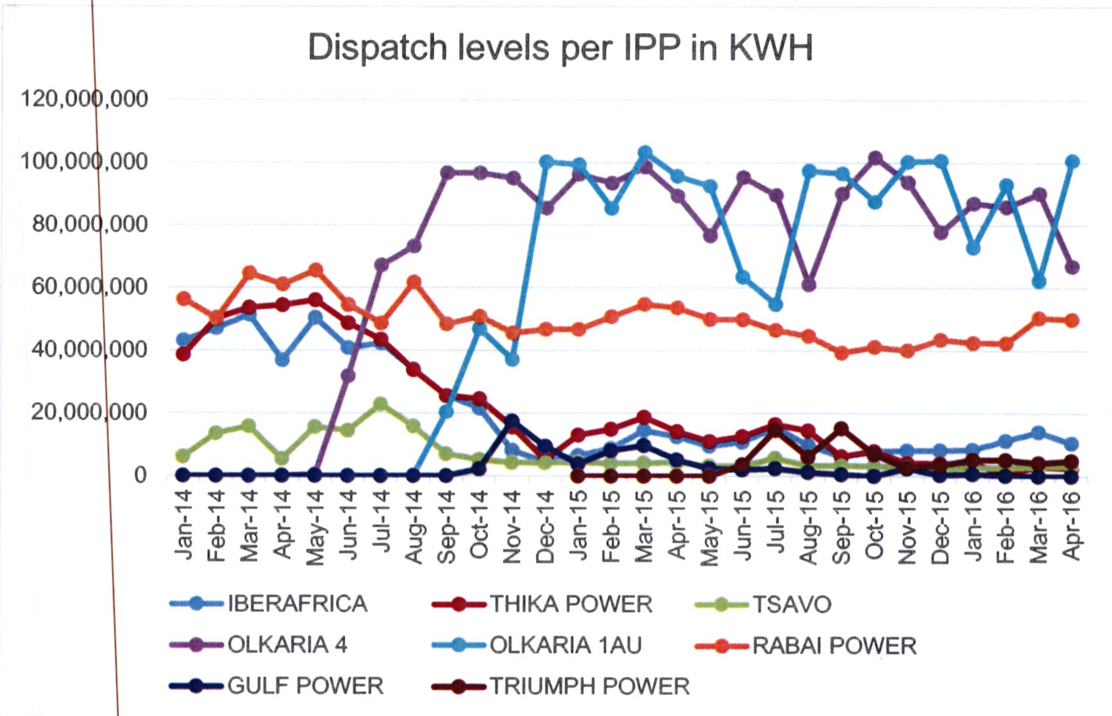

Figure 27: Dispatch levels per power plant Jan 2014- April 2016

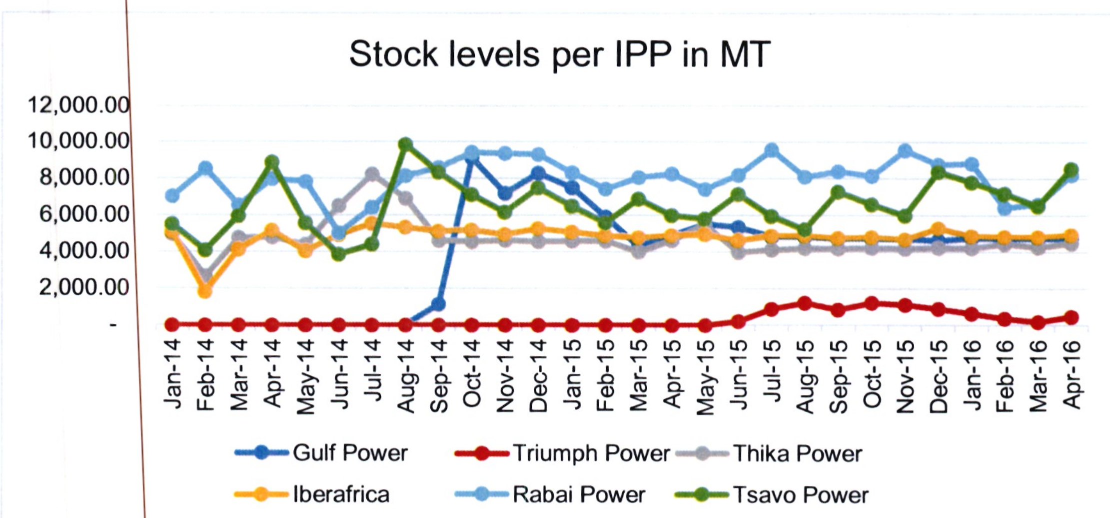

Figure 28: Stock levels per power plant Jan 2014- April 2016

From our review of the data above, we confirmed that there was a significant dip in the dispatch levels for the thermal power plants following the commissioning of the 280MW Olkaria geothermal plants. We also ascertained that with the exception of Thika Power and Triumph Power, all the other thermal IPPs had stockholding above the minimum threshold of 4,500MT. We did not verify whether KPLC recovered liquidated damages from Triumph Power and Thika Power for stockholding below the security stock of 4,500MT as this was outside our scope period.

Our findings on the Gazette Notice 2826 of 2016

From the foregoing, we ascertained that there was merit in the issuance of the Gazette Notice 2826 of 2016 since the dispatch levels for the thermal plants were significantly low. However, we noted that thermal IPPs are paid a capacity charge whether or not they are dispatched which is aimed at ensuring that they recover their capital and operational costs when cheaper and/or greener/cleaner power is available. We opine that in the event that KPLC and ERC/EPRA considered ameliorating the setbacks faced by the thermal power plants due to the low dispatch, there should have been a corresponding review of the capacity charges to allow for the consumer to benefit from the accruing concessions made to the IPPs since the same were not safeguarded by the PPAs. We reviewed the impact of the 2016 Gazette Notice and noted that the IPPs enjoyed significant savings in working capital and attendant financial costs, all of which are benefits that were not passed to the consumer. Below are the estimated savings per IPP on working capital following the Gazette Notice of 2016.

IPP name	Minimum stockholding requirement April 2016 to Dec 2021 (MT)	Actual stockholding from April 2016 to Dec 2021 (MT)	Variance (MT)	Estimated working capital released (USD)
Gulf Power	57,859.82	53,433.20	4,426.62	3,262,183.59
Triumph Power	48,506.18	44,289.22	4,216.96	1,753,698.13
Thika Power	146,300.76	142,809.55	3,491.21	1,526,952.19
Iberafrica Power	153,229.56	149,317.92	3,911.64	1,770,424.77
TOTAL	**405,896.32**	**389,849.89**	**16,046.43**	**8,313,258.68**

Table 24: Working capital savings per IPP from April 2016 to Dec 2021

Rabai Power and Tsavo Power maintained security stocks of above 4,500MT in the entire period and did not benefit from the concessions.

The ToR required us to assess whether the concessions granted under the Gazette Notice 2826 of 2016 were sustainable. To achieve this, we sought to conduct an analysis of the availability of thermal power for dispatch against actual dispatch to establish whether there were instances of unavailability of power plants due to lack of HFO after the requirement for security stocks maintenance was removed vide the Gazette Notice. However, we did not receive adequate data from KPLC to allow us to conduct this analysis since the utility does not maintain detailed data on power plant unavailability. We have included this in our limitation of scope. Nevertheless, we were able to perform a limited review of availability versus actual dispatch as shown in the table below:

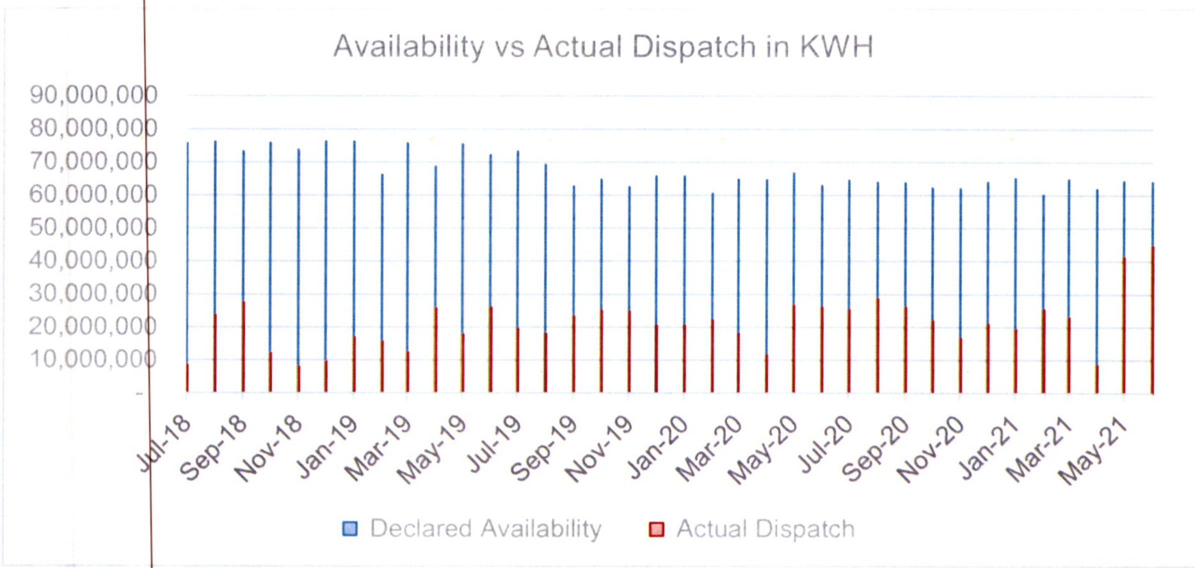

Figure 29: Availability versus Actual Dispatch 2018 - 2021

From the above, we noted that there were no major instances of unavailability of the power plants which is an indicator of their ability to effectively manage their stock requirements against demand.

Our findings on the compensation of Gulf Energy and Vivo Kenya

To ascertain the veracity of the claims from Gulf Energy and Vivo Kenya, we sought for the correspondences from the fuel suppliers and the report/paper from the team tasked with reviewing the claims by ERC. As at the date of this report, we had not received these correspondences to enable us to conduct an independent assessment of the validity of the amounts claimed. We have therefore included this as a limitation of scope in our report.

On 10 October 2016, ERC wrote to the Attorney General's office seeking a legal opinion on the following:

1. Whether the Commission had a mandate to adjudicate on the matter between the fuel suppliers and IPPs where they had a signed fuel supply agreement that prescribed arbitration and litigation as the applicable dispute resolution mechanisms; and
2. Whether the Commission had powers to grant remedies for losses claimed by Gulf Energy which would be passed to electricity consumers who are outside the contractual relationship between the fuel supplier and IPPs.

The AG's office wrote back on 30 November and stated as follows:

a. Under Paragraph 13 of the opinion, it was the considered view of the AG's office that the Commission lacked jurisdiction to entertain a dispute between Gulf Energy and the IPP's since the signed fuel supply agreements provided for arbitration and expert adjudication as the dispute resolution mechanisms between the two entities. Further, for the Commission to be involved, both parties would have to mutually consent to dispense with the prescribed dispute resolution mechanism and submit to the Commission's jurisdiction. We did not obtain any evidence during our review that there was such a mutual agreement submitted to the ERC.
b. Under Paragraph 16 of the opinion, the Commission was made cognizant of its duties of consumer protection as prescribed under Article 46 of the Constitution and Section 5 of the Energy Act Cap 314. Therefore, it needed to balance the interests of consumers with those of other stakeholders using principals of justice and guided by the facts of the case, the law and evidence.

Based on the foregoing, it is unclear how ERC demonstrated its consumer protection duties in this matter as it granted all the benefits that had been claimed by the fuel supplier without due regard to the consumer's plight.

From a cursory reading of the clauses of the FSAs signed between the two suppliers and the IPPs, we noted the below recurring clauses pertaining to the subject matter:

Estimates of Future Fuel Requirements

"The parties shall consult from time to time to develop estimates of future requirements of fuel for the power plant with the goal of providing the supplier with the best available estimates of the amount of fuel which the Purchaser is likely to require to be delivered through the Delivery Point during the following month. Notwithstanding the foregoing, the Parties acknowledge that such estimates on the part of the Purchaser shall in no way be deemed a warranty by the purchaser of its requirements under this Agreement and will in no way be binding."

Notification of Weekly Fuel Requirements

"Subject to the clause above and starting after the Initial Operations Date, the Purchaser shall, before 1400 hours (local Kenyan time) of each Thursday, provide the Supplier with a firm order to purchase such quantity of fuel as required by the Power Plant for power generation during the coming week (the "Fuel Requirements Order"). Such order shall specify the required delivery dates (each of such days, a "Required Delivery Date") within the Required Delivery Week. The Fuel Requirements Order shall be based on the weekly dispatch instructions schedule of the Power Plant for the Required Delivery Week".

The clauses above stipulate that KPLC and the IPP are to provide estimates to guide future fuel requirements and such requirements are to be pegged on the dispatch levels in the Power Plant. In addition, the clauses imply that there is no guaranteed fuel quota for the fuel supplier and therefore it is assumed that they would be prudent in the ordering and management of their HFO inventory. Based on this, we did not find merit in the claims by Gulf Energy and Vivo Kenya since responsibility and risks for stocks are only transferred to the IPP upon delivery and acceptance at the power plant. Compensating the suppliers for stocks whose risks had not been transferred to the IPP would be outside the ambit of the FSA which is the primary legal document guiding the relationship between the IPP and the supplier. However, in the absence of the report of the ERC team tasked with reviewing the merit of the claims made by the suppliers, we were unable to conclude on the validity of the compensation paid to Gulf Energy and Vivo Kenya.

Our findings on the change of stock accounting method from FIFO to LIFO for Gulf Power

Gulf Power was commissioned in December 2014 which was after the 280MW Olkaria geothermal plants were added to the grid. This meant that at the time of commissioning, the demand for thermal power from KPLC was at its lowest. In order to put the plant into operation, the IPP had already signed an FSA with its parent company, Gulf Energy for supply of fuel following a competitive procurement process in 2014. Gulf Energy made the following deliveries in the months leading to the commissioning date.

Month	Fuel Quantity in MT	Fuel Unit Cost (USD/MT)	Total Fuel Cost (USD)
September 2014	1,126.86	847.37	954,867.36
October 2014	8,527.23	847.37	7,225,718.89
November 2014	1,580.90	847.28	1,339,464.95
December 2014	3,083.04	838.58	2,585,375.68
Total	**14,318.03**		**12,105,426.88**

Table 25: Analysis of Gulf Power fuel stock; Sept. 2014 - Dec. 2014

It is unclear why the IPP made such large orders for fuel despite having a security stock requirement of only 4,500MT.

Following the low dispatch issues experienced by the thermal power plants, Gulf Power wrote to KPLC on 28 August 2015[8] seeking concessions contained in the Gazette Notice 2826 of 2016. In addition, Gulf Power requested for a change in its fuel stock accounting method from FIFO to LIFO. This was because at the time, the plant was very low in the merit order as it was holding expensive fuel purchased at a time when international prices for HFO were at their peak. As at the time of the August 2015 letter, Gulf Power had the highest unit price of all the thermal IPP plants as analysed in the table below:

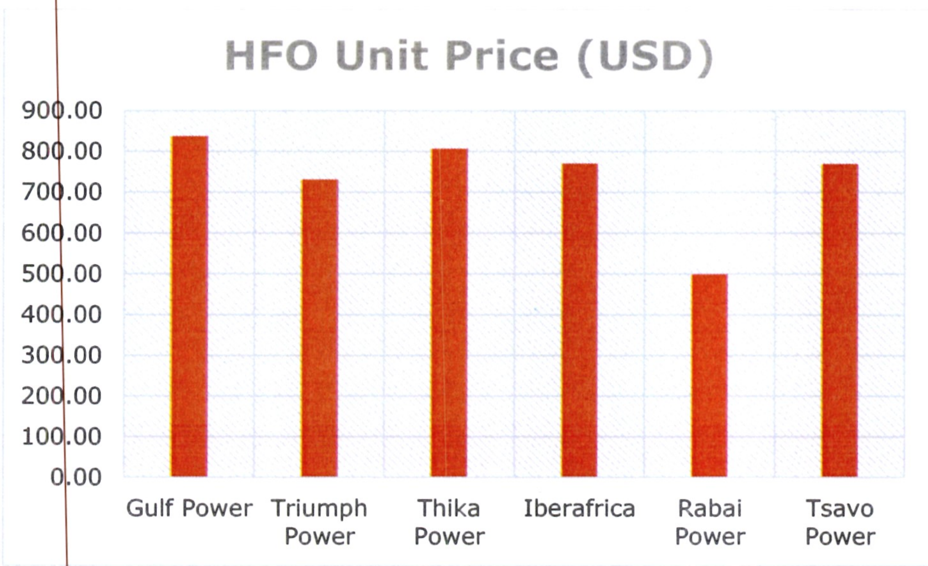

Figure 30: Comparison of unit prices of HFO across the IPPs in August 2015

In a letter dated October 2016[9], ERC wrote to Gulf Power approving the change of accounting method from FIFO to LIFO to allow for the power plant to be dispatched based on the lower international prices of HFO while allowing consumers to purchase power from the plant at a lower cost. The expensive 2015 stock was gradually utilized from April 2016 to December 2021 when the plant resumed the FIFO method of accounting. In our view, the decision to change the accounting method was prudent as it allowed a win-win situation where the plant could be dispatched while allowing consumers to enjoy the lower international prices of HFO.

Recommendations

1. The ToRs required us to assess whether the concessions provided by the Gazette Notice 2826 of 19th April should be maintained. To ascertain this, we reviewed the impact of the removal of the security stock requirement in terms of affecting availability of the plants. From our discussions with KPLC and review of dispatch data from 2016 to 2021, we noted that there were no major incidences of unavailability affecting the thermal IPPs. However, we noted that KPLC did not maintain adequate data on unavailability of power plants including indicating reasons for such unavailability. We are therefore of the view that the concessions granted vide the Gazette Notice can be continued with the following conditions:

[8] Annexure 4: Gulf Power letter to KPLC dated 28 August 2015
[9] Annexure 3: Letter from ERC to Gulf Power dated 7 October 2016

a. The benefits in terms of release of working capital should be passed to consumers potentially through lower capacity charges.
b. KPLC to monitor stock levels at the IPPs on an ongoing basis to mitigate the risk pertaining to unavailability due to lack of fuel stocks.
c. KPLC to maintain monthly reports on unavailability of power plants including reasons for unavailability.

2. The decision to compensate Gulf Energy and Vivo Kenya for losses of USD 9,745,775.50 arising from the low dispatch of thermal IPPs should be reviewed as it was not supported by the FSAs signed between the suppliers and the IPPs. Action should be taken on all parties involved should it be established that the suppliers received an unfair benefit at the expense of consumers.

3. We recommend that the Consumer Protection Department of the Competition Authority of Kenya be involved in decisions affecting electricity consumers such as the decision to award Gulf Energy and Vivo Kenya at the expense of consumers for losses incurred outside the FSAs. This is in line with Section 94 of the Consumer Protection Act of 2012 which stipulates that "*There shall be consumer representation on all regulatory bodies and the respective appointing authorities shall have due regard to accredited consumer organizations and the Advisory Committee in making such appointments*."

5.6 Specific Key Task (f) – Carry out an analysis of actual specific fuel consumption compared to specific fuel consumption rates used in HFO cost recovery

The thermal IPPs generate power using Heavy Fuel Oil (HFO), which is procured by the IPPs with guidance and approvals of KPLC. After the procurement is approved, the IPP enters into a Fuel Supply Agreement (FSA) with the approved supplier. In this chapter we present an analysis of actual specific fuel consumption (SFC) compared with specific fuel consumption rates used in HFO cost recovery in the six power plants under audit.

The analysis carried out is based on the fuel quantity, that is; the quantity of fuel consumed to generate electricity. This determines the Net Electrical Output (NEO) by the power plant, in a particular month. Through this, we established the efficiency of the various power plants in the generation of electricity.

a) Opening Stock

The opening stocks analyzed over a three-year financial period show the highest stock opening at Tsavo Power and Rabai Power, which correspond with a relatively higher dispatch in the period *(see Figure 31).* The Greater Nairobi IPPs of Gulf Power, Thika Power, Iberafrica Power and Triumph Power had the lowest opening stocks in the period. In Greater Nairobi region, Gulf Power had the highest opening stocks followed by Thika Power. Triumph recorded the lowest amount of opening stock in the period.

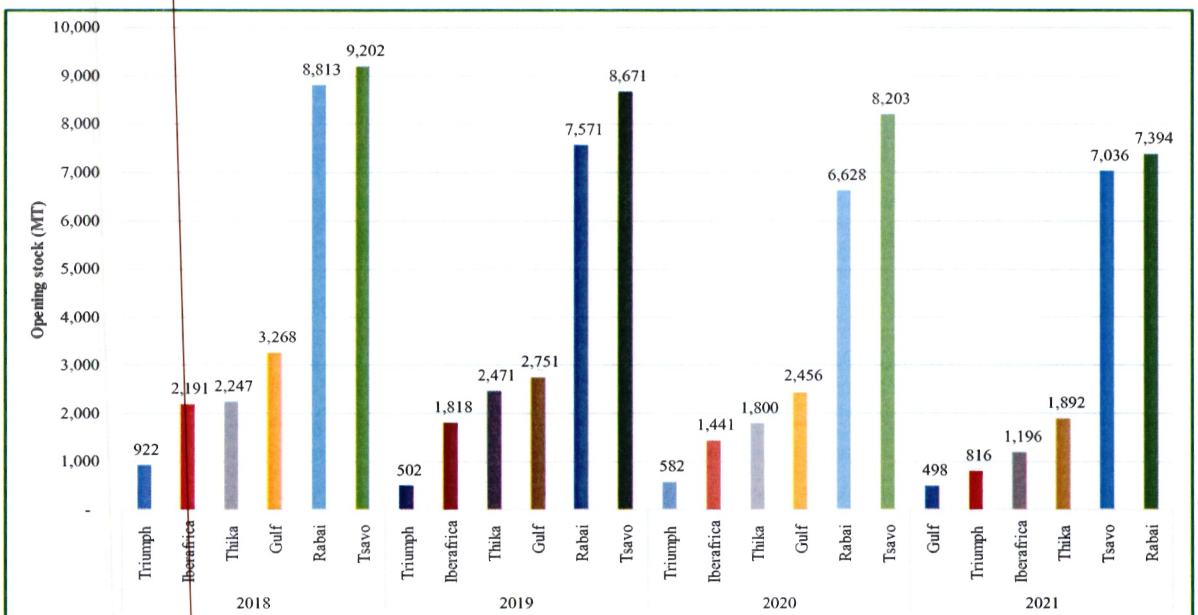

Figure 31. Average opening stock quantities in MT per IPP, N=249

The value of the opening stockholding in the IPPs is shown in *Figure 32*, showing Tsavo Power and Rabai Power with the highest stockholding value compared with the IPPs in the Greater Nairobi Region. The total value of opening stock held was US$453,225,748.

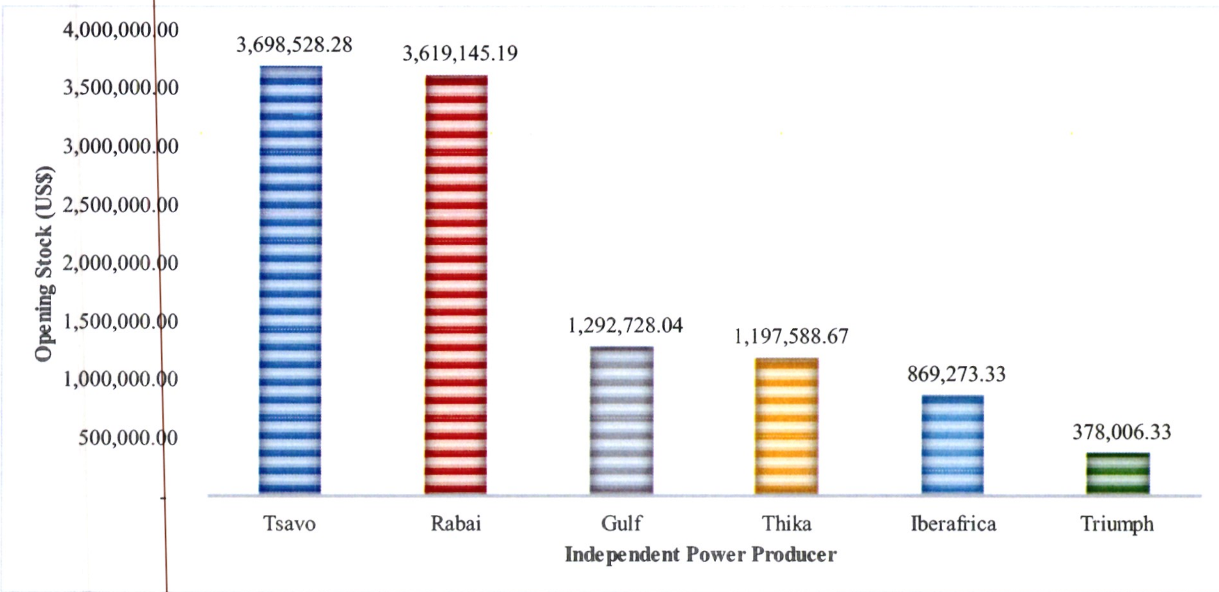

Figure 32. Average opening stock value by IPP, N=249

b) Received Stock

The stocks received were analyzed for the audit period. Rabai Power had the highest received stock while Triumph Power and Gulf Power had the least value of stock received in the period under audit. This is in line with their respective dispatch levels where Rabai Power had an average dispatch level of 33% for the period under audit, while Triumph and Gulf Power had 3% and 4% respectively.

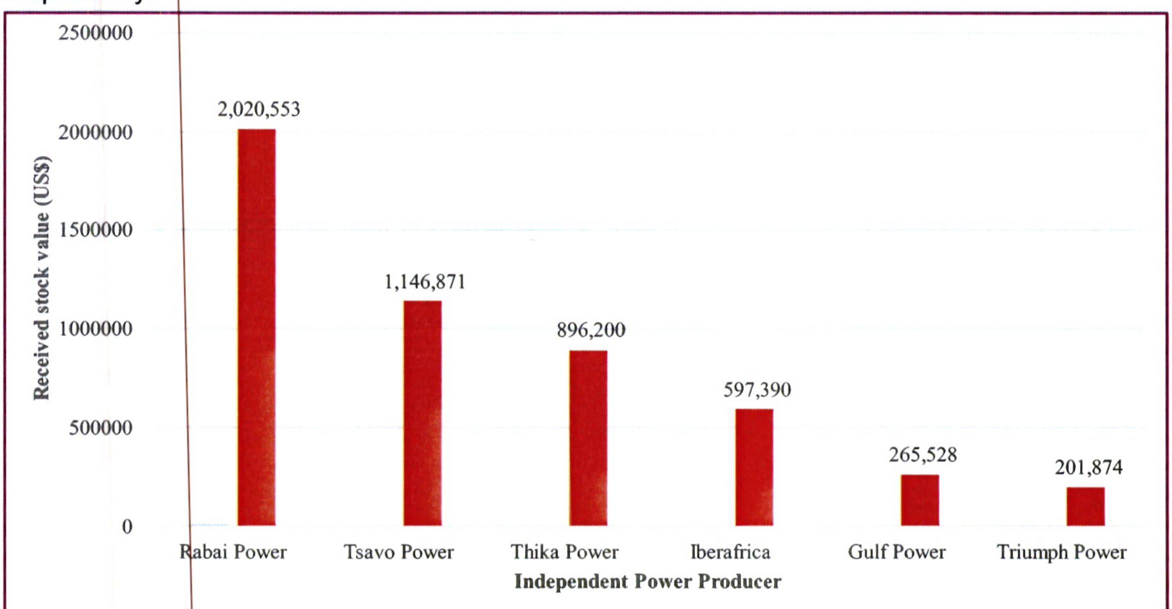

Figure 33. Average received stock value by IPP, N=249

c) Closing Stock

The closing stocks for each IPP were reviewed over the audit period. The highest stockholding was held in Tsavo Power and Rabai Power of over US$ 3.5 million. The lower stock values were in the IPPs located in the greater Nairobi region; the lowest being Triumph Power at US$376,551.

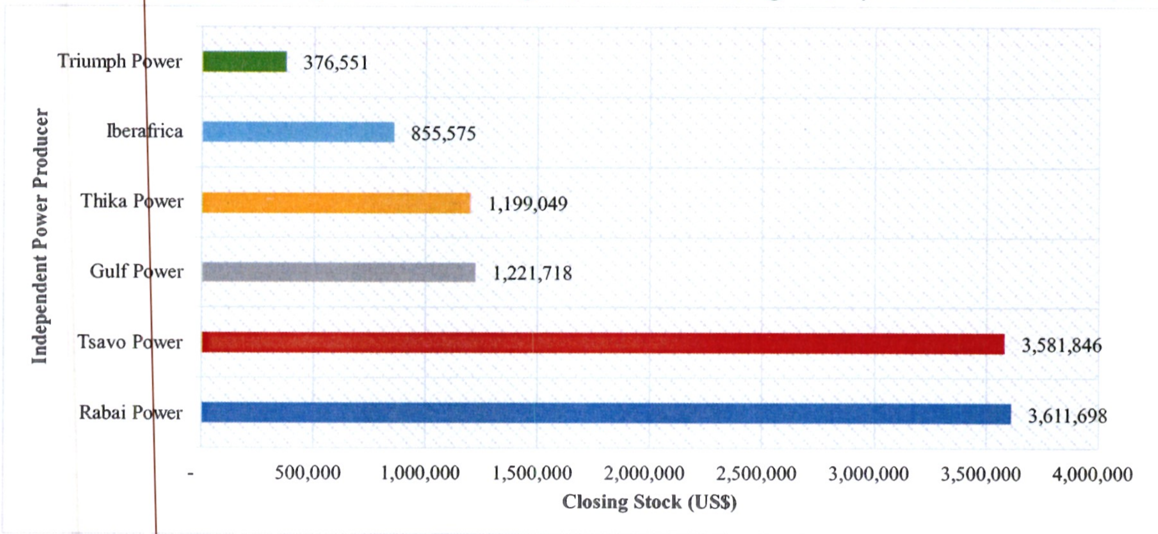

Figure 34. Average closing stock value by IPP, N=249

d) Consumed Stock

The amount of consumed stock is as shown in *Figure 35*. The highest fuel consumption was at Rabai Power at over US$2 million while Triumph Power had the lowest at US$203,303. This directly corresponds to the received stock shown earlier. Consumption of fuel is based on dispatch, that is, the higher the dispatch levels, the higher the fuel consumption by the respective power plant.

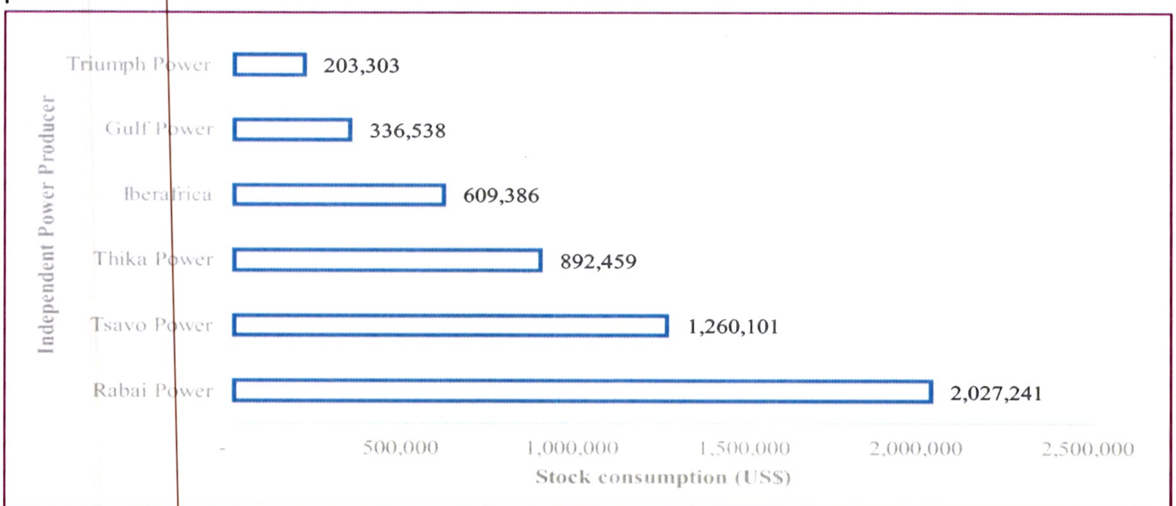

Figure 35. Average stock consumption by IPP, N=249

e) Net Energy Generated

This subsection presents the findings about the net energy generation. As shown in *Figure 36*, Rabai Power had the highest energy generation in 2021 while Gulf Power and Triumph Power had the least energy generation. This finding is in line with the trend in fuel stock consumption where, Rabai Power had the highest fuel consumption while Gulf Power and Triumph Power had the least. This is due to the direct relationship between fuel consumption and energy generated whereby thermal power plants generate electricity through fuel. Therefore, a higher fuel consumption corresponds to a higher Net Electrical Output (NEO).

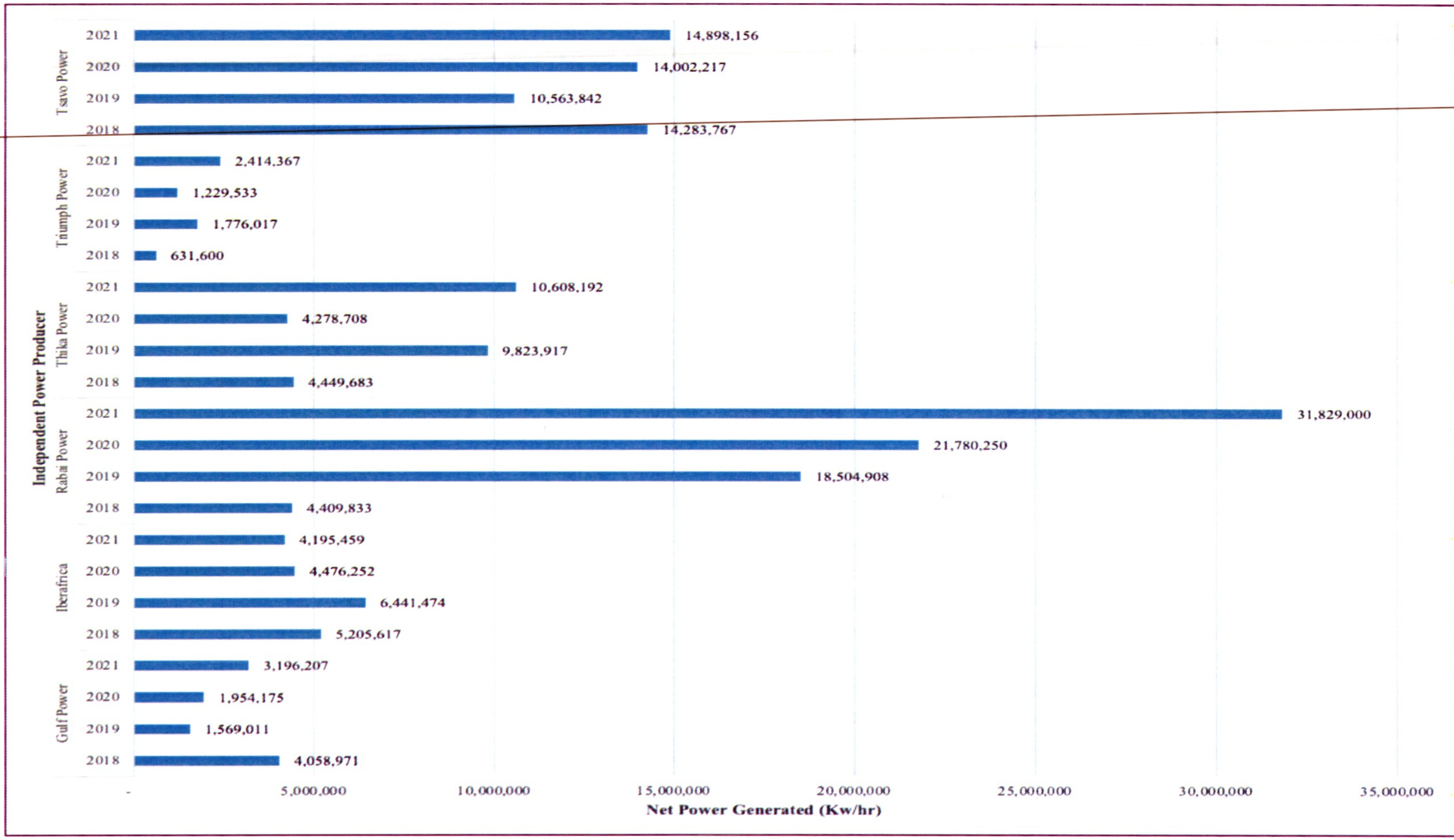

Figure 36. Average net energy generated by IPP, N=249

f) Specific Fuel Consumption

The formula for the actual net specific fuel consumption (SFC) is expressed as Consumed Stock Quantity (MT) divided by Net Energy Generated x1000 (where it applies). This an indicator of the correlation between the deemed cost of actual fuel used against the fuel recovery to KPLC.

To check for consistency of the computed SFC we compared it with the standard for each plant as indicated in the PPA. The SFC for the coastal based IPPs Tsavo Power and Rabai Power averaged 0.20Kg/Kwh while those for greater Nairobi averaged 0.22Kg/Kwh. As the results in *Table 26* reveal, except for Gulf Power and Triumph Power, the average SFC \was lower than the PPA value: overall, the actual SFC (210g/Kwh) was on average lower than the PPA value (214g/Kwh).

The dispatch from Triumph Power was an under recovery as the plant electricity output was generally below 35 MW that didn't afford them the benefit of the steam recovery. Their steam turbine had also not been in use for over a year as it was under maintenance. The IPP did not experience the benefit of steam saving even when they generated above 35MW and hence generated at an average SFC of 220kg/kwh against 210kg/kwh standard on the PPA.

IPP	Average SFC (g/Kwh)	Standard in PPA (g/Kwh)
Rabai	196	208
Thika	199	215
Tsavo	211	214
Gulf	215	215
Iberafrica	218	224
Triumph	220	210
Average	**210**	**214**

Table 26. Specific fuel consumption compared with the PPA standard

g) Weighted Average Unit Prices

The weighted average unit price of fuel over the three-year period was US$540 per MT *(see Figure 37).* In the period, Gulf Power had the highest fuel unit price at US$627 per MT, which was significantly higher than the average. On the other hand, Tsavo Power had the lowest unit price at US$457 per MT. This difference in unit prices had an effect on the amount of power dispatch from these plants.

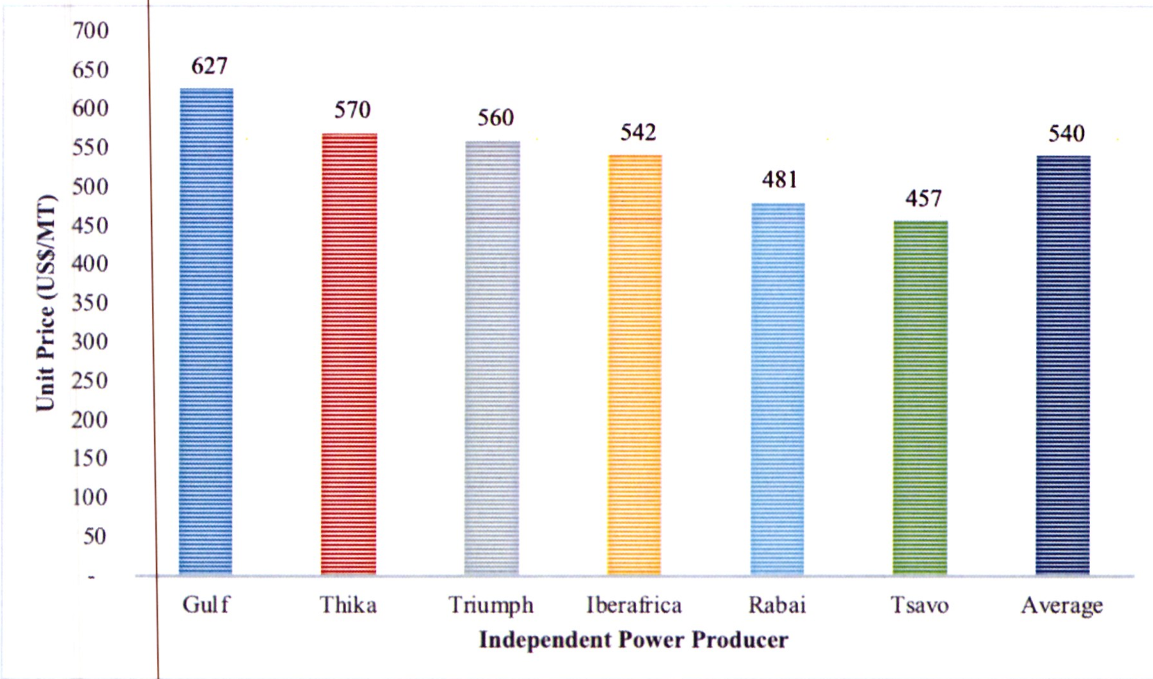

Figure 37. Average HFO unit prices by IPP

A comparison of unit prices by IPP and year is shown in Figure 38. Gulf Power faced the highest yearly average unit prices of US$665 in 2019 and US$648 in 2021, peaking at US$838 in March to May 2021. The lowest price was recorded in Tsavo Power at US$355 per MT in 2020.

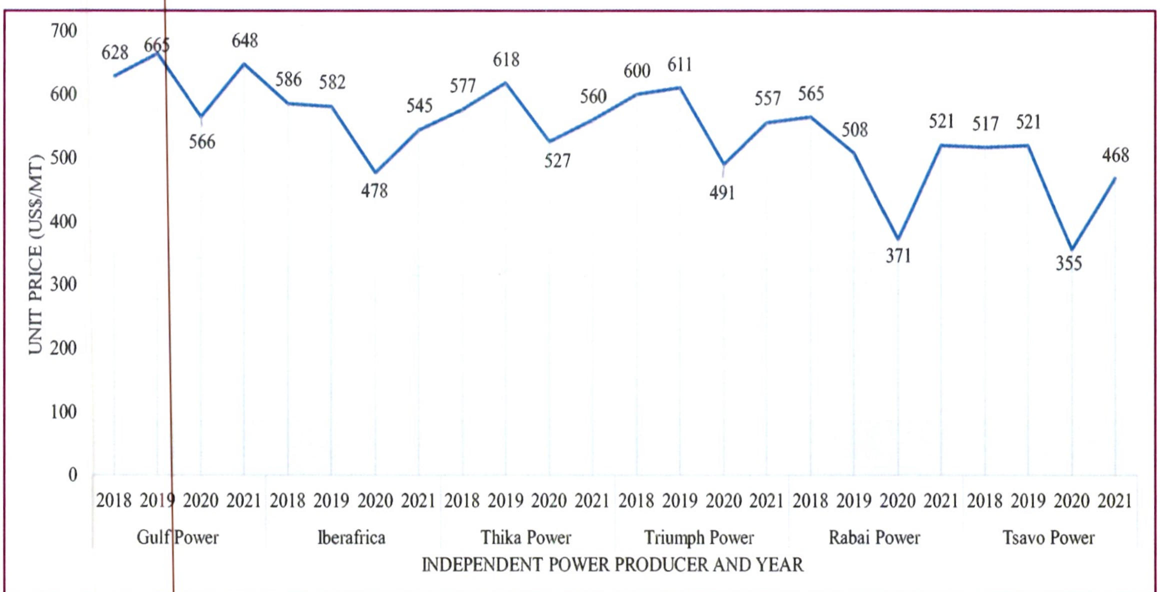

Figure 38. Average HFO weighted average unit prices by IPP and year

An analysis of the unit prices by year and month over the audit period is shown in *Figure 39*. The highest average unit price of US$645 was in December 2021. The lowest average unit prices of US$414 was in September 2020.

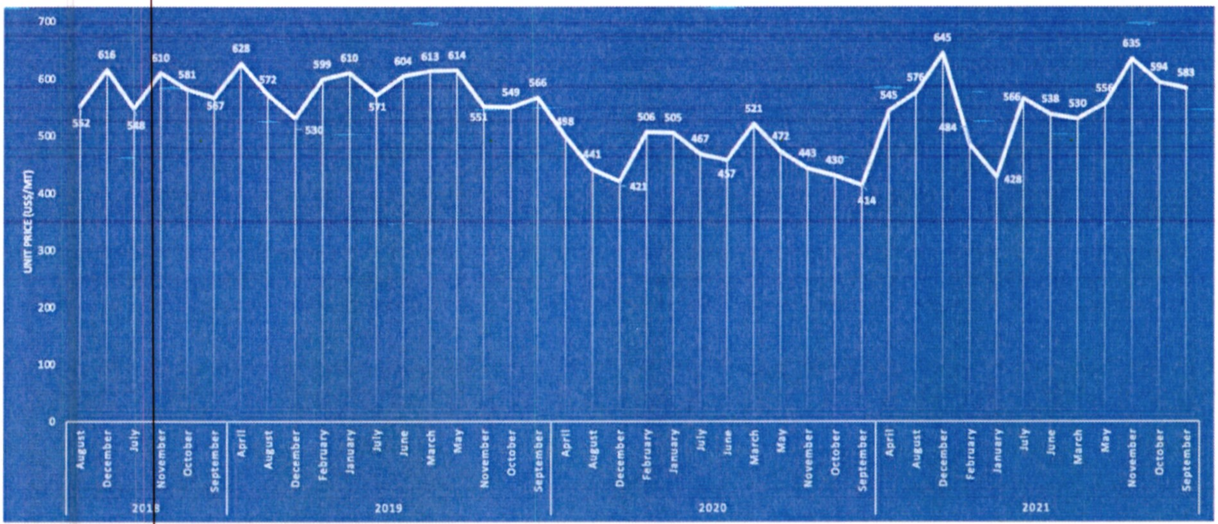

Figure 39. Average HFO weighted average unit prices by year and month

h) Cost Recovery

Table 27 compares the consumed stock values with the cost recovery in the invoices to Kenya Power. In the audit period, the IPPs consumed stock valued at US$ 220,038,892 but invoiced KPLC a total of US$ 222,844,812. The difference between the actual fuel cost consumed and the recovered costs was US$2,805,920. Therefore, KPLC paid to the IPPs, 1% more cost on fuel compared as calculated using the standard values stipulated in the PPA. Excluding negative variances, KPLC overpaid a total of US$3,379,568 more than the fuel consumed to Tsavo Power, Rabai Power, Iberafrica, and Thika Power.

IPP	Consumed Stock Qty (MT)	Consumed Stock Value (US$)	Cost Recovery (US$)	Variance Amount (US$)	% Variance
Gulf	22,584	14,134,583	14,110,138	(24,445)	0%
Tsavo	111,415	49,143,929	50,149,179	1,005,250	2%
Rabai	174,929	85,144,142	86,250,421	1,106,279	1%
Iberafrica	46,413	25,594,226	26,150,400	556,174	2%
Thika	64,228	37,483,290	38,195,155	711,865	2%
Triumph	15,136	8,538,722	7,989,518	(549,204)	-6%
Total	**434,704**	**220,038,892**	**222,844,812**	**2,805,920**	**1%**

Table 27. Cost recovery versus actual costs

Recommendations

1. Closely monitor the minimum stock holding for the IPPs after the lifting of the Gazette Notice No. 12306 of 12th November 2021 to ensure this is maintained or the penalties are applied.

2. KPLC should have a representative to validate the physical stock takes monthly or employ services of independent inspectors to witness monthly stock takes as witnessed for Tsavo Power (Kipevu II).

3. While the PPAs were not specific on the measures for efficiencies on the output obtained, KPLC should consider to recover USD 3,379,568 overpaid over the period of the audit and consider revising the PPAs for IPPs to charge the lower of the actual output vis a vis the

predetermined Specific Fuel Consumption (SFC) rate. Incentives should be considered for the IPPs that achieve high outputs at lower use of HFO during the generation of electricity and pass through the benefits to the consumers.

4. Renegotiate the SFCs in the PPAs for a more competitive rate possible as they have the most direct impact on the fuel cost recovery.

5. Explore the possibility of having consignment stocking at all IPPs as practiced by Kengen and Tsavo Power. The risk and hence the cost of stock holding passes to the Fuel supplier.

5.7 Specific Key Task (g): Determine whether there was any fraud and the extent, quantify the loss/ damage due to fraudulent and corrupt acts and

Findings

Procurement

From our detailed review of the procurement done for HFO in the scope period by the IPPs, we established that there were irregularities in the following tenders awarded to Gulf Energy:

1. Gulf Power 2014 tender
2. Triumph Power 2013 tender
3. Thika Power 2019 tender
4. Irregular extension of the 2013 Thika Power tender for 6 years

1. Irregular award of the Gulf Power 2014 tender

The PPA for Gulf Power was signed on 17 December 2012 between Gulf Power Limited, Gulf Energy Limited and KPLC[10]. Following PPA signature, the financial closure processes and construction commenced. In readiness for commissioning, Gulf Power initiated a tender process for procurement of HFO on 18 November 2013 through raising a tender document[11]. The tender document was approved by KPLC in line with PPA requirements on 17 January 2014 following which a tender notice was issued on 20 January 2014 by way of advertisement in the local dailies. Five bidders namely: Gulf Energy, Vivo Kenya, Kenol Kobil, Gapco Kenya and Total Limited purchased the tender document. However, only three of the five bidders responded by the bid submission date of 4 February 2014[12]. These were Vivo Kenya, Gulf Energy and Kenol Kobil. The tender opening was done on the same date and was witnessed by representatives from the bidding companies, KPLC and Gulf Power.

Evaluation of the submitted bids was done by Gulf Power through an evaluation panel. The evaluation of the bids was done in three stages as follows:

a. Preliminary examination

Verification

The three submitted bids were verified for any omissions, validity, and completeness of bid documents and letter of authorization / power of attorney. All were found to be in order.

Eligibility

None of the bidders had been blacklisted or had their licenses withdrawn by any of the issuing authority. Bidders were also found to have the following valid documents

Description	Kenol Kobil	Gulf Energy	Vivo Energy
Petroleum business license issued by the Energy Regulatory Commission (ERC)	✓	✓	✓
Valid tax compliance	✓	✓	✓
Pin certificate	✓	✓	✓
Certificate of incorporation	-	✓	✓
Nairobi City Council Business License	✓	✓	-
VAT certificate of registration	✓	✓	✓
Bid Security	✓	✓	✓

Table 28: Gulf Power Preliminary evaluation for 2014 tender

[10] Annexure 5: Extract of Signed PPA between KPLC, Gulf Energy and Gulf Power
[11] Annexure 6: Extract of Gulf Power tender document of 2014
[12] Annexure 7: Extract of Gulf Power 2014 tender evaluation report

b. **Technical evaluation**

The three bids were then evaluated using the qualification criteria in the tender document as follows:

Description	Kenol Kobil	Gulf Energy	Vivo energy
Annual Turnover	Pass	Pass	Pass
Experience in HFO Business	Yes	Yes	Yes
Dedicated Storage: input capacity storage	Fail	Pass	Pass
Proof of availability of supply	No	Yes	Yes
Valid & adequate Road transport contracts	Yes	Yes	Yes
Summary of technical evaluation (Pass/ Fail)	Fail	Pass	Pass

Table 29: Gulf Power technical evaluation for 2014 tender

We noted that the reasons provided for failure of Kenol Kobil on the dedicated storage requirement was due to a site visit that had been conducted by Gulf Power on 7 February 2014 which showed that the actual HFO storage capacity for the supplier did not meet the minimum dedicated threshold of 15,000M^3. In the Kenol Kobil bid, the supplier had indicated that they had a capacity of 31,101M^3 through tanks no. 267 with a capacity of 20,588M^3 and tank no. 268 with a capacity of 10,513M^3. The evaluation team faulted Kenol Kobil for using tank no. 267 to serve Rabai Power which also required a dedicated storage reserve of 15,000M^3 of 2.5% HFO. This meant that the only available tank would be no. 268 which was inadequate to meet the minimum requirement.

Gulf Energy and Vivo Kenya were assessed as having sufficient storage capacity despite serving Kengen, Iberafrica and Thika Power plants which also required a minimum reserve. In our assessment the criteria used to disqualify Kenol Kobil on the basis of storage capacity was unfair and subjective due to the following reasons:

a. Both Gulf Energy and Vivo Kenya did not also meet the minimum dedicated storage of 15,000M^3 if the same criteria was to be used evenly for all the bidders as follows:

Description	Kenol Kobil	Gulf Energy	Vivo Kenya
Total storage capacity (M^3)	31,101	54,510	33,702
Other thermal power plants contracts:			
Thika Power – Gulf Energy		(15,000)	
Rabai Power – Kenol Kobil	(15,000)		
Tsavo Power (Kipevu II) – Vivo Kenya			(15,000)
Kengen Kipevu I – Vivo Kenya			(15,000)
Kengen Kipevu III – Gulf Energy		(14,000)	
Iberafrica – Gulf Energy		(15,000)	
Total available reserve	**10,513**	**10,510**	**3,702**

Table 30: Analysis of bidders for the 2014 Gulf Power tender against the capacity criterion

b. The practice in the petroleum industry is that storage capacity is easily obtained through hospitality agreements with other industry players since the facilities at Mbaraki, Shimanzi and Kipevu terminals are shared.

Kenol Kobil was also disqualified on the basis of lack of proof of availability of 2.0% sulphur HFO since the supplier was providing 2.5% sulphur HFO to Rabai Power. Again, this was a subjective criteria since the HFO is sourced from the same suppliers and the supply of 2.0% sulphur is easily achieved through blending.

We also noted that there was an unfair attempt to discredit the financial strength of Kenol Kobil through financial ratio analysis by the evaluation team yet this was not an evaluation criteria stipulated in the tender document. This is despite Kenol Kobil having higher revenue for the three years assessed than both Gulf Energy and Vivo Kenya as follows:

Revenue (USD)	Kenol Kobil	Gulf Energy	Vivo Kenya
2011	2,577,247,843	1,750,083,050	595,724,857
2012	2,230,666,486	1,059,438,717	570,772,511
2013	756,287,959	1,033,065,993	955,156,931
Total	**5,564,202,288**	**3,842,587,760**	**2,121,654,299**

Table 31: Revenue of bidders for 2011 - 2013 for Gulf 2014 tender

c. Financial evaluation

Kenol Kobil having being disqualified on technical grounds, the financial evaluation was done for the two remaining suppliers; Gulf Energy and Vivo Kenya. Gulf Energy being the lower of the two bidders was then recommended for award of the tender.

A comparison of the financial bids for the three suppliers shows that Kenol Kobil's price was the lowest as follows:

Description	Kenol Kobil	Gulf Energy	Vivo Kenya
Quoted Price (USD)	818.80	867.55	877.97
Ranking	**1**	**2**	**3**

Table 32: Comparison of financial bids across bidders for Gulf Power 2014 tender

The Kenol Kobil price was cheaper than the Gulf Energy price by **USD 48.75** per MT.

Response from KPLC

Upon conclusion of the tender evaluation, the tender evaluation report was sent to KPLC for review and approval on 11 March 2014. On 14 March 2014[13], KPLC wrote to Gulf Power requesting for copies of tender opening minutes and financial bids submitted by the bidders. Gulf Power responded on 19 March 2014[14] and provided the requested information including the site visit report that had been used to assess the storage capacity of the bidders. KPLC further wrote on 24 March 2014[15] requesting for the Kenol Kobil technical bid. On 8 April 2014[16] and having reviewed the supporting documents, KPLC wrote to Gulf Power indicating the following concerns:

i. *"You have indicated in the evaluation report that the fuel to be supplied was confirmed to be only straight run despite agreement to remove this limitation from the tender documents.*
ii. *The requirement in the technical evaluation for dedicated storage used to disqualify Kenol Kobil is **not a fair criteria** and it is not possible to demonstrate. Currently most fuel suppliers are supplying fuel to various customers from the same storage making it difficult to confirm availability of dedicated storage. We therefore consider access to storage through ownership, joint ownership or leasing to be sufficient.*
iii. *Some of the financial indicators (ratios) used in the financial evaluation are minor considerations and should not be used to disqualify Kenol Kobil who are currently listed on the stock exchange."*

Gulf Power wrote back to KPLC on 11 April 2014[17] rebutting the grounds for objection raised. KPLC responded on 29 April affirming their grounds for objection. This was followed by a meeting

[13] Annexure 8: KPLC letter to Gulf Power dated 14 March 2014
[14] Annexure 9: Gulf Power response to KPLC dated 19 March 2014
[15] Annexure 10: KPLC letter to Gulf Power dated 24 March 2014
[16] Annexure 11: KPLC letter to Gulf Power dated 8 April 2014
[17] Annexure 12: Gulf Power response to KPLC dated 11 April 2014

held on 7 May 2014 between Gulf Power and KPLC where the above issues were discussed. On 9 May[18], KPLC wrote to Gulf Power confirming acceptance of the evaluation report and award to Gulf Energy. However, the letter included the following reservations as follows:

"We hereby confirm our acceptance of the tender evaluation report and award of the tender to Gulf Energy limited. However, we would like to express our reservations on the fuel tendering process in regard to the following:

i. The introduction of straight run which is not part of the tender documents approved by KPLC. This requirement will not be accepted in the future tenders unless agreed by the two parties as provided for in the PPA.

ii. It is impractical to confirm availability of dedicated storage for any of the bidders since they use the available storage to supply similar product to different customers. The decision on which bidder has met this criteria or not is therefore, in our opinion, subjective.

iii. Bidders were required to provide audited financial statements to evidence the criteria set out in clause 3.2(b) of the tender document. Introduction of financial indicators in the evaluation process without disclosure to the bidders including what thresholds are required negates the principles of openness in the tendering process.

We expect the above issues to be addressed in the future fuel tenders for the power plant."

It is unclear why KPLC ceded its ground despite raising reasonable concerns on the subjectivity and unfairness of the tender evaluation process.

Following the approval by KPLC, the FSA between Gulf Energy and Gulf Power was signed on 10 June 2014[19].The FSA was for an initial term of two years with options to renew for three additional one-year terms. The FSA was renewed for the three years and expired in August 2020.

Conflict of interest concerns

We noted that as at the time of the 2014 tender, Gulf Energy held 80% shareholding in Gulf Power. Gulf Energy was also a party to the PPA signed with KPLC. This raises conflict of interest concerns in the award of the HFO tender to Gulf Energy. It is our considered view that the subjectivity and unfairness noted in the evaluation process could have been a consequence of this conflict of interest. It is unclear why this issue was not raised or considered by KPLC while exercising its oversight role over the procurement process.

Quantification of losses

We assessed the potential loss incurred by electricity consumers from the use of expensive fuel from Gulf Energy by comparing the same supply using the Kenol Kobil bid as follows:

Gulf Unit Price (USD) – A	Kenol Unit Price (USD) - B	Variance	Volume supplied in MT - C	Estimated Loss (USD) (A-B) *C
867.55	818.80	48.75	60,035.15	2,926,713.56

Table 33: Estimated losses from use of expensive Gulf Energy prices at Gulf Power

Recommendations

1. We recommend that action be taken against Gulf Power for the estimated loss of **USD 2,926,713.56** including recovery measures.

[18] Annexure 13: KPLC letter to Gulf Power dated 9 May 2014
[19] Annexure 14: Extract of FSA between Gulf Energy and Gulf Power

2. Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregular award of the HFO supply tender to Gulf Energy.

3. EPRA and KPLC should provide policy guidance on conflict of interest arising from parties to the PPAs being vendors for supply of HFO.

2. Irregular extension of the Thika Power 2013 tender

Background

Thika Power signed a PPA with KPLC on 2 July 2012[20] and the plant began full commercial operations in March 2014. To prepare for commercial operations, the power plant floated a tender after approval from KPLC and received bids on 8 February 2013[21] from five bidders namely: Gulf Energy, Total Limited, Kenol Kobil, Vivo Kenya and Hass Petroleum. Bid opening was done on the same date in the presence of representatives from KPLC, the bidders and Thika Power.

Tender Evaluation

The evaluation team was set up and the five bids were reviewed. The bidders, with the exception of Hass Petroleum, were found to be technically responsive. Hass Petroleum was found unresponsive due to lack of dedicated storage in Mombasa, insufficient previous HFO experience, and average annual turnover for 2008 to 2011 was below USD 500M.

The financial evaluation of the remaining four bidders was conducted and Gulf Energy was found to be the lowest bidder as follows:

Description	Gulf Energy	Vivo Kenya	Total Limited	Kenol Kobil
Quoted Price (USD)	831.79	868.30	850.90	898.57
Ranking	**1**	**2**	**3**	**4**

Table 34: Comparison of financial bids across bidders for Thika Power 2013 tender

The price quoted by Hass Petroleum was USD 835.62 and was the second lowest price.

The tender evaluation report was sent to KPLC for approval on 22 February 2013. After review, KPLC approved the award of the tender to Gulf Energy. Consequently, the FSA between Thika Power and Gulf Energy was signed on 1 July 2013[22].

[20] Annexure 15 : Extract of Signed PPA between KPLC and Thika Power
[21] Annexure 16: Extract of Thika Power 2013 bid evaluation report
[22] Annexure 17: Extract of FSA between Gulf Energy and Thika Power

Irregular Extension

Section 3.3 of the FSA stipulated that the Agreement would commence from the Effective Date and continue for a period of twenty-four (24) months. Thereafter, the Agreement would be automatically renewed on the same terms and conditions for two additional one-year terms. This meant that the FSA was supposed to lapse in July 2017. The Agreement commenced in July 2013 and was renewed twice in 2015 and 2016. However, on 23 March 2017[23], the Plant Manager for Thika Power, Stephen Mwaura, wrote to KPLC requesting for an additional four-year extension of the contract sighting the following:

1. Due to low dispatch of the power plant in 2015 and 2016 attributed to additional renewable energy added to the grid, the plant had only consumed 154,666.72 MT of HFO against a projected 366,386.97 had the plant been dispatched at 70% which was the dispatch rate at the time of contract award.

2. It would be a challenge to attract lower rates than those provided by Gulf Energy.

From our reading of the FSA, we noted that Section 6.1 stipulated that the deliveries of fuel by the supplier would be dependent on estimates to meet power plant requirements based on dispatch instructions from KPLC. It further stated as follows "Notwithstanding the foregoing, the parties acknowledge that any such estimates shall in no event be deemed to be a warranty by the Purchaser of its fuel requirements under this Agreement." In our view, this negated the argument made by Thika Power that there was a 'quota' required to be met by the fuel supplier. In any case, we found it to be irregular for the power plant to be making a case to enhance the fuel supplier's business outside the scope of the FSA. It is also notable that there was no evidence provided by Thika Power in its letter to KPLC showing that market prices were unfavourable.

KPLC responded to the letter from Thika Power on 28 March 2017 and declined to approve the request for renewal. On 28 April 2017[24], Thika Power wrote a follow up letter to KPLC requesting for a review of its decision citing financial losses to Gulf Energy due to additional storage and accrued interest for fuel stocks held for long due to low dispatch. On 5 May 2017[25], KPLC responded to Thika Power and informed them that there was no provision in the FSA to support the request. However, to avoid lack of fuel by the IPP, a two-year extension was granted. KPLC further noted that the two-year period would be sufficient for a new FSA to be put in place. In our view, this extension of the FSA was irregular as it had no basis in the FSA. It was also unclear why Thika Power needed two years to carry out a procurement process while the initial process (in 2013) was concluded within seven months.

We further conducted a review of the prevailing market prices to ascertain the veracity of the argument that HFO prices would be uncompetitive had Thika Power floated a tender. For this purpose, we used the 2017 Tsavo Power[26] tender which was carried out from February to July 2017. Our rationale for this was that this would have been the same time Thika Power would have carried out its procurement with a target of having an FSA in place by July 2017 which was the expiry date of the 2013 tender. Since Tsavo Power and Thika Power would have different transport costs and noting that the other price indices were not determined by the fuel supplier, we only assessed supplier premium, storage costs and management fee in an effort to have a like-for-like assessment. Below were the premiums, storage costs and management fees quoted by suppliers in the Tsavo Power tender:

Costs (USD)	Gulf Energy	Vivo Kenya	Total Limited	Kenol Kobil	Dalbit	R.H Devani
Premium	52.55	66.88	70.50	36.50	59.00	48.50

[23] Annexure 18: Letter from Thika Power to KPLC dated 23 March 2017
[24] Annexure 19: Letter from Thika Power to KPLC dated 28 April 2017
[25] Annexure 20: Letter from KPLC to Thika Power dated 5 May 2017
[26] Annexure 21: 2017 Extract Tsavo Power bid evaluation report

Costs (USD)	Gulf Energy	Vivo Kenya	Total Limited	Kenol Kobil	Dalbit	R.H Devani
Management Fees	15.50	24.70	26.21	9.00	10.50	11.50
Storage	0.75	2.79	0.00	5.00	8.96	9.17
TOTAL	68.8	94.37	96.71	50.5	78.46	69.17
Ranking	**2**	**5**	**6**	**1**	**4**	**3**

Table 35: Premiums quoted by bidders in the Tsavo Power 2017 tender

The premium, storage and management fee charge by Gulf Energy in the 2013 tender were as follows:

Costs	Amount (USD)
Premium	45.00
Overheads, admin and storage	67.97
TOTAL	112.97

Table 36: Premium and Overhead costs for Gulf Energy during 2013 Thika Power tender

The difference between the Gulf Energy fixed costs and the lowest bidder, Kenol Kobil was **USD 62.47.** From the above, it is clear that there was no truth in the claim that Thika Power would have been unable to get favourable market prices had they floated a tender in 2017. It is also notable that Gulf Energy's quote to Tsavo Power was cheaper by **USD 44.17.**

Quantification of losses

We assessed the potential loss incurred by electricity consumers from the use of expensive fuel from Gulf Energy in the irregular two-year extension period by comparing the same supply using the Kenol Kobil fix rate bid as follows:

Gulf Fixed Price (USD) - A	Kenol Fixed Price (USD) - B	Variance	Volume supplied in MT in the period	Estimated Loss (USD) (A-B) * C
112.97	**50.5**	**62.47**	**71,068.12**	**4,439,625.46**

Table 37: Estimated losses from use of expensive Gulf Energy prices at Thika Power

Recommendations

1. We recommend that action be taken against Thika Power for the estimated loss of **USD 4,439,625.46** including recovery measures.

2. Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregular extension of the HFO supply tender to Gulf Energy.

b. Irregular award of the Thika Power 2019 tender

Following the extension of the 2013 FSA to 2019, Thika Power put out a tender notice through an advertisement on 14 May 2019 after approval of the tender document by KPLC. On 11 June 2019[27], three bidders submitted their bids which were opened in the presence of their representatives, KPLC and Thika Power. The bidders were Gulf Energy, Total Limited and R.H. Devani.

[27] Annexure 22: Extract of 2019 Thika Power bid evaluation report

Technical evaluation

The evaluation team reviewed the three bids and disqualified Total Limited and R.H. Devani on the following grounds:

1) Total Limited - No evidence of average annual HFO sales for 2016 to 2018 of 70,000MT, insufficient previous HFO experience and no arrangement for sourcing; and
2) R.H. Devani - Average annual turnover for 2016 to 2018 below USD 250m, average annual HFO sales for 2016 to 2018 below 70,000MT, no dedicated storage in Mombasa and limited HFO experience.

We found the disqualification of Total to be subjective and unfair based on the following grounds:

a. Total had been found to be responsive in the 2013 tender. It is inconceivable that the same evaluation team would find them to be unqualified in a subsequent bid;
b. While Total did not have experience supplying HFO in Kenya, it could leverage on its experience in its group experience in Africa being a multinational;
c. Total provided a support letter from Total Africa for supply of HFO from the Group. It is therefore untrue that there was no arrangement for sourcing including in the bid;
d. Total enjoyed a considerable market share in the petroleum industry and demonstrated its breadth of experience in the sector in its bid; and
e. The bidder had been found to be technically responsive by all other IPPs in various procurements. For example, Total had the highest technical score in the 2017 Tsavo Power bid.

We also found the disqualification of R.H. Devani to be subjective and unfair on the following grounds:

a. The bidder demonstrated its experience in HFO by supplying Tsavo Power and Namanve Power Plant in Uganda;
b. The bidder presented bills of lading demonstrating HFO sales of over 70,000MT;
c. For storage, the bidder presented a lease agreement with Mbaraki Bulk Terminal Limited. R.H. Devani also committed to enter into hospitality agreements should the need arise. It is common practice in the industry for storage facilities to be shared hence this is not a legitimate ground for disqualification.
d. R.H. Devani was awarded the HFO supply tender in 2020 by Thika Power after expiry of the 9 months FSA awarded to Gulf Energy. It is improbable that the bidder who had been adjudged to be unqualified was found to be the most suitable in a space of 9 months.

Financial evaluation

After disqualification of R.H. Devani and Total bids, only Gulf Energy's bid was subjected to financial evaluation. It is notable that Gulf had the highest bid price of the three bidders as follows:

Description	Gulf Energy	Total Limited	R.H. Devani
Quoted Price (USD)	634.72	609.70	625.82
Ranking	**3**	**1**	**2**

Table 38: Financial Evaluation of bids for Thika power 2019 tender

The Gulf price was higher than the lowest bid by Total by **USD 25.02**.

We also noted that the prices stated in the evaluation report were misleading by giving the impression that the Gulf Energy bid was the lowest while it was indeed the highest. This was done by failing to correct the arithmetic errors in the bid and the erroneous VAT computation before comparing it to the amounts for Total Limited and R.H. Devani. Below was the presentation of the prices in the evaluation report:

Description	Gulf Energy	Total Limited	R.H. Devani
Quoted Price + VAT (USD)	703.11	707.25	725.95
Ranking	**1**	**2**	**3**

Table 39: Financial bids + VAT for Thika power 2019 tender

The corrected price plus VAT for Gulf Energy was **USD 736.28**. During bid opening, Thika Power's Country Manager included a handwritten note in the bid summary indicating that the prices quoted had not yet been analysed and Thika Power was aware that future complaints could arise. This implies that the attendees of the bid opening were aware of the uncorrected errors in the Gulf bid.

KPLC response

The bid evaluation report was submitted to KPLC for review and approval on 27 June 2019. On 7 August 2019 KPLC wrote to Thika Power stating grounds for objection to the tender and requesting for an annulment of the tender process. There were further correspondences on 8 August 2019 and 19 August 2019 where Thika Power was seeking an extension of the 2013 FSA with Gulf Power to allow for retendering which was declined by KPLC. Instead KPLC had advised that Thika Power seek spot purchases during the retendering period. On 23 August 2019, Thika Power wrote to KPLC requesting them to approve the award to Gulf Power on the condition that they would only sign an FSA for 6 months with an option to extend for a further 3 months to allow for retendering. On 13 September 2019[28], KPLC agreed to the award of contract for 6 months with an extension of 3 months to allow for the retendering process. The FSA was signed between Thika Power and Gulf Energy on 18 November 2019 and ran for 6 months with no extension.

Quantification of losses

We assessed the potential loss incurred by electricity consumers from the use of expensive fuel from Gulf Energy in the 6-month period by comparing the same supply using the Total bid price as follows:

Gulf Price (USD) - A	Kenol Fixed Price (USD) - B	Variance	Volume supplied in MT in the period	Estimated Loss (USD) (A-B) * C
634.72	**607.70**	**25.02**	**2,992.02**	**74,860.34**

Table 40: Estimated losses from use of expensive Gulf Energy prices at Thika Power

Recommendations

1. We recommend that action be taken against Thika Power for the estimated loss of **USD 74,860.34** including recovery measures.

2. Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregular award of the HFO supply tender to Gulf Energy.

c. Irregular award of the Triumph Power 2013 tender

Triumph Power signed its PPA with KPLC on 14 June 2012[29]. Upon completion of the construction and in preparation for commencement of operations, the IPP began the procurement process for a HFO supplier in 2013. Through a tender notice advertised in the Daily Nation newspaper, Triumph Power invited bids from prospective suppliers. The bids were received on 4 November 2013 and tender opening was done in the presence of representatives from the bidders, KPLC and Triumph Power.

[28] Annexure 24: Letter from KPLC from to Thika Power dated 13 September 2019
[29] Annexure 25: Extract of Signed PPA between KPLC and Triumph Power

Tender evaluation

We did not receive the bid evaluation report from Triumph Power and have included this as a limitation of scope. However, we managed to receive the actual bids from the four supplies who participated in the tender namely: Vivo Kenya, Gulf Energy, Kenol Kobil and Hass Petroleum. We noted that Triumph had awarded the tender to Gulf Energy despite Kenol Kobil and Hass Petroleum quoting lower prices as shown below:

Description	Gulf Energy	Vivo Kenya	Kenol Kobil	Hass Petroleum
Quoted prices (USD)	899.06	907.36	862.48	855.0720
Ranking	**3**	**4**	**2**	**1**

Table 41: Prices quoted by bidders in the Triumph Power 2013 tender

The difference between the Gulf Energy bid with the Kenol Kobil and Hass Petroleum bids was **USD 36.58** and **USD 43.99** respectively.

Without the bid evaluation report, we were unable to assess the grounds for the disqualification of the lower bids for Kenol Kobil and Hass Petroleum. However, based on our assessment of the bids, we noted that Kenol Kobil should have been considered for award on the following grounds:

1. Demonstrated experience in HFO supply – the company was supplying Rabai Power at the time;
2. Financial capacity – Kenol Kobil through its financial statements sufficiently demonstrated its financial capacity to undertake the supply of HFO to Triumph Power; and
3. Storage – The bidder demonstrated storage capacity through leasing agreements. In any case, the custom in the industry was that storage was a shared resource and so would not be adequate grounds for disqualification.

We did not consider grounds for qualification for Hass since they did not have considerable experience in HFO supply.

KPLC response

Triumph Power submitted the evaluation report to KPLC for review and approval on 9 January 2014. On 17 January 2014[30], KPLC responded stating that it concurred with the decision to award the HFO supply tender to Gulf Energy. Following this approval, an FSA was signed between Gulf Energy and Triumph Power on 4 March 2014[31] for a period of two years with an extension of an additional two years.

Quantification of losses

We assessed the potential loss incurred by electricity consumers from the use of expensive fuel from Gulf Energy in the four-year period of the FSA by comparing the same supply using the Kenol Kobil bid price as follows:

Gulf Price (USD) - A	Kenol Price (USD) - B	Variance (USD)	Volume supplied in the period - MT	Estimated Loss (USD) (A-B) *C
899.06	**862.48**	**36.58**	**49,493.74**	**1,810,481.01**

Table 42: Estimated losses from use of expensive Gulf Energy prices at Triumph Power

Recommendations

1. We recommend that action be taken against Triumph Power for the estimated loss of USD 1,810,481.01 including recovery measures.

[30] Annexure 26: Letter from KPLC to Triumph Power dated 17 January 2014
[31] Annexure 27: Extract of Signed FSA between Gulf Energy and Triumph Power

2. Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregular award of the HFO supply tender to Gulf Energy.

Recommendations

Based on the above findings on the irregularities noted in the procurement of HFO across the 3 IPPs, we recommend the following additional measures:

1) The tender evaluation process should be enhanced by having independent observers preferably from EPRA and/or the Consumer Protection Department of the Competition Authority of Kenya (CAK) to sit through the evaluation discussions. The observers would then prepare their own independent report on the conduct of the evaluation;
2) The no-objection process from KPLC following completion of tender award should be enhanced through appointment of a third-party procurement expert to independently review the procurement process leading to the award and provide a written advisory to KPLC for consideration prior to their decision on the tender award.
3) The final approval by KPLC should be made by a Special Committee formed to review HFO tenders and which should comprise senior KPLC management and representation in the form of procurement specialists from the Supply Chain Department. This Special Committee should report directly to the KPLC Board of Directors.

5.8 Specific Key Task (h): Assess effectiveness and application of the respective control and the oversight policies.

Findings

We have reported our findings on this ToR in three key themes namely: Procurement, Pricing and Stock Management.

i. Procurement

The procedures for procurement of HFO including the controls and oversight mechanisms are included in the PPAs. From discussions with the KPLC and the IPPs, the PPA is considered to be comprehensive enough hence the IPPs do not have internal procedures supporting HFO procurement. However, in our view, the applicable procurement rules in the PPA are brief and do not detail the specific procurement procedures and processes to be followed by IPPs in the procurement of HFO.

The PPA requires KPLC to maintain an oversight role in the HFO procurement process. To do this, the utility informed us that it had an ad hoc HFO committee set up to review and approve matters concerning procurement of HFO by the IPPs. We reviewed some of the committee minutes provided by KPLC but noted that they were all recent. We could therefore not confirm that the committee had been in place for all procurements conducted in the review period.

From our reading of the PPA and correspondences with IPPs, we noted that KPLC is involved at the following stages in the procurement process:

a) Drafting of the tender document

From our review of the various procurements done by the 6 IPPs in the review period, we noted that KPLC was actively involved in the review and approval of the tender documents prior to advertisement. While the documents were fairly standardized across the IPPs, we noted that KPLC suggested additional value adding changes such as relaxing the requirements around annual turnover, demonstrated HFO delivery experience and allowing experience from across Africa to be considered. These were positive measures that helped bring on board new HFO vendors such as R.H. Devani who were able to provide competitive prices.

Nevertheless, we noted several gaps in the tender documents as noted below. These have been discussed in detail under specific key task (b) of this report.

i. There is no standard tender document for HFO. Each IPP has its own format of tender documents based on their own business requirements.
ii. Changes to the tender documents are made often due to lack of a data sheet, which can be customized for the specific tender.
iii. The documents comprising the bid are listed in the tender documents, which are supposed to be submitted as part of the bid. However, it lacks a section on evaluation and qualification criteria.
iv. The tender documents lack Bidding Forms, which Bidders will use to prepare their bids and submit in a standardized format for ease of evaluation and comparison.

v. The price formula is supposed to be used by each bidder to ensure that all bidders present the required indices for evaluation. However, some bidders don't follow each price element and introduces other factors.

Recommendations

1. KPLC should develop procurement guidelines in line with the PPA that direct the IPPs on the specific procedures to be followed in HFO procurement.
2. A standard tender document for HFO procurement should be developed and adopted by all the IPPs.
3. A data sheet should be included as part of the tender document.
4. The evaluation and qualification criteria should be properly defined in the tender document.
5. Bidding forms should be introduced so as to standardise the bids from different suppliers.
6. The price schedule should be in a standard format to be filled by each supplier so as to ensure uniformity in price quotation.

b) Bid opening

We established that as per the provisions of the PPA, KPLC is required to send a representative to the bid opening ceremony for all HFO tenders. This was done consistently across all the procurements reviewed and adequate records of the minutes are maintained. Bid opening is also done in the presence of representatives from the bidders which also enhances transparency in the procurement process. We also noted that bid prices are read out during the bid opening and the quoted prices are captured in the minutes. This control also enhances openness and transparency.

While we did not identify any control or oversight gaps in the bid opening process, we noted that there was room for improvement in the issue of correction of errors in the prices announced during the bid opening. This was noted in the Thika Power 2019 tender where the lowest quoted bidder, Gulf Energy, was actually the highest bidder but their price build-up contained arithmetic errors. While we noted that a handwritten note had been included in the minutes, this was not sufficient as the issue should have been formally noted in the bid opening minutes and signed off by the attendees including KPLC representatives. This would have allowed for the matter to be properly tracked and evaluated during the no-objection process by KPLC.

Recommendation

Any issues noted during the tender opening such as arithmetic errors or any other material issue likely to affect the outcome of the tender evaluation should be formally noted in the minutes of the opening ceremonies.

c) Review and approval of the tender evaluation report

The provisions of the PPAs require KPLC to review and approve the tender evaluation report within 7 days. We noted that the PPAs allows KPLC to object to the award of tenders on the following grounds:

1) That the cost passed through to KPLC would not be the lowest cost which KPLC could be expected to pay in the light of compliant tenders received by the Seller.
2) That the proposed fuel supplier lacks the necessary financial and technical capability to perform its obligations under the proposed fuel supply agreement.

3) That the terms in the proposed fuel supply agreement are prejudicial to KPLC's interests under the agreement.
4) That the performance of the proposed fuel supply agreement shall be or become incompatible with any legal requirements.
5) That the Seller, in preparing the fuel tender evaluation report, has erred in its assessment of tenders, or acted fraudulently or negligently.

From our review of the procurement done across the 6 IPPs, there was only one instance where KPLC exercised this right. This was in the HFO supplier tender for Triumph Power in July 2019 where it was noted that the initial price quoted by Total Limited was to be amended. We also established that KPLC initially raised objections to the 2015 Gulf Power tender and 2019 Thika Power tender but later acquiesced to the IPPs position despite raising valid issues on the subjectivity of the tender evaluation. KPLC did not object any of the other tenders including the Triumph Power 2013 tender that had irregularities. In conclusion, we found that the oversight role of KPLC on this particular issue was ineffective. The controls in place to safeguard the interest of consumers versus those of fuel suppliers and IPPs were also lacking. The recommendations to rectify these issues have been detailed in specific key task (b) above.

d) Award of the FSA

Upon approval for award of the tender to the winning bidder, the PPA requires the IPP to prepare a draft FSA for review and approval by KPLC. We noted that this control was being implemented well and that KPLC raised comments on the draft FSAs prior to approving them for signature.

e) Renewal of the FSA

The FSAs have clauses that stipulate the term of the agreement and the extension periods applicable. Most of the FSAs reviewed were for two years with possibilities for extension for two one-year terms. The PPA required renewals to be approved by KPLC though the wording in the FSAs was that they would 'automatically renew'. This limited KPLC's role in ensuring that the renewals were subject to satisfactory performance by the fuel supplier. In the tenders reviewed, we noted one instance where the term of a fuel supplier was irregularly extended beyond the contractual term in the FSA. This was the extension of the Thika Power 2013 tender awarded to Gulf Energy. After the lapse of the contractual date, the IPP sought a further four-year extension. KPLC allowed them to extend for a further two years without due regard to the implications of such extension on fuel cost prices charged to consumers. We therefore concluded that there was need to review the mandate of KPLC in the renewal/extension of FSAs.

Recommendations

1. The FSA clause on automatic renewal of the agreement after expiry of the initial terms should be amended to include conditions for the renewal such as evidence of satisfactory performance of the contract.
2. The oversight role of KPLC in the renewal of FSAs should be expanded to a no-objection process where the IPP will be required to provide sufficient evidence to demonstrate effective performance of the contract by the fuel supplier.
3. Any extensions of the FSAs beyond the contractual limits should be approved by EPRA.

ii. Pricing

The pricing of HFO is defined in the PPA and the FSA respectively. Costs can be broken down into three categories:

i. Fixed costs from the supplier – These include supplier premium, storage, overheads, management fees and transport costs. These costs are maintained throughout the life of the FSA and are based on the winning bids from the fuel suppliers.
ii. Variable costs – These are costs that change on a daily basis and are derived from international indices such as the Means of Platts and AFRA.
iii. Taxes – These are updated based on changes communicated by the regulator EPRA arising from government policy.

Controls in pricing are effected in the following ways:

1. Through the use of standard formulae in the PPAs and FSAs.

Our review on pricing focussed on checking the accuracy and completeness of the formulae stipulated in the FSAs and PPAs. This included the recomputation of several of the fuel supplier invoices (for FSA formula) and power invoices from the IPP to KPLC (for the PPA formula). Our review noted that the formulae were applied consistently across the IPPs.

2. Monthly reconciliations done by the KPLC power purchase team prior to payment of invoices from the IPPs.

From our discussions with KPLC, we established that the power purchase team has been tasked with conducting monthly reconciliations upon receipt of power invoices from the IPPs. We also received evidence of these reconciliations in the form of spreadsheets showing works from the KPLC team. Our review noted that there were some variances between KPLC's computations and those of the IPPs. According to KPLC, these were resolved through debit or credit notes. However, as at the time of this report, we had not received copies of these debit or credit notes to confirm that the variances had been resolved. We had included this a limitation of scope.

As part of the reconciliation process, we noted that there was a gap in the oversight from KPLC for the international indices where KPLC does not independently obtain this data from reputable publishers during the invoice reconciliation process. Instead, KPLC relies on the data provided by fuel suppliers.

Recommendation

KPLC should subscribe to these international indices or rely on data from EPRA.

3. Meter Reading

We noted from the fuel cost formula contained in the PPA that the net electrical output was a key component in the fuel cost invoice from the IPPs. We further established from a review of the invoices from the IPPs that the control put in place to monitor this metric was meter reading which was done jointly by IPP and KPLC staff every last day of the month. Our review established that there were instances where KPLC staff did not sign off on the meter readings for some of the invoices reviewed. Examples are as provided below:

IPP name	Invoice Month & Year
Thika Power	May-18
Thika Power	Mar-20
Thika Power	Apr-20
Thika Power	May-20
Thika Power	Jun-20
Thika Power	Feb-21
Thika Power	Mar-21
Thika Power	Apr-21
Thika Power	May-21
Thika Power	Jun-21
Thika Power	Jul-21
Thika Power	Aug-21
Thika Power	Sep-21
Thika Power	Oct-21
Thika Power	Nov-21
Thika Power	Dec-21

Table 43: Sample invoices with no sign off on meter readings

Recommendation

KPLC should ensure that all meter readings are signed off by their representatives.

iii. Stock Management

From our reading of the PPA, FSA and discussions with KPLC and the IPPs, we ascertained that HFO fuel cost recovery was based on pre-determined specific fuel consumption rates (SFC) for each power plant. We established that the SFC rates are determined by the IPPs in their bids at the time of procurement of the power plants and these rates are not reviewed once the PPA is signed. Essentially, this means that the actual usage of HFO stocks is not relevant in the determination of the fuel cost to be recovered from consumers. As a consequence, KPLC exercises minimal oversight over the stockholding of HFO at the IPPs.

The PPA requires each IPP to maintain adequate stocks to prevent instances of unavailability of power plants due to lack of HFO stocks. This requirement was suspended through Gazette Notice 2826 of April 2016 and reinstated in December 2021. We ascertained that while KPLC obtained regular stocks data from the IPPs they were not involved in stock verification at the IPPs through dips and stock counts done on a monthly basis. We noted that this was a lapse in the oversight mandate of KPLC in ensuring adequacy of stocks as per PPA provisions.

Recommendation

KPLC should be involved in the monthly stock dips conducted by the IPPs to ensure that the IPPs have adequate security stocks as provided in the PPAs.

5.9 Specific key task (i): To investigate any specific noted cases of fraud and other irregularities with a view to establishing the modus operandi of the fraud and identify the responsible persons and parties

Findings

Procurement

From our detailed review of the procurement done for HFO in the scope period by the IPPs, we established that there were irregularities in the following tenders awarded to Gulf Energy:

1. Gulf Power 2014 tender
2. Triumph Power 2013 tender
3. Thika Power 2019 tender
4. Irregular extension of the 2013 Thika Power tender for 6 years

a. Irregular award of the Gulf Power 2014 tender

The PPA for Gulf Power was signed on 17 December 2012 between Gulf Power Limited, Gulf Energy Limited and KPLC[32]. Following PPA signature, the financial closure processes and construction commenced. In readiness for commissioning, Gulf Power initiated a tender process for procurement of HFO on 18 November 2013 through raising a tender document[33]. The tender document was approved by KPLC in line with PPA requirements on 17 January 2014 following which a tender notice was issued on 20 January 2014[34] by way of advertisement in the local dailies. Five bidders namely: Gulf Energy, Vivo Kenya, Kenol Kobil, Gapco Kenya and Total Limited purchased the tender document. However, only three of the five bidders responded by the bid submission date of 4 February 2014[35]. These were Vivo Kenya, Gulf Energy and Kenol Kobil. The tender opening was done on the same date and was witnessed by representatives from the bidding companies, KPLC and Gulf Power.

Evaluation of the submitted bids was done by Gulf Power through an evaluation panel. The evaluation of the bids was done in three stages as follows:

a. Preliminary examination

Verification

The three submitted bids were verified for any omissions, validity, and completeness of bid documents and letter of authorization / power of attorney. All were found to be in order.

Eligibility

None of the bidders had been blacklisted or had their licenses withdrawn by any of the issuing authority. Bidders were also found to have the following valid documents

Description	Kenol Kobil	Gulf Energy	Vivo energy
Petroleum business license issued by the Energy Regulatory Commission (ERC)	✓	✓	✓
Valid tax compliance	✓	✓	✓
Pin certificate	✓	✓	✓
Certificate of incorporation	-	✓	✓
Nairobi City Council Business License	✓	✓	-

[32] Annexure 8: Signed PPA between KPLC, Gulf Energy and Gulf Power
[33] Annexure 9: Gulf Power tender document of 2014
[34] Annexure 10: Gulf Power tender notice of January 2014
[35] Annexure 11: Gulf Power 2014 tender evaluation report

Description	Kenol Kobil	Gulf Energy	Vivo energy
VAT certificate of registration	✓	✓	✓
Bid Security	✓	✓	✓

Table 44: Gulf Power Preliminary evaluation for 2014 tender

b. Technical evaluation

The three bids were then evaluated using the qualification criteria in the tender document as follows:

Description	Kenol Kobil	Gulf Energy	Vivo energy
Annual Turnover	Pass	Pass	Pass
Experience in HFO Business	Yes	Yes	Yes
Dedicated Storage: input capacity storage	Fail	Pass	Pass
Proof of availability of supply	No	Yes	Yes
Valid & adequate Road transport contracts	Yes	Yes	Yes
Summary of technical evaluation (Pass/ Fail)	Fail	Pass	Pass

Table 45: Gulf Power technical evaluation for 2014 tender

We noted that the reasons provided for failure of Kenol Kobil on the dedicated storage requirement was due to a site visit that had been conducted by Gulf Power on 7 February 2014[36] which showed that the actual HFO storage capacity for the supplier did not meet the minimum dedicated threshold of 15,000M^3. In the Kenol Kobil bid, the supplier had indicated that they had a capacity of 31,101M^3 through tanks no. 267 with a capacity of 20,588M^3 and tank no. 268 with a capacity of 10,513M^3. The evaluation team faulted Kenol Kobil for using tank no. 267 to serve Rabai Power which also required a dedicated storage reserve of 15,000M^3 of 2.5% HFO. This meant that the only available tank would be no. 268 which was inadequate to meet the minimum requirement.

Gulf Energy and Vivo Kenya were assessed as having sufficient storage capacity despite serving Kengen, Iberafrica and Thika Power plants which also required a minimum reserve. In our assessment the criteria used to disqualify Kenol Kobil on the basis of storage capacity was unfair and subjective due to the following reasons:

a. Both Gulf Energy and Vivo Kenya did not also meet the minimum dedicated storage of 15,000M^3 if the same criteria was to be used evenly for all the bidders as follows:

Description	Kenol Kobil	Gulf Energy	Vivo Kenya
Total storage capacity (M^3)	31,101	54,510	33,702
Other thermal power plants contracts:			
Thika Power – Gulf Energy		(15,000)	
Rabai Power – Kenol Kobil	(15,000)		
Tsavo Power (Kipevu II) – Vivo Kenya			(15,000)
Kengen Kipevu I – Vivo Kenya			(15,000)
Kengen Kipevu III – Gulf Energy		(14,000)	
Iberafrica – Gulf Energy		(15,000)	
Total available reserve	**10,513**	**10,510**	**3,702**

Table 46: Analysis of bidders for the 2014 Gulf Power tender against the capacity criterion

[36] Annexure 12: Gulf Power site visit report of 7 February 2014

b. The practice in the petroleum industry is that storage capacity is easily obtained through hospitality agreements with other industry players since the facilities at Mbaraki, Shimanzi and Kipevu terminals are shared.

Kenol Kobil was also disqualified on the basis of lack of proof of availability of 2.0% sulphur HFO since the supplier was providing 2.5% sulphur HFO to Rabai Power. Again, this was a subjective criteria since the HFO is sourced from the same suppliers and the supply of 2.0% sulphur is easily achieved through blending.

We also noted that there was an unfair attempt to discredit the financial strength of Kenol Kobil through financial ratio analysis by the evaluation team yet this was not an evaluation criteria stipulated in the tender document. This is despite Kenol Kobil having higher revenue for the three years assessed than both Gulf Energy and Vivo Kenya as follows:

Revenue (USD)	Kenol Kobil	Gulf Energy	Vivo Kenya
2011	2,577,247,843	1,750,083,050	595,724,857
2012	2,230,666,486	1,059,438,717	570,772,511
2013	756,287,959	1,033,065,993	955,156,931
Total	**5,564,202,288**	**3,842,587,760**	**2,121,654,299**

Table 47: Revenue of bidders for 2011 - 2013 for Gulf 2014 tender

c. **Financial evaluation**

Kenol Kobil having being disqualified on technical grounds, the financial evaluation was done for the two remaining suppliers; Gulf Energy and Vivo Kenya. Gulf Energy being the lower of the two bidders was then recommended for award of the tender.

A comparison of the financial bids for the three suppliers shows that Kenol Kobil's price was the lowest as follows:

Description	Kenol Kobil	Gulf Energy	Vivo Kenya
Quoted Price (USD)	818.80	867.55	877.97
Ranking	**1**	**2**	**3**

Table 48: Comparison of financial bids across bidders for Gulf Power 2014 tender

The Kenol Kobil price was cheaper than the Gulf Energy price by **USD 48.75** per MT.

Response from KPLC

Upon conclusion of the tender evaluation, the tender evaluation report was sent to KPLC for review and approval on 11 March 2014. On 14 March 2014[37], KPLC wrote to Gulf Power requesting for copies of tender opening minutes and financial bids submitted by the bidders. Gulf Power responded on 19 March 2014[38] and provided the requested information including the site visit report that had been used to assess the storage capacity of the bidders. KPLC further wrote on 24 March 2014[39] requesting for the Kenol Kobil technical bid. On 8 April 2014[40] and having reviewed the supporting documents, KPLC wrote to Gulf Power indicating the following concerns:

i. *"You have indicated in the evaluation report that the fuel to be supplied was confirmed to be only straight run despite agreement to remove this limitation from the tender documents.*
ii. *The requirement in the technical evaluation for dedicated storage used to disqualify Kenol Kobil is **not a fair criteria** and it is not possible to demonstrate. Currently most fuel suppliers are supplying fuel to various customers from the same storage making it difficult*

[37] Annexure 13: KPLC letter to Gulf Power dated 14 March 2014
[38] Annexure 14: Gulf Power response to KPLC dated 19 March 2014
[39] Annexure 15: KPLC letter to Gulf Power dated 24 March 2014
[40] Annexure 16: KPLC letter to Gulf Power dated 8 April 2014

to confirm availability of dedicated storage. We therefore consider access to storage through ownership, joint ownership or leasing to be sufficient.

iii. *Some of the financial indicators (ratios) used in the financial evaluation are minor considerations and should not be used to disqualify Kenol Kobil who are currently listed on the stock exchange."*

Gulf Power wrote back to KPLC on 11 April 2014[41] rebutting the grounds for objection raised. KPLC responded on 29 April affirming their grounds for objection. This was followed by a meeting held on 7 May 2014 between Gulf Power and KPLC where the above issues were discussed. On 9 May[42], KPLC wrote to Gulf Power confirming acceptance of the evaluation report and award to Gulf Energy. However, the letter included the following reservations as follows:

"We hereby confirm our acceptance of the tender evaluation report and award of the tender to Gulf Energy limited. However, we would like to express our reservations on the fuel tendering process in regard to the following:

i. *The introduction of straight run which is not part of the tender documents approved by KPLC. This requirement will not be accepted in the future tenders unless agreed by the two parties as provided for in the PPA.*

ii. *It is impractical to confirm availability of dedicated storage for any of the bidders since they use the available storage to supply similar product to different customers. The decision on which bidder has met this criteria or not is therefore, in our opinion, subjective.*

iii. *Bidders were required to provide audited financial statements to evidence the criteria set out in clause 3.2(b) of the tender document. Introduction of financial indicators in the evaluation process without disclosure to the bidders including what thresholds are required negates the principles of openness in the tendering process.*

We expect the above issues to be addressed in the future fuel tenders for the power plant."

It is unclear why KPLC ceded its ground despite raising reasonable concerns on the subjectivity and unfairness of the tender evaluation process.

Following the approval by KPLC, the FSA between Gulf Energy and Gulf Power was signed on 10 June 2014[43].The FSA was for an initial term of two years with options to renew for three additional one-year terms. The FSA was renewed for the three years and expired in August 2020.

Conflict of interest concerns

We noted that as at the time of the 2014 tender, Gulf Energy held 80% shareholding in Gulf Power. Gulf Energy was also a party to the PPA signed with KPLC. This raises conflict of interest concerns in the award of the HFO tender to Gulf Energy. It is our considered view that the subjectivity and unfairness noted in the evaluation process could have been a consequence of this conflict of interest. It is unclear why this issue was not raised or considered by KPLC while exercising its oversight role over the procurement process.

[41] Annexure 12: Gulf Power response to KPLC dated 11 April 2014
[42] Annexure 13: KPLC letter to Gulf Power dated 9 May 2019
[43] Annexure 14: Extract of 2014 FSA between Gulf Energy and Gulf Power

Quantification of losses

We assessed the potential loss incurred by electricity consumers from the use of expensive fuel from Gulf Energy by comparing the same supply using the Kenol Kobil bid as follows:

Gulf Unit Price (USD) - A	Kenol Unit Price (USD) - B	Variance	Volume supplied in MT - C	Estimated Loss (USD) (A-B) * C
867.55	818.80	48.75	60,035.15	2,926,713.56

Table 49: Estimated losses from use of expensive Gulf Energy prices at Gulf Power

Recommendations

1. We recommend that action be taken against Gulf Power for the estimated loss of **USD 2,926,713.56** including recovery measures.

2. Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregular award of the HFO supply tender to Gulf Energy.

3. EPRA and KPLC should provide policy guidance on conflict of interest arising from parties to the PPAs being vendors for supply of HFO.

b. Irregular extension of the Thika Power 2013 tender

Background

Thika Power signed a PPA with KPLC on 2 July 2012[44] and the plant began full commercial operations in March 2014. To prepare for commercial operations, the power plant floated a tender after approval from KPLC and received bids on 8 February 2013[45] from five bidders namely: Gulf Energy, Total Limited, Kenol Kobil, Vivo Kenya and Hass Petroleum. Bid opening was done on the same date in the presence of representatives from KPLC, the bidders and Thika Power.

Tender Evaluation

The evaluation team was set up and the five bids were reviewed. The bidders, with the exception of Hass Petroleum, were found to be technically responsive. Hass Petroleum was found unresponsive due to lack of dedicated storage in Mombasa, insufficient previous HFO experience, and average annual turnover for 2008 to 2011 was below USD 500M.

The financial evaluation of the remaining four bidders was conducted and Gulf Energy was found to be the lowest bidder as follows:

Description	Gulf Energy	Vivo Kenya	Total Limited	Kenol Kobil
Quoted Price (USD)	831.79	868.30	850.90	898.57
Ranking	**1**	**2**	**3**	**4**

Table 50: Comparison of financial bids across bidders for Thika Power 2013 tender

The price quoted by Hass Petroleum was USD 835.62 and was the second lowest price.

The tender evaluation report was sent to KPLC for approval on 22 February 2013. After review, KPLC approved the award of the tender to Gulf Energy. Consequently, the FSA between Thika Power and Gulf Energy was signed on 1 July 2013[46].

[44] Annexure 15: Extract of Signed PPA between KPLC and Thika Power
[45] Annexure 16: Extract of Thika Power 2013 bid evaluation report
[46] Annexure 17: Extract of 2013 FSA between Gulf Energy and Thika Power

Irregular Extension
Section 3.3 of the FSA stipulated that the Agreement would commence from the Effective Date and continue for a period of twenty-four (24) months. Thereafter, the Agreement would be automatically renewed on the same terms and conditions for two additional one-year terms. This meant that the FSA was supposed to lapse in July 2017. The Agreement commenced in July 2013 and was renewed twice in 2015 and 2016. However, on 23 March 2017[47], the Plant Manager for Thika Power, Stephen Mwaura, wrote to KPLC requesting for an additional four-year extension of the contract sighting the following:

a. Due to low dispatch of the power plant in 2015 and 2016 attributed to additional renewable energy added to the grid, the plant had only consumed 154,666.72 MT of HFO against a projected 366,386.97 had the plant been dispatched at 70% which was the dispatch rate at the time of contract award.
b. It would be a challenge to attract lower rates than those provided by Gulf Energy.

From our reading of the FSA, we noted that Section 6.1 stipulated that the deliveries of fuel by the supplier would be dependent on estimates to meet power plant requirements based on dispatch instructions from KPLC. It further stated as follows "Notwithstanding the foregoing, the parties acknowledge that any such estimates shall in no event be deemed to be a warranty by the Purchaser of its fuel requirements under this Agreement." In our view, this negated the argument made by Thika Power that there was a 'quota' required to be met by the fuel supplier. In any case, we found it to be irregular for the power plant to be making a case to enhance the fuel supplier's business outside the scope of the FSA. It is also notable that there was no evidence provided by Thika Power in its letter to KPLC showing that market prices were unfavourable.

KPLC responded to the letter from Thika Power on 28 March 2017 and declined to approve the request for renewal. On 28 April 2017[48], Thika Power wrote a follow up letter to KPLC requesting for a review of its decision citing financial losses to Gulf Energy due to additional storage and accrued interest for fuel stocks held for long due to low dispatch. On 5 May 2017[49], KPLC responded to Thika Power and informed them that there was no provision in the FSA to support the request. However, to avoid lack of fuel by the IPP, a two-year extension was granted. KPLC further noted that the two-year period would be sufficient for a new FSA to be put in place. In our view, this extension of the FSA was irregular as it had no basis in the FSA. It was also unclear why Thika Power needed two years to carry out a procurement process while the initial process (in 2013) was concluded within seven months.

We further conducted a review of the prevailing market prices to ascertain the veracity of the argument that HFO prices would be uncompetitive had Thika Power floated a tender. For this purpose, we used the 2017 Tsavo Power[50] tender which was carried out from February to July 2017. Our rationale for this was that this would have been the same time Thika Power would have carried out its procurement with a target of having an FSA in place by July 2017 which was the expiry date of the 2013 tender. Since Tsavo Power and Thika Power would have different transport costs and noting that the other price indices were not determined by the fuel supplier, we only assessed supplier premium, storage costs and management fee in an effort to have a like-for-like assessment. Below were the premiums, storage costs and management fees quoted by suppliers in the Tsavo Power tender:

Costs (USD)	Gulf Energy	Vivo Kenya	Total Limited	Kenol Kobil	Dalbit	R.H Devani
Premium	52.55	66.88	70.50	36.50	59.00	48.50
Management Fees	15.50	24.70	26.21	9.00	10.50	11.50

[47] Annexure 18: Letter from Thika Power to KPLC dated 23 March 2017
[48] Annexure 19: Letter from Thika Power to KPLC dated 28 April 2017
[49] Annexure 20: Letter from KPLC to Thika Power dated 5 May 2017
[50] Annexure 21: Extract of 2017 Tsavo Power bid evaluation report

Costs (USD)	Gulf Energy	Vivo Kenya	Total Limited	Kenol Kobil	Dalbit	R.H Devani
Storage	0.75	2.79	0.00	5.00	8.96	9.17
TOTAL	68.8	94.37	96.71	50.5	78.46	69.17
Ranking	**2**	**5**	**6**	**1**	**4**	**3**

Table 51: Premiums quoted by bidders in the Tsavo Power 2017 tender

The premium, storage and management fee charge by Gulf Energy in the 2013 tender were as follows:

Costs	Amount (USD)
Premium	45.00
Overheads, admin and storage	67.97
TOTAL	112.97

Table 52: Premium and Overhead costs for Gulf Energy during 2013 Thika Power tender

The difference between the Gulf Energy fixed costs and the lowest bidder, Kenol Kobil was **USD 62.47.** From the above, it is clear that there was no truth in the claim that Thika Power would have been unable to get favourable market prices had they floated a tender in 2017. It is also notable that Gulf Energy's quote to Tsavo Power was cheaper by **USD 44.17.**

Quantification of losses

We assessed the potential loss incurred by electricity consumers from the use of expensive fuel from Gulf Energy in the irregular two-year extension period by comparing the same supply using the Kenol Kobil fix rate bid as follows:

Gulf Fixed Price (USD) - A	Kenol Fixed Price (USD) - B	Variance	Volume supplied in MT in the period - MT	Estimated Loss (USD) (A-B) *C
112.97	**50.5**	**62.47**	**71,068.12**	**4,439,625.46**

Table 53: Estimated losses from use of expensive Gulf Energy prices at Thika Power

Recommendations

1. We recommend that action be taken against Thika Power for the estimated loss of **USD 4,439,625.46** including recovery measures.

2. Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregular extension of the HFO supply tender to Gulf Energy.

c. Irregular award of the Thika Power 2019 tender

Following the extension of the 2013 FSA to 2019, Thika Power put out a tender notice through an advertisement on 14 May 2019 after approval of the tender document by KPLC. On 11 June 2019[51], three bidders submitted their bids which were opened in the presence of their representatives, KPLC and Thika Power. The bidders were Gulf Energy, Total Limited and R.H. Devani.

[51] Annexure 22: Extract of 2019 Thika Power bid evaluation report

Technical evaluation

The evaluation team reviewed the three bids and disqualified Total Limited and R.H. Devani on the following grounds:

1. Total Limited - No evidence of average annual HFO sales for 2016 to 2018 of 70,000MT, insufficient previous HFO experience and no arrangement for sourcing; and
2. R.H. Devani - Average annual turnover for 2016 to 2018 below USD 250m, average annual HFO sales for 2016 to 2018 below 70,000MT, no dedicated storage in Mombasa and limited HFO experience.

We found the disqualification of Total to be subjective and unfair based on the following grounds:

a) Total had been found to be responsive in the 2013 tender. It is inconceivable that the same evaluation team would find them to be unqualified in a subsequent bid;
b) While Total did not have experience supplying HFO in Kenya, it could leverage on its experience in its group experience in Africa being a multinational;
c) Total provided a support letter from Total Africa for supply of HFO from the Group. It is therefore untrue that there was no arrangement for sourcing including in the bid;
d) Total enjoyed a considerable market share in the petroleum industry and demonstrated its breadth of experience in the sector in its bid; and
e) The bidder had been found to be technically responsive by all other IPPs in various procurements. For example, Total had the highest technical score in the 2017 Tsavo Power bid.

We also found the disqualification of R.H. Devani to be subjective and unfair on the following grounds:

a. The bidder demonstrated its experience in HFO by supplying Tsavo Power and Namanve Power Plant in Uganda;
b. The bidder presented bills of lading demonstrating HFO sales of over 70,000MT;
c. For storage, the bidder presented a lease agreement with Mbaraki Bulk Terminal Limited. R.H. Devani also committed to enter into hospitality agreements should the need arise. It is common practice in the industry for storage facilities to be shared hence this is not a legitimate ground for disqualification.
d. R.H. Devani was awarded the HFO supply tender in 2020 by Thika Power after expiry of the 9 months FSA awarded to Gulf Energy. It is improbable that the bidder who had been adjudged to be unqualified was found to be the most suitable in a space of 9 months.

Financial evaluation

After disqualification of R.H. Devani and Total bids, only Gulf Energy's bid was subjected to financial evaluation. It is notable that Gulf had the highest bid price of the three bidders as follows:

Description	Gulf Energy	Total Limited	R.H. Devani
Quoted Price (USD)	634.72	609.70	625.82
Ranking	**3**	**1**	**2**

Table 54: Financial Evaluation of bids for Thika power 2019 tender

The Gulf price was higher than the lowest bid by Total by **USD 25.02**.

We also noted that the prices stated in the evaluation report were misleading by giving the impression that the Gulf Energy bid was the lowest while it was indeed the highest. This was done by failing to correct the arithmetic errors in the bid and the erroneous VAT computation before comparing it to the amounts for Total Limited and R.H. Devani. Below was the presentation of the prices in the evaluation report:

Description	Gulf Energy	Total Limited	R.H. Devani
Quoted Price + VAT (USD)	703.11	707.25	725.95
Ranking	**1**	**2**	**3**

Table 55: Financial bids + VAT for Thika power 2019 tender

The corrected price plus VAT for Gulf Energy was **USD 736.28**. During bid opening, Thika Power's Country Manager included a handwritten note in the bid summary indicating that the prices quoted had not yet been analysed and Thika Power was aware that future complaints could arise. This implies that the attendees of the bid opening were aware of the uncorrected errors in the Gulf bid.

KPLC response

The bid evaluation report was submitted to KPLC for review and approval on 27 June 2019. On 7 August 2019, KPLC wrote to Thika Power stating grounds for objection to the tender and requesting for an annulment of the tender process. There were further correspondences on 8 August 2019 and 19 August 2019 where Thika Power was seeking an extension of the 2013 FSA with Gulf Power to allow for retendering which was declined by KPLC. Instead KPLC had advised that Thika Power seek spot purchases during the retendering period. On 23 August 2019, Thika Power wrote to KPLC requesting them to approve the award to Gulf Power on the condition that they would only sign an FSA for 6 months with an option to extend for a further 3 months to allow for retendering. On 13 September 2019, KPLC agreed to the award of contract for 6 months with an extension of 3 months to allow for the retendering process. The FSA was signed between Thika Power and Gulf Energy on 18 November 2019 and ran for 6 months with no extension.

Quantification of losses

We assessed the potential loss incurred by electricity consumers from the use of expensive fuel from Gulf Energy in the 6-month period by comparing the same supply using the Total bid price as follows:

Gulf Price (USD) - A	Kenol Fixed Price (USD) - B	Variance	Volume supplied in MT in the period - MT	Estimated Loss (USD) (A-B)*C
634.72	**607.70**	**25.02**	**2,992.02**	**74,860.34**

Table 56: Estimated losses from use of expensive Gulf Energy prices at Thika Power

Recommendations

1. We recommend that action be taken against Thika Power for the estimated loss of **USD 74,860.34** including recovery measures.

2. Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregular award of the HFO supply tender to Gulf Energy.

d. Irregular award of the Triumph Power 2013 tender

Triumph Power signed its PPA with KPLC on 14 June 2012[52]. Upon completion of the construction and in preparation for commencement of operations, the IPP began the procurement process for a HFO supplier in 2013. Through a tender notice advertised in the Daily Nation newspaper, Triumph Power invited bids from prospective suppliers. The bids were received on 4 November 2013 and tender opening was done in the presence of representatives from the bidders, KPLC and Triumph Power.

[52] Annexure 25: Extract of Signed PPA between KPLC and Triumph Power

Tender evaluation

We did not receive the bid evaluation report from Triumph Power and have included this as a limitation of scope. However, we managed to receive the actual bids from the four supplies who participated in the tender namely: Vivo Kenya, Gulf Energy, Kenol Kobil and Hass Petroleum. We noted that Triumph had awarded the tender to Gulf Energy despite Kenol Kobil and Hass Petroleum quoting lower prices as shown below:

Description	Gulf Energy	Vivo Kenya	Kenol Kobil	Hass Petroleum
Quoted prices (USD)	899.06	907.36	862.48	855.0720
Ranking	**3**	**4**	**2**	**1**

Table 57: Prices quoted by bidders in the Triumph Power 2013 tender

The difference between the Gulf Energy bid with the Kenol Kobil and Hass Petroleum bids was **USD 36.58** and **USD 43.99** respectively.

Without the bid evaluation report, we were unable to assess the grounds for the disqualification of the lower bids for Kenol Kobil and Hass Petroleum. However, based on our assessment of the bids, we noted that Kenol Kobil should have been considered for award on the following grounds:

1. Demonstrated experience in HFO supply – the company was supplying Rabai Power at the time;
2. Financial capacity – Kenol Kobil through its financial statements sufficiently demonstrated its financial capacity to undertake the supply of HFO to Triumph Power; and
3. Storage – The bidder demonstrated storage capacity through leasing agreements. In any case, the custom in the industry was that storage was a shared resource and so would not be adequate grounds for disqualification.

We did not consider grounds for qualification for Hass since they did not have considerable experience in HFO supply.

KPLC response

Triumph Power submitted the evaluation report to KPLC for review and approval on 9 January 2014. On 17 January 2014[53], KPLC responded stating that it concurred with the decision to award the HFO supply tender to Gulf Energy. Following this approval, an FSA was signed between Gulf Energy and Triumph Power on 4 March 2014[54] for a period of two years with an extension of an additional two years.

Quantification of losses

We assessed the potential loss incurred by electricity consumers from the use of expensive fuel from Gulf Energy in the four-year period of the FSA by comparing the same supply using the Kenol Kobil bid price as follows:

Gulf Price (USD) - A	Kenol Price (USD) - B	Variance (USD)	Volume supplied in the period - MT	Estimated Loss (USD) (A-B) *C
899.06	**862.48**	**36.58**	**49,493.74**	**1,810,481.01**

Table 58: Estimated losses from use of expensive Gulf Energy prices at Triumph Power

[53] Annexure 26: Letter from KPLC to Triumph Power dated 17 January 2014
[54] Annexure 27: Extract of Signed FSA between Gulf Energy and Triumph Power

Recommendations

1. We recommend that action be taken against Triumph Power for the estimated loss of USD 1,810,481.01 including recovery measures.

2. Action should be taken against KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregular award of the HFO supply tender to Gulf Energy.

Recommendations

Based on the above findings on the irregularities noted in the procurement of HFO across the 3 IPPs, we recommend the following additional measures:

1. The tender evaluation process should be enhanced by having independent observers preferably from EPRA and/or the Consumer Protection Department of the Competition Authority of Kenya (CAK) to sit through the evaluation discussions. The observers would then prepare their own independent report on the conduct of the evaluation;
2. The no-objection process from KPLC following completion of tender award should be enhanced through appointment of a third-party procurement expert to independently review the procurement process leading to the award and provide a written advisory to KPLC for consideration prior to their decision on the tender award.
3. The final approval by KPLC should be made by a Special Committee formed to review HFO tenders and which should comprise senior KPLC management and representation in the form of procurement specialists from the Supply Chain Department. This Special Committee should report directly to the KPLC Board of Directors.

5.10 Specific Key Task (j) – Establish procedures for assessment and verification of technical specification, physical completion and price competitiveness of each Fuel Supply Agreement (FSA) in the selected representative sample.

Findings

The procurement process ensures that the technical specifications are adhered to by the Fuel Suppliers. As batches are received by the power plants, samples are extracted from therein and tested before the acceptance of the batches.
The pricing formulae provides for the competitiveness among the FSAs however the variables vary from one FSA to another based on the time of onboarding the fuel suppliers and also location of the plant.

Recommendations

1. A data sheet should be included as part of the tender document where the specifications of the HFO for each fuel supplier are clearly indicated to assess for any departure from the stated technical specification.

2. Bidding forms should be introduced so as to standardise the bids from different suppliers to ensure price competitiveness.

3. The price schedule should be in a standard format to be filled by each supplier so as to ensure uniformity in price quotation.

4. Any issues noted during the tender opening such as difference in technical specifications or any other material issue likely to affect the outcome of the tender evaluation should be formally noted in the minutes of the opening ceremonies.

5.11 Specific Key Task (k) Establish whether adequate systems are in place to verify pricing of HFO as per the respective FSA and PPAs.

Findings

We established that, based on the computations by the IPP, KPLC and the auditors, each computation revealed variances in the final HFO price. Even though KPLC also had variances, we were unable to obtain evidence showing that credit notes and/or debit notes were issued for the variances.

There was also no evidence to indicate that KPLC had put in place measures or raise alarm with regards to the recurrent variances in the final computed prices for the HFO invoices.

A summary of the recomputed variances is as below:

	Kenol Kobil	Gulf Energy	Dalbit	RH Devani	Vivo Energy	Total (USD)
Tsavo Power Ltd	-	-	-	(187,879.50)	-	(187,879.50)
Gulf Power Ltd	-	102,578.86	-	-	(3.86)	102,575.00
Rabai Power Ltd	187.70	-	-	-	-	187.70
Triumph Power Ltd	-	-	-	(36,480.80)	-	(36,480.80)
Triumph Power Ltd	-	(2,066.46)	-	-	-	(2,066.46)
Thika Power Ltd	-	(7,842.26)	-	8,278.65	-	436.39
Iberafrica Power	-	7,477.96	26.50	-	-	7,504.46
Iberafrica Power	-	(183,491.61)	-	-	-	(183,491.61)

Table 59: Summary of Auditor's recomputed variance per IPP (USD)

This summary table highlights the finding that KPLC, the IPPs and fuel suppliers have not fine-tuned their computations to eliminate or reduce the frequent differences in the invoice values generated for fuel supplies to IPPs.

Details	Kenol Kobil	Gulf Energy	Dalbit	RH Devani	Total (USD)
Tsavo Power Ltd	-	-	-	(590.84)	(590.84)
Gulf Power Ltd	-	102,904.90	-	-	102,904.90
Rabai Power Ltd	(47,109.95)	-	(5,577.88)	-	(52,687.82)
Triumph Power Ltd	-	-	-	(21,950.57)	(21,950.57)
Triumph Power Ltd	-	(12,362.43)	-	-	(12,362.43)
Thika Power Ltd	-	19.87	-	10.86	30.73
Thika Power Ltd	-	909.43	-	-	909.43
Iberafrica Power	-	1,066.81	-	-	1,066.81
Iberafrica Power	-	(432,495.67)	-	-	(432,495.67)

Table 60: Summary of KPLC's recomputed variance per IPP (USD)

Recommendations

1. KPLC, IPPs, and HFO fuel suppliers need to establish a mechanism to fine-tune the computation of the value of fuel invoiced to IPPs to reduce and eliminate the variability of what is charged for fuel.
2. KPLC needs to implement a work plan and SOP between KPLC, IPP and HFO suppliers and ensure it is followed with an accountability mechanism to prevent potential loss through overpayment or underpayment for fuel supplied to IPPs due to needless variations.

Why Monthly HFO Pricing is Different for each IPPs

a) Approach to the Analysis

From the extensive analysis in sections 1.2 above on HFO pricing components, this TOR titled ***"Review of Fuel Supply Agreements including the Pricing Structure and application of international benchmarks including Platts FOB, World Scale Index and Average Freight Assessment",*** taps into the findings that there is wide variability of each of the elements in the HFO Price formula.

The Audit established that the FSA pricing formula was applied for all open tenders undertaken by IPPs. This enabled all pricing elements to be mapped against the HFO pricing model to determine the total landed cost and price per MT of the HFO procured and supplied to IPPs.

b) Summary of Findings on HFO Price Elements and Indices

The HFO price formula is structured as;

HFO PRICE (P) = (A+B+C+D+E+F)

Where **A** is Platts; **B** is Premium; **C** is Sea Freight; **D** is local Transport; **E** is Taxes, Duties, and Levies and **F** is Overheads.

Platts: All these constituent elements for determination of the price are derived or obtained in a uniquely defined manner as per industry norms, PPA, and FSA terms of the contract. Platts change daily and respond to the supply and demand of HFO in the international market. This means that fuel bought today will have different Platts from fuel bought the next trading day or the day prior. By this fact alone, no two fuel cargos can have the same delivery price based on the use of the different Platts applicable for the days when the fuel was bought. This is one reason that explains why HFO fuel prices for different IPPs cannot be the same even when landed in the same month since the Platts will be different if loaded on different dates.

Premium: The premium, or profit, is a unique quote made by the fuel supplier during the competitive tender the for the supply of HFO to an IPP. This quote for premium is also unique to a particular FSA for each IPP. Since the premiums are different for each winning tender, again this means that for each cargo delivery, the unit price will not be the same when HFO price (P) is computed as per the FSA formula for different IPPs even when delivered the same month.

Sea Freight: Sea Freight, as used in the price formula, is derived from the competitive tender process. Sea freight is different for each winning bid as quoted by the fuel suppliers. Similarly, to Premium, the use of a uniquely different sea freight figure in the price formula renders the price to be different for each cargo that is delivered to different IPPs even within the same month.

Local Transport varies from Mombasa to the destination of the IPP depending on the distance. This figure is quoted competitively by the fuel supplier during the tender process. Similarly, to the other parameters cited above, the different freight numbers used by different fuel suppliers make the HFO price differ from one IPP to another during the same month.

Overheads: The dollar value of overhead costs is quoted during the tender process. Due to the peculiarities of the operations and setup of the different fuel suppliers, the overhead costs as quoted in the tender are different which gives rise to differences in the total price computed for the landed price for HFO fuel.

Taxes and Levies are applied proportionate to the value of the fuel cost and will always be of a similar ratio for all fuel purchases.

The difference in the value of even one of the above parameters will cause differences in prices for landed fuel in USD/MT. However, when all of these six (6) different parameters are at play for different cargos delivered for different IPPs even within the same month, it means the combined permutations of the six parameters will result in different unit prices for fuel delivered to different IPPs by different fuel suppliers in the same month. This is the reason why unit prices for all landed cargos are different and are unique for each delivery and to each IPP.

Recommendation

KPLC needs to correctly apply the HFO fuel formula and PPA Power invoice formula for each IPP each month and ensure correct computation of fuel prices for each IPP and correct power invoices from each IPP to KPLC. Where there are differences with IPP computations, these should be reconciled immediately and debit and credit notes exchanged. Without a doubt, the power tariffs will be different for each IPP due to differences in the factors in the HFO price formula and differences in the factors in the power formulae for each IPP. This is the amount that will be reflected in the power tariff and it influences the Merit Order for that particular month.

5.12 Specific Key Task (!) Identify weaknesses which impede good performance, for example, adequacy of resources, lack of equipment and competence and identify areas of improvement on the oversight role

KPLC Organizational Structure

KPLC has a bureaucratic organizational structure evidenced by the organogram highlighted below. The company's main functions are conducted by 10 divisions. Each Division is headed by a Regional Manager, who reports to the General Manager in charge of regional coordination and each General Manager provides support to and reports to the Managing Director and the CEO.

The departments at KPLC have a clear hierarchy and are characterized by a well – organized and formal command and control structure.

Authority at KPLC is centred at the top and information generally flows from the top down. It has organizational charts for every division which reflects the decision-making process in each division.

Power Planning and Purchase Department

Following recommendations from the Task Force report, KPLC set up an independent Power Planning and Purchase Department that is mandated to effectively manage and monitor the implementation of all Power Purchase Agreements (PPAs) and Fuel Supply Agreements. (FSAs).

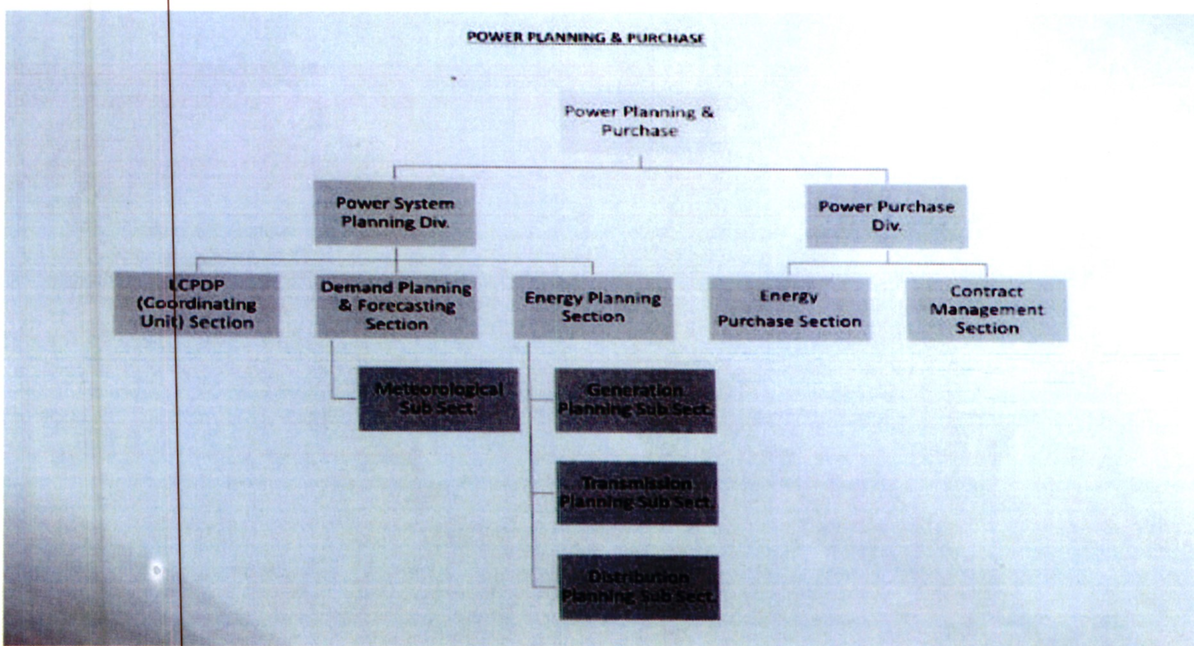

Figure 40: KPLC Power planning and Purchase Department Structure

The PPAs act as the primary contract between KPLC and the independent power producers. PPAs are used as procurement and financing tools.

The FSAs act as the primary contract between the Independent Power Producers and their fuel suppliers. FSAs are used as procurement and financing tools.

The PPP division is mandated to ensure that the IPPs comply with the provisions of the PPAs and the FSAs. They are mandated to oversee that the IPPs comply with the operating and dispatch procedures, maintenance, and restoration of machinery.

The department receives a daily inventory from the IPPs, and it ensures that the IPPs maintain the required fuel stock level. They oversee invoicing and payment to ensure that all necessary documents are attached and that the correct amounts are forwarded to the Finance Division for payment.

From the audit of the PPP department, the following was established that:

i. The staff in the Power Planning and Purchase department had mostly technical qualifications in Engineering, rather than all the required diverse skills such as finance, legal, procurement which are required to provide oversight on the procurement of HFO. A team comprising of individuals with various diverse skill sets offer expertise that would ultimately strengthen the power purchase and planning department in the management and enforcement of the PPAs and FSAs.

Staff in the PPP department

Personnel Number	Names	Start Date	Branch of Study
7654	Erastus Mugendi Kiruja	21/11/1988	Bachelors of Science in Electrical Engineering. Engineers Board of Kenya
13861	Naomi Waithera Gichuhi	01/01/1994	Bachelors of Science in Electrical Engineering. Engineers Board of Kenya. Masters of Arts. Secondary School Certificate
13870	Jeremiah Kiptoo Too	10/12/1994	Bachelors of Science in Mechanical Engineering. Secondary Certificate.
14601	Boniface Kamanda Kinyanjui	01/07/2019	Bachelors of Science in Electrical Engineering. Engineers Board of Kenya. Masters of Science. Secondary Certificate.
14614	Everlyne Susan Ombuya	03/12/9999	Bachelors of Technology in Production Engineering. Engineers Board of Kenya. Secondary Certificate
14979	Kennedy Musungu Nengo	01/07/2019	Bachelors of Science in Electrical Engineering. Engineers Board of Kenya.

Personnel Number	Names	Start Date	Branch of Study
			Masters of Business Administration.
15075	John Mwangi Ihuthia	19/10/1995	Bachelor of Commerce in Accounting. CPA(K) Institute of Certified Public Accountants
15401	Christopher Lukhwili Shibuyanga	28/11/1989	Bachelors of Science in Mechanical Engineering. Engineers Board of Kenya. Secondary School Certificate.
15699	Leo Onyango Angira	04/11/2002	Bachelors of Science in Electrical Engineering. Engineers Board of Kenya. Secondary Certificate.
16246	John Keru Mwangi	14/12/1978	Masters of Science in Energy Technology. Bachelors of Science in Mechanical Engineering. Engineers Board of Kenya. Institute of Engineers in Kenya. Secondary Certificate.
16649	Michelle Paula Akute	01/01/1997	Bachelors of Science in Electrical Engineering. Engineers Board of Kenya. Secondary Certificate.
16884	Nabaala Ronda Amos	01/01/1995	Bachelors of Science in Electrical and Electronic Engineering. Engineers Board of Kenya. Secondary Certificate.
17293	Joswhite Ondabu Maragia	01/01/1998	Masters of Engineering in Nuclear Power Plant. Engineers Board of Kenya. Bachelors of Science in Mechanical Engineering. Secondary Certificate.

Personnel Number	Names	Start Date	Branch of Study
17526	Samuel Ouma Opana	01/01/2002	Bachelors of Science in Electrical and Electronic Engineering. Engineers Board of Kenya. Secondary Certificate.
17555	Stariko Nyakora Nyamori	01/01/1999	Bachelors of Electrical and Electronic Engineering. Masters of Engineering in Power System Engineering. Secondary Certificate
18209	Fredrick Mutie Kitau	01/01/2001	Engineers Board of Kenya. Secondary Certificate
18210	Benard Kiprotich Cheneket	01/01/2004	Bachelors of Science in Mechanical Engineering. Engineers Board of Kenya. Secondary Certificate.
18212	Anderson Ajore Osedo	01/01/2002	Bachelors of Science in Mechanical Engineering. Engineers Board of Kenya. Secondary Certificate.
18214	Margaret Ntangenoi Letiyan	01/01/2003	Bachelors of Science in Mechanical Engineering. Engineers Board of Kenya. Secondary Certificate.
18216	Jason Kemboi Chemitei	01/01/2004	Bachelors of Engineering in Mechanical Production. Engineers Board of Kenya. Secondary Certificate.
18220	Sydney Wafula Munika	01/01/2002	Bachelors of Science in Mechanical Engineering. Diploma in Management – Business Management Option. Engineers Board of Kenya. Executive Certificate in Managerial Skills Development. Secondary Certificate

Personnel Number	Names	Start Date	Branch of Study
18301	Julius Kilonzi Charles	31/12/2004	Bachelors of Science in Electrical and Electronic Engineering. Engineers Board of Kenya. Masters of Science in Electrical and Electronic Engineering. Secondary Certificate.
18453	Newtone Orondoh Munyolo	19/12/2008	Bachelor of Arts. Secondary Certificate.
18454	Joseph Kairu Mwangi	31/12/2002	Bachelor of Arts. CPA Course. Secondary Certificate
18455	Betsy Chepkemoi Langat	31/12/2003	Bachelor of Finance. Secondary Certificate
18456	Felister Nabwire Mukuri	31/12/2001	Bachelor of Arts. Secondary Certificate.
18459	Batistar Mwangi Kingori	31/12/2003	Bachelor of Arts. Masters of Science in Economics. Secondary Certificate
92474	Regina Kaari Nahashon	01/01/2000	Diploma in Secretarial Services. Secondary Certificate.

Table 61: List of staff in PPP department

ii. The Power Planning and Purchase department is divided into two divisions; The Power System Planning Division and the Power Purchase Division. We noted that the following sections in the Power System Planning Division were not operational at the time of the audit.

a) LCPDP Coordinating Unit Section.
b) Demand Planning and Forecasting Section.
c) Energy Planning section.
d) Meteorological Sub section.
e) Generation Planning Sub Section.
f) Transmission Planning Sub Section.
g) Distribution Planning Subsection.

It was also noted that the contract management team in the Power Purchase Division, was not operational.

Tender Review Committee

The initial review of the procurement process of HFO by the IPPs was conducted by an ad hoc committee that handled the entire procurement process and approvals. This included, the review and approval of the draft tender document, attending the tender opening, review and approval of the evaluation report. The selection of ad hoc committee members was done by the Chief Engineer of the Energy Purchase department.

The ad hoc committee lacked expertise such as procurement which is key with respect to overseeing and approving an entire procurement cycle at the various IPPs . These inadequacies would deem the process inefficient as they failed to identify some critical lapses in procurement procedures, such as; the use of technical and financial combined scores during evaluation rather than the pass/fail basis which is standard in the procurement of goods. They could not also provide appropriate guidance on the tender document form and the evaluation criteria which as detailed in the procurement section were vague and at times, the process was subjective.

The members in charge with the procurement process include:

No.	Name	Position
1.	John Ihuthia	General Manager
2.	Susan Ombuya	Chief Engineer
3.	John Keru	Senior Engineer
4.	Joel Kipkemei	Assistant Engineer
5.	Joswhite Maragia	Assistant Engineer
6.	Fredrick Mutie	Assistant Engineer
7.	Joshua Taiko	Assistant Engineer

Table 62: List of Ad hoc committee members

The tender review committee was established following a resolution by the General Manager, Business Strategy and his team. The tender review committee is a multi-disciplinary function and its purpose is to handle the task of implementing the matters related to the procurement of Heavy Fuel Oil (HFO) in accordance with thermal independent power plant's PPAs.

The functions of the tender review committee include:

a. To review, recommend, modify and/or approve tender documents for HFO procurement within the PPAs timelines.
b. To attend and witness the tender opening of HFO procurement
c. To review, approve, or dispute the tender evaluation report and the selected proposed HFO supplier within the timelines stipulated under the PPA.
d. To review, recommend, modify and/ or approve the proposed Fuel Supply Agreement within the PPAs timelines.
e. To review and approve proposals from the IPPs on changes in fuel pricing formulae arising from changes in law or tax.

The members of the tender review committee include:

No	Name	Designation	Department	POSITION
1	Boniface Kinyanjui	Chief Engineer	Power systems Planning	Chairperson
2	Joseph Kairu	Planning officer II	Business strategy	Member
3	Daniel Njuguna	Chief finance officer	Finance	Member
4	Bernard Rotich	4^{th} Assistant Engineer	Standards Development	Member
5	Joel Kipkemei	3^{rd} Assistant Engineer	Energy Purchase	Member
6	Peter Muchori	Supply chain officer I	Supply chain, Procurement	Secretary

Table 63: List of Tender Committee members

The tender review committee ensures that the independent power purchasers (IPP) have followed the procurement process in accordance with the power purchase agreements. The committee reviews the tender documents and provide comments at every stage of the procurement process.

The tender review committee has so far reviewed the procurement process of two IPPs, namely Rabai Power in 2022 and Iberafrica Power in 2021. The committee reviewed the entire procurement process for both power plants and made recommendations at each stage of the procurement process.

The tender review committee works closely with the following departments

1. Supply chain & Procurement
2. Power Systems & Planning
3. Business Strategy
4. Energy purchase

The Presidential Taskforce report gave recommendations for the Independent Power Purchase department to reflect KPLC's commercial status. The implementations have been discussed and operationalized on paper. This is evident by the existence of the departmental structure of the PPP department; however, the department should fully operationalize all sections as per the directives of the Task Force Report.

5.13 Specific Key task (m): Assess whether appropriate controls are in place to prevent or detect material irregularities

Findings

We have reported our findings on this ToR in three key themes namely: Procurement, Pricing and Stock Management.

i. Procurement

The procedures for procurement of HFO including the controls and oversight mechanisms are included in the PPAs. From discussions with the KPLC and the IPPs, the PPA is considered to be comprehensive enough hence the IPPs do not have internal procedures supporting HFO procurement. However, in our view, the applicable procurement rules in the PPA are brief and do not detail the specific procurement procedures and processes to be followed by IPPs in the procurement of HFO.

The PPA requires KPLC to maintain an oversight role in the HFO procurement process. To do this, the utility informed us that it had an ad hoc HFO committee set up to review and approve matters concerning procurement of HFO by the IPPs. We reviewed some of the committee minutes provided by KPLC but noted that they were all recent. We could therefore not confirm that the committee had been in place for all procurements conducted in the review period.

From our reading of the PPA and correspondences with IPPs, we noted that KPLC is involved at the following stages in the procurement process:

a) Drafting of the tender document

From our review of the various procurements done by the 6 IPPs in the review period, we noted that KPLC was actively involved in the review and approval of the tender documents prior to advertisement. While the documents were fairly standardized across the IPPs, we noted that KPLC suggested additional value adding changes such as relaxing the requirements around annual turnover, demonstrated HFO delivery experience and allowing experience from across Africa to be considered. These were positive measures that helped bring on board new HFO vendors such as R.H. Devani who were able to provide competitive prices.

Nevertheless, we noted several gaps in the tender documents as noted below.

i. There is no standard tender document for HFO. Each IPP has its own format of tender documents based on their own business requirements.
ii. Changes to the tender documents are made often due to lack of a data sheet, which can be customized for the specific tender.
iii. The documents comprising the bid are listed in the tender documents, which are supposed to be submitted as part of the bid. However, it lacks a section on evaluation and qualification criteria.
iv. The tender documents lack Bidding Forms, which Bidders will use to prepare their bids and submit in a standardized format for ease of evaluation and comparison.
v. The price formula is supposed to be used by each bidder to ensure that all bidders present the required indices for evaluation. However, some bidders don't follow each price element and introduces other factors.

Recommendations

1. KPLC should develop procurement guidelines in line with the PPA that direct the IPPs on the specific procedures to be followed in HFO procurement.
2. A standard tender document for HFO procurement should be developed and adopted by all the IPPs.
3. A data sheet should be included as part of the tender document.
4. The evaluation and qualification criteria should be properly defined in the tender document.
5. Bidding forms should be introduced so as to standardise the bids from different suppliers.
6. The price schedule should be in a standard format to be filled by each supplier so as to ensure uniformity in price quotation.

b) Bid opening

We established that as per the provisions of the PPA, KPLC is required to send a representative to the bid opening ceremony for all HFO tenders. This was done consistently across all the procurements reviewed and adequate records of the minutes are maintained. Bid opening is also done in the presence of representatives from the bidders which also enhances transparency in the procurement process. We also noted that bid prices are read out during the bid opening and the quoted prices are captured in the minutes. This control also enhances openness and transparency.

While we did not identify any control or oversight gaps in the bid opening process, we noted that there was room for improvement in the issue of correction of errors in the prices announced during the bid opening. This was noted in the Thika Power 2019 tender where the lowest quoted bidder, Gulf Energy, was actually the highest bidder but their price build-up contained arithmetic errors. While we noted that a handwritten note had been included in the minutes, this was not sufficient as the issue should have been formally noted in the bid opening minutes and signed off by the attendees including KPLC representatives. This would have allowed for the matter to be properly tracked and evaluated during the no-objection process by KPLC.

Recommendation

Any issues noted during the tender opening such as arithmetic errors or any other material issue likely to affect the outcome of the tender evaluation should be formally noted in the minutes of the opening ceremonies.

c) Review and approval of the tender evaluation report

The provisions of the PPAs require KPLC to review and approve the tender evaluation report within 7 days. We noted that the PPAs allows KPLC to object to the award of tenders on the following grounds:

1) That the cost passed through to KPLC would not be the lowest cost which KPLC could be expected to pay in the light of compliant tenders received by the Seller.
2) That the proposed fuel supplier lacks the necessary financial and technical capability to perform its obligations under the proposed fuel supply agreement.
3) That the terms in the proposed fuel supply agreement are prejudicial to KPLC's interests under the agreement.
4) That the performance of the proposed fuel supply agreement shall be or become incompatible with any legal requirements.

5) That the Seller, in preparing the fuel tender evaluation report, has erred in its assessment of tenders, or acted fraudulently or negligently.

From our review of the procurement done across the 6 IPPs, there was only one instance where KPLC exercised this right. This was in the HFO supplier tender for Triumph Power in July 2019 where it was noted that the initial price quoted by Total Limited was to be amended. We also established that KPLC initially raised objections to the 2015 Gulf Power tender and 2019 Thika Power tender but later acquiesced to the IPPs position despite raising valid issues on the subjectivity of the tender evaluation. KPLC did not object any of the other tenders including the Triumph Power 2013 tender that had irregularities. In conclusion, we found that the oversight role of KPLC on this particular issue was ineffective. The controls in place to safeguard the interest of consumers versus those of fuel suppliers and IPPs were also lacking. The recommendations to rectify these issues have been detailed in specific key task (b) above.

d) Award of the FSA

Upon approval for award of the tender to the winning bidder, the PPA requires the IPP to prepare a draft FSA for review and approval by KPLC. We noted that this control was being implemented well and that KPLC raised comments on the draft FSAs prior to approving them for signature.

e) Renewal of the FSA

The FSAs have clauses that stipulate the term of the agreement and the extension periods applicable. Most of the FSAs reviewed were for two years with possibilities for extension for two one-year terms. The PPA required renewals to be approved by KPLC though the wording in the FSAs was that they would 'automatically renew'. This limited KPLC's role in ensuring that the renewals were subject to satisfactory performance by the fuel supplier. In the tenders reviewed, we noted one instance where the term of a fuel supplier was irregularly extended beyond the contractual term in the FSA. This was the extension of the Thika Power 2013 tender awarded to Gulf Energy. After the lapse of the contractual date, the IPP sought a further four-year extension. KPLC allowed them to extend for a further two years without due regard to the implications of such extension on fuel cost prices charged to consumers. We therefore concluded that there was need to review the mandate of KPLC in the renewal/extension of FSAs.

Recommendations

The FSA clause on automatic renewal of the agreement after expiry of the initial terms should be amended to include conditions for the renewal such as evidence of satisfactory performance of the contract.

The oversight role of KPLC in the renewal of FSAs should be expanded to a no-objection process where the IPP will be required to provide sufficient evidence to demonstrate effective performance of the contract by the fuel supplier.

Any extensions of the FSAs beyond the contractual limits should be approved by EPRA.

ii. Pricing

The pricing of HFO is defined in the PPA and the FSA respectively. Costs can be broken down into three categories:

i. Fixed costs from the supplier – These include supplier premium, storage, overheads, management fees and transport costs. These costs are maintained throughout the life of the FSA and are based on the winning bids from the fuel suppliers.
ii. Variable costs – These are costs that change on a daily basis and are derived from international indices such as the Means of Platts and AFRA.
iii. Taxes – These are updated based on changes communicated by the regulator EPRA arising from government policy.

Controls in pricing are effected in the following ways:

1. Through the use of standard formulae in the PPAs and FSAs.

Our review on pricing focussed on checking the accuracy and completeness of the formulae stipulated in the FSAs and PPAs. This included the recomputation of several of the fuel supplier invoices (for FSA formula) and power invoices from the IPP to KPLC (for the PPA formula). Our review noted that the formulae were applied consistently across the IPPs.

2. Monthly reconciliations done by the KPLC power purchase team prior to payment of invoices from the IPPs.

From our discussions with KPLC, we established that the power purchase team has been tasked with conducting monthly reconciliations upon receipt of power invoices from the IPPs. We also received evidence of these reconciliations in the form of spreadsheets showing works from the KPLC team. Our review noted that there were some variances between KPLC's computations and those of the IPPs. According to KPLC, these were resolved through debit or credit notes. However, as at the time of this report, we had not received copies of these debit or credit notes to confirm that the variances had been resolved. We had included this a limitation of scope.

As part of the reconciliation process, we noted that there was a gap in the oversight from KPLC for the international indices where KPLC does not independently obtain this data from reputable publishers during the invoice reconciliation process. Instead, KPLC relies on the data provided by fuel suppliers.

Recommendation

KPLC should subscribe to these international indices or rely on data from EPRA.

3. Meter reading

We noted from the fuel cost formula contained in the PPA that the net electrical output was a key component in the fuel cost invoice from the IPPs. We further established from a review of the invoices from the IPPs that the control put in place to monitor this metric was meter reading which was done jointly by IPP and KPLC staff every last day of the month. Our review established that there were instances where KPLC staff did not sign off on the meter readings for some of the invoices reviewed. Examples are as provided below:

IPP name	Invoice Month & Year
Thika Power	May-18
Thika Power	Mar-20
Thika Power	Apr-20
Thika Power	May-20
Thika Power	Jun-20

IPP name	Invoice Month & Year
Thika Power	Feb-21
Thika Power	Mar-21
Thika Power	Apr-21
Thika Power	May-21
Thika Power	Jun-21
Thika Power	Jul-21
Thika Power	Aug-21
Thika Power	Sep-21
Thika Power	Oct-21
Thika Power	Nov-21
Thika Power	Dec-21

Table 64: Sample invoices with no sign off on meter readings

Recommendation

KPLC should ensure that all meter readings are signed off by their representatives.

iii. Stock Management

From our reading of the PPA, FSA and discussions with KPLC and the IPPs, we ascertained that HFO fuel cost recovery was based on pre-determined specific fuel consumption rates (SFC) for each power plant. We established that the SFC rates are determined by the IPPs in their bids at the time of procurement of the power plants and these rates are not reviewed once the PPA is signed. Essentially, this means that the actual usage of HFO stocks is not relevant in the determination of the fuel cost to be recovered from consumers. As a consequence, KPLC exercises minimal oversight over the stockholding of HFO at the IPPs.

The PPA requires each IPP to maintain adequate stocks to prevent instances of unavailability of power plants due to lack of HFO stocks. This requirement was suspended through Gazette Notice 2826 of April 2016 and reinstated in December 2021. We ascertained that while KPLC obtained regular stocks data from the IPPs they were not involved in stock verification at the IPPs through dips and stock counts done on a monthly basis. We noted that this was a lapse in the oversight mandate of KPLC in ensuring adequacy of stocks as per PPA provisions.

Recommendation

KPLC should be involved in the monthly stock dips conducted by the IPPs to ensure that the IPPs have adequate security stocks as provided in the PPAs.

6 Conclusion

The Forensic Audit highlighted several issues that affect the six Thermal Independent Power Plants whose affairs were reviewed with regards to the Procurement and Use of HFO. We therefore recommend that the management of KPLC and relevant stakeholders of the electricity generating industry take the necessary steps to ensure that the recommendations are implemented as below:

a. KPLC in consultation with the IPPs should develop standard procurement guidelines for HFO since there are clear gaps in the PPA deeming it insufficient in regards to offering direction on HFO procurement.
b. There are lapses in the various procurement stages as illustrated in the detailed findings of this report that would need to be addressed for the procurement process to enriched and strengthened.
c. The pricing formulae needs to be understood in depth as it has various cost elements aggregated. This is to ensure that the consumers' interests are protected since fuel charge is a pass-through cost.
d. The gazette notice 2826 did alleviate working capital for the IPPs, however, the concessions given did not impact the consumer.
e. There are efficiencies experienced among the IPPs whenever their actual specific fuel consumption rate is less than the stipulated rate in the PPA, which is used during invoicing. These benefits should be passed forward to the consumer whenever the selected power generation companies are used or concessions granted to the IPPs that are efficient to ensure the same practise across board.
f. Action should be taken against the IPPS and KPLC staff tasked with oversight of the procurement process for failure to protect interests of electricity consumers in the irregularities observed in the HFO tender supply to Gulf Energy, given by Gulf Power Ltd, Thika Power Ltd and Triumph Power Generation Company Ltd. The instances of irregularities warrant severe assessment of gross misconduct and action to be taken on the responsible parties.
g. KPLC, IPPs, and HFO fuel suppliers need to establish a mechanism to fine-tune the computation to reduce and eliminate the variability of what is ultimately charged for fuel. KPLC should implement Standard Operating Procedures (SOPs) between KPLC, IPP and HFO suppliers and ensure it is followed with an accountability mechanism to prevent potential loss through overpayment or underpayment for fuel supplied to IPPs due to needless variations.
h. KPLC should ensure the correct interpretation and application of the formulae all through by all industry players to ensure price competitiveness.
i. The Power Planning and Purchase department should be fully operationalized for optimization of resources and cohesiveness in the planning and execution of electricity generation in the country.
j. A review of KenGen thermal plants is necessary due to its significant capacity and its contribution to the electricity generation industry. Kengen thermal power plants during the FY 2020/2021 generated an average of 2% of the system gross whereas the six thermal independent power plants combined contributed averagely 5%of the system gross. This goes to prove the significant importance to review and assess its affairs.
k. KPLC should enhance their oversight roles as stipulated in the PPA with inclusion of recommendations made within this report to strengthen their oversight capacity.
l. Policies and controls should be implemented to ensure the efficiency of power generation.
m. There's lack of strict adherence to FSA guidelines as seen through irregular extensions of tenders. Fuel suppliers should not be allowed to extend their contract beyond the allowable period stipulated in the Fuel Supply Agreement.
n. There are more issues that afflict the IPPs beyond the procurement and use of HFO as the forensic audit assignment was skewed. There is urgent need to review the entire operations of the IPPs and their overall contribution in the generation of electricity.
o. The conflict of interest between Gulf Energy and Gulf Power shows serious lapse in KPLC's oversight mandate, a matter that should be further investigated.

HFO Supply Matrix

The table below illustrates the quantity of the HFO supplied across the IPPs by the following various suppliers. In the period July 2018 to June 2021, there were five HFO suppliers who delivered fuel worth a total value of **USD 158,331,783.06.**

The weighted average price showed that RH Devani had the most favourable prices with Dalbit Petroleum and Kenol Kobil following closely, while Vivo Kenya and Gulf Energy had the highest prices.

Fuel Supplier	Gulf Energy		Vivo Kenya		Kenol Kobil		Dalbit Petroleum		RH Devani	
IPP	**Quantity MT**	**Amount USD**	**Quantity MT**	**Amount USD**	**Quantity MT**	**Amount USD**	**Quantity MT**	**Amount USD**	**Quantity MT**	**Amount USD**
Tsavo	-	-	-	-	-	-	-	-	94,188.00	41,028,662.81
Gulf	10,778.90	6,642,444.80	242.57	140,709.46	-	-	-	-	-	-
Rabai	-	-	-	-	75,565.92	38,688,429.67	45,570.04	20,816,585.92	-	-
Iberafrica	31,380.14	16,659,774.62	-	-	-	-	-	-	-	-
Thika	30,992.24	18,920,648.19	-	-	-	-	-	-	18,092.40	9,113,869.24
Triumph	1,778.07	1,155,361.04	-	-	-	-	-	-	9,735.58	5,165,297.30
TOTAL	**74,929.34**	**43,378,228.66**	**242.57**	**140,709.46**	**75,565.92**	**38,688,429.67**	**45,570.04**	**20,816,585.92**	**122,015.98**	**55,307,829.35**
Weighted Average Price		**578.92**		**580.08**		**511.98**		**456.80**		**453.28**

Table 65: HFO Supply Matrix

Based on the above analysis, we determined the key players during the period under audit were RH Devani and Gulf Energy that have supplied 3 and 4 IPPs respectively. RH Devani had 35% of the total business in USD, delivering 122,015.98 MT while Gulf Energy had 27% delivering 74,920.43 MT.

7 Annexures

The Kenya Power and Lighting Company PLC

Report on the Forensic Audit on Procurement and Use of Heavy Fuel Oils

Period covered: 1 July 2018 to 30 June 2021

ANNEXURE 1: COPY OF GAZETTE NOTICE 2826 OF 19 APRIL 2016

Notice 2826 of 2016

THE KENYA GAZETTE
Published by Authority of the Republic of Kenya
(Registered as a Newspaper at the G.P.O.)

Vol.CXVIII-No.43

Page. 1792

22 April, 2016

GAZETTE NOTICE NO. 2826

THE ENERGY ACT

(*NO.* 12 *OF* 2006)

OPERATION OF THERMAL GENERATION PLANTS IN THE ELECTRICITY SUPPLY SYSTEM

PURSUANT to the provisions of sections 5, 6 and 25 of the Energy Act, 2006, the Energy Regulatory Commission wishes to notify the general public that it has received an application from thermal power generation licensees, Kenya Power and Lighting Company Limited and Fuel Suppliers to thermal power plants. The Commission has reviewed the application and orders that:

(a) The Fuel Supply Agreements can be renegotiated to adjust the stock holding levels in light of the reduced dispatch of thermal power plants.

(b) The application for a change in the economic merit order of dispatch in the interconnected grid is disallowed. An exception will be allowed where the plants are run to maintain them in an operable mode as recommended by the manufacturer.

These decisions are based on the objects and mandate of the Commission as provided under sections 5 (*b*), 6 (*h*), (l) of the Energy Act.

Dated the 19th April, 2016.

JOSEPH NG'ANG'A,

MR/PTG/1508/15-16

Director-General.

PRINTED AND PUBLISHED BY THE GOVERNMENT PRINTER, NAIROBI

ANNEXURE 2: EXTRACT OF MINUTES OF ERC SPECIAL MEETING

EPRA
Energy & Petroleum Regulatory Authority

Eagle Africa Centre, Longonot Road, Upperhill
P.O. Box 42681 - 00100 GPO, Nairobi - Kenya
Tel: +254 - 20 - 2847000
Cell: +254 730 954 000
Hotline: +254 709 336 000
Email: info@epra.go.ke; Website: www.epra.go.ke

MINUTE EXTRACTS

MINUTES OF THE 67TH SPECIAL MEETING OF THE ENERGY REGULATORY COMMISSION HELD ON WEDNESDAY 28TH JUNE 2017 AT 9.00 A.M. AT ERC BOARDROOM, 3RD FLOOR EAGLE AFRICA CENTRE

MIN/ERC/SP/67/1/2017 – ATTENDANCE

Present

1. Mr. Joshua Oigara – Chairman
2. Mr. Pavel R. Oimeke – Ag. Director General
3. Dr. Sellah Kebenei – Member
4. Eng. Eric Nyamunga – Member
5. Eng. Samuel Maugo – Member
6. Mr. Mwangi Njenga – Member
7. Eng. Titus Gitahi – Alternate to PS, Member
8. Eng. Nixon Lenaiyara – Member

In Attendance

Mueni Mutung'a – Commission Secretary (Taking Minutes)

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Preliminaries

The Chairperson called the meeting to order at 09:07 a.m. and welcomed Members present to the 67th special meeting of the Commission.

MIN/ERC/SP/67/2/2017 – ADOPTION OF THE AGENDA (Agenda Item No. 2)

The Proposed Agenda for the meeting was adopted.

MIN/ERC/SP/67/24/2017 – TO NOTE FOR APPROVAL GULF ENERGY LTD AND VIVO ENERGY KENYA LTD CLAIMS ARISING OUT OF HFO HOLDING REQUIREMENTS FOR IPP PLANTS (Agenda Item No. 5[xiv])

Tabled: **ERC/Paper No. 495/2017** Titled: - **"To Note for Approval Gulf Energy Ltd and Vivo Energy Kenya Ltd Claims arising out of HFO Holding Requirements for IPP Plants".**

- Gulf Energy entered into a Fuel Supply Agreement (FSA) to deliver Heavy Fuel Oil to KenGen's Kipevu III (115MW) power plant, Thika Power (87MW) power plant, Gulf Power (80MW) power plant and Triumph Power (83MW) power plant. These plants accounted for a total of 365MW out of 690 MW of the installed MSD capacity - approximately 53% of the national MSD capacity.

- The FSA had a provision for fuel suppliers to hold sizeable quantities of minimum heavy fuel oil (HFO) volumes as security and buffer stocks in sufficient quantities to meet plant demand at full capacity and additionally maintain minimum security stocks ready to be pumped to the plants on short notice.

- Gulf Energy Ltd. contended that as a result of the commissioning of the 280MW of KenGen's geothermal power plants and the subsequent reduction

Page 2 of 5

in dispatch of its customer's petro-thermal IPP power plants, it took up to 12 months (360 days) to clear stock that would have taken 60 days. This resulted in huge losses. The problem was compounded by the fact that the stocks were bought at high prices and were held for longer period and attracted relatively large financing costs. This therefore impacted the company negatively since the IPPs it had contracted to supply fuel were not being dispatched.

- On 27th March, 2015, Kenya Power & Lighting Company wrote to the Commission in support of the IPPs request to the Commission to:

  a) Consider dispatching IPPs that held stocks without regard to the Economic Order of Merit to allow them deplete the stocks held; and

  b) Use the actual purchase price of the stocks held instead of the stipulated price in the FSA.

- The Commission deliberated on KPLC's request and found no merit in it. Management's decision was gazetted in the Kenya gazette notice number 2826 dated 19th April 2016.

- On 5th July, 2016 Gulf Energy Ltd sent a letter to the Commission seeking compensation of US$7,324,470 which it had allegedly incurred over and above the minimum stock holding.

- On 10th October 2016, Management sought a Legal opinion from the Attorney General and on 4th November 2016, the Attorney General advised that, the question as to the appropriate relief which could be granted by the Commission arising from the dispute under the Fuel Supply Agreement was a matter to be determined in accordance with the principles of justice guided by the facts of the case, the law and evidence, the submission by the parties and any other relevant material i.e. policy direction that may have been given by the Ministry in the matter.

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- The Commission at its 81st ERC meeting held on 26th October, 2016 resolved that a team be formed to review the request of Gulf Energy Limited for costs arising out of HFO holding requirements for IPP Plants. While reviewing the matter, the team received an additional claim from VIVO Energy of similar nature and both claims were reviewed. The following observations were noted on the two claims.
- The Committee thereafter met, discussed and prepared a report to the Ag. Director General. The total claim considered for both Gulf & VIVO was **US$9,745,775.50.**

After deliberations and noting the contents of the paper, the Commission varied its earlier decision and approved the Claim by Gulf Energy and Vivo Energy with respect cost incurred under the Fuel supply Contracts with KenGen Kipevu III, Thika Power, Gulf Power plant and Triumph Power plant. The claim was broken down as hereunder:-

Table 1: GULF & VIVO Claim

GULF ENERGY LIMITED	**USD**
Extra Storage costs (Scenario 3)	3,038,559.66
Additional Finance Interest Charges	1,770,000.00
Additional Forex losses	2,221,687.00
Sub Total	**7,030,246.66**
VIVO Energy	

Difference in Pricing Costs (Import minus Actual) –Tsavo Power	1,265,734.00
Difference in Pricing Costs (Import minus Actual) -- KenGen **(KShs 149,328,869) @** ExchRate of **KShs 103/USD**	1,449,794.84
Sub Total	**2,715,728.84**
Total Claim (GULF + VIVO)	**9,745,775.50**

The claim would be recovered with effect from 1 July, 2017.

CONFIRMED

Nyanga

Mueni Mutung'a

CORPORATION SECRETARY & DIRECTOR LEGAL SERVICES

Date: 5th September, 2022

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ANNEXURE 3: LETTER FROM ERC TO GULF POWER DATED 7 OCTOBER 2016

erc

nergy Regulatory Commission

Eagle Africa Centre, Longonot Road, Upperhill
P.O. Box 42681-00100 GPO, Nairobi - Kenya
Tel: +254-20-2847000/200
Cell: +254 - 0722-200947/0734-414333
Email: info@erc.go.ke Website: www.erc.go.ke

Our Ref. ERC/ER/2/TBD/JM/sp

7th October 2016

Dr. Ben Chumo, OGW
Managing Director & CEO
Kenya Power
Stima Plaza, Kolobot Road
P.O.Box 30099-00100
NAIROBI

Dear Norman,

RE: HEAVY FUEL OIL STOCKS AND DISPATCH OF MEDIUM SPEED DIESEL POWER PLANTS

The above matter and our earlier letter Ref: ERC/ER/2/TBD/JM/jn refers.

In order to reduce the fuel stocks held by some of the thermal power plants without change in the fuel cost charge, approval is hereby granted to allow for a *Last in First Out* (LIFO) method of accounting from 1st October 2016 until further notice.

Be guided accordingly.

Yours Sincerely,

Eng. Joe Ng'ang'a
DIRECTOR GENERAL

GULF POWER RECEIVED ... 2016

Copy to

Hon. Charles Keter, MGH

Dr. Eng. Joseph Njoroge, CBS

ANNEXURE 4: LETTER FROM THE IPPS TO ERC DATED 28 AUGUST 2015

GulfPower TRIUMPH POWER RABAI POWER IBERAFRICA

28thAugust 2015

The Director General,
Energy Regulatory Commission
Eagle Africa House
P.O. Box 42681-00100
Nairobi-Kenya

RECEIVED
02 SEP 2015
Energy Regulatory Commission

Attention: Eng. Joseph Nga'ng'a

Dear Sir,

RE: Medium Speed Diesel Power Plants Outstanding Issues

With the commissioning of the 280MW from geothermal power plants, majority of the thermal power plants have since experienced very low dispatch. Also there has been introduction of new taxes which impacts on our cost which has not been addressed by KPLC though provided for in the PPA's.

The above in a number of ways has extremely affected the operations of MSDs as detailed below for which will inform our discussions.

1. **Fuel Stocks and Fuel Oil Specifications Standardization:**

Majority of the MSD power plants and their suppliers were left holding huge HFO stocks that have resulted in additional financial and storage costs to the suppliers. These additional costs have since been passed to the power plants considering that the fuel was ordered based on the projected dispatch by KPLC. Several meetings were held between the KPLC and the operators on this and the following proposals were made to resolve some of the matters;

(i) Accelerated consumption of the stocks after deliberations between KPLC - ERC
(ii) IPPs to furnish KPLC additional financial and fuel storage charges so that they are presented to ERC for reimbursement
(iii) That KPLC would formally waive the requirement for the minimum stock as required in the PPA considering that the low dispatch for most MSDs may continue.
(iv) That KPLC would finalize the standardization of the HFO specifications for all the plants in order to optimize on inventory management by various suppliers.

ANNEXURE 5: EXTRACT OF PPA BETWEEN KPLC, GULF ENERGY AND GULF POWER

PP.9.1

Kenya Power

POWER PURCHASE AGREEMENT

80.32 MW ATHI RIVER POWER PLANT

BETWEEN

GULF POWER LIMITED
GULF ENERGY LIMITED
AND
THE KENYA POWER AND LIGHTING COMPANY LIMITED

DATED: 17TH DECEMBER, **2012**

3½ £10
D7
Ref 1

THIS AGREEMENT is made on the 17th day of December 2012

BETWEEN

(1) Gulf Energy Limited, a limited liability company incorporated in Kenya with its registered office at Geminia Insurance Plaza, Kilimanjaro Avenue, Upperhill, PO Box 61872-00200 Nairobi, Kenya;

(2) Gulf Power Limited, a limited liability company incorporated in Kenya with its registered office at 8th Floor, Lonrho House, Standard Street, PO Box 21754-00100 Nairobi, Kenya("**Seller**"); and

(3) The Kenya Power and Lighting Company Limited, a company incorporated in Kenya with its registered office at Stima Plaza, PO Box 30099-00100 Nairobi, Kenya ("**KPLC**").

WHEREAS:

(A) KPLC is licensed to purchase electricity and to transmit and distribute electricity in the Republic of Kenya;

(B) Pursuant to a Request for Proposals ("**RFP**") dated 27th July 2009 issued by KPLC, and an addendum thereto dated 25th November, 2009, the Seller submitted an offer which was accepted by KPLC following the due process of the RFP;

(C) Gulf Energy Limited and its consortium partners ("**Project Sponsors**") established the Seller to undertake the obligations set out in this Agreement. Gulf Energy Limited, as the principal sponsor, is a party to this Agreement to provide support to the Seller as provided in this Agreement;

(D) Pursuant to the RFP the Seller as the successful tenderer is required to enter into a power purchase agreement with KPLC; and

(E) This Agreement is the power purchase agreement agreed between the Parties pursuant to the RFP.

I hereby certify that this is a true copy of the Original Document
Dated this 25 ... April ... 20 13
JULIUS ... WAKO
Advocate

IT IS HEREBY AGREED as follows:

Clause 1: Definitions and Interpretation

1.1 **Defined terms**: In this Agreement, unless the context otherwise requires, the following words and expressions shall have the following meanings:

"**Abandonment**" or "**Abandoned**": cessation of operation of the Plant, and the withdrawal of all, or substantially all personnel by the Seller from the Site or the Plant for reasons other than an event of Force Majeure; provided, however, that the Seller shall not be deemed to have Abandoned the Plant so long as it is using all reasonable endeavours to reinstate such operation;

"**Affected Period**": has the meaning ascribed to it in Clause 14.4;

1

ANNEXURE 6: EXTRACT OF GULF TENDER DOCUMENT

GulfPower

Initial ITB as required under CPs

TENDER FOR THE SUPPLY

OF

HEAVY FUEL OIL

TO

ATHI RIVER POWER II PLANT

MACHAKOS COUNTY – MACHAKOS DISTRICT

Gulf Power Limited
www.info@gulfpower.co.ke

GulfPower

A. INSTRUCTIONS TO BIDDING PARTIES

1. Invitation To Bid

GULF POWER LIMITED, hereinafter referred to as the "Purchaser", invites Bids from interested companies, hereinafter referred to as the "Bidding Parties", for supply of Heavy Fuel Oil (the "Fuel") to be delivered to its power plant (Athi River II) located at Land Reference Number 29621 (Orig. No. 17843) and Land Reference Number 29622 (Orig. No. 17842) Mavoko Municipality, Machakos County, Machakos District. The Fuel is required to operate 10 Wartsila W20V32 medium speed diesel engine driven generators with a net output of 80.32MW.

1.1 Quantity of Fuel, Duration of Supply and Storage Facilities

The quantity of Heavy Fuel Oil required shall be approximately 264,000 Metric Tonnes, (MT) during a period of two years. The duration of the contract will be two (2) years with possible renewal for three (3) additional one-year terms. The Initial Delivery Date will be notified in writing by the Purchaser in due time, and is estimated to be within eight (8) months of signing of the supply contract.

The Bidding Party shall demonstrate to the Purchaser's satisfaction with documentary evidence that it owns or has access to by virtue of a long-term lease of minimum five (5) years to Heavy Fuel Oil storage facility (ies) being fully dedicated tankage, with a minimum capacity of 14,000m^3 in Mombasa with easy connecting facilities between the storage tank and the jetty. The Bidding Party must submit with its Bid, documentary evidence to prove ownership of the storage and connecting facilities, or such documents including but not limited to lease or hire of such storage and connecting facilities which confer access to and right of use of those facilities by the Bidding Party for a period of at least five (5) years from the last day of the bid validity period set out in clause 3.5. The Bidding Party shall also provide documentary proof of valid inspection, SGS (or equivalent agency) certification and calibration of each of the dedicated tanks. The Purchaser may at its discretion carry out physical inspection of storage facilities before execution of the Fuel Supply Agreement.

1.2 Fuel Supply Agreement

The Bid documents include a draft Fuel Supply Agreement (Annex 1). Capitalised terms used but not defined herein shall have the meanings given to them in the draft Fuel Supply Agreement. The Purchaser intends to enter into a contract based on this document. Bidding Parties are advised to carefully read this document and where they so differ with any provision of the Agreement provide, along with their Bid, any comments and suggested changes in language to this agreement, along with an explanation for the requested change. All comments will be taken into consideration when evaluating the Bids. Please note that any inconsistencies between these Bid documents and the draft Fuel Supply Agreement shall be resolved in favour of the Fuel Supply Agreement.

Gulf Power Limited
www.info@gulfpower.co.ke

ANNEXURE 7: EXTRACT OF GULF EVALUATION REPORT 2014

Company name: GulfPower

Athi River II Power Plant

Report Title: **HFO Supply Tender Evaluation Report**

Done by: Chuba Mjomba:

Reviewed by: Abubakar Ali:

Approved by: Norman Wanyiri:

Date: 4th March 2014

3 DETAILED EXAMINATION OF BIDDERS' TECHNICAL AND FINANCIAL CAPACITIES (STAGE-2):

Only those bids surviving preliminary examination need to be examined in this phase.

3.1 Technical Evaluation

The evaluation criteria was shared with KPLC on 24th January 2014 in the form of Appendix III. The technical evaluation included but was not limited to annual turnover, experience in the HFO business, dedicated storage capacity, proof of availability of supply, valid and adequate transportation contracts, and Health Safety Environmental and Quality Assurance Policies.

Gulf Energy Limited

Table 2 below details the Technical evaluation of Gulf Energy Limited.

A detailed technical evaluation was done which shows conformance to all requirements under this category.

	Gulf Energy		
	2013	2012	2011
Annual Turnover (Convert Kshs to USD)	1,033,065,993	1,059,438,717	1,750,083,050
Greater than [illegible]? PASS / FAIL	PASS	PASS	PASS
Experience in HFO Business	YES	YES	YES
HFO sales per annum in USD?	165,000,000	129,000,000	68,000,000.00
HFO sales must minimum $100m per annum?	PASS		
Customers?	IBP, TPI, KENGEN	IBP	IBP
Location?	NBO, THIKA, MSA	NBO	NBO
Dedicated Storage: Input Capacity of Storage	54,510		
Owned (show proof) PASS	PASS		
Long term Lease (show proof) PASS	PASS		
Hospitality / Shared Storage FAIL	PASSES ABOVE		
Site visit to ascertain dedicated storage done? (PASS / FAIL)	PASS		
Proof of Availability of Supply	YES		
Show supply agreements / Term Contracts?	YES		
Refinery Contracts? (Prove quantity / specifications)	YES		
Other? (Describe)			
Valid & Adequate Road Transport Contracts			
Valid signed transport contracts? (YES / NO)	YES		
Adequate capacity (11,000m3 per month = 400MT per day = 17 trucks per day; fleet of 50 trucks)	YES		
Health, Safety, Environment & Quality Assurance Policy	YES, ISO 9001:2008 CERTIFICATION		
HSEQ policy attached?	YES		
SUMMARY OF TECHNICAL EVALUATION (PASS / FAIL)	YES		

Table 2: Gulf Energy Technical Evaluation Summary

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Dedicated Tank Storage Capacity;

- Gulf Energy Limited have a firm storage capacity of 54,510M³ and commitment to reserve 15,000M³ exclusively for Gulf Power Limited. This is detailed as follows;

  (a) Long term lease between Gulf Energy Limited and Universal Education Trust Fund – 14,510M³ Capacity
  (b) Long term lease between Gulf Energy Limited and Tecaflex Ltd – 15,000³ Capacity
  (c) Long term lease between Gulf Energy Limited and Mbaraki Bulk Terminal Limited - 25,000M³ Capacity

Proof of Availability of Supply

Gulf Energy Limited has an existing agreement with Petrochina International (Singapore) PTE limited for supply of HFO to Kenya that meets the requirements of the fuel specifications for Gulf Power Limited.

Site Visit

Site visit conducted on 7th February confirmed the proposed 15,000M³ storage capacity dedicated for supply of HFO.

HSE & Quality Assurance Policy

Gulf Energy Limited has a detailed HSE policy and ISO certification valid until 26th November 2016.

Conclusion: Gulf Energy Limited exceeds all the technical requirements needed to be shortlisted for the supply of HFO.

KenolKobil Limited

Table 3 below details the Technical evaluation of KenolKobil Limited.

KenolKobil fails to meet the threshold of the technical requirement needed in several ways;

Dedicated Tank Storage Capacity;

- Two HFO storage tanks are available at their receiving, storing and handling terminal. The tanks are Nos. 267 and 268 with a capacity of 20,588M³ and 10,513M³ respectively. In addition, the two tanks are co-shared between KenolKobil and Total Kenya.

- Tank No. 267 serves 2.5% HFO supply to Rabai Power which requires a minimum reserve capacity of 15,000M³.

- Tank No. 268 with a capacity of 10,513 is therefore not adequate for HFO supply to Gulf Power considering that a minimum reserve capacity of 14,000M³.

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	Kenolkobil		
	2013	2012	2011
Annual Turnover (Convert Kshs to USD)	756,287,959.36	2,230,666,485.92	2,577,247,843.22
Greater than $100million? PASS / FAIL	PASS	PASS	PASS
Experience in HFO Business	YES	YES	YES
HFO sales per annum in USD?			
HFO sales meet minimum $100m per annum?	PASS		
Customer?	RABAI	RABAI	RABAI, KENGEN
Location?	MSA	MSA	MSA
Dedicated Storage: Input Capacity of Storage	0		
Owned (Show proof)? PASS	FAIL		
Long-term Lease (Show proof)? PASS	FAIL		
Hospitality / Shared Storage (FAIL)	FAIL		
Site visit to ascertain dedicated storage done? (PASS / FAIL)	FAIL		
Proof of Availability of Supply	NO		
Show supply agreements / Term Contracts?	NO		
Refinery Contracts? (Prove quantity / specifications)	YES		
Other? (Describe)			
Valid & Adequate Road Transport Contracts			
Valid signed transport contract(s)? (YES / NO)	YES		
Adequate capacity (11,000m3 per month = 450MT per day = 17 trucks per day; fleet of 53 trucks)	YES		
Health, Safety, Environment & Quality Assurance Policy	NO, ISO CERTIFICATE EXPIRED IN MAY 2013		
HSEQ policy attached?	YES		
SUMMARY OF TECHNICAL EVALUATION (PASS / FAIL)	[illegible]		

Table 3: KenolKobil Technical Evaluation Summary

Proof of Availability of Supply

- There is no proof of availability of supply supplied by KenolKobil.

Site Visit

- Site visit revealed that both storage tanks Nos. 267 and 268 were in use by both Total Kenya and KenolKobil.

HSE & Quality Assurance Policy

- The ISO 9001:2008 certification expired on 20th May 2013. A letter dated 11th July 2013 confirms that the certification auditors are still undertaking technical review. To the date the Bids were submitted, there is no evidence that certification has been renewed.

Conclusion: KenolKobil does not have adequate dedicated storage capacity to guarantee uninterrupted HFO supply to the Gulf Power Athi River II power plant. In actual fact, only one tank is available. In addition, the company fails to demonstrate any proof of availability of 2.0% Sulfur HFO supply.

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Vivo Energy Kenya Limited

A detailed technical evaluation was done which shows conformance to all requirements under this category.

Dedicated Tank Storage Capacity;

- Vivo have a firm storage capacity of 33,702M³ and commitment to reserve 15,000M³ exclusively for Gulf Power Limited. In addition, they have made provisional arrangements with Mbaraki Bulk Terminal Limited for an additional 10,000M³ in order to boost their capacity though hospitality agreement.

Table 4 below details the Technical evaluation of Vivo Energy Kenya Limited.

	Vivo		
	2013	2012	2011
Annual Turnover (Convert Kshs to USD)	955,156,930.76	570,772,511.45	595,724,857.32
Greater than $100Million? PASS / FAIL	PASS	PASS	PASS
Experience in HFO Business	YES	YES	YES
HFO sales per annum in USD?			
HFO sales meet minimum $100m per annum?	PASS		
Customers?	TPC, KENGEN	TPC	TPC
Location?	MSA	MSA	MSA
Dedicated Storage: Input Capacity of Storage	33,702		
Owned (Show proof) PASS	PASS		
Long term Lease (Show proof) PASS	PASS		
Hospitality / Shared Storage (FAIL)	PASSES ABOVE		
Site visit to ascertain dedicated storage done? (PASS / FAIL)	YES		
Proof of Availability of Supply	YES		
Shown supply agreements / Term Contracts?	YES		
Refinery Contracts? Prove quantity / specifications	YES		
Other? Describe			
Valid & Adequate Road Transport Contracts			
Valid signed transport contracts? (YES / NO)	YES		
Adequate capacity (11,000m3 per month = 458MT per day = 17 trucks per day; fleet of 50 trucks)	YES		
Health, Safety, Environment & Quality Assurance Policy	YES, ISO 9001:2008 CERTIFICATION		
HSEQ policy attached?	YES		
SUMMARY OF TECHNICAL EVALUATION (PASS / FAIL)	YES		

Table 4: Vivo Energy Kenya Technical Evaluation Summary

Proof of Availability of Supply

Vivo Energy have reached an agreement with Vitol Asia PTE Ltd for supply of HFO to Kenya to meet the requirements of the fuel specifications in the Instructions to Bids which is varied for 2 years with a possibility of extension for a further 2 years.

Site Visit
Site visit conducted on 7th February confirmed the proposed 15,000M³ storage capacity dedicated for supply of HFO to Gulf Power.

HSE & Quality Assurance Policy

Vivo Energy has a detailed HSE policy and ISO certification valid until 7th August 2016.

Conclusion: Vivo Energy meets all the technical requirements outlined in the evaluation criteria.

3.2 Financial Evaluation of the Bidding Companies

		BIDDERS								
		Gulf Energy			KenolKobil			Vivo		
		2013	2012	2011	2013	2012	2011	2013	2012	2011
A	CURRENT RATIO	1.15	1.09	1.06	[illegible]	[illegible]	1.11	1.58	2.84	2.97
B	NET WORKING CAPITAL RATIO	1.15	1.09	1.06	[illegible]	[illegible]	1.11	1.58	2.84	2.97
C	ASSET TURN OVER RATIO	6.17	6.16	5.50	2.26	5.89	4.84	3.70	3.04	2.64
D	DEBT TO EQUITY RATIO	0.17	0.02	0.02	0.14	0.14	0.13	0.20	0.00	0.00
		PASS	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS

Table 5: Summary of Bidders Financial Ratios

Asset Turnover Ratio:
All Bidders showed satisfactory ratios in this category, with Gulf Energy demonstrating the best efficiency.

Debt to Equity Ratio:
This ratio was to demonstrate the financial stability of the bidders. All Bidders had less than 75:25 Debt: Equity Ratio. Vivo had a negative the highest ratio and this was caused by the loss they made in 2013. It may be a concern if Vivo make any more losses.

It was noted that KK made a huge loss in 2012 which affected almost 50% of their total shareholder's value. This is a cause of concern and should be monitored closely.

Current Ratio:
With a current Ratio >1 a company is healthy in liquidity and shows the company can settle it is current liabilities.

KenolKobil with a Current Ratio below 1 is unable to pay off it is short-term liabilities and this is a unhealthy financial position.

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2.4 Preliminary Examination of Bids

- **Verification**

The three submitted bids were verified for any Omissions, Validity, Completeness of Bid documents, and Letters of Authorization/ Power of Attorney. All were found to be in order.

- **Eligibility**

None of the bidders has been blacklisted or have had their licenses withdrawn by any of the issuing authority. Bidders were also found to have the following valid documents.

(a) Petroleum Business License issued by the Energy Regulatory Commission
(b) Valid Tax Compliance Certificate.
(c) PIN certificate
(d) Certificate of Incorporation – KenolKobil did not submit its Certificate of Incorporation.
(e) Nairobi City County Business License – KenolKobil Submitted a payment receipt for the 2014 Nairobi City County Business License. Vivo Energy did not submit a copy of this license.
(f) VAT certificate of Registration

- **Bid Security**

The bid securities for USD 500,000.00 from the three bidders were provided in the form prescribed in the ITB as follows

(a) Gulf Energy Limited - Bank of Africa Limited
(b) KenolKobil – Ecobank Kenya Limited
(c) Vivo Energy Kenya Limited – Standard Chartered Bank of Kenya Limited

Copies of the Bid Bonds are attached in Appendix II

7 |

FINANCIAL BID EVALUTION

			BIDDERS			
			[illegible]		[illegible]	
			Standardized	Tendered	Standardized	Tendered
A	FOB 180 ARAB GULF PRICE (5 days around 30/11/2012)		593.5080	593.6080	593.6080	593.6080
B	FIXED PREMIUM / DISCOUNT		36.0000	56.0000	116.0200	116.0200
C	FREIGHT = TRb X[WSy/WSb]X[AFRAm/AFRAb]		50.0000	50.0000	22.9800	22.9800
	TRB		50.0000		22.9800	
	WYS	10.37				
	WSB	10.37				
	AFRAM-M	112.60				
	AFRAM-B	112.60				
D	FIXED LOCAL TRANSPORTMBS/NSPP		45.0000	45.0000	51.1900	51.1900
E	TAXES		41.6215	42.5800	42.8590	44.1700
	PETROLEUM LEVY-KSH 400/M3	4.634	4.6345		4.6345	
	EXCISE DUTY KSHS 600/M3	6.952	6.9517		6.9517	
	WHARFAGE-USD 2.0/MT	2.000	2.0000		2.0000	
	STEVEDORING-USD 1.5/MT	1.500	1.5000		1.5000	
	MERCHANT SHIPPING SERVICE LEVY - USD 0.3/MT	0.300	0.3000		0.3000	
	GOK IMPORT FEES-2.25%OF CIF		15.7413		16.4837	
	RDL -1.5% of CIF		10.4941		10.9891	
F	OVERHEADS ,ADMIN,COST PROFIT, STORAGE		81.3200	81.3200	51.3100	51.3100
	PX(A+B+C+D+E+F)		[illegible]	868.5080	[illegible]	879.2780
	RANKING		[illegible]		[illegible]	
	ADJUSTED PRICE DIFFERENCE FROM LOWEST		[illegible]		[illegible]	

ASSUMPTIONS

1	FREIGHT = TRb X[WSy/WSb]X[AFRAm/AFRAb]	
	WYS	10.370
	WSB	10.370
	AFRAM-M	112.600
	AFRAM-B	112.600
2	EXCHANGE RATE (December 2013)	86.309
3	PRODUCT DENSITY	0.950
4	TAXES	
	PETROLEUM LEVY-KSH 400/M3	4.634
	EXCISE DUTY KSHS 600/M3	6.952
	WHARFAGE-USD 2.0/MT	2.000
	STEVEDORING-USD 1.5/MT	1.500
	GOK IMPORT FEES-2.25%OF CIF	A+B+C

Table 7: Standardized bid prices.

The results from table 7 above indicates that Gulf Energy Limited has lower standardized HFO price than Vivo Energy Kenya Limited by USD 10.418.

Conclusion: Both the Bid prices and the standardized prices indicate that Gulf Energy Limited presented the lowest Bid price.

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It was also noted that KenolKobil have a material litigation matter, which has a potential impact on its already frail financial position.

Conclusion:
KenolKobil was deemed unsatisfactory due to the –ve Current Ratio and recent financial performance.

Vivo and Gulf Energy satisfied the financial requirement.

4 DETAILED EXAMINATION OF BIDS (STAGE-3):

Only those bids surviving preliminary examination and both the technical and financial capacity of the bidders are examined in this phase.

4.1 Presentation of Bid Prices

The bidders who qualified were Gulf Energy Limited and Vivo Energy Limited. Table 5 below summarized the Bid prices per metric ton (MT) for supply of 2.0% of HFO to Gulf Power Limited.

		BIDDERS	
		Gulf Energy	Vivo
A	FOB 180 ARAB GULF PRICE (4th December 2013)	593.6080	593.6080
B	FIXED PREMIUM / DISCOUNT	56.0000	116.0200
C	FREIGHT = TRsX(WSy/WSb)X(AFRAm/AFRAb)	50.0000	22.9800
D	FIXED LOCAL TRANSPORTMBS/NSPP	45.0000	51.1900
E	TAXES	42.5800	44.1700
F	OVERHEADS ,ADMIN,COST PROFIT, STORAGE	81.3200	51.3100
	PX(A+B+C+D+E+F)	868.5080	879.2780
	RANKING	1.0000	1.0124
	PERCENTAGE RANKING	100.00%	101.24%

Table 6: Bid prices summary/MT

The results indicate that Gulf Energy Limited has lower Bid price than Vivo Energy Kenya Limited by USD 10.762.

4.2 Standardization.

In order to effectively compare the prices, standardization has been done using the following values:

- AFRA – average single voyage rate assessment for the period 16th November 2013 to 16th December 2013 for Medium Range = 112.6
- Exchange rate (USD/KES) – Average exchange rate for the month of December 2013 – 86.309

For other details, please see table 7 below.

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ANNEXURE 8: KPLC LETTER TO GULF POWER DATED 14 MARCH 2014

Kenya Power

Central Office - P.O. Box 30099 - 00100
Telephone - 254 - 02 - 3201000
Stima Plaza, Kolobot Road
Nairobi, Kenya
www.kenyapower.co.ke

KP1/7BA/491/CMET/eso

14 March 2014

Mr. Norman Wanyiri,
General Manager,
Gulf Power Ltd.,
P.O. Box 21754-00100,
NAIROBI

Dear

SUBJECT: HEAVY FUEL OIL TENDERING REPORT

Your letter dated 11th March, 2014 on the above referenced subject refers.

We have read the fuel tendering evaluation report but we are unable to grant approval as requested due to lack of sufficient supporting documents. The required documents include copies of tender opening minutes and financial bids submitted by the bidders.

Please forward to us the supporting documentation to enable us complete the review process.

Yours faithfully,
For: **THE KENYA POWER & LIGHTING CO. LTD.**

ENG. BENSON MURIITHI
CHIEF MANAGER, ENERGY TRANSMISSION

ANNEXURE 9: GULF POWER RESPONSE TO KPLC DATED 19 MARCH 2014

GulfPower

www.gulfpower.co.ke

Gulf Power Limited
Germinia Insurance Plaza
Kilimanjaro Ave - Upperhill
P.O Box 21754 00100 Nairobi Kenya

Tel +254 20 2725334/5, 2729029/30
Fax +254 20 2725256/9031
info@gulfpower.co.ke

19th March, 2014

Benson Muriithi
Chief Manager- Transmission
Kenya Power and Lighting Co Ltd
P. O. Box 30099-00100
Stima Plaza
Kolobot Road
Nairobi

By Hand Delivery

Dear Sir,

RE: Gulf Power Limited- Athi River II Power Plant

Heavy Fuel Oil Tendering Report Documentation

Your letter dated 14th March, 2014 on the above referenced subject refers.

We hereby submit the supporting documentation as requested to enable you complete the review process. Also included is the report on HFO storage and dispensing capacity for the various companies who tendered.

Attached includes:-

1. Copy of tender opening minutes;
2. Copy of Financial bids submitted by the bidders;
3. HFO storage and dispensing capacity report.

In case of any further information, please do not hesitate to contact the undersigned.

Yours faithfully,

Norman Wanyiri
General Manager

KENYA POWER & LIGHTING CO LTD
RECEIVED
18 MAR 2014
MANAGER ENERGY TRANSMISSION

ANNEXURE 10: KPLC LETTER TO GULF POWER DATED 24 MARCH 2014

Kenya Power

Central Office - P.O. Box 30099 - 00100
Telephone – 254 – 02 - 3201000
Stima Plaza, Kolobot Road
Nairobi, Kenya
www.kenyapower.co.ke

KP1/7BA/491/CMET/jkm

25 March 2014

Mr. Norman Wanyiri,
General Manager,
Gulf Power Ltd.,
P.O. Box 21754-00100,
NAIROBI

Dear

SUBJECT:HEAVY FUEL OIL TENDERING REPORT

As per our request on email dated 24th March 2014, please provide a copy of KenolKobil bid for Heavy Fuel Oil Supply to Gulf Power Limited to enable us complete the review process.

Yours faithfully,
For: **THE KENYA POWER & LIGHTING CO. LTD.**

ENG. BENSON MURIITHI
CHIEF MANAGER, ENERGY TRANSMISSION

ANNEXURE 11: KPLC LETTER TO GULF POWER DATED 8 APRIL 2014

Kenya Power

Central Office - P.O. Box 30099 - 00100
Telephone - 254 - 02 - 3201000
Stima Plaza, Kolobot Road
Nairobi, Kenya
www.kenyapower.co.ke

KP1/7BA/491/CMET/eso

08 April 2014

Mr. Norman Wanyiri,
General Manager,
Gulf Power Ltd.,
P.O. Box 21754-00100,
NAIROBI.

Dear

SUBJECT: HEAVY FUEL OIL TENDERING REPORT

Your letter dated 19th March, 2014 refers.

We have reviewed the evaluation report together with the supporting documentation and noted the following:

1. You have indicated in the evaluation report that the fuel to be supplied was confirmed to be only straight run despite agreement to remove this limitation from the tender documents.
2. The requirement in the technical evaluation for dedicated storage used to disqualify Kenol Kobil is not a fair criteria and it is not possible to demonstrate. Currently most fuel suppliers are supplying fuel to various customers from the same storage making it difficult to confirm availability of dedicated storage. We therefore consider access to storage through ownership, joint ownership or leasing to be sufficient.
3. Some of the financial indicators (ratios) used in the financial evaluation are minor considerations and should not be used to disqualify Kenol Kobil who are currently listed on the stock exchange.

In view of the aforementioned therefore we are unable to grant approval for award of the fuel tender as recommended in the evaluation report.

Yours faithfully,
For: **THE KENYA POWER & LIGHTING CO. LTD.**

ENG. BENSON MURIITHI
CHIEF MANAGER, ENERGY TRANSMISSION

ANNEXURE 12: GULF POWER RESPONSE TO KPLC DATED 11 APRIL 2014

GulfPower

www.gulfpower.co.ke

Gulf Power Limited

THE KENYA POWER & LIGHTING CO. LTD.
RECEIVED
APR 2014
MANAGING DIRECTOR

April 11, 2014

The Managing Director
Kenya Power and Lighting Co Ltd
P. O. Box 30099-00100
Stima Plaza
Kolobot Road
Nairobi.

KENYA POWER & LIGHTING CO. LTD
RECEIVED
22 APR 2014
CHIEF MANAGER ENERGY TRANSMISSION

By Hand Delivery

Dear Sir,

Re: Gulf Power Limited – Athi River II Power Plant
Tender Evaluation Report

We acknowledge receipt of your letter dated 8th April 2014 and referenced KP1/7BA/491/CMET/eso.

Our response to your letter will be based on the following documents and references:

1. The **Power Purchase Agreement dated 17th December 2012 ("PPA")** and the operative provisions on Fuel and the Fuel Procurement Process;
2. The **Instructions to Bid** dated 22nd January 2014;
3. The form of **Fuel Supply Agreement** dated 22nd January 2014;
4. **KPLC Letter of Approval** dated 18th November 2013;
5. **Tender Evaluation Template** shared with KPLC dated 24th January 2014;
6. The **Tender Evaluation Report** dated 4th March 2014;
7. All **correspondence** between the Parties made pursuant to (1) to (5) above; and
8. Independent Power Producer Fuel Supply Tender **precedent** in Kenya.

We trust KPLC acknowledges that the PPA, and the documents and communication flowing therefrom, are the only reference documents by which the Parties stand guided, and together with precedent, would stand guided pursuant to Clause 18 of the PPA.

1. **PPA Operative Provisions on Fuel Tendering Process**

   Approval of Tender Documents:

   a. Clause 9.13.3 ***KPLC Review of Tender Documents*** requires KPLC to notify Seller in writing within 7 days of receipt of any comments to the proposed tender documents.

ANNEXURE 13: KPLC LETTER TO GULF DATED 9 MAY 2019

Kenya Power

Central Office - P.O. Box 30099 - 00100
Telephone - 254 - 02 - 3201000
Stima Plaza, Kolobot Road
Nairobi, Kenya
www.kenyapower.co.ke

KP1/7BA/491/CMET/jom

9th may 2014

Mr. Norman Wanyiri,
General Manager,
Gulf Power Ltd.,
P.O. Box 21754-00100,
NAIROBI

Dear

SUBJECT: HEAVY FUEL OIL PROCUREMENT PROCESS

Refer to the numerous correspondences and the meeting held on May 7, 2014 between KPLC and Gulf Power on the above matter.

We hereby confirm our acceptance of the tender evaluation report and award of the tender to Gulf Energy Limited. However, we would like to express our reservations on the fuel tendering process in regard to the following:-

i. The introduction of straight run requirement which was not part of the tender documents approved by KPLC. This requirement will not be accepted in future tenders unless agreed by the two parties as provided for in the PPA.

ii. It is impractical to confirm availability of dedicated storage for any of the bidders since they use the available storage to supply similar product to different customers. The decision on which bidder has met this criteria or not is therefore, in our opinion, subjective.

iii. Bidders were required to provide audited financial statements to evidence the criteria set out in clause 3.2 (b) of the tender document. Introduction of financial indicators in the evaluation process without disclosure to the bidders including what thresholds are required negates the principle of openness in the tendering process.

We expect the above issues to be addressed in future fuel tenders for the power plant.

Yours faithfully,
For: **THE KENYA POWER & LIGHTING CO. LTD.**

ENG. BENSON MURIITHI
CHIEF MANAGER, ENERGY TRANSMISSION

ANNEXURE 14: EXTRACT OF THE FSA BETWEEN GULF ENERGY AND GULF POWER

GulfPower

DATED

10th June, 2014

FUEL

SUPPLY AGREEMENT

80.32MW ATHI RIVER II POWER PLANT

Between

GULF ENERGY LIMITED

And

GULF POWER LIMITED

Gulf Power Limited
www.info@gulfpower.co.ke

GulfPower

THIS AGREEMENT is made on this 10th day of June 2014

BETWEEN:

(1) **GULF ENERGY LIMITED** a company incorporated with limited liability under the laws of Kenya whose registered office is at 4th Floor, Geminia Insurance Plaza, Kilimanjaro Avenue, Upper Hill P.O. Box 61872, Nairobi 00200, Kenya (hereinafter referred to as the **"Supplier"** which expression shall, where the context so admits, include its successors and assigns) of the one part; and

(2) **GULF POWER LIMITED** a company incorporated with limited liability under the laws of Kenya whose registered office is at 4th Floor, Geminia Insurance Plaza, Kilimanjaro Avenue, Upper Hill P.O. Box 21754 Nairobi 00100, Kenya (hereinafter referred to as the **"Purchaser"** which expression shall, where the context so admits, include its successors and assigns) of the other part.

WHEREAS:

(A) The Purchaser has entered into a Power Purchase Agreement dated 17th December 2012 with Kenya Power and Lighting Company Ltd (**"KPLC"**) (the **"Power Purchase Agreement"**);

(B) Pursuant to the Power Purchase Agreement, the Purchaser will develop, finance, construct, own and operate and maintain an 80.32MW net output heavy fuel oil Power Plant (as defined below) to be located at Athi River, and sell electric capacity and energy to KPLC (the **"Project"**); and

(C) The Purchaser wishes to obtain a long-term fuel supply for the Power Plant and the Supplier is willing to supply the Purchaser's requirements for Fuel (as defined below) in order to provide a long-term fuel supply for the Power Plant subject to and in accordance with the terms of this Agreement.

NOW, THEREFORE, in consideration of the mutual benefits to be derived by the Parties hereunder and the representations, warranties, conditions and promises of the Parties hereinafter contained, and intending to be legally bound,

IT IS HEREBY AGREED as follows:

1 DEFINITIONS AND INTERPRETATION

1.1 Definitions

The following words and expressions shall bear the respective meanings set out below unless the context otherwise requires:

"Affiliate" means in respect of a person, any person who Controls that first mentioned person and any other person controlled by that first mentioned person, including, where a person is a company, the ultimate holding company of that person and any holding company of that person and any subsidiary (direct or indirect) of any such holding company;

7

Gulf Power Limited
www.info@gulfpower.co.ke

ANNEXURE 15: SIGNED PPA BETWEEN KLPC AND THIKA POWER

PP.18.1

The Kenya Power & Lighting Company Limited

1. THIKA POWER LIMITED

2. MELEC POWERGEN INC.

3. MATELEC S.A.L.

4. THE KENYA POWER AND LIGHTING COMPANY LIMITED

POWER PURCHASE AGREEMENT

FOR THIKA 87 MW POWER GENERATING PLANT

July 2012

- 1 -

KENYA 00020 REVENUE PAID Kshs STAMPS Kshs

COLLECTOR OF STAMP DUTIES -3.5.12- NAIROBI

THIS AGREEMENT is made the 2nd day of July 2012

BETWEEN

(1) Thika Power Limited, a company incorporated in the Republic of Kenya with its registered office at Chiromo Lane, Westlands, Purshottam House Plot L.R. No. 209/66/44, Nairobi , P.O. Box [00200] Nairobi (**"Seller"**);

(2) Melec Powergen Inc., a company incorporated in the British Virgin Islands, with its registered office at is Akara Bldg., 24 De Castro Street, Wickhams Cay 1, Road Town, Tortola, British Virgin Islands;

(3) Matelec S.A.L., a company incorporated in Lebanon, with its registered office at Main Street, Ghorfine, Amchit, Lebanon, P.O. Box 12 Jbeil;

AND

(4) The Kenya Power and Lighting Company Limited, a company incorporated in the Republic of Kenya with its registered office at Stima Plaza, P.O. Box 30099,-00100 Nairobi, Kenya (**"KPLC"**).

WHEREAS

(A) KPLC is licensed to purchase electricity and to transmit and distribute electricity in the Republic of Kenya;

(B) Pursuant to a Request for Proposals (**"RFP"**) dated 22nd January, 2010 and an addendum dated 2nd March, 2010 issued by KPLC, Melec Powergen Inc. submitted an offer on behalf of Matelec S.A.L. which was accepted by KPLC following the due process of the RFP;

(C) Melec Powergen Inc. and Matelec S.A.L. have established the Seller to undertake the obligations set out in this Agreement, and Melec Powergen Inc. and Matelec S.A.L. are parties to this Agreement to provide support to the Seller as provided in this Agreement; and

(D) This Agreement is the power purchase agreement agreed between the Parties pursuant to the RFP.

ANNEXURE 16: THIKA POWER 2013 BID EVALUATION REPORT

TENDER FOR SUPPLY

OF

HEAVY FUEL OIL

TO

THIKA POWER PLANT

KIAMBU COUNTY – THIKA DISTRICT

TENDER No. TPL/FSA/01/2013

TENDER EVALUATION REPORT

THIKA POWER Ltd.
P.O. Box 45931-00100 Nairobi

On Friday February 8, 2013, in the presence of representatives of Thika Power Ltd, KPLC and the participants, the 5 received bids were opened as follows:

BIDDER	BID BOND	TOTAL ANNOUNCED PRICE Px (before corrections if any)
Gulf Energy Ltd	Bank of Afrika Kenya Limited	795.1083
Total Kenya Ltd	Bank of Afrika Kenya Limited	850.0700
Kenol Kobil Ltd	Eco Bank	898.8700
Vivo Energy/Shell	Standard Chartered	869.2400
Hass Petroleum Ltd	Standard Chartered	901.4800

We have proceeded to an indepth financial and technical analysis of the 5 bids received.

As a result (details in the following sections):

- Gulf, Total, Vivo and Kenol bids have been found technically responsive, whereas Hass's bid has not been found responsive on 3 important points (no dedicated storage in Mombasa, insufficient previous HFO experience, and average annual turnover for 2008 to 2011 below 500M$)
- Gulf has provided the lowest evaluated bid amongst the 5 bidders

Therefore, and based on section 6 (particularly paragraphs 6.1 and 6.2) of the Instructions to Bidder, **the Bidder having submitted the lowest evaluated responsive Bid is Gulf Energy Limited.**

Page 4/6

A- TECHNICAL EVALUATION

	GULF	TOTAL	KENOL	VIVO	HASS
BID SECURITY	OK PASS	OK PASS	OK PASS	OK PASS	OK PASS
AVERAGE TURNOVER IN$ FOR YEARS 2008 TO 2011 (ABOVE 500M OR HFO SALES ABOVE 100M$)	1,043,431,831 OK PASS	750,840,588 OK PASS	1,732,407,279 OK PASS	692,987,665 OK PASS	447,785,750 NO FAIL
FUEL SPECIFICATIONS(SUBSTANTIAL RESPONSIVENESS)	OK PASS	OK PASS	OK PASS	OK PASS	OK PASS
HFO STORAGE FACILITY IN MOMBASA CAPACITY LEASE VALID FOR 5 YEARS OR OWNERSHIP INSPECTION CERTIFICATES/LICENSES/CONNECTION FACILITIES	20,000 VALID LEASE Y OK PASS	SHARED WITH KENOL 37,000M3 2/3 OF 37000 = 24,667 OWNED/SHARED Y OK PASS	SHARED WITH TOTAL 37,000M3 1/3 OF 37000 = 12,333 OWNED/SHARED N/A ACCEPTABLE ACCEPTABLE	33,700 OWNED OK PASS	N/A - ONLY STORAGE IN TANZANIA N/A N/A N/A N/A FAIL
FUEL SPECIFICATIONS(SUBSTANTIAL RESPONSIVENESS)	OK PASS	OK PASS	OK PASS	OK PASS	OK PASS
NO DEVIATION ON PROPOSED FSA	SOME COMMENTS OK PASS	SOME COMMENTS OK PASS	NO COMMENTS - DEEMED ACCEPTED OK PASS	SOME COMMENTS OK PASS	SOME COMMENTS OK PASS
ARRANGEMENT FOR SOURCING	OK PASS	ACCEPTABLE ACCEPTABLE	OK PASS	OK PASS	ACCEPTABLE ACCEPTABLE
ADMINISTRATIVE DOCUMENTS REGISTRATION-PIN-VAT-TAX CERTIFICATES LICENSES-ERC	OK OK PASS	OK OK PASS	OK OK PASS	OK OK PASS	OK OK PASS
ROAD TRANSPORT ARRANGEMENT VALID CONTRACTS FLEET SIZE SUFFICIENT NUMBER OF TRUCKS DEDICATED TO THIKA	5 CONTRACTS >50 Y OK PASS	1 CONTRACT 64 N/A ACCEPTABLE ACCEPTABLE	5 CONTRACTS 109 N/A ACCEPTABLE ACCEPTABLE	2 CONTRACTS UNKNOWN - CARRIERS HAVE CAPACITY N/A ACCEPTABLE ACCEPTABLE	1 CONTRACT 102 N/A ACCEPTABLE ACCEPTABLE
HFO EXPERIENCE HFO PLANTS IN KENYA ESTIMATED YEARLY HFO VOLUME COMMENT	IBERAFRICA 200,000 OK PASS	N/A LIMITED (UNKNOWN) CAN RELY ON GRP EXP. IN AFRICA ACCEPTABLE ACCEPTABLE	KIPEVU I+II 200,000 OK PASS	TSAVO 100,000 OK PASS	N/A LIMITED (9,000M3) WEAK FAIL
OVERALL ASSESSMENT	**PASS**	**PASS**	**PASS**	**PASS**	**FAIL**

THIKA POWER Ltd.
P.O. Box 45931-00100 Nairobi

B- FINANCIAL EVALUATION

1- Assumptions

REFERENCE DATE	30/11/12
FOB 180 ARAB GULF PRICE (5 days around 30/11/2012)	595.8580
FREIGHT = TRsX(WSy/WSb)X(AFRAm/AFRAb)	
WYS	10.370
WSB	10.370
AFRAM-M	141.300
AFRAM-B	141.300
EXCHANGE RATE (CBK AVERAGE FOR NOV 2012)	85.629
PRODUCT DENSITY	0.950
TAXES (AT REFERENCE DATE)	
PETROLEUM LEVY-KSH 400/M3	4.917
EXCISE DUTY KSHS 600/M3	7.345
WHARFAGE-USD 2.0/MT	2.000
STEVEDORING-USD 1.5/MT	1.500
MERCHANT SHIPPING SERVICE LEVY - USD 0.3/MT	0.300
GOK IMPORT FEES	2.25% OF CIF

2-Evaluated prices

Prices have been evaluated and corrected as follows:

- some of the bidders have taken the new tax rates applicable for 2013 (petroleum levy increased to KSH 450/m3, wharfage to 2.2$/MT, and stevedoring to 1.65$/MT). These values as at reference date are KSH 400/m3, 2$/MT and 1.5$/MT respectively. We have standardized all bidders prices accordingly. *(in accordance with ITB clause 5.4.2)*

- most bidders have used December 2012 $/KSH exchange rate of 85.994, while Hass has used the rate of 86.9. We have standardized all offers using the average CBK exchange rate for November 2012 *(in accordance with ITB clause 3 Note ii)*

- One of the bidders (Hass) has mistakenly multiplied the excise duty by 10 (6000KSH/m3 instead of 600KSH/m3) – correction effected. *(in accordance with ITB clause 5.4.2)*

- While all bidders have announced the no VAT price, Gulf Energy's announced price is the no tax/no VAT price (A+B+C+D+F) – we have reintegrated the tax component E for the purpose of comparing the bids. *(in accordance with ITB clauses 5.3.2 and 5.4.2)*

- Total has used a different Platts value (593.7700 instead of 595.8580) – correction effected. *(in accordance with ITB clause 5.4.2)*

- All arithmetical errors have been corrected *(in accordance with ITB clause 5.3.2)*

SUMMARY OF THE FINAL EVALUATED PRICES

	GULF	TOTAL	KENOL	VIVO	HASS
FOB 180 ARAB GULF (5 days around 30/11/2012)	595.86	595.86	595.86	595.86	595.86
FIXED PREMIUM / DISCOUNT	45.00	110.00	104.95	93.73	67.00
FREIGHT = TRsX(WSy/WSb)X(AFRAm/AFRAb)	42.50	10.00	33.50	22.98	30.00
FIXED LOCAL TRANSPORT MBS/NSPP	49.00	61.31	60.90	63.10	55.56
TAXES	31.47	32.20	32.61	32.13	31.68
OVERHEADS ,ADMIN,COST PROFIT, STORAGE	67.97	41.53	70.75	60.51	55.52
PX(A+B+C+D+E+F)	831.79	850.90	898.57	868.30	835.62
RANKING	1	3	5	4	2

THIKA POWER Ltd.
P.O. Box 45931-00100 Nairobi

ANNEXURE 17: EXTRACT OF 2013 FSA BETWEEN GULF ENERGY AND THIKA POWER

FUEL SUPPLY AGREEMENT
FOR THIKA POWER PLANT

DATED

1 July 2013

Between
GULF ENERGY LIMITED
as Supplier

And

THIKA POWER LIMITED
as Purchaser

THIS AGREEMENT is made on this day of May 2013

BETWEEN:

(1) **GULF ENERGY LIMITED** a company incorporated under the laws of Kenya, having its registered office at Geminia Insurance Plaza, 4th Floor, Kilimanjaro Avenue, Upper Hill, P. O. Box 61872 Nairobi 00200, Kenya;

(Hereinafter referred to as the "**Supplier**")

ON THE ONE HAND
And

(2) **THIKA POWER LIMITED** a company incorporated under the laws of Kenya, having its registered office at Chiromo Lane, Westlands, Purshottam House, Plot L.R. N° 209/66/44 P. O. Box 350 Nairobi 00100, Kenya;

(Hereinafter referred to as the "**Purchaser**")

ON THE OTHER HAND

WHEREAS:

(A) The Purchaser and KPLC entered into a Power Purchase Agreement (the "**Power Purchase Agreement**") pursuant to which the Purchaser shall develop, finance, own, operate and maintain an 87MW Power Plant (as such terms are further defined in Clause 1 below).

(B) Under the Power Purchase Agreement, the Purchaser is responsible for procuring fuel for the Power Plant.

(C) The Supplier desires to fulfill all of Purchaser's Fuel supply needs for the Power Plant, subject to, and in accordance with, the terms and conditions of this Agreement.

NOW IT IS HEREBY AGREED AS FOLLOWS:

ANNEXURE 18: LETTER FROM THIKA POWER TO KPLC DATED 23 MARCH 2017

Thika Power Limited

THIKA POWER LIMITED

23rd March 2017

To: **Managing Director & Chief Executive Officer**
The Kenya Power and Lighting Company Limited ("KPLC").
Stima Plaza,
P.O. Box 30099,-00100 Nairobi, Kenya

Attention: **Dr. Kenneth Tarus**

Our Reference: **THIKA\KPLC\P0186\L068A**

Subject: **Request For Renewal Of The Fuel Supply Agreement**

Dear Sir,

This refers to the above mentioned agreement dated July 2013 clause 3.3.

Further to our renewal of the Fuel Supply agreement on April 2016 Thika Power Limited would like to Request for an extension of the Fuel Supply Agreement for four (4) years with Gulf Energy Limited.

For the last three and a half years in operation Thika power have consumed less fuel than the expected projected consumption at 70% load when contract was awarded .This is caused by low dispatch to the power plant occasioned by commissioning of more renewable sources of energy .

Chiromo Lane, Westlands, P.O. Box 50357, 00100, Nairobi, Tel: 3748947 - Fax: 3742035
Email info@thikapower.co.ke

Thika Power Limited

THIKA POWER LIMITED

Refer to the table below for heavy fuel oil projected consumption against actual consumption.

YEAR	Expected consumption at 70% load (MT)	Actual consumption (MT)	Difference (MT)
2013	51,898.16	31,398.76	20,499.37
2014	104,829.61	88,684.78	16,144.83
2015	104,829.61	27,706.79	77,122.82
2016	104,829.61	6,876.36	97,953.25
TOTAL	**366,386.97**	**154,666.72**	**211,720.25**

From the table above expected consumption of heavy fuel oil would be 366386.97 MT under the contract signed while we have consumed only 154 666.72 MT, leaving a difference of 211720.25 MT

Taking into consideration the above figures which is only 42 .2 % of the expected projected consumption and also coupled with low plant dispatch ,Thika power limited request for the fuel supply agreement to be extended with the current fuel supplier since we have no challenges with the later to enable the plant consume 211720.25 MT as projected by the fuel supplier based on our project data expectations.

We also note that due to the low dispatch expected in the coming years, it would be very challenging to attract offers that would be more competitive than the existing FSA.

All the other terms and conditions remains the same as per the July 2013 fuel supply agreement.

Best Regards

Stephen Mwaura

Plant Manager

Thika power plant

Chiromo Lane, Westlands, P.O. Box 50357, 00100, Nairobi, Tel: 3748947 · Fax: 3742035
Email info@thikapower.co.ke

ANNEXURE 19: LETTER FROM THIKA POWER TO KPLC DATED 28 APRIL 2017

Thika Power Limited

THIKA POWER LIMITED

28th April, 2017

To: Managing Director &Chief Executive Officer
The Kenya Power and Lighting Company Limited ("KPLC").
Stima Plaza,
P.O. Box 30099,-00100 Nairobi, Kenya

Attention: Dr. Kenneth Tarus

Our Ref: THIKA\KPLC\P0186\L068A
Your Ref: KP1/3C/2/12/481/KPM/MM

Dear Sirs,

Subject: Request For Renewal Of Fuel Supply Agreement

The above matter refers.

We also refer to our letter dated 23rd March 2017 requesting an extension of the Fuel Supply Agreement ("the FSA") and your response dated 28th March, 2017.

Request for Review

We wish to entreat KPLC to review its decision based on the following mitigating circumstances not envisioned by the FSA and the Power Purchase Agreement at the time of execution:

1. The FSA did not consider the low dispatch regime instituted by the Government of Kenya mid-contract, which negatively affected the plant in the years 2015 and 2016 by causing a dramatically lower consumption of fuel-than the volumes initially projected at procurement stage;

2. In view of the forgoing scenario, the FSA therefore did not provide any flexibility to the Fuel Supplier to safeguard against direct financial losses resulting from back-to-back contracts entered into with its suppliers to guarantee performance of its security stock and operational stock obligations to the Power Plant;

3. The low dispatch in the years 2015 and 2016 has also caused the Fuel Supplier to suffer heavy financial losses due to accrued interest and storage fees on the fuel which has not been consumed for two (2) years.

Chiromo Lane, Westlands, P.O. Box 50357, 00100, Nairobi, Tel: 3748947 - Fax: 3742035
Email info@thikapower.co.ke

ANNEXURE 20: LETTER FROM KPLC TO THIKA POWER DATED 5 MAY 2017

MANAGING DIRECTOR & CHIEF EXECUTIVE'S OFFICE

TELEPHONE: 3201000
TELEGRAMS
'ELECTRIC' NAIROBI
FAX: 3753836
P.O. BOX 30099-00100
NAIROBI, KENYA

Kenya Power

STIMA PLAZA
KOLOBOT ROAD
PARKLANDS, NAIROBI
KENYA

Our ref: KP1/3C/2/12/481/KPM/mm

05 May 2017

Your ref: THIKA\KPLC\Po186\L068A

Country Manager
Thika Power Limited
P.O. Box 50357-00100
NAIROBI

Attention: Semaan Semaan

Dear Semaan,

RE: REQUEST FOR RENEWAL OF FUEL SUPPLY AGREEMENT (FSA)

Reference is made to your letter Ref: THIKA\KPLC\Po186\L068A dated 28th April 2017 and our previous correspondences on the subject matter.

Considering lack of provision in the FSA for such an extension as outlined in our letter to you ref: KP1/3C/2/12/481/KPM/mm dated 28th March 2017, we are constrained in granting you the four (4) years requested extension. However, to avoid lack of fuel in the Power Plant, we advise you to seek a final extension of two (2) years from the fuel supplier to enable you make arrangements for a new Fuel Supply Agreement in accordance with clause 9.13 of the Power Purchase Agreement (PPA).

The extension shall be on the same terms and conditions as stipulated in the existing FSA.

Yours Sincerely

DR. KEN TARUS
Ag. MANAGING DIRECTOR & CEO

ANNEXURE 21: 2017 EXTRACT OF TSAVO POWER BID EVALUATION REPORT

APPENDIX 2

TSAVO POWER COMPANY LTD – TENDER FOR THE SUPPLY OF HFO TO KIPEVU II

TPC 3 – TENDER OPENING RECORD - 21 MARCH 17

21/3

-2017

	RAMJI HARIBHAI DEVANI	DALBIT PETROLEUM LTD	TOTAL KENYA	GULF ENERGY	VIVO ENERGY	KENOL KOBIL
	$	$	$	$	$	$
A - MOPAG	313.412	313.142	313.934	313.1420	313.1420	~~313.412~~ 313.142
B - Premium	48.5	59.00	70.50	52.55	66.88	36.50
C - Freight Charges	10.0	5.00	0.00	6.2345	13.6594	14.91
D - Import Costs	18.573	24.602	11.737	23.8464	19.7781	25.53
E - Storage Costs	9.1568	8.957	0.00	0.7536	2.7904	5.00
F - Taxes	16.0574	10.41	16.474	10.3553	16.3799	10.40
G - Local Delivery Costs	33617	3.219	3.219	4.0	3.2432	7.50
H - Management Fee	11.50	10.50	26.205	15.5	24.6964	9.00
I - Discount	1.00	0.0	2.480	0.0	0.0	6.00
J - VAT	67.154	62.031	70.384	68.2208	71.9574	65.89
TOTAL	419.7465	496.861	509.923	494.6605	459.9210	481.87
Exchange Rate	103.111		103.111	103.5832	103.6455	103.111
Tender Security (USD 200,000)	CBA	KCB	CBA	BOA	SCB	Stanbic

CamScanner

ANNEXURE 22: 2019 EXTRACT OF THIKA POWER BID EVALUATION REPORT

THIKA POWER

Page 1/6

June, 27, 2019

To: **Mr. Kenneth Tarus**
Managing Director - Kenya Power and Lighting Company

International Finance Corporation
African Development Bank
ABSA Capital

Subject: Thika Power plant - Fuel Supply Tender Evaluation

CONFIDENTIAL

Dear Sir,

We have completed the financial and technical evaluation of Thika power plant's fuel supply tender.

We are submitting to your kind attention the evaluation report, and would like to proceed to the award of the contract to the Bidder having submitted the lowest evaluated responsive Bid i.e. Gulf Energy Limited. Accordingly we would like to invite Gulf Energy (alongside with representatives from KPLC) to the Fuel Supply Agreement finalization, at your earliest convenience.

Awaiting your confirmation.

Yours Faithfully,

Samer Nasr
Chairman
Thika Power Ltd

THIKA POWER Ltd.
P.O. Box 45931-00100 Nairobi

TENDER FOR SUPPLY

OF

HEAVY FUEL OIL

TO

THIKA POWER PLANT

KIAMBU COUNTY – THIKA DISTRICT

TENDER No. TPL/FSA/01/2019

TENDER EVALUATION REPORT

On Tuesday June 11, 2019, in the presence of representatives of Thika Power Ltd, KPLC and the participants, the 3 received bids were opened as follows:

BIDDER	BID BOND	TOTAL ANNOUNCED PRICE Px (before corrections if any)
Gulf Energy Ltd	Equity Bank Kenya Limited	703.1082
Total Kenya Ltd	Barclays Bank of Africa Limited	707.25
Ramji Haribhai Devani Ltd	Commercial Bank of Africa Limited	725.9542

We have proceeded to an in-depth financial and technical analysis of the 3 bids received.

As a result (details in the following sections):

- The Gulf Energy Ltd bid has been found technically responsive, whereas Total and R.H Devani's bids have not been found responsive. Total's bids was found unresponsive on 3 important points (No BL evidence of average annual HFO sales for 2016 to 2018 of 70,000 MT, insufficient previous HFO experience, no arrangement for sourcing) whereas R.H Devani's bid was found unresponsive on 4 important points (average annual turnover for 2016 to 2018 below 250M$, average annual HFO sales for 2016 to 2018 below 70,000 MT, no dedicated storage in Mombasa, limited HFO experience)

Therefore, and based on section 6 (particularly paragraphs 6.1 and 6.2) of the Instructions to Bidder, **the Bidder having submitted the lowest evaluated responsive Bid is Gulf Energy Limited.**

A- TECHNICAL EVALUATION

	GULF	TOTAL	R.H. Devani
BID SECURITY	OK	OK	OK
	PASS	PASS	PASS
AVERAGE TURNOVER IN$ FOR YEARS 2016 TO 2018 (ABOVE 250M)	718,767,333	1,265,017,026	60,659,443
AVERAGE HFO SALES FOR YEARS 2016 TO 2018 (ABOVE 70MT)	OK	N/A	NO
	OK	NO	NO
	PASS	FAIL	FAIL
FUEL SPECIFICATIONS(SUBSTANTIAL RESPONSIVENESS)	OK	OK	OK
	PASS	PASS	PASS
HFO STORAGE FACILITY IN MOMBASA			
CAPACITY (min 15,000 m3)	70,000	31,233	25,000
LEASE VALID FOR 5 YEARS OR OWNERSHIP	OWNED/VALID LEASE	OWNED/SHARED	STORAGE AGREEMENT ONLY, NO DEDICATED TANK
INSPECTION CERTIFICATES/LICENSES/CONNECTION FACILITIES	YES	YES	YES
	OK	OK	NO
	PASS	PASS	FAIL
FUEL SPECIFICATIONS(SUBSTANTIAL RESPONSIVENESS)	OK	OK	OK
	PASS	PASS	PASS
NO DEVIATION ON PROPOSED FSA	SOME COMMENTS	SOME COMMENTS	SOME COMMENTS
	OK	OK	OK
	PASS	PASS	PASS
ARRANGEMENT FOR SOURCING	OK	COMMITMENT LETTER FROM TOTAL AFRICA	OK
	PASS	FAIL	PASS
ADMINISTRATIVE DOCUMENTS			
REGISTRATION-PIN-VAT-TAX CERTIFICATES	OK	OK	OK
LICENSES-ERC	OK	OK	OK
	PASS	PASS	PASS
ROAD TRANSPORT ARRANGEMENT			
VALID CONTRACTS	>3 CONTRACTS	5	3
FLEET SIZE	>50	190	>30
SUFFICIENT NUMBER OF TRUCKS DEDICATED TO THIKA	YES 26 trucks dedicated to Thika Power	N/A	N/A
	PASS	ACCEPTABLE	ACCEPTABLE
HFO EXPERIENCE			
HFO PLANTS IN KENYA	KENGEN KIPEVU III, IBERAFRICA, TRIUMPH POWER,GULF POWER LTD	N/A	TSAVO
HFO PLANTS IN EAST AFRICA	ACCEPTABLE PRESENCE	N/A	Namanve Thermal Power Plant Uganda
COMMENT	OK	NO	OK
	PASS	FAIL	PASS
OVERALL ASSESSMENT	**PASS**	**FAIL**	**FAIL**

THIKA POWER Ltd.
P.O. Box 45931-00100 Nairobi

B- FINANCIAL EVALUATION

1- Assumptions

REFERENCE DATE	03/05/2019
FOB 180 ARAB GULF PRICE (5 days around 03/05/2019)	416.5940
FREIGHT = TRsX(WSy/WSb)X(AFRAm/AFRAb)	
WYS	8.29
WSB	8.29
AFRAM-M	177.1
AFRAM-B	177.1
EXCHANGE RATE (CBK AVERAGE FOR MAY 2019)	101.1507
PRODUCT DENSITY	0.95
TAXES (AT REFERENCE DATE)	
PETROLEUM LEVY-KSH 400/M3	4.1626
EXCISE DUTY KSHS 600/M3	6.2439
WHARFAGE-USD 2.2/MT	2.2
STEVEDORING-USD 1.65/MT	1.65
MERCHANT SHIPPING SERVICE LEVY - USD 0.3/MT	0.3
RAILWAY DEVELOPMENT FUND	1.50%
GOK IMPORT FEES	2%

2-Evaluated prices

The prices for the technically responsive bids have evaluated and corrected as follows:

- All arithmetical errors have been corrected *(in accordance with ITB clause 5.3.2)*

SUMMARY OF THE FINAL EVALUATED PRICES

	GULF
FOB 180 ARAB GULF (5 days around 03/05/2019)	416.5940
FIXED PREMIUM / DISCOUNT	72.0000
FREIGHT = TRBx(WSY/WSB)x(AFRAM/AFRAB)	37.4000
FIXED LOCAL TRANSPORT MBS/NSPP	42.0000
TAXES	32.9663
OVERHEADS ,ADMIN,COST PROFIT, STORAGE	33.7734
PX(A+B+C+D+E+F)	**634.7337**
RANKING	**1**

ANNEXURE 23: LETTER BETWEEN THIKA POWER AND KPLC IN AUGUST 2019

THIKA POWER

THIKA POWER Ltd. Page 1/2

Date: August, 23 2019

To:	**The Kenya Power and Lighting Company Limited ("KPLC").** **Stima Plaza,** **P.O. Box 30099,-00100 Nairobi, Kenya**
Fax:	
Attention:	**ENG. T. KIIRU**
Cc:	**Christopher Shibuyanga** **Susan Ombuya**
Our Reference:	THIKA\KPLC\P0186\190823
Your Reference:	
Project:	**TENDER REF. TPL/FSA/01/2019** **TENDER FOR SUPPLY OF HEAVY FUEL OIL TO THIKA POWER PLANT**
Subject:	**TENDER EVALUATION REPORT**
Attached Documents:	

Dear Sir,

We refer to your letter ref. KP1/3C/2/13/481/EP&RA/jkm dated 19 August 2019 whereby KPLC has denied Thika Powers request for an extension of the current FSA and advised Thika Power to make arrangement for spot purchases as a temporary solution until the completion of the new tender process and the award of the FSA.

As previously mentioned in our letter dated 08 August ref. THIKA\KPLC\P0186\180808, we are expecting the retendering process to take at least 6 months therefore we do not believe that proceeding with spot purchases for such a long period would be an appropriate solution as it would risk the integrity and prudent operation of the plant. We would also like to highlight that under clause 9.13.8 of the PPA, the solution to be implemented is completely under Thika Powers discretion.

In light of the urgency of finding an appropriate solution and to best mitigate KPLC's concern on the cost to be passed through to KPLC and ultimately the Fuel Charge Costs to electricity consumers, which Thika Power fully appreciates and shares, Thika Power proposes to exceptionally provide a conditional award to Gulf Energy Limited. The condition being that GEL accept to revise the FSA Term from 24 months to down to 6 months which shall be automatically renewed on the same terms and conditions for additional 3-months terms, unless a new FSA is awarded.

THIKA POWER Ltd.
P.O. Box 45931-00100 Nairobi/

THIKA POWER

THIKA POWER Ltd. Page 2/2

Thika Power strongly urges KPLC to consider the above proposal in the spirit of maintaining the positive and cooperative relationship Thika Power has always had with KPLC keeping in mind that based on the tender documents, the Bids received and the subsequent evaluation GEL should fairly and rightfully be awarded the FSA and KPLC has no grounds for objection under clause 9.13.7 (a) as this only applies in light of compliant tenders.

Yours Faithfully,

Samer Nasr
Chairman

THIKA POWER Ltd.
P.O. Box 45931-00/00 Nairobi/

ANNEXURE 24: LETTER FROM KPLC TO THIKA POWER DATED 13 SEPTEMBER 2019

Kenya Power

Central Office - P.O. Box 30099 - 00100,
Telephone - 254-02-3201000
Fax No. 254-02-3514485
Stima Plaza, Kolobot Road,
Nairobi, Kenya

KP1/3C/2/13/481/TK/PIM/jkk 13 September 2019

Samer Nasr
Chairman
Thika Power Limited
P.O Box 45934 – 00u100
NAIROBI

Dear Sir,

RE: TENDER FOR SUPPLY OF HEAVY FUEL OIL TO THIKA POWER PLANT

Your letter ref: THIKA/KPLC/P0186/190823 dated 23rd August 2019 on the above subject matter refers.

KPLC has no objection to the award of the tender for supply of HFO to Gulf Energy for six months with one 3 month extension subject to KPLC approval. Meanwhile we request Thika Power to submit revised tender documents for KPLC's approval to avoid any delays in the retendering process

Yours faithfully,
For: **THE KENYA POWER & LIGHTING CO. LTD**

ENG. T. KIIRU
Ag. GENERAL MANAGER, BUSINESS STRATEGY

ANNEXURE 25: EXTRACT OF SIGNED PPA BETWEEN KPLC AND TRUIMPH POWER

PP.19.1

Certified true copy of the original

COMPANY SECRETARY
KENYA POWER & LIGHTING CO. LTD.

Kenya Power

DATED 14TH DAY OF JUNE 2012

THE KENYA POWER AND LIGHTING COMPANY LIMITED

AND

TRIUMPH POWER GENERATING COMPANY LIMITED

POWER PURCHASE AGREEMENT

83 MW ATHI RIVER POWER PLANT

THIS AGREEMENT is made the 14th day of June 2012
BETWEEN

(I) **Triumph Power Generating Company Limited**, a company incorporated in Kenya with its registered office at Dunga Close, off Dunga Road, Industrial Area, Nairobi P.O. Box 11640 - 00400 Nairobi, Kenya (**"Seller"**);

AND

(2) **The Kenya Power and Lighting Company Limited**, a company incorporated in Kenya with its registered office at Stima Plaza, P.O. Box 30099-00100 Nairobi, Kenya (**"KPLC"**).

WHEREAS:

(A) KPLC is licensed to purchase electricity and to transmit and distribute electricity in the Republic of Kenya;

(B) Pursuant to a Request for Proposals ("**RFP**") dated 24th July, 2009 and an addendum dated 25th November 2009 issued by KPLC, the Seller submitted an offer which was accepted by KPLC following the due process of the RFP;

(C) Pursuant to the RFP, the Seller, as the successful tenderer, is required to enter into a power purchase agreement with KPLC; and

(D) This Agreement is the power purchase agreement agreed between the Parties pursuant to the RFP.

IT IS HEREBY AGREED as follows:

3

ANNEXURE 26: LETTER FROM KPLC TO TRIUMPH POWER DATED 17 JANUARY 2014

Kenya Power

The Kenya Power & Lighting Co. Ltd.
Central Office - P.O. Box 30099 Nairobi, Kenya.
Telephone - 254-20-3201000 - Telegrams 'ELECTRIC'
Fax No. 254-20-3514485
STIMA PLAZA, KOLOBOT ROAD

Our Ref: **KP1/7BA/501/CMET/jco** **17th January 2014**

Your Ref:

A.R.H. Abass,
Chairman,
Triumph Power Generating Company Limited,
P.O Box 11640-00400,
NAIROBI **FAX: 650734**

Dear Sir,

RE: HEAVY FUEL OIL PROCUREMENT PROCESS

Your letter Ref. TPGCL/HFO/001/2014 dated 9th January 2014 on the above matter refers.

We confirm the receipt of tender evaluation report for Heavy Fuel Oil supply and subsequent award of the same to Gulf Energy Limited being the most competitive bidder. Therefore, we give our concurrence that you engage the prospective supplier, Gulf Energy Limited, in any further discussions and proceed to procure the fuel.

Yours faithfully
For: **THE KENYA POWER & LIGHTING CO. LTD**

ENG. SAMMY MUITA
CHIEF MANAGER, ENERGY TRANSMISSION

ANNEXURE 27: EXTRACT OF SIGNED FSA BETWEEN GULF ENERGY AND TRIUMPH POWER

Dated 4th MARCH **2014**

TRIUMPH POWER GENERATING COMPANY LIMITED

- and -

GULF ENERGY LIMITED

FUEL OIL SUPPLY AGREEMENT FOR PROPOSED ATHI RIVER 83 MEGAWATT POWER PLANT

BD-#16215151-v21

This Agreement is made as of this 4th day of MARCH 2018

BETWEEN:

(1) **TRIUMPH POWER GENERATING COMPANY LIMITED** a company incorporated in Kenya with its registered office at Dunga Close, off Dunga Road, Industrial Area, Nairobi P.O. Box 11640 - 00400 Nairobi, Kenya (the "**Purchaser**" which expression shall, where the context so admits include its permitted successors in title and permitted assigns); and

(2) **GULF ENERGY LIMITED** a company incorporated with limited liability under the laws of **KENYA** whose registered office is at 4th Floor, Geminia Insurance Plaza, and Kilimanjaro Avenue Upperhill, P.O. Box 61872 Nairobi 00200 (the Supplier which expression shall, where the context so admits include its permitted successors in title and permitted assigns).

WHEREAS:

(A) The Purchaser has entered into the Power Purchase Agreement (defined below);

(B) The Purchaser invited tenders for the supply of Fuel (as defined below) to the Power Plant and has evaluated those tenders received and determined the Supplier's bid to be the successful bid; and

(C) Subject to the terms and conditions of this Agreement, the Purchaser hereby accepts the Supplier's bid and the Supplier hereby agrees to supply and to ensure the supply of the Fuel, and the Purchaser hereby agrees to purchase the Fuel on the terms and subject to the conditions of this Agreement.

NOW IT IS HEREBY AGREED as follows:

1. DEFINITIONS AND INTERPRETATION

1.1. DEFINITIONS

In this Agreement, the following words and expressions shall (unless the content otherwise requires) have the respective meanings set out below:

"**Affiliate**" means, in relation to any person, any holding company or subsidiary of that person or any subsidiary of a holding company of that person within the meaning of Section 154 of the Companies Act of Kenya (Cap. 486);

"**Agreement**" means this fuel supply agreement, dated as of the date first entered above between the Purchaser and the Supplier, as may be lawfully amended from time to time;

"**Alternative Supplier**" means any supplier (or source of supply) of Fuel (as the case may be) other than the Supplier;

"**API**" means American Petroleum Institute;

"**Applicant**" shall have the meaning given to it in Clause 17.4 (*Procedures for Expert Adjudication*);

RK

ANNEXURE 28: STANDARDIZED FINANCIAL EVALUATION CRITERIA FOR ALL IPPS

Contract No.	1	2	3	4	5	6	7	8	10	11	12	13
Tender Year	2015	2020	2017	2015	2020	2015	2019	2021		2020	2013	2019
Name of IPP	Gulf Power Ltd	Gulf Power Ltd	Tsavo Power Ltd	Rabai Power Ltd	Rabai Power Ltd	Iberafrica Ltd	Iberafrica Ltd	Iberafrica Ltd	Thika Power Ltd	Thika Power Ltd	Triumph Power GC Ltd	Triumph Power GC Ltd
Fuel Supplier	Gulf Energy Limited	Vivo Energy Ltd	Ramji Haribhai Devani Limited	Kenol Kobil	Dalbit Petroleum Limited	Gulf Energy Limited	Gulf Energy Limited	Ramji Haribhai Devani Limited	Gulf Energy Limited	R H Devani	Gulf Energy Limited	Ramji Haribhai Devani Limited
A [Average of Means of Platt Arabian Gulf 5 Days Centre BL Date]	593.61	150.46	313.14	309.61	300.62	300.36	395.62	382.17	416.59	163.09	626.12	392.70
B [Premium]	50.00	22.98	48.50	45.00	106.19	37.00	42.00	87.00	72.00	95.00	40.00	85.50
C Freight charge: TRB x (WSY/WSB) x (AFRAM/AFRAB)]	56.00	104.02	7.79	24.00	9.81	40.00	42.00		37.40		60.25	16.50
D [Local Transport Mombasa and Power Plant per MT]	45.00	30.57	18.74	22.27	29.05	46.35	36.35	30.10	42.00	31.65	44.50	31.05
E [Taxes and Fees]:	42.58	29.52	2.85	12.00	6.89	27.66	28.39	40.51	32.89	23.38	43.73	32.14

GOK Import Fee (IDF)	15.74	9.72	7.48	8.53	14.60	7.55	7.19	16.42	10.54	5.16	16.34	9.89
Wharfage	2.20	2.20	2.55	4.47	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
Stevedoring Charges	1.65	1.65	1.65			1.65	1.65	1.65	1.65	1.65	1.65	1.65
Excise Duty	7.32	6.17	6.24	6.97		6.18	6.61	6.58	6.24	6.24	7.40	6.53
Petroleum Development Levy	4.88	3.91	4.16	4.65		4.12	4.19	3.98	4.16	3.96	4.94	4.14
Railway Development Levy	10.49	5.56	5.54	5.69	8.34	5.66	6.24	9.38	7.80	3.87	10.90	7.42
Merchant Shipping Fees	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
F [Overheads, Admin Costs, Profit, Storage]	81.32	27.97	15.95	11.62	10.90	27.49	26.73	27.56	33.77	28.42	84.46	15.83
G Delivery Charge/Transfer fee			3.36	7.50	8.35							
H Management fee			11.50	10.00	14.78							
I [Discount]			(10.83)									
Bid Price Ex VAT	868.51	365.52	411.00	442.00	486.59	478.86	571.08	567.34	634.66	341.54	899.06	573.72

ANNEXURE 29: FORMULAS FOR PPA AND FSA ACROSS ALL IPPS

PPA FORMULAS

1. Gulf Power PPA Formula

Part B: FUEL CHARGES

1 Calculation of fuel charges

For the purpose of clause 9.4, KPLC shall pay the seller fuel charges in respect of the Net Electrical Output of the plant in each month calculated as

$$FC_P = NEO_P * X_P$$

Where:

FC_P The aggregate amount of fuel charges (expressed in USD) payaple in respect to month p

NEO_P The aggregate net electrical output (kWh) of the plant in month p;

X_P The fuel charge rate (expressed in USD/kWh);=

$$\frac{SFC * K}{1000} * \frac{J}{L}$$

SFC Specific fuel consumption of the plant, being 0.215kg/kWh

J The minimum lower calorific value of the fuel, and the parties hereby agree that for the purpose of this agreement, the value of J shall be 41,000 kJ/kg

K The weighted average price in US/MT (excluding VaT) of the fuel consumed by the seller during the month based on the accounting convention of FIFO and the applicable fuel prices persuant to the FSA; and

L The average lower calorific value of the quantity of fuel consumed by the seller during that month based on the accounting convention of FIFO and the quality certificates provided by the fuel supplier for those deliveries, in kJ/kg

2. Iberafrica Power PPA Formula

PART B: FUEL CHARGES

Calculation of Fuel Charges

Part B: FUEL CHARGES

1 Calculation of fuel charges

For the purpose of clause 9.4, KPLC shall pay the seller fuel charges in respect of the Net Electrical Output of the existing plant in each month calculated as follows:

$FC_{P} = NEO_P \quad * \quad X_P$

Where:

FC_P The aggregate amount of fuel charges (expressed in USD) payaple in respect to month p

NEO_P The aggregate net electrical output (kWh) of the plants in month p;

X_P The fuel charge rate (expressed in USD/kWh);=

$$\frac{S * K}{1{,}000{,}000.00} \quad * \quad \frac{J}{L}$$

S S1. Specific fuel consumption rate during the period when the existing plant is using 1% SHFO, being 225g/kWh;

or

S2. the Specific Fuel consumption rate during the period when the Existing Plant is using 1.8% SHFO, benig 226g/kWh.

J The minimum lower calorific value of the fuel, and the parties hereby agree that for the purpose of this agreement, the value of J shall be 40,585 kJ/kg

a) for the purposes of this paragraph , in the month in which this paragraph I of Schedule 4 of Part B comes into effect (p=1) and for the month p=2:

K The average price in US/MT (excluding VaT) of the fuel paid by the seller to the fuel supplier pursuant to the FSA for the total quantity of fuel delivered to the seller during the month; and

L The weighted average of the lower calorific value of the total quantity of fuel delivered to the seller during that month based on the quality certificates provided by the fuel supplier for those deliveries, in kj/kg; and

b) for the month p=3 and thereafter:

K The average price in US/MT (excluding VaT) of the fuel paid by the seller to the fuel supplier pursuant to the FSA for the total quantity of fuel delivered to the seller during the month P-1. In the event that no fuel was delivered during the month p-1, the average price (excluding Vat)of the fuel paid by the seller to the fuel supplier pursuant to the FSA for the total quantity of fuel delivered at the seller during the last month preceeding the month p-1 in which fuel was delivered to the seller in USD/MT; and

L The weighted average of the lower calorific value of the total quantity of fuel delivered to the seller during that month P-1 based on the quality certificates provided by the fuel supplier for those deliveries, in kj/kg; In the event that no fuel was delivered during the month p-1, the weighted average of the Lower Calorific Value of the total quantity of fuel delivered to the Seller during the last month preceding the month p-1 in which fuel was delivered to the seller. in kj/kg

From time to time KPLC shall have the right to require the Seller at the Seller's cost to arrange for samples of delivered fuel to be analyzed by an independent person nominated by KPLC to check for compliance with the fuel specification and for comparison with the relevant quality certificate provided by the fuel supplier for that delivery. KPLC shall have the right to require the Seller to appoint a new independent assessor under the FSA, if KPLC is of the opinion that the quality certificates provided by the existing independent assessor are materially inaccurate.

3. Rabai Power PPA Formula

PART B

1. Calculation of fuel charges

For the purpose of clause 9.4, KPLC shall pay to the seller fuel charges in respect of the Net Electrical Output of the plant in each month calculated as follows:

FC_P= $NEOP_1 * XP_1 + NEOP_2 * XP_2$

Where:

FC_P	the aggregate amount of fuel charges (expressed in USD) payable in respect to month p
	the aggregate amount of fuel charges (expressed in USD payable in respect to month P
NEO_{P1}	the aggregate Net Electrical Output (Kwh) of the plant in month p during the period (i) before the full commercial operation date, and from the Full Commercial Operation Date in any period when the plant is despatched below 33MW other than due to a failure by the seller or a declaration of Availability by the seller below 33 MW together with (ii) a period of 2.5 hours from when the seller is required to respond to a despatch Instruction which itself requires the plant to operate at more than 33 MW in a situation where the plant has been shut down more than 8 hours other than due to the plant being shut down either at the
NEO_{P2}	the aggregate Net Electrical Output (kWh) of the plant in mpnth p after the Full Commercial Operation Date during any period when NEOP1 does not apply;
X_{P1}	the Fuel Charge Rate (expressed in USD/kWh) to NEO_{P1});
	SFC_1 *K/1000 *J/L
X_{P2}	the Fuel Charge Rate (expressed in USD/kWh) applicable to NEO_{P2}
	SFC_2 * K/1000*J/L
SFC_1	the Specific Fuel Consumption of the Plant applicable to $NEOP_1$, being 0.2(
SFC2	the specific Fuel Consumption of the Plant applicable to NEO_{P2} being 0.197
J	agree that for the purpose of Agreement, the value of J shall be 41,100 Kj/kg
a	for the purpose of this paragraph, in the month in which this paragraph 1 of schedule 6 part B comes into effect (p=1) and for the paragraph p= 2:
K	the weighted average price (excluding Vat) of the Fuel to be paid by the seller to the Fuel supplier pursuant to the Fuel Supply Agreement for the

total quantity of fuel delivered to the seller during that month (expressed in USD/MT) including any adjustment agreed by the Parties pursuant to

L — the average Lower Calorific Value of the total quantity of fuel delivered to the seller during during that month based on the quality certificates provided by the fuel supplier for those deliveries, in Kj/KG; and

b — for the months p=3 and thereafter:

K — the weighted average price (excluding Vat) of the fuel paid by the seller to the fuel supplier pursuant to the fuel supply agreement for the total quantity of the fuel delivered to the seller during the month p-1 (expressed in USD/MT) including any adjustment agreed by the parties pursuant to clause 9.12. In the event that no fuel was delivered during the month p-1, the weighted average price (excluding Vat) of the fuel paid by the seller to the fuel supplier; and

L — the average Lower Calorific Value of the total quantity of fuel delivered to the seller during month p-1 based on the quality certificates provided by the Fuel Supplier for those deliveries, in kJ/kg. In the event that no fuel was delivered during the month p-1, the average LCV of the total quantity of fuel

From to time , KPLC shall have the right to require the seller at the Seller's cost to arrange for samples of delivered fuel to be analysed by an independent person nominated by KPLC to check for compliance with the fuel specifications and for comparison with the relevant quality certificates provided by the Fuel Supplier for that delivery. KPLC shall have the right to require the Seller to appoint a new independent accessor under the FSA, if KPLC is of the opinion the quality certificates provided by the existing independent assesor are materially inaccurate.

4. Thika Power PPA Formula

PART B

1. Calculation of fuel charges

For the purpose of clause 9.4, KPLC shall pay to the seller fuel charges in respect c
Output of the plant in each month calculated as follows:

$FC_P = NEOP_1 * XP_1 + NEOP_2 * XP_2$

Where:

FC_P	the aggregate amount of fuel charges (expressed ir respect to month p
	the aggregate amount of fuel charges (expressed i respect to month P
NEO_{P1}	the aggregate Net Electrical Output (Kwh) of the plan the period (i) before the full commercial operation date Commercial Operation Date in any period when the p below 33MW other than due to a failure by the seller Availability by the seller below 33 MW together with hours from when the seller is required to respoi Instruction which itself requires the plant to operate at in a situation where the plant has been shut down other than due to the plant being shut down either at Seller or otherwise due to a default of the Seller;
NEO_{P2}	the aggregate Net Electrical Output (kWh) of the pla the Full Commercial Operation Date during any pe does not apply;
X_{P1}	the Fuel Charge Rate (expressed in USD/kWh) to NE(
	SFC_1 *K/1000 *J/L
X_{P2}	the Fuel Charge Rate (expressed in USD/kWh) applica
	SFC_2 * K/1000*J/L
SFC_1	the Specific Fuel Consumption of the Plant applicable **0.215kg/kWh**;
SFC2	the specific Fuel Consumption of the Plant applicable t **0.199 kg/kWh**;
J	the minimum Lower Calorific Value of the fuel, and the agree that for the purpose of Agreement, the value of . **Kj/kg**:
K	the weighted average price (excluding Vat) of the Fue seller to the Fuel supplier pursuant to the Fuel Su quantity of fuel delivered to the seller during that m including any adjustment agreed by the Parties pursua

L the average Lower Calorific Value of the total quantity
during during that month based on the quality cert
supplier for those deliveries, in Kj/KG; and

b

5. Triumph Power PPA Formula

PART B

1. Calculation of fuel charges

For the purpose of clause 9.4, KPLC shall pay to the seller fuel charges in respect c Output of the plant in each month calculated as follows:

$FC_P = NEOP_1 * XP_1 + NEOP_2 * XP_2$

Where:

FC_P	the aggregate amount of fuel charges (expressed ir respect to month p.
	the aggregate amount of fuel charges (expressed i respect to month P
NEO_{P1}	the aggregate Net Electrical Output (Kwh) of the plant the period (i) before the full commercial operation date, a Commercial Operation Date in any period when the ¡ below 33MW other than due to a failure by the seller Availability by the seller below 33 MW together with (ii) a period of 2.5 hours from when the seller is requi despatch Instruction which itself requires the plant t than 33 MW in a situation where the plant has been sh 8 hours other than due to the plant being shut down ei of the Seller or otherwise due to a default of the Seller; (iii) For the duration the Steam Unit is out on Plann accordance with the planned maintenance program aç 8.3
NEO_{P2}	= the aggregate Net Electrical Output (kWh) of the plε the Full Commercial Operation Date during any pe does not apply;
X_{P1}	= the Fuel Charge Rate (expressed in USD/kWh) appli $= SFC_1 * K/1000 * J/L$
X_{P2}	= the Fuel Charge Rate (expressed in USD/kWh) appli $= SFC_2 * K/1000 * J/L$
SFC_1	= the Specific Fuel Consumption of the Plant applicabl **0.210 kg/kWh**;
SFC2	= the specific Fuel Consumption of the Plant applicabl **0.201 kg/kWh**;

J	the minimum Lower Calorific Value of the fuel, and the agree that for the purpose of Agreement, the value of . **Kj/kg**:
K	= the weighted average price (excluding Vat) of the the Plant during the month based on the accounting (and the applicable fuel prices pursuant to the FSA; anc
L	the average Lower Calorific Value of the total quantity during that month based on the quality certificates pr those deliveries, in Kj/KG; and

b

6. Tsavo Power PPA Formula

PART B
Fuel Charges
Section 1. (Part B, Schedule 4) Calculation of fuel charges

For the purpose of clause 9.3, KPLC shall pay to the seller fuel charges in respect of the Net Electrical Output of the plant in each month calculated as follows:

$FC_P =$ $FC_A + FC_B + FC_C$

Where:

$FC_{A,B,C} =$ Chargable amount (expressed in USD) for each of the different fuel purchase; and

FCP= the aggregate amount of fuel charges (expressed in USD payable in respect to month P

Section 2. (Part B, Schedule 4) Deemed Fuel Quantity

The quantity of fuel deemed to have been consumed by the plant for the purpose of deliverity Net Eletrical Output in month p, DFQ shall be calculated as follows:

$DFQ_P =$ $NEO_P * GHR$

Where;

$DFQ_P =$ deemed fuel quantity used in month p (expressed in kJ at the lower calorific value of fuel);

$NEO_P =$ aggregate Net Electrical Output (expressed in kWh) of the plant in month p; and

GHR Guaranteed heat rate of the plant being **8990 kJ/kWh** on a lower calorific value and net output basis.

Section 3. (Part B, Schedule 4.) Measurement of Stock Holding of Fuel at the Beginning of Each Month

At the beginning of each month the quantity of fuel held in stock at the Plant shall be measured. Measurement shall be by recording the depth of fuel stored I each tank and calculating, from an agreed calibration chart, the volume of fuel stored in each tank. All tanks shall be measured to determine and record FVP, the total quanity of fuel, in M3, stored on site.

Section 4. (Part B, Schedule 4.) Heat content of the Different Fuel Purchases

Samples of each fuel delivery shall be taken so that the average density and lower calorific value can be determined. Samples shall be taken in accordance with the API manual of Petroleum Measurement Standards chapters 8 and 9. The lower calorific value of the fuel shall be determined using ANSI/ASTM standard D2382-88 Heat of combustion of Hydrocarbon Fuels by Bomb Calorimeter Method or equivalent.

The volume of each of the different fuel purchases shall be converted into a heat content kJ_{ABC} using the values of density and lower calorific value above in the following formula:-

$kJ_A = FJ_A * LCV_A * DF_A, kJ_b = FJ_S * LCV_B * DF_B$, e.t.c

Where:

$kJ_{A,B,C}$ Total heat content (expressed in kJ of lower calorific value) for each different fuel purchase;

$F!_{A,B,C}$ Quantities of different fuel purchases (expressed in M^3) remaining at the start of each month or delivered during the month;

$LCV_{A,B,C}$ Lower calorific value (expressed in kJ/kg) of each fuel purchase; and

$DF_{A,B,C}$ Density of different fuel purchases (expresed in kg/m^3 as measured.

Section 5 (Part B, Schedule 4.) Chargable Amount for each of the Different Fuel Purchases

The deemed price of fuel shall be the invoice price at the time of delivery provided always that where fuel is delivered otherwise than pursuant to a Fuel Supply Agreement executed pursuant to clause 9.10, the invoice price shall not exceed the price that would have been payable had the Fuel been delivered under the current Fuel Supply Agreement or, if non exists, the last Fuel Supply Agreement in existence. Fuel which has been delivered first is deemed to be used first according to FIFO first in first out system.

Fuel A:

if $DFQ_P - kJ_A \geq 0$ then, $FC_A = FI_A * FP_A$ then go to fuel B
if $DFQ_P - kJ_A < 0$ then, $FCA = (DFQ_P * FPA)/(LCVA * DFA)$

Fuel B;

if $DFQ_P - kJ_A - kJ_B \geq 0$ then, $FC_B = FIB * FPB$ then go to fuel C
if $DFQ_P - kJ_A - kJ_B < 0$ then, $FC_B = \{(DFQ_P - kJ_A) * FP_B)\} / (LCV_B * DF_B)$

Fuel C; (and others as appropriate)

if $DFQ_P - kJ_A - kJ_B - kJ_C \geq 0$ then, $FCC = FIC * FPC$ then go to fuel D e.t.c
if $DFQ_P - kJ_A - kJ_B - kJ_C < 0$ then, $FCC = \{(DFQ_P - kJ_A - kJ_B) * FPC)\} / (LCV_C * DF_C)$

Where:

$kJ_{A,B,C}$ = Total heat content (kJ) of each fuel purchase;

$LCV_{A,B,C}$ = Lower calorific value (expressed in Kj/kg) of each fuel purchase;

DFQ_P = deemed fuel quantity used in month p (expressed in Kj at the lower calorific value of fuel);

$FP_{A,B,C}$ = value shown on invoice (expressed in US \$/m^3) of each fuel purchase from the fuel supplier; and

FSA FORMULAS

1. Gulf Power – Gulf Energy FSA

FSA 2014
CALCULATION OF THE PRICE

P		**P = (A+B+C+D+E+F)** Price in USD for each MT of fuel delivered through the delivery point which meet the fuel specifications and in respect of which all applicable taxes (exept vat have been paid
A		The average of the Means of Platts of the daily quotations published by Platt's Arab Gulf for High Sulphur Fuel Oil 180 cSt, under the heading "180 Arab Gulf FOB" for five effective days centered on the Bill of Lading date to which the shipment "x" relates.
B		**Freight Charge applicable to shipment "X"** **B= TRb * (Wsy/WSb) * (AFRAm/AFRAb)**
TRb		The basis rate for a 25,000 (long) tonne medium range black oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa. This value shall be fixed throughout the term of this Agreement at **USD 50** for each MT of fuel delivered through the delivery point during the relevant month.
WSy		The world scale index for a standard vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year in which delivery of shipment x commences as published in the "New Worldwide Tanker Nominal Freight Scale "Worldscale"".
WSb		The basis Worldscale index for a standard vessel for a voyage between the Arabian Gulf (Quon Island) and Mombasa published in the "New Worldwide Tanker Nominal Freight Scale "Worldscale"" for 2014. This value shall be fixed throughout the term of this Agreement at **USD 10.71** for each MT of fuel delivered through the delivery point during the relevant month.
AFRAm		The Average Freight Rate Assessments (AFRA) for a medium range vessel for the single voyage rate between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the month preceding the month in which delivery of shipment x through the delivery point commences.
AFRAb		The Average Freight Rate Assessments (AFRA) for a medium range vessel for the single voyage rate between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited for the month prior to the Tender Closing Date. This value shall be fixed throughout the term of the Fuel Supply Agreement at **WS 122.8.**
C		Suppliers premium of **USD 56** for each MT of Fuel delivered through the delivery point during the relevant month. This shall remain fixed for the duration of this agreement
D		Transport between Mombasa and the Power Plant per MT. This shall be fixed through the term of this agreement at **USD 45** for each MT of fuel delivered through the delivery point during the relevant
E		Taxes and /or fees paid or to be paid to any GVT authority presently:
	1	GOK import fee of 2.25% of CIF value (A+B+C)
	2	Wharfage to be calculated as **USD 2.2** for each MT of fuel delivered through the delivery point during the relevant month excluding value added tax.
	3	Steve doring to be calculated as **USD 1.65** foe each MT of fuel delivered through the delivery point during the relevant month.

	4	Excise duty of Kshs 600 for each m^3of fuel delivered through the delivery point during the relevant month @ 20C
	5	Petroleum dev levy of **Kshs 400** for each m3 of fuel delivered through the delivery point during the relevant month @ 20 C
	6	Merchant shipping service levy of **USD .30** per MT
	7	Railway Development levy of **1.5%** of CIF value.
F		Overheads, profit, financial cost, import, storage, inventory losses, insurance, and other administrative costs. This amount, to remain fixed for the duration of this agreement, at **USD 66.32** for each MT of fuel delivered through the delivery point during the relevant month.

2. Gulf Power - Vivo Kenya FSA

PRICES:
PRICE ELEMENTS

FUEL SUPPLY AGREEMENT (3.3.16, Clause 8.1.1)

P = (A+B+C+D+E+F)

P	Price in US Dollars per metric ton of consignment "x", delivered; duties paid, excluding VAT
A	The average of the Means of Platts of the daily quotations published by Platt's Arab Gulf for High Sulphur Fuel Oil 180 cSt, under the heading "180 Arab Gulf FOB" for five effective days centered on the Bill of Lading date to which the shipment "x" relates.
B	Freight Charge applicable to shipment "X" **B= TRb * (Wsy/WSb) * (AFRAm/AFRAb)**
TRb	The basis rate for a 25,000 (long) tonne medium range black oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa. This value shall be fixed throughout the term of this Agreement at **USD 22.98** for each MT of fuel delivered during the relevant month.
WSy	The world scale index for a standard vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year in which delivery of shipment x commences as published in the "New Worldwide Tanker Nominal Freight Scale "Worldscale"".
WSb	The basis Worldscale index for a standard vessel for a voyage between the Arabian Gulf (Quon Island) and Mombasa published in the "New Worldwide Tanker Nominal Freight Scale "Worldscale"" for 2020. This value shall be fixed throughout the term of this Agreement at **USD 9.81** for each MT of fuel delivered during each month. For bid evaluation, WSy shall be deemed to be equal to WSb.
AFRAm	The Average Freight Rate Assessments (AFRA) for a medium range vessel for the single voyage rate between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the month preceding the month in which delivery commences.
AFRAb	The Average Freight Rate Assessments (AFRA) for a medium range vessel for the single voyage rate between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited for the month prior to the Tender Closing Date. This value shall be fixed throughout the term of the Fuel Supply Agreement at **WS 151.8.**
C	Suppliers premium of **USD 104.02** for each MT of Fuel delivered during the relevant month. This shall remain fixed for the duration of this agreement
D	Transport between Mombasa and the Power Plant per MT. This shall be fixed through the term of this agreement at **USD 30.57** for each MT of fuel delivered during the relevant month.
E	Taxes and /or fees paid or to be paid which include:
1	GOK import fee of **3.5%** of CIF value (A+B+C)
2	Wharfage & steve-doring to be calculated as **USD 3.85** for each MT of fuel delivered for the relevant month excluding VAT.
3	Excise duty of **Kshs 662.07** for each m3 of fuel delivered during the relevant month @20°C.
4	Petroleum development levy of **Ksh 400** for each m3 of fuel delivered during the relevant month.
5	Merchant Shipping Service levy of **USD 0.30** per MT.
6	Railway development levy and Maritime levy of **2.0%** of CIF value.

F	Overheads, profit, financial cost, import, storage, inventory losses, insurance, and other administrative costs. This amount shall remain fixed for the duration of this agreement at **USD 27.97** for each MT of fuel delivered during the relevant month.

Notes:

i. Conversion of m3 to Metric Tonnes
Conversion from m3 @ 20 degrees C to Metric Tonnes shall be done at the density of each shipment offloaded at the Terminal as determined by the Independent inspector outturn report, in Supplier's Storage Tanks.

ii. Conversion of other currencies into US Dollars
Conversion shall be done at Central Bank of Kenya (CBK) mean average rate applicable during the month of delivery of relevant Fuel.

iii. Indexation and Support Documents
Components A and B of the formula shall be evidenced by the bodies specified while D and E shall be evidenced by supporting documents satisfactory to the

iv. Fuel Inventory Control
The calculation of the price is based on FIFO (First In First Out) inventory control basis

v. Bidding Parties may offer firm and unconditional discounts which can be quantified.

vi. Taxes
Price shall be subject to VAT at applicable rate and shall be inclusive of all dues, duties, fees, taxes, imposts and any other charges

vii. Change in tax
If a change in tax occurs, either party may, within 30 days notify the other party in writing of its intent to seek an adjustment to the price to take account of the change in tax.

viii. Index ceasing to exist
If any index used to calculateprice ceases to exist parties shall agree on another index

3. Iberafrica – Gulf Energy 2015 FSA

SECTION 7 PRICE OF FUEL
7.1 Price for contracted fuel

The Price the purchaser shall pay for each MT of fuel delivered at the delivery point meeting the specifications and duty paid shall be determined in accordance with the following formular.

P_X = A+B+C+D+E+F
Where:

P_X = Price in USD PER MT of shipment X delivered ; duties and taxes paid, excluding VAT.

A = The average of the means of platts of the daily quotations published by Platts Arab Gulf for High Sulphur Fuel Oil cst, under the heading of 180 Arab Gulf FOB for 5 effective days centered on the Bill of Landing date to which the shipment X relates.

B = The premium applicable to the fuel shipment X for the deviation in quality from standard Platts quotation. This value shall remain fixed for the duration of the contract as **USD 37/MT for 1.8% sulpur.**

C = The freight charge applicable to shipment X, calculated and indexed in accordance with the following formula:

$C = TR_B * (WS_Y/WS_B) * (AFRA_M/AFRA_B)$
WHERE

TR_B = The basis rate for a 25,000 (long) Ton Medium Range balack oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa. This value shall be fixed throughout the term of the FSA at **USD 40.00/MT**

WS_Y = The World scale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year Y in which delivery of Shipment X through the delivery point commences, as published in the New Worldwide Tanker Nominal Freight Scale (Worldscale)

WS_B The basis Worldscale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa published in the New Worldwide Tanker Nominal Freight Scale (Worldscale) for 2019. This value shall be fixed throughout the term of the FSA at **USD 10.51/MT**

$AFRA_M$ = The Average Freight Rate Assessments (AFRA) for a medium range vessel for the Voyage between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the Month preceding the month in which delivery of Shipment X through the Delivery Point commences.

$AFRA_B$ The basis Average Freight Rate Assessments (AFRA) for a Medium Range Vessel for the Voyage between the Arabian Gulf (Quion) to Mombasa as provided by the London Tanker Brokers Panel Limited on the date that occurs two (2) months prior to the latest date for submission of Tenders set forth in call for tender. This value shall be fixed throughout the term of the

D = Local Transport between Mombasa and NSPP per metric ton. The amount to remain fixed for the duration of this Agreement at **USD 46.35/MT**

E = Taxes , duties, levies and fees paid or to be paid to the Kenyan Government/Authorities, presently:

1. GOK import fee **@ 2.25%** of CIF value (A+B+C)
2. Wharfage **@ US 2.20MT** (Excluding Vat)
3. Stevedowing **@ US 1.65/MT** (Excluding Vat)
4. Excise Duty **@ Kshs 600/M^3** @ 20C
5. Petroleum Development Levy **@ Kshs 400/M^3** @ 20 C
6. Railway development Fund **@ 1.5 %** of CIF value (A+B+C)
7. Maritime levy **@ USD 0.3/MT** (Excluding Vat)

During the term of this agreement items No. 1 will be determined as actually paid or to be paid by the supplier on each shipment to Mombasa on a FIFO basis.

F = Overheads, profit, financial cost, import, storage, inventory losses, insurance, and other ADMIN costs. This amount , to remain fixed for the duration of this Agreement, at USD **27.491/MT for 1.8%** Sulphur.

The price P shall be subject to VAT at the applicable rate as determined from time to time, presently @ 16%

NOTES

1. Conversion of M3 @ 20C to metric tonnes will be done at the density of each shipment offloaded at the Supplier's Terminal, in Mombasa as determined by the Independent Inspector, in the Supplier's storage tanks.

2. Conversion of other currencies into USD . If any component of the Formula for determining the price of Fuel delivered shall be incurred by the Supplier in a currency other than USD then for the purpose of establishing the price, such currency shall be converted into USD at CBK mean average rate applicable to the month of delivery.

3. Indexation and support Documents. Component A and C of the above formula shall be evidenced by bodies specified thereat, while Component E shall be evidenced by supporting documents satisfactory to the Purchaser (this includes a copy of the relevant issue of the publication to which the relevant component is indexed)

4. Fuel Inventory Control. The calculation of Fuel Price (P) is based on FIFO inventory control basis. The above mentioned FIFO fuel inventory control will be implemented such that, all indexing factors related to the purchase and ocean transport of Fuel will remain constant for each shipment of Fuel delivered until the entire quantity is delivered to purchaser as per the quantity certificate to be issued by the independent Inspector being the actual quantity outturn from the vessel.

4. Iberafrica – Gulf Energy 2019 FSA

SECTION 7 PRICE OF FUEL
7.1 Price for contracted fuel

The Price the purchaser shall pay for each MT of fuel delivered at the delivery point meeting the specifications and duty paid shall be determined in accordance with the following formular.

P_X = A+B+C+D+E+F
Where:

P_X = Price in USD PER MT of shipment X delivered ; duties and taxes paid, excluding VAT.

A = The average of the means of platts of the daily quotations published by Platts Arab Gulf for High Sulphur Fuel Oil cst, under the heading of 180 Arab Gulf FOB for 5 effective days centered on the Bill of Landing date to which the shipment X relates.

B = The premium applicable to the fuel shipment X for the deviation in quality from standard Platts quotation. This value shall remain fixed for the duration of the contract as **USD 42/MT for 1.8% sulpur.**

C = The freight charge applicable to shipment X, calculated and indexed in accordance with the following formula:

$C = TR_B * (WS_Y/WS_B) * (AFRA_M/AFRA_B)$
WHERE

TR_B = The basis rate for a 25,000 (long) Ton Medium Range balack oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa. This value shall be fixed throughout the term of the FSA at USD **42.00/MT**

WS_Y = The World scale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year Y in which delivery of Shipment X through the delivery point commences, as published in the New Worldwide Tanker Nominal Freight Scale (Worldscale)

WS_B The basis Worldscale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa published in the New Worldwide Tanker Nominal Freight Scale (Worldscale) for 2019. This value shall be fixed throughout the term of the FSA at **USD 8.29/MT**

$AFRA_M$ = The Average Freight Rate Assessments (AFRA) for a medium range vessel for the Voyage between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the Month preceding the month in which delivery of Shipment X through the Delivery Point commences.

$AFRA_B$ The basis Average Freight Rate Assessments (AFRA) for a Medium Range Vessel for the Voyage between the Arabian Gulf (Quion) to Mombasa as provided by the London Tanker Brokers Panel Limited on the date that occurs two (2) months prior to the latest date for submission of Tenders set forth in call for tender. This value shall be fixed throughout the term of the

D = Local Transport between Mombasa and NSPP per metric ton. The amount to remain fixed for the duration of this Agreement at **USD 36.35/MT**

E = Taxes , duties, levies and fees paid or to be paid to the Kenyan Government/Authorities, presently:

1. GOK import fee **@ 2.25%** of CIF value (A+B+C)
2. Wharfage **@ US 2.20MT** (Excluding Vat)
3. Stevedowing **@ US 1.65/MT** (Excluding Vat)
4. Excise Duty **@ Kshs 630.9/M^3** @ 20C
5. Petroleum Development Levy **@ Kshs 400M^3** @ 20 C
6. Railway development Fund **@ 1.5 %** of CIF value (A+B+C)
7. Maritime levy **@ USD 0.3/MT** (Excluding Vat)

During the term of this agreement items No. 1 will be determined as actually paid or to be paid by the supplier on each shipment to Mombasa on a FIFO basis.

F = Overheads, profit, financial cost, import, storage, inventory losses, insurance, and other ADMIN costs. This amount , to remain fixed for the duration of this Agreement, at USD **26.7272/MT for 1.8%** Sulphur.

NOTES

1. **Conversion of M3 @ 20C to metric tonnes** will be done at the density of each shipment offloaded at the Supplier's Terminal, in Mombasa as determined by the Independent Inspector, in the Supplier's storage tanks.

2. **Conversion of other currencies into USD** . If any component of the Formula for determining the price of Fuel delivered shall be incurred by the Supplier in a currency other than USD then for the purpose of establishing the price, such currency shall be converted into USD at CBK mean average rate applicable to the month of delivery.

3. **Indexation and support Documents.** Component A and C of the above formula shall be evidenced by bodies specified thereat, while Component E shall be evidenced by supporting documents satisfactory to the Purchaser (this includes a copy of the relevant issue of the publication to which the relevant component is indexed)

4. **Fuel Inventory Control.** The calculation of Fuel Price (P) is based on FIFO inventory control basis. The above mentioned FIFO fuel inventory control will be implemented such that, all indexing factors related to the purchase and ocean transport of Fuel will remain constant for each shipment of Fuel delivered until the entire quantity is delivered to purchaser as per the quantity certificate to be issued by the independent Inspector being the actual quantity outturn from the vessel.

5. Tsavo Power – RH Devani 2017 FSA

Section 8- PRICE

The price per Tonne of fuel delivered through the interconnection point shall be as described in schedule 2

SCHEDULE 2
PRICE CALCULATION

The Fuel Price (FP) payable by the Company to the Fuel Supplier for any Shipment 'S' shall be calculated in calculated in accordance with the following formula:

FP_S = QTS * (A+B+C+D+E+F+G+H-I+J)

Where:

FP_S = The payment due to Fuel Supplier for a quantity 'QTS' of Fuel in Shipment 'S' delivered through the Interconnection Point, as measured by the Fuel Metering System, expressed in USD.

QT_S = The quantuty of Fuel in any Shipment 'S' delivered through the Interconnection Point, as measured by the Fuel Metering System, expressed in Tonnes.

A = The average of the Means of Platts of the daily quotations published by Platt's Arab Gulf for High Sulphur Fuel Oil 180 cSt (HSFO 180cst), under the heading "180 Arab Gulf FOB" for five effective days centered on the Bill of Lading date to which the

B = **USD 48.5/MT**, the premium applicable to the Fuel in Shipment 'S'for deviation in qua;lity from standard MOPAG. This value shall be valid throughout both the term and extended term of the agreement.

C = The freight charge applicable to Shipment 'S', calculated and indexed in accordance with the following formula:

C = TR_B * (WS_Y/WS_B) * ($AFRA_M$/$AFRA_B$)

Where:

TR_B **USD 16.7702/MT**, the deemed basis rate for 25,000 (Long) Ton Medium Range black oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa. This value shall be valid throughout both the term and extended term of the agreement.

WS_Y The World scale index for a standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year 'Y' in which delivery of shipment 'S' through the Interconnection Point commences, as published in the 'New Worldwide Tanker Nominal Freight Scale "World Scale"' by the Worldscale Association (London) Limited.

WS_B **7.69.** The basis Worldscale index for a voyage between the Arabian gulf (Quion Island) and Mombasa published in the New Worldwide Tanker Nominal Freight Scale "Worldscale" for 2016. This value shall be throughout both the term and extended term of theis Agreement.

$AFRA_M$ The Average Freight Rate Assessments (AFRA) for a medium range vessel for the single voyage rate between the Arabian Gulf (Quion

Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the month preceding the month in which delivery of Shipment "S" through the Interconnection Point commences. AFRAM shall be calculated as the average of the AFRA rates for the period commencing on (and including) the 15th Day of the Month which occurs two (2) Months prior to the Month in which the delivery of Shipment "S" comences.

$AFRA_B$ **162.0** the basis average freight rate assessments for a medium range vessel for the voyage between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers panel Limited. This shall be valid throughout both the term and extended term of Agreement.

D = The charge representing import costs associated with the importation of Shipment "S" calculated in accordance with the following formula:

D = MI + WRP + LC +OL + IDF + SL + STV + IF

Where:

C & F = A+B+C

CIF= C& F + MI + WRP + LC

MI = Marine insurance calculated as **1.003 * C& F * 0.077%**

WRP = War Risks Premium calculated as **1.003 * C&F * 0.0225%**

LC = Letter of Credit charges calculated as **1.2% * C&F**

OL = Ocean Loss calculated as **0.5% * CIF**

IDF = Import Declaration fees calculated as **2.0% * CIF**

SL = Shore Landinding/ Wharfage calculated as **USD 2.2/MT + 16 % VAT**

STV = Stevedoring calculated as **USD 1.65/MT**

MSL = Merchant Shipping Levy as **USD 0.30/MT**

IF = Inspection Fees Calculated as **SHS 8.50/MT + 16% VAT**

E = **USD 2.8473/MT**, the charge representing the cost of storage and inventory losses for Shipment "S" prior to delivery through the Interconnection Point.

F = The charge representing government and other local taxes and tarrifs associated with the delivery of Shipment "S". Each tax and tarrif that comprises "F" is identified below and shall be calculated as follows:

F = $\{(CD_D + PDL_D + RDL) * 1.073\} / RE_D$

CD_D = The customs duty applicable to the importation of a 180cSt fuel at the time time the delivery of Shipment "S" commences, expressed in KSHS per

PDL_D = Petroleum development levy ($KSHS/M^3$)

RDL = Railway development levy ($KSHS/M^3$)

RE_D = Rate of exchange (KSHS/USD)

1.073 = The conversion rate from cubic meteres to metric tonnes. This value shall be valid throughought the term and extended term of agreement.

G = **USD 3.3617/Tonne**, the charges applicable to the delivery of Shipment "S" to the Interconnect Point (s). This value shall be valid throughout both the term and extended term of Agreement.

H = **11.50/MT**, the charge representing the Fuel Supplier's management fees applicable to the delivery of Shipment "S". This value shall be valid throughout both the term and extended term of Agreement.

I = **USD 10.8276/MT** discount value. This value shall be valid throughout the term and extended term of Agreement. I shall be subtracted frpm the in the calculation of FPs as contemplated in the formu;a above.

J = VAT calculated as a percentage

6. Rabai Power – Kenol Kobil 2015 FSA

SCHEDULE 2
FUEL PRICE CALCULATION

Accepted Delivery Charge. The accepted Delivery charge (AD) is the payment due to Fuel Supplier for a quantity (ADQ) of fuel in an accepted Delivery in USD

AD = ADQ * FP

Accepted Delivery Quantity. ADQ shall mean quantity of fuel in each Accepted Delivery, occuring in month m, as weighed and determined using the purchaser's dedicated weighbridge, expressed in Tonnes.

Fuel Price. The price per metric Tonne of Fuel (FP) delivered applicable Accepted Delivery, excluding Vat, expressed in USD

FP = (A+B+C+D+E+F+G+H)

Where:

A = The Mean of Platts - Arabian Gulf or MOPAG defined as the monthly average of the mean of the Product Price Assessment for HSFO 180cst fuel quoted for Arabian Gulf FOB published in Platts Oilgram Price Report, applicable to the month immediately

B = The premium applicable to the Fuel in each Accepted Delivery for deviation in quality from standard MOPAG. This value being **USD 45.00/MT** shall be valid throughout the term of the agreement.

C = The marine freight charge applicable to each Accepted Delivery calculated and indexed in accordance with the following formula:

$C = TR_B * (WS_Y/WS_B) * (AFRA_M/AFRA_B)$

Where:

TR_B The basis rate for 25,000 (Long) Ton Medium Range black oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa of **USD 24.0/MT**. value shall be valid throughout the term of the agreement.

WS_Y The World scale index for a standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year 'Y' in which each Accepted Delivery occurs , as published in the 'New Worldwide Tanker Nominal Freight Scale "World Scale'" .

WS_B The basis Worldscale index for a voyage between the Arabian gulf (Quion

Island) and Mombasa published in the New Worldwide Tanker Nominal Freight Scale "Worldscale" for 2015 being **USD 10.51/MT**. This value shall be throughout the term of this Agreement.

$AFRA_M$ The Average Freight Rate Assessments (AFRA) for a medium range vessel for the single voyage rate between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the month preceding the month in which the Accepted Delivery Occurs.

$AFRA_B$ The basis average freight rate assessments for a medium range vessel for the voyage between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers panel Limited on the 1st of March 2015, being **152.20.** This shall be valid throughout the term of Agreement.

D = The charge representing import costs associated with the importation of each Accepted Delivery, calculated in accordance with the following formula:

D = MI + WRP +OL + IDF + SL + IF/RE_D +MSS + RDL

MI = Marine insurance calculated as **1.003 * C& F * 0.077%**

WRP = War Risks Premium calculated as **1.003 * C&F * 0.0275%**

Where:

C & F = A+B+C

CIF= C& F + MI + WRP

OL = Ocean Loss calculated as **0.5% * CIF**

IDF = Import Declaration fees calculated as **2.25% * CIF**

SL = Shore Landinding/ Wharfage calculated as **USD 3.85/MT + 16 % VAT**

MSS = Marine Shipping Service Levy being **USD 0.30/MT**

IF = Inspection Fees being **USD 1.00/MT**

RDL Rail Development Levy calculated as **1.5% of CIF**

RE_D = Rate of exchange (KSHS/USD) being the average of the daily mean USD exchange rate for the Month immediately preceding the Month in Which the AD occurs as quoted by the CBK, Nairobi.

E = The charge representing the cost of storage and inventory losses for each Accepted Delivery prior to delivery to the plant is **USD 12.0/MT.** This value shall be valid throughout the term of the agreement.

F = The charge representing government and other local taxes and tarrifs associated with Each Accepted Delivery. Each tax and tarrif that comprises "F" is identified below and shall be calculated as follows:

F = $\{(CD_D + DL_D)/RE_D * D_D$

CD_D = The customs duty applicable to the importation of a 180cSt fuel at the time time when the Accepted Delivery occurs, expressed in KSHS per cubic

DL_D = Petroleum development levy (KSHS/M^3)

D_D The conversion rate from cubic meteres to metric tonnes for a 180 cSt Fuel being **1.066**. This value shall be valid throughought the term of agreement.

G = The Charge applicable to transport of each Accepted Delivery to the plant is **USD 7.5/MT.** This value shall be valid throughought the term of Agreement.

H = The charge representing the Fuel Supplier's management fees applicable to each Accepted Delivery is **USD 9.00/MT**. This value shall be valid throughout the term of Agreement.

7. Rabai Power – Dalbit Petroleum 2020 FSA

SCHEDULE 2
FUEL PRICE CALCULATION

Accepted Delivery Charge. The accepted Delivery charge (AD) is the payment due to Fuel Supplier for a quantity (ADQ) of fuel in an accepted Delivery in USD

AD = ADQ * FP

Accepted Delivery Quantity. ADQ shall mean quantity of fuel in each Accepted Delivery, occuring in month m, as weighed and determined using the purchaser's dedicated weighbridge, expressed in Tonnes.

Fuel Price. The price per metric Tonne of Fuel (FP) delivered applicable Accepted Delivery, excluding Vat, expressed in USD

FP = (A+B+C+D+E+F+G+H)

Where:

A = The average of the Means of Platts of the daily quotations published by Platt's Arab Gulf for High Sulphur Fuel Oil 180 cSt, under the heading "180 Arab Gulf FOB" for five effective days centered on the Bill of Lading date of the Accepted Delivery (USD/MT).

B = The premium applicable to the Fuel in each Accepted Delivery for deviation in quality from standard MOPAG. This value being **USD 106.19.00/MT** shall be valid throughout the term of the agreement.

C = The marine freight charge applicable to each Accepted Delivery calculated and indexed in accordance with the following formula:

$C = TR_B * (WS_Y/WS_B) * (AFRA_M/AFRA_B)$

Where:

TR_B The basis rate for 25,000 (Long) Ton Medium Range black oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa of **USD 9.81/MT**. value shall be valid throughout the term of the agreement.

WS_Y The World scale index for a standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year 'Y' in which each Accepted Delivery occurs , as published in the 'New Worldwide Tanker Nominal Freight Scale "World Scale"' .

WS_B The basis Worldscale index for a voyage between the Arabian gulf (Quion Island) and Mombasa published in the New Worldwide Tanker Nominal Freight Scale "Worldscale" for 2020 being **USD 9.81/MT**. This value shall be throughout the term of this Agreement.

$AFRA_M$ The Average Freight Rate Assessments (AFRA) for a medium range vessel for the single voyage rate between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the month preceding the month in which the Accepted Delivery Occurs.

$AFRA_B$ The basis average freight rate assessments for a medium range vessel for the voyage between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers panel Limited on the date that occurs 2 months prior to the latest date for submission of tender set forth in call for tender. This shall be valid throughout the term of Agreement at **USD**

D = The charge representing import costs associated with the importation of each Accepted Delivery, calculated in accordance with the following formula:

D = MI + WRP +OL + IDF + SL + IF/RE_D +MSS + RDL

MI = Marine insurance calculated as **1.003 * C& F * 0.077%**

WRP = War Risks Premium calculated as **1.003 * C&F * 0.0275%**

Where:

C & F = A+B+C

OL = Ocean Loss calculated as **0.5% * CIF**

IDF = Import Declaration fees calculated as **3.5% * CIF**

Where

CIF= C& F + MI + WRP

SL = Shore Landinding/ Wharfage calculated as **USD 2.20/MT - 16 % VAT exclus**

MSS = Marine Shipping Service Levy being **USD 0.30/MT**

IF = Inspection Fees being USD **1.00/MT**

RDL Rail Development Levy calculated as **2% of CIF**

RE_D = Rate of exchange (KSHS/USD) being the average of the daily mean USD exchange rate for the Month immediately preceding the Month in Which the AD occurs as quoted by the CBK, Nairobi.

The formula for calculating MI, WRP, OL and IF shall not be changed throughout the term of the Agreement. The rate for IDF, SL, MSS and RDL shall remain as detailed above but will be changed as may be advised by the relevant Government Authority.

E = The charge representing the cost of storage and inventory losses for each Accepted Delivery prior to delivery to the plant is **USD 6.89/MT.** This value shall be valid throughout the term of the agreement.

F = The charge representing government and other local taxes and tarrifs associated with Each Accepted Delivery. Each tax and tarrif that comprises "F" is identified below and shall be calculated as follows:

F = $\{(CD_D + DL_D)/RE_D * D_D$

CD_D = The customs duty applicable to the importation of a 180cSt fuel at the time time when the Accepted Delivery occurs, expressed in KSHS per cubic

DL_D = Petroleum development levy ($KSHS/M^3$)

D_D The conversion rate from cubic meteres to metric tonnes for a 180 cSt Fuel being **1.066**. This value shall be valid throughought the term of agreement.

G = The Charge applicable to transport of each Accepted Delivery to the plant is **USD 7.35/MT.** This value shall be valid throughought the term of Agreement.

H = The charge representing the Fuel Supplier's management fees applicable to each Accepted Delivery is **USD 14.78.00/MT**. This value shall be valid throughout the term of Agreement.

Suspended duty. Since fuel suppliers currently qualify for a refund of Suspended Duty for fuel deliveries from the Kenya Petroleum Refinery Limited (KPRL), this amount shall be subtracted from the fuel price for all Accepted Deliveries from KPRL utilising the conversion rate D_D and the current applicable exchange rate RE_D.

8. Thika Power – Gulf Energy 2013 FSA

SECTION 7 PRICE OF FUEL
7.1 Calculation Of Fuel Price

The Price the purchaser shall pay for each MT of fuel delivered at the Delivery Point meeting the fuel specifications and shall be determined in accordance with the following formula. Measurement shall be done at the Delivery Point.

P_X = (A+B+C+D+E+F)

Where:

P_X = Price in USD PER MT of shipment X delivered ; duties and taxes paid, excluding VAT.

A = The average of the means of platts of the daily quotations published by Platts Arab Gulf for High Sulphur Fuel Oil 180 cst, under the heading of "180 Arab Gulf FOB" for 5 effective days centered on the Bill of Landing date to which the shipment X relates.

B = The premium applicable to the fuel shipment X for the deviation in quality from standard Platts High Sulphuir Fuel Oil180 cst and the required 2% Suplhur Fuel Oil. This value shall remain fixed for the duration of the contract as **USD 45/MT** .

C = The freight charge applicable to shipment X, calculated and indexed in accordance with the following formula:

$C = TR_B * (WS_Y/WS_B) * (AFRA_M/AFRA_B)$

Where

TR_B = The basis rate for a 25,000 (long) Ton Medium Range black oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa. This value shall be fixed throughout the term of the FSA at **USD 42.5/MT**

WS_Y = The World scale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year Y in which delivery of Shipment X through the delivery point commences, as published in the New Worldwide Tanker Nominal Freight Scale (Worldscale)

WS_B The basis Worldscale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa published in the New Worldwide Tanker Nominal Freight Scale (Worldscale) for 2019. This value shall be fixed throughout the term of the FSA at **USD 10.37/MT**

$AFRA_M$ = The Average Freight Rate Assessments (AFRA) for a medium range vessel for the Voyage between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the Month preceding the month in which delivery of Shipment X through the Delivery Point commences.

$AFRA_B$ The basis Average Freight Rate Assessments (AFRA) for a Medium Range Vessel for the Voyage between the Arabian Gulf (Quion) to Mombasa as provided by the London Tanker Brokers Panel Limited on the date that occurs two (2) months prior to the latest date for submission of Tenders set forth in call for tender. This value shall be fixed throughout the term of the FSA at **WS 141.30**

D = Local Transport between Mombasa and NSPP per metric ton. The amount to remain fixed for the duration of this Agreement at **USD 49/MT**

E = Taxes , duties, levies and fees paid or to be paid to the Kenyan Government/Authorities, presently:

1. GOK import fee **@ 2.25%** of CIF value (A+B+C)
2. Wharfage **@ US 2.0/MT** (Excluding Vat)
3. Stevedoring **@ US 1.5/MT** (Excluding Vat)
4. Excise Duty **@ Kshs 600/M^3** @ 20C
5. Petroleum Development Levy **@ Kshs 400/M3** @ 20° C
6. Merchant Shippping Fees **@ USD 0.3/MT** (Excluding Vat)

During the term of this agreement items No. 1 will be determined as actually paid or to be paid by the supplier on each shipment to Mombasa on a FIFO basis.

F = Overheads, profit, financial cost, import, storage, inventory losses, insurance, and other ADMIN costs. This amount , to remain fixed for the duration of this Agreement, at **USD 67.9682/MT** for 2% Sulphur.

NOTES

1. **Conversion of M3 @ 20C to metric tonnes** will be done at the density of each shipment offloaded at the Supplier's Terminal, in Mombasa as determined by the Independent Inspector, in the Supplier's storage tanks.

2. **Conversion of other currencies into USD** . If any component of the Formula for determining the price of Fuel delivered shall be incurred by the Supplier in a currency other than USD then for the purpose of establishing the price, such currency shall be converted into USD at CBK mean average rate applicable to the month of delivery.

3. **Indexation and support Documents.** Component A, B and C of the above formula shall be evidenced by bodies specified thereat, while Component E shall be evidenced by supporting documents satisfactory to the Purchaser (this includes a copy of the relevant issue of the publication to which the relevant component is indexed)

4. **Fuel Inventory Control.** The calculation of Fuel Price (P) is based on FIFO inventory control basis. The above mentioned FIFO fuel inventory control will be implemented such that, all indexing factors related to the purchase and ocean transport of Fuel will remain constant for each shipment of Fuel delivered until the entire quantity is delivered to purchaser as per the quantity certificate to be issued by the independent inspector being the actual quantity outturn from the vessel.

9. Thika Power -Gulf Energy 2019 FSA

SECTION 7 PRICE OF FUEL
7.1 Calculation Of Fuel Price

The Price the purchaser shall pay for each MT of fuel delivered at the Delivery Point meeting the fuel specifications and shall be determined in accordance with the following formula. Measurement shall be done at the Delivery Point.

P_X = (A+B+C+D+E+F)
Where:

P_X = Price in USD PER MT of shipment X delivered ; duties and taxes paid, excluding VAT.

A = The average of the means of platts of the daily quotations published by Platts Arab Gulf for High Sulphur Fuel Oil 180 cst, under the heading of "180 Arab Gulf FOB" for 5 effective days centered on the Bill of Landing date to which the shipment X relates.

B = The premium applicable to the fuel shipment X for the deviation in quality from standard Platts High Sulphuir Fuel Oil180 cst and the required 2% Suplhur Fuel Oil. This value shall remain fixed for the duration of the contract as **USD 72/MT .**

C = The freight charge applicable to shipment X, calculated and indexed in accordance with the following formula:

C = $TR_B * (WS_Y/WS_B) * (AFRA_M/AFRA_B)$
Where

TR_B = The basis rate for a 25,000 (long) Ton Medium Range black oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa. This value shall be fixed throughout the term of the FSA at **USD 37.4/MT**

WS_Y = The World scale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year Y in which delivery of Shipment X through the delivery point commences, as published in the New Worldwide Tanker Nominal Freight Scale (Worldscale)

WS_B The basis Worldscale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa published in the New Worldwide Tanker Nominal Freight Scale (Worldscale) for 2019. This value shall be fixed throughout the term of the FSA at **USD 8.29/MT**

$AFRA_M$ = The Average Freight Rate Assessments (AFRA) for a medium range vessel for the Voyage between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the Month preceding the month in which delivery of Shipment X through the Delivery Point commences.

$AFRA_B$ The basis Average Freight Rate Assessments (AFRA) for a Medium Range Vessel for the Voyage between the Arabian Gulf (Quion) to Mombasa as provided by the London Tanker Brokers Panel Limited on the date that occurs two (2) months prior to the latest date for submission of Tenders set forth in call for tender. This value shall be fixed throughout the term of the

D = Local Transport between Mombasa and NSPP per metric ton. The amount to remain fixed for the duration of this Agreement at **USD 42/MT**

E =

1. GOK import fee **@ 2%** of CIF value (A+B+C)
2. Wharfage **@ US 2.20MT** (Excluding Vat)
3. Stevedoring **@ US 1.65/MT** (Excluding Vat)
4. Excise Duty **@ Kshs 600/M^3** @ 20C
5. Petroleum Development Levy **@ Kshs 400/M3** @ 20 C
6. Merchant Shippping Fees **@ USD 0.3/MT** (Excluding Vat)
7. Railway development Fund **@ 1.5 %** of CIF value (A+B+C)

During the term of this agreement items No. 1 will be determined as actually paid or to be paid by the supplier on each shipment to Mombasa on a FIFO basis.

F = Overheads, profit, financial cost, import, storage, inventory losses, insurance, and other ADMIN costs. This amount , to remain fixed for the duration of this Agreement, at USD **33.7734/MT for 2%** Sulphur.

NOTES

1. Conversion of M3 @ 20C to metric tonnes will be done at the density of each shipment offloaded at the Supplier's Terminal, in Mombasa as determined by the Independent Inspector, in the Supplier's storage tanks.

2. Conversion of other currencies into USD . If any component of the Formula for determining the price of Fuel delivered shall be incurred by the Supplier in a currency other than USD then for the purpose of establishing the price, such currency shall be converted into USD at CBK mean average rate applicable to the month of delivery.

3. Indexation and support Documents. Component A, B and C of the above formula shall be evidenced by bodies specified thereat, while Component E shall be evidenced by supporting documents satisfactory to the Purchaser (this includes a copy of the relevant issue of the publication to which the relevant component is indexed)

4. Fuel Inventory Control. The calculation of Fuel Price (P) is based on FIFO inventory control basis. The above mentioned FIFO fuel inventory control will be implemented such that, all indexing factors related to the purchase and ocean transport of Fuel will remain constant for each shipment of Fuel delivered until the entire quantity is delivered to purchaser as per the quantity certificate to be issued by the independent Inspector being the actual quantity outturn from the vessel.

10. Thika Power – RH Devani 2020 FSA

SECTION 7 PRICE OF FUEL
7.1 Calculation Of Fuel Price

The Price the purchaser shall pay for each MT of fuel delivered at the Delivery Point meeting the fuel specifications and shall be determined in accordance with the following formula. Measurement shall be done at the Delivery Point.

P_X = (A+B+C+D+E+F+G)
Where:

P_X = Price in USD PER MT of shipment X delivered ; duties and taxes paid, excluding VAT.

A = The average of the means of platts of the daily quotations published by Platts Arab Gulf for High Sulphur Fuel Oil 180 cst, under the heading of "180 Arab Gulf FOB" for 5 effective days centered on the Bill of Landing date to which the shipment X relates.

B = The premium applicable to the fuel shipment X for the deviation in quality from standard Platts High Sulphuir Fuel Oil180 cst and the required 2% Suplhur Fuel Oil. This value shall remain fixed for the duration of the contract as **USD 95/MT** .

C = The freight charge applicable to shipment X, calculated and indexed in accordance with the following formula:

C = $TR_B * (WS_Y/WS_B) * (AFRA_M/AFRA_B)$
Where

TR_B = The basis rate for a 25,000 (long) Ton Medium Range black oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa. This value shall be fixed throughout the term of the FSA at **USD 0/MT**

WS_Y = The World scale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year Y in which delivery of Shipment X through the delivery point commences, as published in the New Worldwide Tanker Nominal Freight Scale (Worldscale)

WS_B The basis Worldscale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa published in the New Worldwide Tanker Nominal Freight Scale (Worldscale) for 2019. This value shall be fixed throughout the term of the FSA at **USD 9.81/MT**

$AFRA_M$ = The Average Freight Rate Assessments (AFRA) for a medium range vessel for the Voyage between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the Month preceding the month in which delivery of Shipment X through the Delivery Point commences.

$AFRA_B$ The basis Average Freight Rate Assessments (AFRA) for a Medium Range Vessel for the Voyage between the Arabian Gulf (Quion) to Mombasa as provided by the London Tanker Brokers Panel Limited on the date that occurs two (2) months prior to the latest date for submission of Tenders set forth in call for tender. This value shall be fixed throughout the term of the FSA at **USD**

D = Local Transport between Mombasa and NSPP per metric ton. The amount to remain fixed for the duration of this Agreement at **USD 31.6546/MT**

E = Taxes , duties, levies and fees paid or to be paid to the Kenyan Government/Authorities, presently:

1. GOK import fee **@ 3.5%** of CIF value (A+B+C)
2. Wharfage **@ US 2.20MT** (Excluding Vat)
3. Stevedoring **@ US 1.65/MT** (Excluding Vat)
4. Excise Duty **@ Kshs 630.90/M^3** @ 20°C
5. Petroleum Development Levy **@ Kshs 400/M3** @ 20°C
6. Merchant Shippping Fees **@ USD 0.3/MT** (Excluding Vat)
7. Railway development Fund **@ 2.0 %** of CIF value (A+B+C)

During the term of this agreement items No. 1 will be determined as actually paid or to be paid by the supplier on each shipment to Mombasa on a FIFO basis.

F = Overheads, profit, financial cost, import, storage, inventory losses, insurance, and other ADMIN costs. This amount , to remain fixed for the duration of this Agreement, at **USD 28.4165/MT for 2%** Sulphur.

NOTES

G = Discount. This amount, to remain fixed for the duration of this Agreement, at **USD - 1.00/MT** (Negative one US Dollar per MT)

1. **Conversion of M3 @ 20C to metric tonnes** will be done at the density of each shipment offloaded at the Supplier's Terminal, in Mombasa as determined by the Independent Inspector, in the Supplier's storage tanks.

2. **Conversion of other currencies into USD** . If any component of the Formula for determining the price of Fuel delivered shall be incurred by the Supplier in a currency other than USD then for the purpose of establishing the price, such currency shall be converted into USD at CBK mean average rate applicable to the month of delivery.

3. **Indexation and support Documents.** Component A, B and C of the above formula shall be evidenced by bodies specified thereat, while Component E shall be evidenced by supporting documents satisfactory to the Purchaser (this includes a copy of the relevant issue of the publication to which the relevant component is indexed)

4. **Fuel Inventory Control.** The calculation of Fuel Price (P) is based on FIFO inventory control basis. The above mentioned FIFO fuel inventory control will be implemented such that, all indexing factors related to the purchase and ocean transport of Fuel will remain constant for each shipment of Fuel delivered until the entire quantity is delivered to purchaser as per the quantity certificate to be issued by the independent Inspector being the actual quantity outturn from the vessel.

11. Triumph Power – Gulf Energy 2013 FSA

SECTION 1 PRICE OF FUEL
7.1 Calculation Of Fuel Price

The Price the purchaser shall pay for each MT of fuel delivered at the Delivery Point meeting the fuel specifications and shall be determined in accordance with the following formula. Measurement

P_X = (A+B+C+D+E+F)
Where:

P_X = Price in USD PER MT of shipment X delivered ; duties and taxes paid, excluding VAT.

A = The average of the means of platts of the daily quotations published by Platts Arab Gulf for High Sulphur Fuel Oil 180 cst, under the heading of "180 Arab Gulf FOB" for 5 effective days centered on the Bill of Landing date to which the shipment X relates.

B = The premium applicable to the fuel shipment X for the deviation in quality from standard Platts High Sulphuir Fuel Oil180 cst and the required 2% Suplhur Fuel Oil. This value shall remain fixed for the duration of the contract as **USD 40.00/MT .**

C = The freight charge applicable to shipment X, calculated and indexed in accordance with the following formula:

$C = TR_B * (WS_Y/WS_B) * (AFRA_M/AFRA_B)$
Where

TR_B = The basis rate for a 25,000 (long) Ton Medium Range black oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa. This value shall be fixed throughout the term of the FSA at **USD 60.25/MT**

WS_Y = The World scale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year Y in which delivery of Shipment X through the delivery point commences, as published in the New Worldwide Tanker Nominal Freight Scale (Worldscale)

WS_B The basis Worldscale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa published in the New Worldwide Tanker Nominal Freight Scale (Worldscale) for 2019. This value shall be fixed throughout the term of the FSA at **USD 10.37/MT**

$AFRA_M$ = The Average Freight Rate Assessments (AFRA) for a medium range vessel for the Voyage between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the Month preceding the month in which delivery of Shipment X through the Delivery Point commences.

$AFRA_B$ The basis Average Freight Rate Assessments (AFRA) for a Medium Range Vessel for the Voyage between the Arabian Gulf (Quion) to Mombasa as provided by the London Tanker Brokers Panel Limited on the date that occurs two (2) months prior to the latest date for submission of Tenders set forth in call for tender. This value shall be fixed throughout the term of the FSA at **WS 122.60**

D = Local Transport between Mombasa and NSPP per metric ton. The amount to remain fixed for the duration of this Agreement at **USD 44.50/MT**

E = Taxes,duties,levies and fees paid or to be paid to the Kenyan Governmental Authorities; presently:

1. GOK import fee **@ ....%** of CIF value (A+B+C)
2. Wharfage **@ US .../MT** (Excluding Vat)
3. Stevedoring **@ US .../MT** (Excluding Vat)
4. Excise Duty **@ Kshs .../M^3** @ 20C
5. Petroleum Development Levy **@ Kshs .../M3** @ 20 C
6. Merchant Shippping Fees **@ USD .../MT** (Excluding Vat)
7. Railway development Fund **@ 1.5 %** of CIF value (A+B+C)

During the term of this agreement items No. 1 will be determined as actually paid or to be paid by the supplier on each shipment to Mombasa on a FIFO basis.

F = Overheads, profit, financial cost, import, storage, inventory losses, insurance, and other ADMIN costs. This amount , to remain fixed for the duration of this Agreement, at USD **84.4583/MT.**

NOTES

1. Conversion of M3 @ 20C to metric tonnes will be done at the density of each shipment offloaded at the Supplier's Terminal, in Mombasa as determined by the Independent Inspector, in the Supplier's storage tanks.

2. Conversion of other currencies into USD . If any component of the Formula for determining the price of Fuel delivered shall be incurred by the Supplier in a currency other than USD then for the purpose of establishing the price, such currency shall be converted into USD at CBK mean average rate applicable to the month of delivery.

3. Indexation and support Documents. Component A, B and C of the above formula shall be evidenced by bodies specified thereat, while Component E shall be evidenced by supporting documents satisfactory to the Purchaser (this includes a copy of the relevant issue of the publication to which the relevant component is indexed)

4. Fuel Inventory Control. The calculation of Fuel Price (P) is based on FIFO inventory control basis. The above mentioned FIFO fuel inventory control will be implemented such that, all indexing factors related to the purchase and ocean transport of Fuel will remain constant for each shipment of Fuel delivered until the entire quantity is delivered to purchaser as per the quantity certificate to be issued by the independent Inspector being the actual quantity outturn from the vessel.

12. Triumph Power – RH Devani 2019 FSA

SECTION 7 PRICE OF FUEL
7.1 Calculation Of Fuel Price

The Price the purchaser shall pay for each MT of fuel delivered at the Delivery Point meeting the fuel specifications and shall be determined in accordance with the following formula. Measurement shall

P_X = (A+B+C+D+E+F+G)
Where:

P_X = Price in USD PER MT of shipment X delivered ; duties and taxes paid, excluding VAT.

A = The average of the means of platts of the daily quotations published by Platts Arab Gulf for High Sulphur Fuel Oil 180 cst, under the heading of "180 Arab Gulf FOB" for 5 effective days centered on the Bill of Landing date to which the shipment X relates.

B = The premium applicable to the fuel shipment X for the deviation in quality from standard Platts High Sulphuir Fuel Oil180 cst and the required 2% Suplhur Fuel Oil. This value shall remain fixed for the duration of the contract as **USD 85.50/MT** .

C = The freight charge applicable to shipment X, calculated and indexed in accordance with the following formula:

$C = TR_B * (WS_Y/WS_B) * (AFRA_M/AFRA_B)$
Where

TR_B = The basis rate for a 25,000 (long) Ton Medium Range black oil tanker for a voyage between Arabian Gulf (Quion Island) to Mombasa. This value shall be fixed throughout the term of the FSA at **USD 16.50/MT**

WS_Y = The World scale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa as established in the year Y in which delivery of Shipment X through the delivery point commences, as published in the New Worldwide Tanker Nominal Freight Scale (Worldscale)

WS_B The basis Worldscale index for a Standard Vessel for a voyage between the Arabian Gulf (Quion Island) and Mombasa published in the New Worldwide Tanker Nominal Freight Scale (Worldscale) for 2019. This value shall be fixed throughout the term of the FSA at **USD 8.29/MT**

$AFRA_M$ = The Average Freight Rate Assessments (AFRA) for a medium range vessel for the Voyage between the Arabian Gulf (Quion Island) to Mombasa as provided by the London Tanker Brokers Panel Limited on the first day of the Month preceding the month in which delivery of Shipment X through the Delivery Point commences.

$AFRA_B$ The basis Average Freight Rate Assessments (AFRA) for a Medium Range Vessel for the Voyage between the Arabian Gulf (Quion) to Mombasa as provided by the London Tanker Brokers Panel Limited on the date that occurs two (2) months prior to the latest date for submission of Tenders set forth in call for tender. This value shall be fixed throughout the term of the FSA at **USD**

D = Local Transport between Mombasa and NSPP per metric ton. The amount to remain fixed for the duration of this Agreement at **USD 31.0545/MT**

E = Taxes , duties, levies and fees paid or to be paid to the Kenyan Government/Authorities, presently:

1. GOK import fee **@ 2%** of CIF value (A+B+C)
2. Wharfage **@ US 2.20MT** (Excluding Vat)
3. Stevedoring **@ US 1.65/MT** (Excluding Vat)
4. Excise Duty **@ Kshs 630.90/M³** @ 20°C
5. Petroleum Development Levy **@ Kshs 400/M3** @ 20°C
6. Merchant Shippping Fees **@ USD 0.3/MT** (Excluding Vat)
7. Railway development Fund **@ 1.5 %** of CIF value (A+B+C)

During the term of this agreement items No. 1 will be determined as actually paid or to be paid by the supplier on each shipment to Mombasa on a FIFO basis.

F = Overheads, profit, financial cost, import, storage, inventory losses, insurance, and other ADMIN costs. This amount , to remain fixed for the duration of this Agreement, at **USD 15.8286/MT for 2%** Sulphur.

G = Discount. This amount, to remain fixed for the duration of this Agreement, at **USD 1.00/MT**

NOTES

1. **Conversion of M3 @ 20C to metric tonnes** will be done at the density of each shipment offloaded at the Supplier's Terminal, in Mombasa as determined by the Independent Inspector, in the Supplier's storage tanks.

2. **Conversion of other currencies into USD** . If any component of the Formula for determining the price of Fuel delivered shall be incurred by the Supplier in a currency other than USD then for the purpose of establishing the price, such currency shall be converted into USD at CBK mean average rate applicable to the month of delivery.

3. **Indexation and support Documents.** Component A, B and C of the above formula shall be evidenced by bodies specified thereat, while Component E shall be evidenced by supporting documents satisfactory to the Purchaser (this includes a copy of the relevant issue of the publication to which the relevant component is indexed)

4. **Fuel Inventory Control.** The calculation of Fuel Price (P) is based on FIFO inventory control basis. The above mentioned FIFO fuel inventory control will be implemented such that, all indexing factors related to the purchase and ocean transport of Fuel will remain constant for each shipment of Fuel delivered until the entire quantity is delivered to purchaser as per the quantity certificate to be issued by the independent Inspector being the actual quantity outturn from the vessel.

8 Meeting Minutes

INTERVIEW MINUTES

MINUTES FOR THE FORENSIC AUDIT OF THE PROCUREMENT AND USE OF HFOS HELD AT GULF POWER LTD OFFICES ON THE 5TH JULY 2022 AT 96 RIVERSIDE 5TH FLOOR.

Members Present;

Gulf Power

Norman Wanyiri	General Manager
Abu-Bakr Ali	Finance and Operations Manager
Benson Njiru	Chief Technical Officer

Ronalds LLP

Noah Ndakala	Engagement Partner
Pauline Mwangi	Project Manager
Dennis Nganga	Forensic Auditor
Joseph Ogachi	Procurement Specialist
Chris Oanda	Fuel Pricing Expert
Jacob Kithome	Energy Expert
Faith Koech	Procurement Auditor
Patrick Odhiambo	Auditor
Joyce Mwathi	Auditor

Minute 1: Introduction

The General Manager ordered the meeting to start after welcoming all the members present.

Minute 2: Nature and Scope of the Audit

Pauline gave an overview of the understanding of the assignment in which KPLC contracted Ronalds LLP to carry out a forensic audit as a result of a presidential task force recommendation on the Procurement and Use of HFOs. The forensic assignment is to cover three years (July to June) 2018/2019, 2019/2020, and 2020/2021.The assignment will be for the review for all the six thermal Power Plants.

Ronalds LLP was aware that there was a notification sent to Gulf Power informing them of the exercise.

Minute 3: Nature of Operations

The General Manager of Gulf power gave a general overview of the Operations in line with;

- **Year of commission**

The Gulf power tendering process was done in 2009 that led to the signing of the PPA on 17th December 2012. The commissioning of the power plant was done in December 2014 and began its commercial operations in December 2017.

- **Tendering process and contract nature**

The general manager took the team through the tendering process. He stated they participated in an open tender starting from preparation of the tender document, submission, evaluation and finally the award of the contract.

It was worth noting that they participated in two tenders to date with the first tender in 2009 and the second tender began in March 2020 but due to disruptions of COVID -19 it delayed the process to July 2020.

To note: HFO is the major item being procured.

- **Inventory Management and control**

Gulf power uses First in First Out in the invoicing of the HFOs to KPLC. However, the General Manager mentioned that Last in First Out is currently being used to help curb the spillover that took place during the 2014 hence helped to take advantage of the low prices. The organization does daily, weekly, and monthly inventory control and shares the same with KPLC.

- **Ordering process**

The ordering process depends on dispatch, that is in case there is low dispatch, and then the organization may end up not placing any order. Approximately the management of Gulf highlighted that on average uses less than one order per month.

The team mentioned that the dispatch by the power plant is very low compared to the rest of the IPPs roughly 4,000-5,000 hours of work. If the security stock stored at the plant in any period falls below 4,500 metric tons (MT), then the payment under Power Purchase Agreement shall be adjusted until such times the security stock volume is equal to or exceed 4,500 MT.

In addition, the team alluded that the seller is required to always keep on-site, in accordance with prudent operating practice, a commercially reasonable stock of fuel for the plant's daily operation as well as security stock that is not less than the total amount of fuel needed to run the plant continuously for 20 days at full load.

Finally, it was highlighted that the dispatch projections cannot be determined as they come on a need basis. For example, the General Manager mentioned that the dispatch levels for the months of December 2020, January, and March 2021 were high compared to the rest where there were one or fewer orders per month.

- **Major challenges facing the IPP**

The plant's primary problem is with price ranking, where the dip in 2014 led to the use of LIFO rather than FIFO due to the high prices utilized in the inventories, was clarified.

- **Procurement policies**

The plant uses outsourced Operations and Management (O&M) for its staff at Kipevu 2 and the Management Team runs operations at the office.

<u>Minute 4: Preliminary List of Requirements</u>

The management of Gulf advised on a one-way means of communication, and the sharing of the list of all items and information required.

<u>Minute 5: Any other Business</u>

The team from Gulf requested that before the release of list of requirements needed during the audit exercise, there was need for signing of a Non-Disclosure Agreements by Ronalds LLP team. As a result of this, they were to prepare and share with us the NDA.

There being no other business, the meeting was adjourned at around 11:30 am.

MINUTES FOR THE FORENSIC AUDIT OF THE PROCUREMENT AND USE OF HFOS HELD AT IBERAFRICA OFFICES ON 7TH JULY 2022 AT 3.00PM

Members Present:

Henry Muthanji	Chief Executive Officer, Iberafrica
Laurie Akinyi	Iberafrica
Fiona Ng'ethe	Internal Auditor, A.P Muller Capital
Bernard Mwaniki	Iberafrica
Simeon Githagui	Iberafrica
Lawrence Musyoka	Iberafrica
Jeff KImanthi	Iberafrica
Purity Muthamia	Iberafrica
Pauline Mwangi	Project Manager, Ronalds LLP
Noah Ndakala	Engagement Partner, Ronalds LLP
Dennis Ng'ang'a	Forensic Audit Expert
Chris Oanda	Pricing Expert
Jacob Kithobe	Petroleum Expert
Wilberforce Amugune	Audit Manager, Ronalds LLP
Lorrain Namasaka	Auditor, Ronalds LLP
Charlene Kimaru	Auditor, Ronalds LLP
Cynthia Chepkorir	Auditor, Ronalds LLP

Absent with Apology

Joseph Ogachi	Procurement Expert

AGENDA

1. Introduction
2. Nature and Scope of the audit
3. Nature of operations
4. Timelines of the audit
5. Preliminary list of requirements
6. Any other Business (AOB)

Minute 1: Introduction

The meeting was called to order at 3:05PM by the CEO, IBERAFRICA, Mr. Henry Muthanji who welcomed the team and asked the auditors to introduce themselves. Pauline thanked the CEO for the opportunity to take the floor. The team from Ronalds introduced themselves followed by the team from IBERAFRICA.

She added that KPLC had engaged Ronalds LLP as independent auditors to assess procurement of HFOs and the pricing.

Minute 2: Nature and Scope of the Audit

Pauline gave an overview regarding the assignment and mentioned that Ronalds LLP bidded competitively and was contracted by KPLC to conduct a forensic audit which officially started on Monday, 4th July 2022.

She explained that the assignment would be very objective because it is of public interest and touches on the country's concerns on the rising cost of power. She explained that the purpose of the overview was for the team to understand the relationship between IPPs and KPLC and challenges faced by the IPP. She added that the scope of the audit was the financial years; 2018-2019, 2019-2020, 2020-2021 but in instances where historical data was applicable, review will be done.

She also mentioned that the list of requirements shall be shared to the IPPs and that regardless of some of the requirements being held at KPLC, the same documents may be requested from the IPP for the audit team to check on uniformity.

Minute 3: Nature of Operations

The CEO went ahead to describe the operations of Iberafrica with regards to the following:

- **Year of commission**

Iberafrica Plant 1 was the first IPP in Kenya and commissioned in 1998 with a capacity of 44MW and in 2000 the plant increased the capacity to 56.346MW. In 2007 there was a need to increase the capacity and this saw the commissioning of Iberafrica Plant 2.

Plant 1 PPA was signed in 1996 and the term was extended in 2004 for 15 years which saw Iberafrica 1 decommissioned in August 2019. Plant 2 was commissioned in 2009 and is currently in operation with its PPA set to expire in 2034.

- **Ownership**

Iberafrica was first owned by Union Fenosa, a public company in Spain, which was bought by Gas Natural which merged to form Gas Natural Fenosa. specializing in electricity and gas distribution. In 2019, Iberafrica was bought by A.P Muller Capital, a venture capital firm that invests in infrastructure and is the sole shareholder.

- **Tendering process and contract nature**

The CEO mentioned that the current FSA runs for two years with possible extensions for two -one-year terms after a review of supplier compliance. This means that a supplier can go for up to 4 years, maximum. He added that they have issued three tenders since 2009 with the following suppliers; GapCo, Gulf Energy and RH Devani, who are the current suppliers.

He went ahead to explain the procurement process: The tender must be advertised in the local dailies and all qualified bidders are invited to bid. The tender documents are prepared and sent to KLPC for review who approve if it can go to tender or provide amendments which the IPP can either take the advice or go forth with the tender as is.

The bidders are usually given between 3 weeks to a month to respond to the tender which are sent to IBERAFRICA or physically dropped at the location. The IPP gives the bidders a draft FSA and instructions.

All bidders are invited for the tender opening in the presence of KPLC representatives; prices are read and the bidders sign against the prices that have been read.

Evaluation of bidders is done for both competitive and non-competitive numbers, on competitive numbers including taxes and exchange rates. The bidders competed on matters including overheads and profits.

The Evaluation reports are shared to KPLC who review and write to IBERAFRICA with regards to objections or additional propositions. After alignment of KPLC and IBERAFRICA recommendations, the bidders are invited for negotiations and the FSA is drafted and KPLC issued with a copy. The successful bidder will supply the HFO within 30 days and samples of the products analyzed at Iberafrica. Iberafrica also does an external lab analysis with bodies like SGS & InterTech to check if the fuel meets the specifications and is of quality. The fuel analysis certificate is shared to KPLC to support the fuel specifications and to show the calorific value.

- **Ordering process**

The ordering process depends on dispatch, he added that the plant was very operational and dispatch was at 65% around 2014 - 2016 however, the IPP's current dispatch stands at 11% as at 2021.
He added that they use the formula, P-1 and this is affecting the prices especially when there are price fluctuations. The formula applies to IBERAFRICA alone and is contained in the initial PPA which they adhere to strictly.
Pauline inquired whether there have been any disputes regarding invoicing but the CEO clarified that there had been no disagreements experienced so far.

The CEO mentioned that initially they maintained a minimum of 4,500MT yet dispatch was between 5 - 10%. The minimum stock was degazetted but following the Taskforce report recommendation in November, the minimum stock level reduced to 3,389MT.

The CEO also added that the HFO passed through cost is 224/g/kw/hr as stipulated in the PPA and in cases where the cost is surpassed Iberafrica bears the cost.He also added that the plant was previously using HFO with 1% sulphur content however in 2009 they switched to fuel with 1.8% which ultimately lowered the cost of generation.

The plant availability of Iberafrica is always at 85% as required by the PPA.

Major challenges facing the IPP

The plant's primary problem is with the current pricing formula of P-1, the CEO mentioned heavy losses that Iberafrica has had to incur as a result of price fluctuations yet the plant has to bear the risks. He added that in the past, Iberafrica had incurred losses to the tune of 1 million dollars due to the engaged large working capital.

<u>Minute 4: Preliminary List of Requirements</u>

Pauline added that the audit team will share a comprehensive list of requirements and NDAs(to be shared by Iberafrica) to be signed by the audit team. She mentioned that the duration of the audit is 120 calendar days and the fieldwork will start on 18th July and in case of any changes, Iberafrica shall be notified.

The CEO mentioned that they were ready for the audit team and the list of requirements should be shared early to allow for the Iberafrica team to prepare accordingly. He also added that documents may be shared in hybrid format, that is, either in soft or hard copy depending on the confidentiality of the documentation.

<u>Minute 5: Any other Business</u>

The CEO asked Mr. Noah Ndakala to give a brief about Ronalds LLP to which he responded that the firm is an indigenous firm of choice in Africa offering consultancy services including accounting, advisory and assurance. He added that the firm had over 100 employees with diverse technical backgrounds including engineering. Noah also mentioned that Ronalds LLP was chosen by KPLC as a result of very rich experience spanning a period of 12 years.

There being no other business the meeting ended at 5.00PM.

MINUTES OF THE FORENSIC AUDIT ENTRY MEETING BETWEEN RONALDS LLP AUDIT TEAM AND THIKA POWER OFFICIALS HELD ON JULY 6TH, 2022, AT THIKA POWER OFFICES

Members Present

George Njenga	Chief Executive Officer
Stephen Mwaura	Plant Manager
Fiona Ngethe	Internal Auditor
Pauline Mwangi	Project Lead
Dennis Nyaga	Forensic Consultant
Joseph Ogachi	Procurement Consultant
Chris Oanda	Fuel consultant
Jacob Kithome	Fuel consultant
Faith Koech	Procurement Auditor
Tori Emily Akinyi	Auditor
Timothy Mutua	Auditor

AGENDA

1. Introduction

2. Nature and scope of the audit

3. Nature of operations

4. Timelines of the audit

5. Preliminary list of requirements

6. Any other Business (AOB)

MIN/01/06/07/2022: INTRODUCTION

The general manager called the meeting to order at 10:00 am. The members introduced themselves to be acquainted with each other.

MIN/02/07/2022: NATURE AND SCOPE OF THE AUDIT:

The chief executive officer gave a brief introduction to the plant. He explained that Thika Power Plant started its operations in July 2014, and it has a capacity of 87 MW. He explained that AP Moller Capital had recently acquired the plant from Melec Power gen Inc. The CEO explained that four engines were running at that moment, and added that the plant had been transitioned from a baseload plant to a peaking plant because of the increase in non-renewable sources of energy in Kenya.

The Project lead explained that the forensic audit was from the Presidential Task Force, and the main objective of the audit was to investigate the procurement and use of Heavy Fuel Oils (HFOs). The audit would cover three government financial years; 2018-2019, 2019-2020 and 2020-2021.

MIN/03/07/2022: NATURE OF OPERATIONS

The CEO was keen to note the following issues about the operations of the plant;

- During the procurement of the HFOs, the Fuel Sale Agreements contain specifications that guide the pricing.
- They rely on annual KPLC forecasts and projections, which guide the energy requirement for the year.
- HFO tenders are floated on the oil market. There is a Fuel Supply Agreement template in the Purchase Power Agreement that advises on the pricing, stock levels and tax. The Platts Quotation also guides the pricing of HFOs.
- KPLC has to attend the opening of the tenders. The tender is awarded to the lowest bidder after the authorization of KPLC.
- The prices of the HFOS vary per IPP due to;
    - ❖ The fuel specification –Some thermal power plants such as Iberafrica located close to residential areas are recommended to use fuel with low Sulphur content of 1%, while the Thika Power plant may use fuel with a Sulphur content of 1.8% as it is further away from residential areas. The price that Iber Africa would purchase for its HFO would be higher than that of Thika Power Plant, as the HFO will have to be refined and processed to lower the Sulphur content.
    - ❖ The Engine Specification from the OEM (Original Engine Manufacturers)-Different plants have different engines, therefore their HFO consumption is different. An older Engine will consume more HFO.
    - ❖ When the IPP tendered for fuel since the fuel prices vary from time to time.
- There have been two HFO tenders i.e. the first tender was in 2012 while the second tender was on 30th July 2020. Thika Power had been renewing the 2012 tender till the expiration of the final contract in 2020.
- Power dispatch by KPLC varies depending on the economic order of metrics. The plant is used as a peaking plant.
- The plant manager explained that the capacity payments from KPLC cover the daily overheads and the plant maintenance expenses.

MIN 04/07/2022: PRELIMINARY LIST OF REQUIREMENTS

The auditors informed the management that a list of audit requirements would be shared with them as soon as the work plan was finalized. The management agreed to cooperate and confirmed that all the physical documents required were in the plant and would be provided to the auditors once their fieldwork began.

MIN 05/07/2022: ANY OTHER BUSINESS

The CEO informed the auditors that he had published a white paper which contained the recommendations that he thought would improve the energy sector in the country. Some of the recommendations highlighted in the white paper include:

- Standardization of HFO Composition: This would mean every IPP would have to adjust their engines to adapt to the standardized fuel. This would not only ensure economies of scale, but also economies of storage.
- The transition from HFO to LNG (Liquid Natural Gas): Not only is LNG a cheaper option of energy but it is also more environmentally friendly than HFO. In addition to that, LNG is more efficient with engines and cost-effective. The transition from gas would be easy as there was a gazette notice from the EPRA that required all the engines in all IPPs to have gas convertible turbines. The countries around Africa that are currently using the LNG include; Nigeria, Angola, Senegal, Ghana and Tanzania.
- No minimum stock: Currently, KPLC requires the IPPs to maintain a minimum stock level of 4500 metric tonnes of HFO. Since most IPPs are peaking plants, maintaining the stock levels becomes very expensive for the IPPs as the end consumer pays for the maintenance of the fuel. The recommendation was to remove the minimum stock requirement for each IPP, but each IPP should be able to pay for damages.
- The system losses should be reduced; There is a lot of theft of power and the pain is borne by the consumers. KPLC should try and minimize the system losses to 12% as they used to be.
- The supply chain cost should be lowered by reducing taxes on HFOs and using other cheaper alternatives such as LNG

The CEO asked if the auditors would agree to sign an NDA. The audit team assured the plant management they had nothing against signing an NDA. The internal auditor informed the auditors that the NDA would be shared with the project manager for the audit.

The project manager informed the team from Thika Power that the list of audit requirements will be shared with the tentative dates for the fieldwork.

The meeting ended at 12:00 pm.

MINUTES FOR THE FORENSIC AUDIT OF THE PROCUREMENT AND USE OF HFOS HELD ON THE 7TH JULY 2022 AT TRIUMPH POWER HEAD OFFICES - JKIA CARGO SECTION; - ORAKO BUILDING.

Members Present;

Siva Shankar	General Manager (Triumph)
Rufar Abass	Director (Triumph)
James Karanja	Finance Director
Pauline Mwangi	Project Manager, Director Public Sector Audit
Noah Ndakala	Engagement Partner
Dennis Nganga	Forensic Auditor
Joseph Ogachi	Procurement Auditor
Jacob Kithome	Fuel Expert
Emmanuel Ilimah	Auditor
Joyce Mwathi	Auditor
Lorraine Namasaka	Auditor

1.0 PRELIMINARIES.

The meeting was called in order at 11.00 by Triumph Chief Executive Mr. Siva Shankar after he welcomed the guests.

2.0 AGENDA.

1. Introduction
2. Nature and scope of the audit
3. Nature of operations
4. Timelines of the audit
5. Preliminary list of requirements
6. Any other Business (AOB)

Minute 2: Nature and Scope of the Audit

Noah Ndakala gave a succinct overview of the meeting's agenda. Pauline Mwangi provided a thorough understanding of both parties' expectations and deliverables in the course of the Forensic. She further elaborated the background of the Forensic Audit with the objectives informed based on the Taskforce report being:

- To understand the procurement and contracting procedures, processes and documentation
  followed by the Independent Power Producers (IPPs) and KPLC in purchasing of Heavy Fuel Oils (HFO),
- Ascertaining the selection criteria used to identify the eventual HFO suppliers to the IPPs.

- To undertake critical analysis of the fuel pricing arrangement in the Fuel Supply Agreements and the PPAs and identify any gaps.
- To comparatively analyse HFO plants in Kenya determine the rationale for differences in HFO pricing as experienced in the tariff.

Pauline stated the scope will cover the period 2018/2019, 2019/2020, and 2020/2021.

Minute 3: Nature of Operation

Triumph Power Plant General Manger Saiva Shaukar offered a general outline of the company as follows.

- **Background and year of commissioning**

It was commissioned in 2015 and has a lifespan of 20 years to 2035. The 83MW diesel plant is located in Athi River (Kitengela) Triumph Power Generating Company was set up in Kenya by Board Holdings Ltd. (UK) a family-owned company whose principal shareholder is Abdirahman Haji Abass and family.

Board Holdings owns 40% of the company, with the majority of the balance of the shareholding is held by other family-owned companies such as Tecaflex Ltd, Interpel Investments Ltd and Southern Intertrade Ltd. The total project cost is around US$157 million, structured on a limited recourse basis with a debt equity ratio of **75:25** amounting to around US$118 million in debt and around US$39 million in equity. He however stated that the equity percentage at the moment is at **27%**

The power plant consists of eight medium-speed diesel engines.

Ownership is BOO

- **Tendering process and contract nature**

Triumph invited tenders from the fuel suppliers in 2015, companies e.g. participates including

1. Gulf energy
2. Total
3. Mobil

Triumph has done 2 tenders for supply of HFO. Gulf energy being the initial supplier and RH Devan the current supplier of HFO as from 2019. Tendering was done after every 4 years and was renewable after 2years.

In terms of logistics, the supplier delivers the Fuel to The plant from Mombasa by road where it its weighed and Quality tests conducted by the Triumphs Independent Inspector to ascertain the quality of the HFO,the Sulphur content, and the oil –water ratio.

- **Operation and Maintenance**

The plant is operated and maintained by Mantracks Energy solutions a Germany based company selected based on the most attractive in terms of Knowledge and skillsets and perceived as least expensive contractor.

- **Inventory**

Triumphs power operates on the LIFO, with a minimum stock of 4500 metric tons which is based on the PPA and Taskforce resolution in in 2021 as the safety stock in the cases it is asked to produce to 100%.

- **Ordering process**

Triumphs average dispatch is 7.5%-10% against the utilization factor of 65% as stipulated in the PPA. It operates on a partial load with many stops and loads with average dispatch of 2 hours per day.

- **challenges**

  Stock holding costs

- **Procurement policies**

  Triumphs follows the procurement process as per the PPA.

Minute 4: Preliminary List of Requirements

The list of requirements for to facilitate the exercise will be sent to Triumphs in the course of the following week to enable them to compile and organize.

Minute 5: Contract and Invoices

KPLC isn't involved on how Electricity is produced but rather bill on the Net Electrical Output NEO at rate of 210Kwh/g as stipulated in the PPA.

The allowable invoicing rate is 210g/kwh. Invoices were generated on a monthly basis and sent to KPLC for payment with the billing formula as below,

Minute 5: Any other Business

There being no other business, the meeting was adjourned at around 5:15 pm.

MINUTES FOR THE FORENSIC AUDIT OF THE PROCUREMENT AND USE OF HFOS HELD ON THE 5TH JULY 2022 TSAVO POWER OFFICES AT NATION CENTER BUILDING 13TH FLOOR

Members Present;

Julius Irungu (Engineer)	Chief Executive Officer, Tsavo Power Limited
Gerald Ngugi	Chief Operations Officer, Tsavo Power Limited
Benson Njiru	Petroleum Specialist
Pauline Mwangi	Project Manager, Director Public Sector Audit
Noah Ndakala	Engagement Partner
Dennis Nyaga	Forensic Auditor
Joseph Ogachi	Procurement Specialist
Chris Oanda	Fuel Pricing Expert
Jacob Kithome	Petroleum/ Energy Expert
Faith Koech	Auditor
Timothy Mutua	Auditor
Simon Makau	Auditor

Minute 1: Introduction

The Chief Executive Officer, Engineer Julius Irungu welcomed all the guests present and brought the meeting to commencement at 3:00 P.M.

Minute 2: Nature and Scope of the Audit

Noah Ndakala gave a brief insight of what would be our main agenda for the meeting and left the floor for Pauline who is the project manager of the assignment where she gave a deeper and comprehensive understanding of what would be expected of both the client and the engagement team in carrying out the assignment comprehensively in good time.

Pauline and the experts made it clear that the main objective of the assignment was to:

- Understand the procurement and contracting procedures, processes and documentation followed by the Independent Power Producers (IPPs) and KPLC in purchasing Heavy Fuel Oils (HFO), to determine whether they were carried out per the respective Power Purchase Agreements (PPAs) and KPLC policies and identify cases of deviation or inappropriate practices that may have or continue to expose KPLC to likely losses.
- Ascertaining the selection criteria used to identify the eventual HFO suppliers to the IPPs.
- Undertaking critical analysis of the fuel pricing arrangement in the Fuel Supply Agreements and the PPAs and identifying any gaps.

- Through a comparative analysis of HFO plants in Kenya, determine the rationale for differences in HFO pricing as experienced in the tariff.

The forensic assignment covers three years (July to June) 2018/2019, 2019/2020, and 2020/2021.

Minute 3: Nature of Operations

Julius Irungu(Engineer) the Chief Executive Officer, Tsavo Power Limited gave a general overview of the company as below:

❖ **Year of commission**

On 5th July 1996, the GoK advertised a tender for the construction and operation of a 74MW Medium Speed Diesel Power Station to be located at Kipevu, Mombasa. The PPA was signed in January 2000 but the business began operations in September 2001.

❖ **Tendering process and contract nature**

Tsavo invited tenders from interested and experienced Fuel Suppliers (" The Tenderer')' for the supply and delivery of Heavy Fuel Oil (HFO) ("The fuel") to its power-generating speed diesel generators in Mombasa. The fuel was required to fire 7 medium-speed diesel generators with a combined output of 74.5MW of power generation. The quantity of fuel required was approximately 12,000 metric tonnes (MT) a month during regular dispatch. This Plant was to be known as Kipevu II and was to be built on BOO (Build, Own and Operate) basis.TPC submitted its successful proposal in November 1996.

Tsavo was among the 1st IPPs.The contract was set to run for 20 years from 4th September 2001 to 3rd September 2021 at noon according to the CEO Eng. Julius Irungu.Tendering was done after every 4 years, and renewed after every 2 years.

The cost of the project was 86 million Dollars.

Finally, it was worth noting that HFO is the major item that the organization procures.

❖ **Inventory Management and control**

Tsavo Power normally used First in First Out. However, LIFO was currently advocated by EPRA and is currently being used due to spillover during 2014 hence helping to take advantage of the low prices.

❖ **Ordering process**

Dispatch by KPCL for the first 10 years was between 78% to 80% but from 2010 onwards, the dispatch was low and reduced to 6% and later towards the end of the agreement, it increased to between 25% to 35%.

- **Major challenges facing the IPP**
  - IPP is a foreign philosophy to the government and utilities.
  - Very little expertise in drafting the Power Purchase Agreements (PPAs)
  - No Regulatory Authority to ensure a level playing ground
- **Procurement policies**

  TPCL follows the procurement process as per the PPA.

Minute 4: Preliminary List of Requirements

The management of Tsavo Power Company Limited advised that all the documents are available in the Nairobi office at Nation Center, 13th Floor. They requested us to send the list of requirements and for them to compile and organize how we will get them

The company closed the operations in Mombasa, but the machines are being serviced by the IPPs and TPCL is in the process of commissioning the plant to KenGen as we speak.

Minute 5: Contract and Invoices

The last contract was in 2017, and it covers the period under forensic audit.

There are a total of 36 invoices between 2018 and 2021. Invoices were generated monthly and sent to KPLC for payments.

Minute 5: Any other Business

There being no other business, the meeting was adjourned at around 5:15 pm.

MINUTES FOR THE FORENSIC AUDIT OF THE PROCUREMENT AND USE OF HFOS HELD BETWEEN RABAI POWER AND RONALDS LLP ON THE 12TH JULY 2022 VIA MICROSOFT TEAMS VIRTUAL PLATFORM

Members Present;

Rabai Power Limited

Thomas Hedebroe	General Manager
Michael Thoegersen	
Zablon Okwoku	Finance Manager
Joseph Alex Odhoch	CTO

Ronalds LLP

Noah Ndakala	Engagement Partner
Pauline Mwangi	Project Manager
Dennis Nganga	Forensic Auditor
Joseph Ogachi	Procurement Specialist
Chris Oanda	Fuel Pricing Expert
Jacob Kithome	Petroleum/Energy Expert
Wilberforce Amugune	Auditor
Faith Koech	Auditor
Charlene Kimaru	Auditor

AGENDA

1. Introduction
2. Nature and Scope of the audit
3. Nature of operations
4. Timelines of the audit
5. Preliminary list of requirements
6. Any other Business (AOB)

MIN 01/12/07/2022: INTRODUCTION

The meeting was called to order at 9:00am by Pauline Mwangi (Project Manager – Project Manager and Public Sector Expert from Ronalds LLP). Members from both sides were introduced.

MIN 02/12/07/2022: NATURE AND SCOPE OF THE AUDIT

Pauline gave an overview of the assignment in which KPLC contracted Ronalds LLP to carry out a forensic audit as a result of a presidential task force recommendation on the Procurement and Use of HFOs. She explained that Ronalds LLP were contracted following an adequate response to the terms of reference as requested by KPLC and that Ronalds would be completely independent in the execution of the audit.

The scope of the audit assignment is three financial years: 2018/2019, 2019/2020, and 2020/2021.The assignment would be a holistic review of all the six thermal IPPs and therefore there would be no biases in the process.

MIN 03/12/07/2022: NATURE OF OPERATIONS

The General Manager gave a general overview of the operations in line with;

- **Year of Commission**

The plant's Commercial Operation Date was on 11th May 2010. Rabai is a 90MW power plant who's current PPA tenure is for 20 years up to 2030.

- **Tendering process and contract nature**

Rabai Power Ltd participate in an open tender process. The terms of the Fuel Supply Agreement are for 2 years with a possible renewal for a one-year term (First Renewed Term), to be extended upon acceptance by KPLC. After the expiry of the first renewed term, there can be an extension of one year (Second Renewed Term) and another possible extension of one year after expiry of the Second Renewed Term which would be the Third Renewed Term.

It was worth noting that Rabai recently participated in a tender to supply HFO to the power plant. The tender was an open tender, duly advertised on their website, where interested bidders submitted their proposals. The tender is currently in the evaluation stage with participation from the KPLC team who have given their approval of the bidder.

- **Inventory Management and control**

Rabai Power has 8,400 MT as **minimum-security stock.**

- **Ordering process**

Rabai Power issues weekly Fuel Request Supply (FRS) to the supplier which are similar to LPOs, based on KPLC's forecasts of dispatch that is given to them. Dispatch at the start was above 80%, however it is currently between 40 – 50%. Further they adhere strictly to the PPA which guides the conduct.

Invoicing is done once per month and is done in USD and their current HFO supplier is Dalbit Petroleum.

- **Major challenges facing the IPP**

Mr. Thomas Hedebroe explained that Rabai Power had not experienced any challenges with regards to the PPA implementation. The PPA is straightforward and they adhere to it strictly and that the challenges faced were those beyond their scope.

Some of the plant's primary challenges include:

1. Shortage of HFO;
2. Shortage of the US dollar in the market;
3. Delay in payment: where KPLC has been unable at times to honour its contractual obligations. The credit period is 30 days after invoicing, however there have been instances of default of up to 60 – 70 days. These long outstanding periods ultimately affect the plant's day to day operations.

MIN 04/12/07/2022: PRELIMINARY LIST OF REQUIREMENTS

Pauline explained that a list of documents required to undertake the assignment would be shared prior.

The management of Rabai Power Ltd expressed that they would only be comfortable sharing information pertaining to the procurement of HFO strictly. According to the letter they received from KPLC, they believe that the terms of reference refer to charges solely associated with HFO procurement which include fuel charges and not capacity or energy charges.

Pauline assured of a due and fair process and further elaborated that the list of requirements was standard across all IPPs therefore lack of provision some items from Rabai would warrant a limitation of scope, which would not be an ideal scenario.

Mr. Thomas Hedebroe also reiterated that they answer to a board of directors and were responsible to their shareholders therefore it would be best and in everyone's interest to restrict the audit as mandated and anything outside of that would not be acceptable. Otherwise, anything with respect to HFO procurement was welcomed.

MIN 05/12/07/2022: AOB

1. The team from Rabai expressed that they take Health and Safety very seriously, therefore, those that shall physically visit the site are required to present Covid 19 vaccine certificates or a negative Covid 19 test that is not more than 48 hours old; while at the plant, wearing of masks is mandatory, Conventional PPE gear shall be provided such as gloves, helmet and overalls however safety boots should be carried by the Ronalds team.

2. Mr. Zablon also requested that a Non-Disclosure Agreements be signed by Ronalds LLP team. He would share a draft with Pauline for execution.

3. A list of personnel from the Ronalds team that would conduct the field visit and the schedule/timelines are to be shared prior for proper planning. Also for the Rabai team to avail staff that would assist in the exercise.

4. Pauline assured the Rabai team that the audit would be conducted while holding the highest standards of professionalism that would generate a value-adding report as it is of public interest and requested for full co-operation as it was not a policing exercise.

There being no other business, the meeting was adjourned at 10:15 am.

MINUTES OF MEETING WITH EPRA

29 AUGUST 2022

EAGLE HOUSE, 3RD FLOOR, LONGONOT ROAD, UPPERHILL

Members Present

EPRA

1. Leonard Yegon (LY)
2. Shelia Tonui (ST)
3. Abdullahi Omar (AO)

Ronalds LLP

4. Pauline Mwangi (PM)
5. Dennis Nganga (DN)
6. Jacob Kakunu (JK)

The meeting commenced at 10.15 am with an introduction of the members present and the scope of the audit. PM explained the purpose of the forensic audit was based on the procurement and use of HFO in the 6 thermal independent power plants (IPPs) in Kenya. The purpose of the meeting with EPRA was to understand their role as the regulator in regard to HFOs.

LY took the members over the role of EPRA as follows:

- EPRA provides technical and economic regulation on the electricity and fuel industry.
- They oversight the electricity sector where they review and approve power purchase agreements (PPAs) and are the custodians of the fuel supply agreements (FSAs) between IPPs and fuel suppliers.
- EPRA does not regulate the pricing of HFO.

In addition, EPRA does the following;

- ✓ Reviews electricity tariffs every 3 years.
- ✓ Conducts monthly review of fuel costs and foreign currency exchange rate.
- ✓ Bi – annual review of inflation adjustment to electricity.

LY also mentioned that there was a recommendation to provide a 15% decrease on electricity prices which was done through a subsidy from January 2022. He further explained that the FSA between IPPs and fuel suppliers is based on the process of competitive bidding.

LY then provided answers to a questionnaire from Ronalds as follows:

1. How does EPRA exercise its oversight mandate pertaining to the pass-through fuel cost paid by the consumer pertaining to heavy fuel oils (HFOs) consumed by thermal power plants?
    - Monthly review of fuel costs based on information from KPLC

- Annual pass through audits to review the prices – Auditing the pricing model, more reliance on information from KPLC, minimal interaction with the plants directly.
- Evaluating the pricing model
- Gazetting the fuel cost
- HFOs are not under the mandate of EPRA based on the August 2018 Energy Regulations

Documents for EPRA to share – Audit Reports for FY 2018/19, 2019/20, 2020/21, 2021/22

2. **What is the role of EPRA in the procurement and use of HFOs by thermal power plants?**
    - Not involved in the process,
    - Involved in FSA when there are issues arise eg Tsavo on change of the fuel specifications
    - Contract management
    - No issues have come to the attention of EPRA on the non-compliance of IPPs on the fuel supply

3. **Does EPRA conduct a review of HFO pricing on an ongoing basis and if so, is this data readily available?**
    - No
4. **How is the specific fuel consumption rate (SFC) for each engine used in thermal plants as included in the power purchase agreements (PPAs) computed?**
    - Establish during the procurement of the plants.
    - SFC based on the manufacturer and power plant type as well as the innovation in technology
5. **Why do the SFCs differ for different power plants using the same engine types?**
- Answer to No 4

6. **Please explain the genesis of the Gazette Notice No.2826 of 19th April 2016 pertaining to the maintenance of minimum security HFO stocks by thermal Independent Power Producers (IPPs). What were the internal deliberations within EPRA (then ERC) to arrive at the decision to provide these concessions to the IPPs?**
    - Low dispatch due to new geothermal plants coming to operation and good hydrology
    - Prices were reducing globally while the power plants were holding large stocks
    - The above reasons were also correlated to the change from FIFO to LIFO method of stock accounting
    - There was no deliberations on how the benefit from release of working capital pertaining to security stocks was to be passed through to the consumer
    - The concession on no security stocks and minimum dispatch was revoked in 2021

EPRA to share minutes of the board and the internal approvals for the Gazette Notice of April 2016

7. **Please explain the genesis of the approval letter dated 7 October 2016 pertaining to the change of stock accounting from First In First Out (FIFO) to Last In First Out (LIFO) method which was applied by Gulf Power. What were the internal deliberations within EPRA (then ERC) to arrive at the decision to provide this concession to the IPP?**
    LY to revert on that and share the approvals

8. **Does EPRA subscribe to Platts and other indices pertaining to fuel pricing? If so, could they share the historical data for purposes of our audit?**
   - Yes from January 2021
   - The indices were previously obtained from the industry

   EPRA to share historical Mean of Platts, Average Freight Rate Assessment (AFRA) and World Scale indices from 2015

9. **Is EPRA involved in processing and approvals of Power Purchase Agreements (PPAs) or Fuel Supply Agreements if yes to what extend?**
   - EPRA approves the PPAs
   - EPRA does not approve FSAs. This is done by KPLC.

10. **Is the price of HFO reviewed together with the monthly computation of the retail price caps for the regulated petroleum products?**
    - No

11. **What licenses are required for firms to trade on HFO in Kenya? Is there a specific license for imports and wholesale of HFO?**
    - Yes – there is a specific license for the import of HFOs
    - General license for import of all petroleum products except LPG

EPRA to share the specifics of the licenses

MINUTES OF THE MEETING HELD WITH PRESIDENTIAL TASKFORCE REPRESENTATIVE: MR. YIDA KEMOLI ON SEPTEMBER 7TH, 2022 AT THE KPLC BOARDROOM – 7th FLOOR

Members Present

Mr. Yida Kemoli	KPLC Board Member
Pauline Mwangi	Project Manager
Chris Oanda	Fuel and Pricing Expert
Charlene Kimaru	Auditor

AGENDA

1. Introduction
2. Brief about the Presidential Taskforce
3. Questions on Presidential Taskforce recommendations.
4. Any other Business (AOB)

MIN/01/07/09/2022: INTRODUCTION

The meeting was called to order at 10:05 am. Pauline did introductions of the team and gave a brief update about the progress of the assignment.

MIN/02/07/09/2022: BRIEF ABOUT THE PRESIDENTIAL TASKFORCE

Pauline asked Mr. Yida for a brief about the Presidential Taskforce and its mandate.

Mr. Yida began with explaining how the Presidential taskforce came to be and what their objective was. He explained that the force operated more like a board of directors to review the growing problem of the rising cost of electricity which was a point of concern for the president. The president intended to reduce the cost by 33% and wanted recommendations to achieve this said objective. The taskforce was constituted by members with expertise from different fields. Mr. Yida was Head of Technical and Finance.

He explained that KPLC currently had approximately 80 PPAs at various stages. A preliminary review of the KPLC financials revealed that KENGEN generated 70% of electricity but was remunerated 50% of the total payments due to Power producers. This further led the team to break down the cost of electricity to the three different charges; Energy, Capacity and Fuel charges.

I. **Capacity charge:** This is due to the requirement of the plant's availability at 85%.
II. **Energy charge:** This acts similar to service charge and caters for the plant's running costs.
III. **Fuel charge:** This is the cost of fuel consumed by the thermal plants in the generation of electricity.

Out of the three charges, fuel charge had the largest proportion and therefore it was where the most significant savings could be achieved.

From this understanding, the taskforce sought to determine, since the Fuel charge was a pass-through cost to the consumer, what possibilities could there be for ultimate operational savings. Some of the glaring questions are: Could there be an easier and more efficient way to procure fuel, perhaps through an OTS system? Should there be a centralized procurement system? Are the correct PLATTS being used? Why is there disparity in the cost of transport across IPPS in similar regions?

MIN/03/07/09/2022: QUESTIONS TO THE PRESIDENTIAL TASKFORCE ABOUT THEIR RECOMMENDATIONS

The members of the Forensic Audit team had a list of questions about some of the recommendations proposed by the Presidential Taskforce and their approach towards arriving at the said recommendations.

a) **Question 1: EPRA has brought uniformity, predictability and certainty on retail fuel pricing in Kenya. In spite of the PPA and FSA legal setups, is a greater role for EPRA envisaged in HFO pricing framework.**
Mr. Yida felt that EPRA had done a good job in the regulation of white fuels however, he did agree that the same scrutiny could be extended to HFO. He expressed shock that EPRA had only began subscribing to PLATTS in the 2021 which is used in the pricing of HFO.

b) **Question 2 and 3: LNG is a cleaner and more cost effective alternative to HFO. Whereas this assignment is a forensic investigation on HFO procurement and use, what was or is the PT Force view on a comprehensive industrywide feasibility study on replacement of HFOs with LNG as a fuel source for thermal IPPs & They spoke of 40% saving on LNG conversion. Where did they get this figure?**

Mr. Yida said that he agreed there is the need to go green and as part of the green agenda, LNG would be a better fuel source as it burns cleaner and is actually cheaper than HFO. He said that they sought information from two groups that had carried out the feasibility study who determined the 40% savings from LNG conversion. He also added that based on that study, it may cost approximately 5M dollars to covert the engines.

c) **Question 4: If they do away with stock and leave IPPs to manage their business, would that be a better option?**
Mr. Yida explained that security stock is part of the CAPEX included by IPPs in the PPA and the IPPs should therefore not complain about the security stock. However, he did acknowledge that it is a significant working capital expense and agreed that the IPPs determining their own security stock is plausible as long as they would be able to dispatch up to 20 days at full dispatch as stipulated in the PPA. Failure to which, the IPPs would incur penalties if they were called upon to dispatch and were not available.

d) **Question 5: What are some of the inefficiencies that the current KPLC – IPP framework does not provide that they have recommended a sort of PPP node at KPLC.**
Mr. Yida explained that the taskforce unfortunately did not carry out a HR audit to determine the specific inefficiencies of the current structure. However, the PPP node would serve at the interest of consumers at large. The proposed team would be a combination of

professionals who understand the oil market and the entire framework to prevent any party leveraging on loopholes.

e) **Question 6: Given an average 10% dispatch for the power plants, is it an option to renegotiate the PPAs for some and make a one off settlement with long term savings on capacity payments.**
Mr. Yida explained that due to the instability of hydros and the sun's and wind's intermittency, thermals offer secure back-up to the grid. In his opinion, it would be more efficient to run the IPPs at higher dispatch however, the consumption patterns of Kenya dictate the demand. He explained that the country currently has 3 energy levels: 1,000MW (10pm – 4am), 1,500MW and 2,000MW, which is Kenya's peak that is only achieved for 30 minutes. Generation is linked to demand of power. In order to increase demand, Kenya would need to become a 24-hour economy which could be enticed through reducing tariffs at night. This would drive-up power demand which would ultimately increase electricity generation.

MIN/04/07/09/2022: ANY OTHER BUSINESS (AOB)

Mr. Yida explained that as a country, we need to improve on our power planning and work towards increasing our grid capacity to 5,000MW. The matter is quite complex that would need contribution from all stakeholders and industry players.

There being no other business, the meeting ended at 12:00pm.

9 Organograms

Figure 41: KPLC Organizational Structure

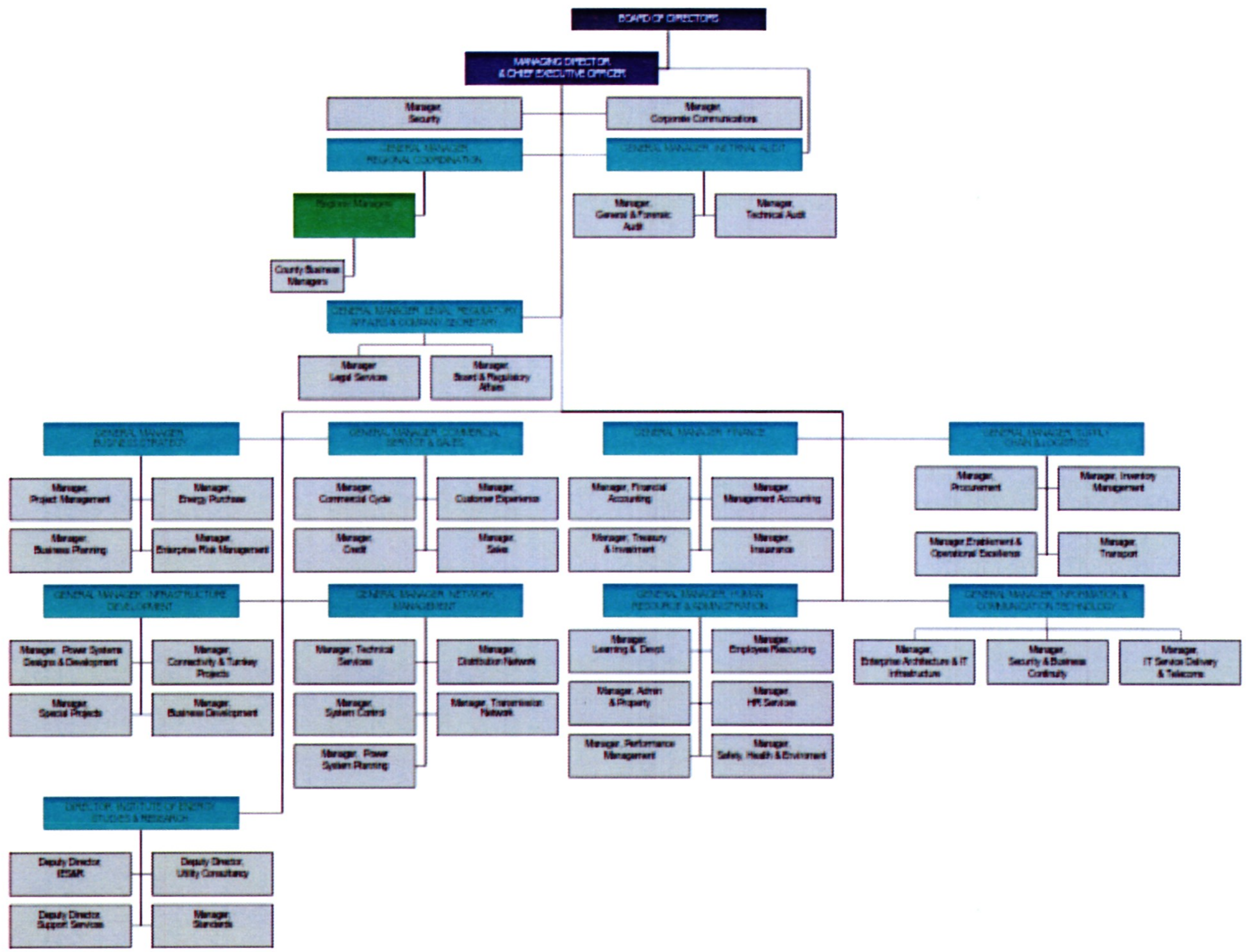

Figure 42: KPLC regional structures

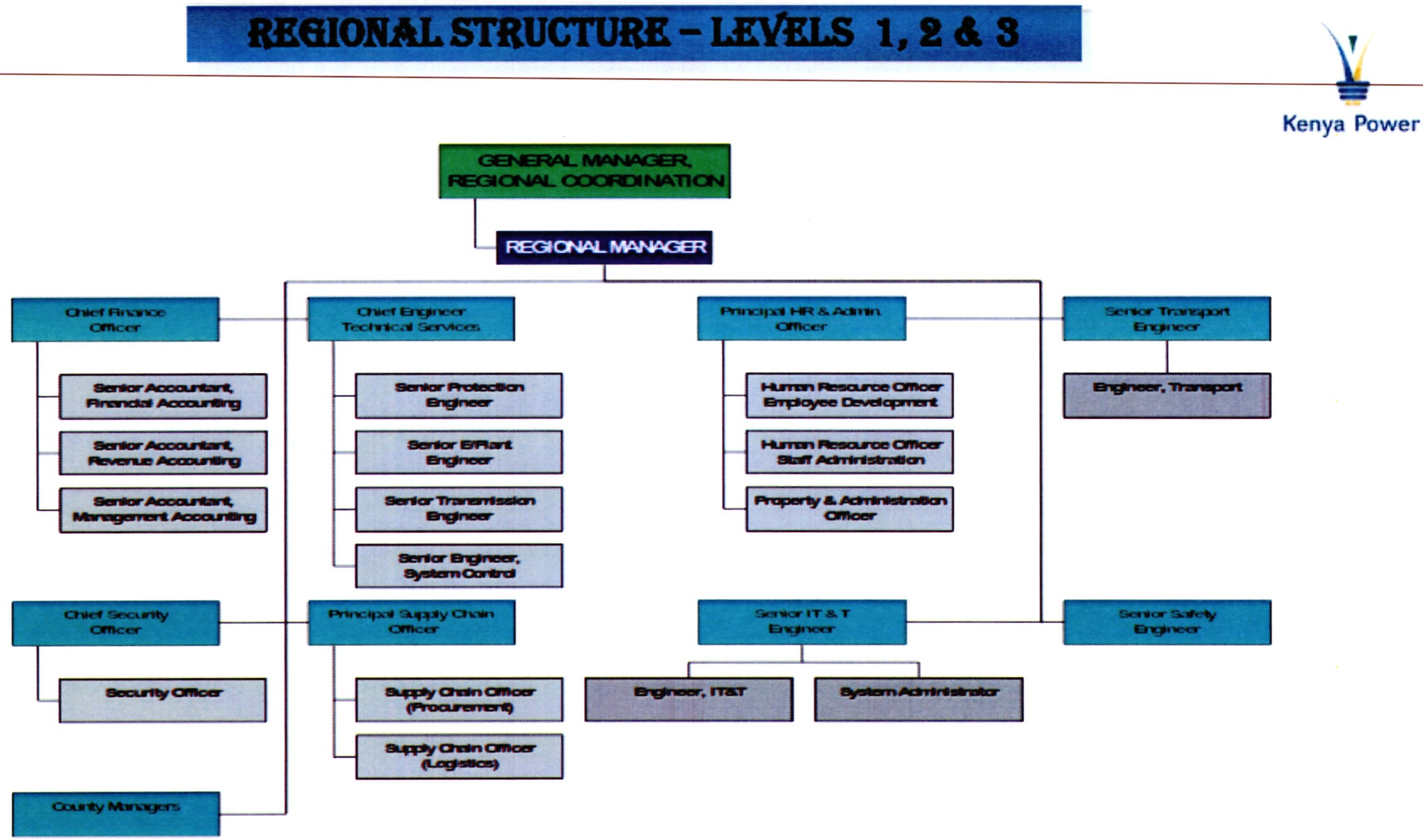

Figure 43: KPLC divisional structures