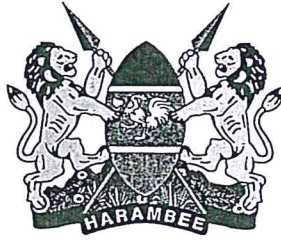


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TWELFTH PARLIAMENT – THIRD SESSION

STANDING COMMITTEE ON ENERGY

THE REPORT ON
OIL SPILLAGE AT KIBOKO AREA IN MAKUENI COUNTY
AND
IMPLEMENTATION STATUS AND MEASURES PUT IN PLACE TO
MITIGATE THE SITUATION AFTER THE OIL SPILLAGE AT KIBOKO AREA
IN MAKUENI COUNTY

CLERK'S CHAMBERS,
THE SENATE,
PARLIAMENT BUILDINGS,
NAIROBI.

NOVEMBER, 2019

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LIST OF ABBREVIATIONS AND ACRONYMS

A.g	-	Acting
BTEX	-	Benzene, Toluene, Ethylbenzene and Xylene
CS	-	Cabinet Secretary
DLP	-	Defect Liability Period
Eng.	-	Engineer
EPRA	-	Energy and Petroleum Regulatory Authority
ESIA	-	Social Impact Assessment
HQ	-	Headquarters
KPC	-	Kenya Pipeline Company
LDS	-	Leak Detection System
NEMA	-	National Environmental Management Authority
OGW	-	Order of the Grand Warrior
RoW	-	Right of Way
SCADA	-	Supervisory Control and DATA Acquisition System
SEN	-	Senator
WARMA	-	Water Resource Management Authority
WRA	-	Water Resource Authority
WRUA	-	Water Resource Users Association
PROF.	-	Professor

1.0 PREFACE

Mr. Speaker Sir,

Article 124 of the Constitution of Kenya, provides for the establishment of Committees by either House of Parliament. Committees are central to the workings, roles and functions of Parliament as set out in Article 94 and more specifically in Article 96 of the Constitution as regards the Senate.

The roles of committees are twofold, investigative process and deliberative process. The end results of these processes are reports to the House on inquiry of certain issues under the mandate of a particular committee.

1.1 Establishment of the Committee

The Senate Standing Committee on Energy is established pursuant to standing order 218 (3) of the Senate Standing Orders. The Committee is mandated *to consider all matters relating to fossil fuels exploration, development, production, maintenance and regulation of energy.*

In the execution of its mandate, the Committee oversees the Ministry of Petroleum and Mining and the Ministry of Energy.

1.2 Membership of the Committee

The Committee comprises of the following members-

1. Sen. (Eng.) Ephraim Maina **-Chairperson**
2. Sen. Mary Seneta **-Vice Chairperson**
3. Sen. Aaron Cheruiyot -Member
4. Sen. Mithika Linturi -Member
5. Sen. Susan Kihika -Member
6. Sen. (Prof.) Imana Malachy -Member
7. Sen. Ledama Olekina -Member
8. Sen. Mwaruma Johnes -Member
9. Sen. Ochilo Ayako -Member

2.0 EXECUTIVE SUMMARY

Standing order 48 (1) of the Senate Standing Orders provides that a Senator may request for a Statement from a committee relating to any matter under the mandate of the committee that is of county-wide, inter-county, national, regional or international concern.

Pursuant to this provision, at the sitting of the Senate held on Wednesday, 15th May, 2019, Sen. Mutula Kilonzo Junior requested for a Statement from the Chairperson of the Standing Committee on Energy on the oil spillage at Kiboko Area in Makueni County.

The Committee deliberated on this matter and had consultative meetings with the Ministry of Petroleum and Mining, Ministry of Water and Sanitation, Ministry of Environment and Forestry and the management of Kenya Pipeline Company. The Committee further undertook an inspection visit to Kiboko Area in Makueni County and had a meeting with members of the public on Monday, 3rd June, 2019.

Observations

During the visit and meetings with the members of the public, Ministries, and the management of Kenya Pipeline Company (KPC), Energy and Petroleum Regulatory Authority (EPRA) and Water Resources Authority (WRA), the Committee made the following observations-

- i) The oil spill occurred at Km 304, Line V, around 400 meters from the Kiboko Springs which forms the Kiboko wetland and river ecosystems that is of great use to the inhabitants of Kiboko Area;
- ii) The Kiboko catchment area has a porous volcanic formation which is swampy and is dominated by acacia trees which is an indicator of a high water table. The catchment is the source of Kiboko River that drains into Athi River and serves Kiboko town residents, downstream users and the ecosystem along its course;
- iii) The pipeline leak was caused by external metal loss due to corrosion that was attributed to the damage of the pipe coating due to backfilling using hard substandard material. *(A rock was found within the soft pudding (red soil), used to protect the pipeline).*
- iv) Kenya Pipeline Company had dug several trenches/trial pits to determine the direction of product flow, sample points for liquids, restrict underground movement of product to the nearby water springs and river and to recover the oil products;
- v) There was evidence of oil/grease in all the excavated pits that were sampled measuring to between 1 and 2 inches. Weekly tests were carried out to determine the levels of concentration of oil/grease in the dug trenches/pits;

- vi) KPC excavated cut off trenches to restrain further movement of product outwards and on completion of product recovery, KPC will commence soil remediation and environmental restoration;
- vii) The ground water resources monitoring showed presence of oil products within a stretch/radius of 200m from centre of spill point at the depth of 4 – 19 meters;
- viii) In July, 2019, KPC had recovered and evacuated one hundred and ninety four thousand (194,000) litres of Automotive Gasoil (AGO) from the spillage site and transported it to Nairobi PS 10 depot for slopping and quality control process;
- ix) KPC is ill prepared in responding to emergency situation and in particular provision of water and medical examination to the residents of Kiboko area whose source of water was contaminated by the oil spillage;
- x) The National Environmental Management Authority (NEMA) issued an Environmental Restoration Order to the acting Managing Director, Kenya Pipeline Company to comply within some set timelines;
- xi) The Water Resources Authority (WRA) had initially issued a precautionary notice to members of the public to seek alternative safe water sources pending confirmatory report on the safety of water;
- xii) The Ministry of Water and Sanitation has now lifted the precautionary Public Notice issued on 10th May, 2019;
- xiii) The members of the public are concerned and worried about their health status and need an urgent medical examination to be conducted;
- xiv) Failure by KPC to install the following multi layered Leak Detection System contrary to the initial design described in the Environmental Impact Assessment (EIA) report submitted to EPRA-
 - a) **Supervisory Control and Data Acquisition (SCADA) System** – this was to be set up as a minimum requirement to monitor flow rate, pressure, status of all pumps, valves and alarms. The system was envisioned to pick up leaks in case of pipeline intrusion or ruptures due to corrosion in minutes and in short of pipelines in seconds;
 - b) **Ground and Aerial Surveillance of the Right of Way** – this was to involve physical and routine checks along the pipeline’s Right of Way to check possible sightings of the spills. EPRA found that KPC had implemented this mode of leak checking and it’s through ground surveillance that the spill at Kiboko was sighted; and

- c) **Advance Leak Detection System-** KPC committed to install an advanced leak detection system to monitor the pipeline for leaks. Specifically, KPC had indicated that the old system would be upgraded into a Digital Pipeline Leak Detection (DPL) that was to be fiber optic cable (FOC) based for real time monitoring. At the time of site visit, KPC had not installed this system.
- xv) Failure by KPC to monitor the already installed and commissioned Impressed Current Cathodic Protection System (ICCPS). EPRA found no evidence of monitoring of the ICCPS which could have provided early warning that the pipe material was thinning out as corrosion progressed;
- xvi) The Ministry of Petroleum and Mining seems to be detached from the operations of KPC;
- xvii) Section 97(1) of the Petroleum Act, 2019, obligates persons engaged in petroleum business to comply with applicable environment, health and safety laws;
- xviii) Section 97(2) of the Act Petroleum Act, 2019, stipulates that in the event of a fire, explosion, oil spill, injury or fatality occurring in the course of operating a petroleum logistics facility, transportation or sale of petroleum, **either by accident or through negligence**, the operator shall forthwith clean up the polluted or damaged environment to the satisfaction of the licensing authority and any other relevant authority – provided that any person engaged in the storage, transportation or sale of petroleum and petroleum products must have an oil clean-up plan in compliance with the National Oil Spill Policy, relevant environmental health and safety regulations or guidelines; and
- xix) Section 99 of the Petroleum Act, 2019, provides for offences and attempted offences under the Act. Section 99(1)(b) provides that a person who being the owner or operator of a refinery, pipeline, bulk liquefied petroleum gas or natural gas facility, service station, filling station or storage depot or transporter of petroleum, fails to institute appropriate environmental, health or safety control measures commits an offence and shall on conviction, be liable to a fine of not less than ten million shillings, or a term of imprisonment of not less than five years, or to such fine and imprisonment.

Recommendations

- i) KPC should expedite the environmental clean-up, remediation and restoration of the ecosystem and continue to mop up and recover the pollutant petroleum product from the underground environment with a view to preventing the movement or spread of contamination in the affected area and minimize impacts, particularly in the Kiboko Springs and River;

- ii) KPC should continue to provide safe and clean domestic water to the people of Kiboko area through water boozers, water tanks and digging of boreholes in areas not contaminated by the oil spill;
- iii) KPC should set up a free medical camp at the Kiboko Area to examine and provide treatment to the residents of Kiboko on the effects of the hydrocarbons if any, in their bodies;
- iv) KPC should conduct an inline inspection of all its pipelines (Lines 1 – 5) to determine any underlying defects, enhance ground patrols and aerial surveillance to avoid or prevent any future oil spillage occurrence;
- v) The Ministry of Petroleum and Mining should as a matter of urgency ensure that KPC procures and installs a multi layered Leak Detection System in all its pipelines;
- vi) KPC & EPRA should ensure that the losses occasioned by the oil spillage is not transferred to the consumers through the monthly adjustments of fuel prices;
- vii) KPC should compensate the residents of Kiboko Area for losses occasioned by the oil spillage in accordance to the applicable laws;
- viii) KPC to provide a report on the emergency preparedness and the measures put in place to ensure that in future such spillage is properly monitored and attended to immediately;
- ix) EPRA should direct the Kenya Pipeline Company to attend to and address the environmental concerns arising out of the oil spillage in Kiboko Area;
- x) EPRA should, as a matter of urgency, direct the Kenya Pipeline Company to provide adequate water to the people of Kiboko Area until the precautionary notice No. 10 by WRA is lifted and water declared safe for domestic consumption;
- xi) EPRA should order the Kenya Pipeline Company to expedite the recovery of the oil products at Kiboko Area;
- xii) EPRA should direct the Kenya Pipeline Company to provide monthly records of monitoring the installed and commissioned Impressed Current Cathodic Protection System (ICCPS);
- xiii) EPRA should direct the Kenya Pipeline Company to take the necessary administrative action (s) to any officer who will be found culpable of any negligence during the discharge his/her responsibilities during the construction of Line V;

- xiv) EPRA should take a stern action on KPC for failure to install the Leak Detection System on Line V despite it being part of the Environmental Impact Assessment (EIA) Report that was submitted in the application for the construction permit;
- xv) EPRA should enforce the applicable sanctions including fines and withdrawal/suspension of licence on KPC that will act as a preventive/deterrence mechanism/measure to address the oil spillage from recurring in the future;
- xvi) EPRA to undertake a sensitization program to the people of Makueni on the risks of the polluted water and leakages;
- xvii) EPRA should ensure that the report submitted to the Committee is shared with the relevant government agencies and the said report should highlight the safety concerns of the pipeline;
- xviii) Pursuant to Section 101(v) of the Petroleum Act, EPRA should recommend to the Cabinet Secretary Ministry of Petroleum and Mining to make regulations providing for the development and coordination of a National oil spill response plan including measures to prevent oil spills and a mechanism for compensation in the event of an oil spill;
- xix) NEMA should continue to monitor compliance to the Environmental Restoration Order and any further orders or directions as may be issued;
- xx) NEMA should ensure that KPC abide by its orders and fast tracks implementation of the clean-up and remedial action plan;
- xxi) NEMA should expedite an Environmental and Social Economic Impact Assessment Report to ascertain the extent of pollution and losses caused by the oil spillage in the area;
- xxii) WRA should continue carrying out water safety quality tests and pollution monitoring with the close surveillance on Kiboko catchment area especially during and after the current short rain season to ascertain if indeed the water is safe for residence of Kiboko area;
- xxiii) WRA should further sensitize the community in Kiboko area on the importance of using treated, boiled or disinfected water for their domestic use;
- xxiv) WRA to sensitize the residents of Kiboko area against drilling of boreholes within the environs or close proximity to the oil spillage area of Kiboko until further advice by WRA;
- xxv) The County Government of Makueni to help the residents of Kiboko area by ensuring that the Kiboko area oil spillage is restored to its original status and

provide water points and other humanitarian assistance to the to the affected residents; and

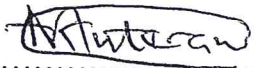
xxvi) The Ethics and Anti Corruption Commission (EACC) and the Director of Criminal Investigations should investigate the matter on the actual cause of the oil spillage with a view of instituting criminal or civil proceedings against individuals who would have been found culpable.

2.1 Acknowledgement

The Committee is grateful to the Offices of the Speaker and the Clerk of the Senate, for the support extended to it in the processing of the Statement sought by Sen. Mutula Junior. Similarly, the Committee extends its gratitude to the Ministries of Petroleum and Mining, Ministry of Water and Sanitation, Ministry of Environment and Forestry and the residents of Kiboko area for the submissions made to the Committee. I also wish to express my gratitude to my colleagues for their thoughtful input and commitment in the consideration of this matter. The Committee also wishes to recognize the commitment and dedication of the secretariat to the committee that made the work of the Committee and the production of this report possible.

Mr. Speaker Sir,

On behalf of the Senate Standing Committee on Energy and pursuant to provisions of Standing Order 213 of the Senate Standing Orders, it is my pleasant privilege and honour to present to this House the Report on the oil spillage at Kiboko area in Makueni County.

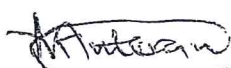
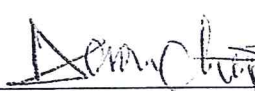
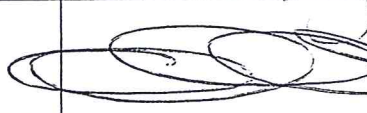

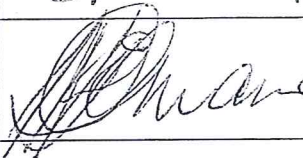
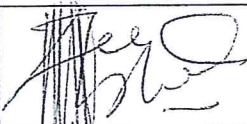
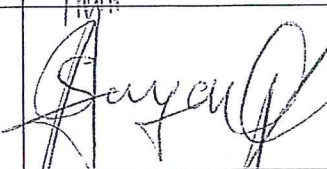
Signed.....

Date..... 25th - 11 - 2019

**SEN. (ENG.) EPHRAIM MAINA,
CHAIRPERSON
STANDING COMMITTEE ON ENERGY.**

2.2 Adoption List

We the members of the Senate Committee on Energy have pursuant to Standing Order 213 adopted this Report on the on the oil spillage at Kiboko area in Makueni County and affix our signatures to affirm our approval and confirm its accuracy, validity and authenticity today 19th November, 2019.

No.	NAME	DESIGNATION	SIGNATURE
1.	Sen. Ephraim Maina	Chairperson	
2.	Sen. Mary Seneta	Vice Chairperson	
3.	Sen. Aaron Cheruiyot	Member	
4.	Sen. Mithika Linturi	Member	
5.	Sen. Susan Kihika	Member	
6.	Sen. (Prof.) Imana Malachy	Member	
7.	Sen. Ledama Olekina	Member	
8.	Sen. Mwaruma Johnes	Member	
9.	Sen. Ochilo Ayako	Member	

3.0 LEGAL PROVISIONS ON MATTERS ENVIRONMENT-

Article 42 of the Constitution stipulates that-

“Every person has the right to a clean and healthy environment which includes the right-

- a) to have the environment protected for the benefit of present and future generations through legislative and other measures, particularly those contemplated in Article 69; and
- b) to have obligations relating to the environment fulfilled under Article 70.

3.1 Obligations in respect of the environment

Article 69 provides that-

(1) the state shall-

- a) ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits;
 - b) work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya;
 - c) protect and enhance intellectual property in, and indigenous knowledge of , biodiversity and the genetic resources of the communities;
 - d) encourage public participation in the management, protection and conservation of the environment;
 - e) protect genetic resources and biological diversity;
 - f) ~~establish~~ systems of environment; ~~impact assessment, environmental audit and monitoring of the environment;~~
 - g) eliminate processes and activities that are likely to endanger the environment; and
 - h) utilise the environment and natural resources for the benefit of the people of Kenya.
- (2) Every person has a duty to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.

3.2 Enforcement of environmental rights

Article 70 provides that-

- (1) If a person alleges that a right to clean and healthy environment recognized and protected under Article 42 has been, is being or is likely to be, denied, violated,

- (1) If a person alleges that a right to clean and healthy environment recognized and protected under Article 42 has been, is being or is likely to be, denied, violated, infringed or threatened, the person may apply to a court for redress in addition to any other legal remedies that are available in respect to the same matter.
- (2) On application under clause (1), the court may make any order, or give any directions, it considers appropriate-
 - a) To prevent, stop or discontinue any act or omission that is harmful to the environment;
 - b) To compel any public officer to take measures to prevent or discontinue any act or omission that is harmful to the environment.
 - c) To provide compensation for any victim of a violation of the right to a clean and a healthy environment.
- (3) For the purposes of this Article, an applicant does not have to demonstrate that any person has incurred loss or suffered injury.

B. THE PETROLEUM ACT, 2019

- a) Section 97(1) obligates persons engaged in petroleum business to comply with applicable environment, health and safety laws.
- b) Section 97(2) stipulates that in the event of a fire, explosion, oil spill, injury or fatality occurring in the course of operating a petroleum logistics facility, transportation or sale of petroleum, **either by accident or through negligence**, the operator shall forthwith clean up the polluted or damaged environment to the satisfaction of the licensing authority and any other relevant authority - provided that any person engaged in the storage, transportation or sale of petroleum and petroleum products must have an oil clean-up plan in compliance with the National Oil Spill Policy, relevant environmental health and safety regulations or guidelines.
- c) Section 97(6) - The licensing authority may, at any time, require the operator of a facility or a transporter to show that he is in compliance with the provisions of this section.
- d) Section 99, provides for offences and attempted offences under the Act. Section 99(1)(b) provides that a person who being the owner or operator of a refinery, pipeline, bulk liquefied petroleum gas or natural gas facility, service station, filling station or storage depot or transporter of petroleum, fails to institute appropriate environmental, health or safety control measures, commits an offence and shall on conviction, be liable to a fine of not less than ten million shillings, or a term of imprisonment of not less than five years, or to such fine and imprisonment.

4.0 BACKGROUND INFORMATION

On 30th March, 2019, at around 1100 hours, KPC hired guards contracted to carry out day patrol on the Right of Way (ROW) reported to KPC Pump Station (PS) 7 the presence of soaked soil patches along the ROW at Kiboko Area, at Km 304, line V. The Pump Station Control Centre and proceeded to the site to confirm the presence of wet soil.

Pursuant to Standing Order 48(1), on 15th May, 2019, Sen. Mutula Kilonzo Junior sought a Statement from the Standing Committee on Energy, on the oil spillage that occurred in Kiboko on 30th March, 2019. In the Statement, he requested the Standing Committee on Energy to address the following-

- a) State reason(s) why National Environmental Authority has not issued a Restoration Order under section 108 and 109 of the Environmental Management and Coordination Act;
- b) State the reason(s) why the said new pipeline was designed, constructed and handed over without any leak detection system to detect oil spillage;
- c) State the amount of oil product that spilled into the environment on the said date and the distance thereof;
- d) Provide to the Senate a written recovery plan of the said product with timelines thereof;
- e) Give the following details-
 - i) Name of contractor and whether the contract was completed;
 - ii) Cost of construction of the pipeline; and
 - iii) Whether the contract had a defect liability period;
- f) State the reasons why the Water Resource Management Authority (WARMA) and National Environmental Management Authority (NEMA) has not issued a warning to residents of Kiboko, thirty days later about the effects of the oil products in their water;
- g) State the mitigation measures adopted by the management of Kenya Pipeline Company in particular-
 - i) Recovery of the said product from underground water source;
 - ii) Provision of water to residents of Kiboko and environs;
- h) State whether the said Kenya Pipeline Company has procured an expert to conduct an Environmental Impact Social Assessment report and when they intend to issue the said report of NEMA, WARMA and County Government of Makeni;

- i) State whether National Environmental Management Authority has caused Kenya Pipeline Company Limited to deposit a bond as appropriate security for good environmental practice, due to the frequent spillage as required by section 28 of the Environmental Management Act; and
- j) State when the people of Makueni should expect a detailed water analysis report on the Kiboko spring, Kiboko River and other nearby bodies.

5.0 RESPONSES ON THE REQUEST FOR STATEMENT

5.1 KENYA PIPELINE COMPANY

In his response dated 29th May, 2019, the acting Managing Director, Kenya Pipeline Company Mr. Hudson K. Andambi, OGW, stated that-

- a) **Reasons why the Mombasa- Nairobi Pipeline (Line V) was designed, constructed and handed over without any leak detection system, to detect oil spillage.**

The Leak Detection System (LDS) has two main components as follows-

Field instruments- the field instruments capture the parameters of products at various locations in the pipeline like volume, density, pressure temperature and transmit them to a software system; and

A software system - receives the data from the field instruments and analyses it to determine if there is a leak, localize where it is and give notification to response.

At the time of the designing line 5, KPC was in the process of upgrading the pipeline management system called Supervisory Control and Data Acquisition (SCADA) system and Leak Detection System (LDS) for the whole pipeline network that would include Line 5.

The upgraded SCADA and LDS were to work with the installed pipeline field instruments on Line 5.

Line 5 design came with ultrasonic flow metering systems, density meters, pressure transmitters and temperature transmitters installed in the stations to work with SCADA and LDS software system.

The contract for the supply and installation of SCADA and LDS system was awarded on 28th June, 2016 but was cancelled on 28th August, 2016 to allow for change of scope of the works for the system to function as intended. This cancellation was challenged in court by the winning bidder, Siemens Ltd although the contract had not been signed. As a result, the SCADA and LDS systems were never installed and have remained so to-date.

Currently, Line 5 has the requisite field components for a Leak Detection System but is awaiting the upgrade of SCADA and LDS systems to enable integration and operationalization.

- b) **The amount of oil product that spilled into the environment and the disaster thereof-**

KPC is yet to conduct reconciliation between the products recovered at the site and balance of the actual products volume after separation from water at PS10 terminal at

KPCs HQ. The result will further be reconciled against the original batch of products that was dispatched from Mombasa.

The disaster arising from the spillage will be established after an Environmental Social Impact Assessment (ESIA) has been undertaken. Moreover, KPC has excavated pits and trenches both to recover the products and prevent further movement of the products since KPC is still recovering the spilled products from the affected area in Kiboko.

c) Recovery plan of the said product (oil) with timelines thereof-

i. Product Recovery-

KPC has been undertaking recovery of product at the Kiboko spill site. The spill site is rocky and ground water can be found about 3m below the ground level. By excavating trenches at various points and from the hydrogeological survey results by SGS. KPC has been able to identify the movement of the petroleum products underground to be northwards.

Further, KPC also engaged SGS which commissioned a hydrogeological survey to establish the path of migration of the product below the surface. Therefore, using 2D electrical resistivity imaging, SGS was able to identify the product flow direction and to map out the location of the plume. KPC's efforts were therefore directed at excavating more trial pits and trenches both to recover the products not to flow eastwards and to prevent contamination of the Kiboko springs located to the east of the spill point. This was also the case for Mutiso's Earth Pan, Kiboko River, Kathmani springs, and the springs at the SGR and at the bridge on the main Nairobi Mombasa Highway.

In addition to the above, ground water monitoring wells are currently being sunk by SGS for monitoring if the petroleum products could have penetrated below the water table that is at about 3M below the surface. The wells, apart from being used to determine the rate of flow of underground water, they will also be used as sampling points for liquids to ensure there is no further underground movement of product. The wells will continue to be sampled even after completion of the clean-up operation. This is to ensure that the area is completely free from contamination products and hence no further danger to environment.

Having established the boundary of the contaminated area, KPC is in the process of digging a cut-off trench across the entire site, to form a boundary between the area and that which has water free petroleum products.

On completion of recovery and the first phase product clean-up, the remaining traces of the product in the ground water will be treated, to hasten the process of breaking down of the hydrocarbons

The final phase of the clean-up will entail bioremediation of contaminated soils. The final clean-up program and timelines for the clean-up process will be shared once recovery of the remaining products will have been concluded.

ii. Sampling and Analysis

Sampling and analysis has focused on the areas of potential environmental impact such as; surface waters, including the earth pan, springs and river water, soils along Right of Way (ROW) and the neighbouring environment.

A baseline sampling for river water and surface water was undertaken and the samples sent to SGS (who are NEMA approved laboratory) to test for Total Petroleum Hydrocarbon and Benzene, Toluene, Ethylbenzene and Xylene (BTEX) parameters.

Subsequent joint sampling was done with the community representatives (WRUA) Water Resource Authority (WRA) on 30th April, 2019. A further sampling of water and soils was done on 10-11th May, 2019

In all cases, the results as received from SGS indicated that so far petroleum products originating from diesel and super petrol the main products transported in KPC's line 5 Pipeline were not detected in the water samples.

d) The name of the contactor (Line V) and whether the contract was completed

Line 5 contactor was Zhakem International Construction Ltd. The project was substantially completed in December, 2017 and a Taking-over Certificate was issued to the contractor on 29th December, 2017. At the time of taking over, the project was substantially complete. The remaining works were to be carried out as per FIDIC conditions of contract during the defect liability period (DLP).

The project was successfully commissioned with the first product being received in National Terminal on 30th June, 2018

e) The cost of construction of the pipeline

The cost of the contract is as follows:

Original contract sum	USD 484,502,886.40
Variations	USD 20,199,065.78

f) Whether the contract had a defect liability period

The contract had a defect liability period of one year which ended on 29th December, 2018. A certificate of defect liability period was issued.

g) The mitigation measures adopted by the management of Kenya Pipeline Company

i. Provision of water to residents of Kiboko and environs

Based on the Precautionary Notice issued by the Water Resource Authority (WRA) against quality of Spring Water after results of its analysis had shown it contained oil and grease, the KPC agreed to comply with that Notice.

With regards to provision of water, KPC had requested the county government to provide it with logistical data giving details of the number of water distribution points for Kiboko local community. This data was to enable KPC to in turn work out its own logistics including cost of supplying the water to designated distribution points. KPC is therefore awaiting the data from county government to enable it to commence the supply of water to the local community.

ii. Recovery of the said product from the underground water source

Recovery of petroleum product from excavated trenches is ongoing although the rate of recovery has reduced significantly and this reduction corresponds to the decreased rate at which the bridgers are filled and dispatched under armed security to Nairobi PS10 Terminal where the products are offloaded.

In undertaking the recovery of products at the spill site, KPC has been keen to ensure that the petroleum products do not flow further to contaminate various surface water bodies in Kiboko area. Resource deployed by the company include: experienced personnel, excavators, bridgers, pumps and fire fighting vehicle just in case a fire breaks out. Excavation of final pits and trenches is being done to recover and stop products from spreading further.

A total of 48 trenches have been dug in various areas, in order to establish the direction of product flow to recover the spilled product, as well as impede its flow to the springs and to Kiboko River. In addition, KPC, through SGS, undertook a hydrological study of the affected area to understand the direction of flow of underground water and establish the location of products in the underground

Continuous sampling of the water bodies, namely the Kiboko Main Spring, spring at the bridge along Mombasa-Nairobi highway, Kathmani Springs and the spring near SGR, is to monitor possible further movement of products to ensure that the water bodies are not contaminated with spilled petroleum products. Other water samples have been taken from Mutiso's Earth Pan. Mr. Mutiso is the owner of parcel of land area affected by the spillage.

h) Whether Kenya Pipeline Company has procured an expert to conduct an Environmental Impact Assessment report and when they intend to issue the said report to NEMA, WARMA and the County Government of Makueni

An Environmental and Social Impact Assessment (ESIA) is one of the plans to implement as a next step after the recovery of products from the ground is completed. KPC has embarked on the ESIA which is being done internally by a duly licensed NEMA Lead Expert, as per the requirements of the Environmental Management and Coordination Act 1999 (revised 2012), Environment (Impact Assessment and Audit) Regulations 2003. The report is expected to be completed before 15th June, 2019 and will be shared with the relevant authorities (NEMA, WARMA and County Government of Makueni)

i) The extent of oil spillage and the number of people directly and indirectly affected

As earlier indicated, a hydrological survey has been completed by SGS. The report delineates the extent of product movement underground to be approximately 350 m long by 400 m wide (140,000 m²) (0.14sq Km) the products moved out of KPCs right of way to part of a parcel of land belonging to Mr. Mutiso who was granted his consent to the company to carry out environmental clean-up on the parcel of land affected by the spillage. In this regards, Mr. Mutiso's family is certainly affected.

j) The measures put in place for the compensation of the people affected by the oil spillage;

KPC has a Public Liability Insurance Policy. It covers KPC against legal liabilities to members of the public (third parties) arising from death or bodily injury to third parties; and loss or damage to third party property.

The Public Liability Policy has Environmental Liability Extension that covers accidental pollution and contamination caused to the environment including pollution clean-up costs.

Upon notification, claims will be lodged with underwrites for any compensation that may be claimed.

5.2 CABINET SECRETARY MINISTRY OF WATER AND SANITATION

In his response, Mr. Simon Chelugui, Cabinet Secretary for Water and Sanitation responded as follows-

- a) **State the reasons why the Water Resources Authority (WRA) and National Environment Management Authority (NEMA) has not issued a warning to residents of Kiboko, thirty days later about the effects of the oil products in their water**

The Water Resource Authority (WRA) learnt of the spillage and visited the site on 5th April, 2019 to assess the situation. On the same day, samples were taken for laboratory analysis and on 8th April, 2019, WRA revisited the site and more water sample taken for analysis. On this particular day, WRA issued a Compliance Order No. 002421 dated 8th April, 2019 to KPC.

On 10th May, 2019 the WRA issued Public Notice based on laboratory analytical results which indicated traceable oil products associated with the spillage incident to water users/ community through Kiboko Water Resource Users Association to be displayed at strategic places for information of residents.

The public notice in the spirit of invoking precautionary principle, was to alert the residents as water users, for them to collaborate with and alert WRA when they come across unusual scenarios like changes in water colour, taste, smell, both aquatic and terrestrial ecological flora and fauna among other things. The notice message was also carried in the Standard Newspaper of Monday, 13th May, 2019.

- b) **State when the people of Makueni should expect a detailed water analysis report on the Kiboko spring, Kiboko River and other nearby water bodies.**

WRA partnered with other stakeholders to assess the situation and explore options in addressing the water pollution, provision of alternative safe water to residents and safety of residents. A stakeholder taskforce comprising of WRA, Makueni County Government, National Government Administration Office, NEMA, Kenya Pipeline Company, and Water Resource Users Association in the area was initiated at the local level to monitor a restoration plan, sampling and analysis of water, share analytical reports and establish water quality trends and advise the residents accordingly.

Further a public *baraza* led by Hon. Governor, Makueni County in the company of the acting Managing Director, Kenya Pipeline Company, WRA technical team, amongst others, was held at Kiboko Shopping Centre to address the concerns of the stakeholders in regard to the effects of oil product spillage to the water resources that they depend on.

As a follow-up of the meetings at the site, the management of WRA led by WRA Board Chairman invited the management of KPC led by their Board Chairman to a meeting held at WRA headquarters on 15th May, 2019. The meeting resolved that KPC needs to provide alternative sources of safe water to the affected residents as well as implement the Kiboko Springs Catchment restoration. Failure to fully comply with orders, WRA stated that it will consider taking necessary actions in accordance with the regulations and the law.

Due to the gravity of the matter, the Cabinet Secretary led a delegation to Kiboko in the company of the Hon. Governor, Makueni County, WRA Chairman and his Chief Executive Officer, Chief Administrative Secretary, Ministry of Petroleum and Mining, a technical team led by acting Managing Director, KPC to inspect the oil spillage site and water resources in the area.

During the visit, a public baraza was held where the CS highlighted the precautionary Public Notice issued by WRA and reiterated the need for KPC to upscale the restoration efforts through deploying more equipment for speedy recovery of spilled oil products and containing further spread through ring trenches and any other applicable method.

The Cabinet Secretary also directed the immediate formation of an integrated taskforce to monitor quality water and the implementation of restoration program. He, further, confirmed that the Ministry of Water was committed to enforcing laid down regulations including preferring legal action where necessary to protect water resources and ensure safe water is provided to all Kenyans. The Ministry has involved stakeholders who include Residents, WRUA, National Government Security Organs and County Governments. Urgent activities are being undertaken as a result of the oil spillage in Kiboko Area in Makueni County includes water quality and pollution monitoring, trend analysis and advising residents accordingly.

5.3 NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

In his response, dated 24th May, 2019, Prof. Geoffrey Wahungu, Director General, National Environment Management Authority stated that-

- a) **State reason(s) why the National Environment Management Authority (NEMA) has not issued a Restoration Order under section 108 and 109 of the Environmental Management and Co-ordination Act.**

NEMA issued an Environmental Restoration Order in respect of the Oil Spillage to the Kenya Pipeline Company on 16th May, 2019. The Order was served to acting Managing Director KPC on 17th May, 2019.

- b) **State the reasons why the Water Resources Management Authority (WARMA) and National Environment Management Authority (NEMA) has not issued a warning to residents of Kiboko, thirty days later about the effects of the oil products in their water.**

The Water Resource Authority in collaboration with NEMA and in consultation with other relevant lead agencies and stakeholders through meetings held on 9th to 10th May, 2019 issued a precautionary Public Notice to the Kiboko Water Users.

- c) **State whether the National Environment Management Authority (NEMA) has caused Kenya Pipeline Company Limited to deposit a bond as appropriate security for good environmental practice, due to the frequent spillages as required by section 28 of the Environmental Management Act.**

The Authority has not so far caused the Kenya Pipeline Company to deposit a security bond for good environmental practice. Whereas the Environmental Management and Coordination Act Cap 387 (Section 28) provides for issuance of such a bond, the requisite Regulations to that effect have not yet been gazetted.

- d) **State when the people of Makueni should expect a detailed water analysis report on the Kiboko spring, Kiboko River and other nearby water bodies.**

KPC and WRA have been undertaking Water Analysis from selected strategic points in the spill area and the Kiboko Springs and River Ecosystem.

Indeed the precautionary notice referred above was based on WRA's analysis Report, which indicated that the water had traces of oil and grease. However, analysis by KPC through the designated and accredited SGS Laboratory focussed on analysing for Total Petroleum Hydrocarbons (TPH) and Benzene, Toluene, Ethylene and Xylene (BTEX) - which are the basic indicators of petroleum product.

Due to the discrepancies arising thereof, a joint Sampling and Analysis Group has been established consisting of WRA, KPC and the community (mainly members of the Kiboko Water Resource Users Association-WRUA). The joint group is expected to provide harmonized Water Quality Analysis results. These are underway, and will form the basis for further direction in respect of this matter.

In the present time, through the application of the precautionary principle, NEMA continues to monitor compliance to the Environmental Restoration Order and any further orders or directions as may be issued, while currently KPC continues to mop up and recover the pollutant petroleum product from the underground environment with a view to preventing the movement or spread of contamination in the affected area and minimize impacts, particularly in the Kiboko Springs and River.

6.0 INSPECTION VISIT AT THE OIL SPILLAGE - KIBOKO AREA IN MAKUENI COUNTY

The Committee undertook an inspection visit of the oil spillage area at Kiboko in Makueni County on 3rd June, 2019. The objective of the visit was to assess and ascertain the actions being undertaken on the ground after the spillage, and assess the extent to which the oil spillage had affected the residents of the area.

6.1 MEETING WITH KIBOKO AREA RESIDENTS

During the visit, the Committee held a meeting with the public and residents of Kiboko Area who raised the following issues-

- i) The community emphasized on their health status and requested for immediate medical attention, which they insisted to be funded by KPC;
- ii) The economy of the community has dwindled due to lack of irrigation that is being used in farming hence affecting the export market;
- iii) The community through the Chairman Makueni Water Users Association requested for a joint sampling and testing of oil products in the water in a nearby laboratory;
- iv) The community proposed to have their own committee without the National Government agencies;
- v) The Water Resource Authority had issued a public notice to the members of Kiboko Area to seek alternatives sources of water as the water was unsafe;
- vi) The community requested for the people living along Kiboko River to be sensitized on the effects of drinking water contaminated with petrol and diesel;
- vii) The community in consultation with the County Government, was advised not to deal directly with Kenya Pipeline Company to avoid a repeat on the unresolved issues on Thange spillage three years ago;
- viii) KPC urged the community to be patient and give them time to finalize the investigations on the spread of oil products and implications before compensation; and
- ix) KPC through the acting Managing Director stated that they are willing to provide the requisite assistance needed by the community.

The Committee made the following observations-

- i) The oil spill occurred at Km 304, Line V, around 400 meters from the Kiboko springs which forms the Kiboko wetland and river ecosystems that is of great use to the inhabitants of Kiboko Area,

- ii) The site is swampy and is dominated by acacia trees which is an indicator of a high water table;
- iii) Kenya Pipeline Company has dug several trenches/trial pits to determine the direction of product flow, sample points for liquids, restrict underground movement of product to the nearby water springs and river and to recover the oil products;
- iv) There was evidence of oil/grease in all the excavated pits that were sampled measuring to between 1 and 2 inches;
- v) KPC is currently excavating cut off trenches to restrain further movement of product outwards, on completion of product recovery, KPC will commence soil remediation and environmental restoration;
- vi) Recovered products (Diesel) was being evacuated from some pits and transported to Nairobi for onward processing;
- vii) Upon exposure of the line, it was observed that the leak was located on the external surface of the pipe. The damage was suspected to be as a result of the impact of a rock which was found within the soft pudding (red soil), used to protect the pipeline;
- viii) Weekly tests are carried out to determine the levels of concentration of oil/grease in the dug trenches/pits;
- ix) The National Environmental Management Authority (NEMA) had issued an Environmental Restoration Order to the acting Managing Director, Kenya Pipeline Company to comply within some set timelines;
- x) The Water Resources Authority had issued a precautionary notice to members of the public to seek alternative safe water sources pending confirmatory report on the safety of water;
- xi) Though the County Government has provided an alternative source of water, it is not sufficient for the community hence the need to increase more water points;
- xii) The Community cannot afford the water costs given by KIWASCO hence the need for KPC to take over the water costs;
- xiii) The members of the public are worried about their health status and need an urgent free medical examination to be conducted;
- xiv) The public is ignorant and may continue to jeopardize their lives. There are several water projects and water vendors who have politicized the whole issue hence the urgent need to educate the people on the effects of drinking water contaminated with diesel and petrol.

- xv) There are disparities in water samples done by SGS with the community insisting that the water was contaminated and contained poisonous elements while the SGS indicated that the results were negative; and
- xvi) The County Government of Makueni and the community at Kiboko complaint of being sidelined in meetings with KPC and the National government and have threatened not to attend future meetings but undertake their own independent investigations.

7.0 MEETING WITH STAKEHOLDERS

7.1 THE ENERGY AND PETROLEUM REGULATORY AUTHORITY (EPRA)

As a regulator in the Energy and Petroleum sector, the Director General (EPRA) Mr. Robert Pavel Oimeke presented a detailed investigation report dated 18th June, 2019. The content of the Report is summarized here below-

Key Technical Findings-

A. Leak Detection

The EIA report submitted together with the application for construction permit for EPRA's approval indicated that KPC was to employ the following leak detection mechanisms-

- i) **Supervisory Control and Data Acquisition (SCADA) System** – this was to be set up as a minimum requirement to monitor flow rate, pressure, status of all pumps, valves and alarms. The system was envisioned to pick up leaks in case of pipeline intrusion or ruptures due to corrosion in minutes and in short of pipelines in seconds.
- ii) **Ground and Aerial Surveillance of the Right of Way** – this was to involve physical and routine checks along the pipeline's Right of Way to check possible sightings of the spills. EPRA found that KPC had implemented this mode of leak checking and it's through ground surveillance that the spill at Kiboko was sighted.
- iii) **Advance Leak Detection System-** KPC committed to install an advanced leak detection system to monitor the pipeline for leaks. Specifically, KPC had indicated that the old system would be upgraded into a Digital Pipeline Leak Detection (DPL) that was to be fiber optic cable (FOC) based for real time monitoring. At the time of site visit, EPRA found that KPC had not installed this system but plans were underway.

B. Pipeline Designs and Installation

The following scenarios greatly contributed to the incident-

- i) **Ineffective Cathodic protection leading to external corrosion of the pipe.**

EPRA found no evidence of monitoring off the Impressed Current Cathodic Protection System. In addition, the frequency of monitoring the Cathodic Protection System plus training of employees on how to interpret data generated by the system were not well outlined.

- ii) **Holidays on the 3LPE due to improper handling during transportation or pipe lowering.** Detailed inspection of the pipeline around the point of leak indicated that the external coating had holidays (chipped 3LPE). This exposed part of the metal surface to the environment leading to eventual corrosion.
- iii) **Failure to follow back filling procedure by the contractor.** It's a requirement to cushion buried pipelines from sharp edged boulders using either sand or acceptable soft soil grade. Excavated material from leak area indicated that the backfill material consisted of mixed soft material and hard rocks.
- iv) **Failure to strictly follow Quality Assurance & Quality Control (QA/QC) procedures during installation.** Pre-coated pipes are very sensitive in handling. International standards require that the pipe should be strapped when lifting, shifting from one place to another or lowering to trenches and at no time should the lifting be done with equipment such as fork lift or shovels. Site inspections revealed that the correct QA/QC procedures during laying of the pipe were not followed and hence the damage to the pipe coating.
- v) **Failure to install a multi layered leak detection system.** KPC in its designs and the EIA report submitted to EPRA had indicated that a multi-layered leak detection system was to be installed for line 5 monitoring. From the site visits, EPRA confirmed that this was not installed leaving KPC with non-precise and rudimentary systems such as use of aerial surveillance and ground teams to monitor the Right of Way for possible spill sightings.

C. Effect on Surface water, Ground water and soil

- i) EPRA noted that the spill plume had spread to approximately **400m from the point of release.** However, the Kiboko springs, KARLO catchment area and the river near the SGR had not been affected.
- ii) Water Resources Authority had given a precautionary notice to the public that was later lifted after subsequent investigations.

D. The root cause of the leak

Based on field interviews, extensive consultations, review of KPC reports, and photographic evidence, it was concluded that the pipeline leak was caused by external metal loss due to corrosion.

The corrosion is attributed to damage to the pipe coating due to backfilling using hard material – inadequate supervision of the contractor leading to use of substandard backfill material. The pipeline design and construction provides for the pipeline to be covered by soft material. However, from the evidence

corroborated by interviews of KPC staff who were first responders the pipeline in the area was covered by hard rocky material.

E. Actions Taken by EPRA

The following actions were undertaken by EPRA in order to find the root cause of the spillage and address the emerging issues-

- i) Visited the site of the spill on 15th August, 2019 and they were satisfied with the clean-up works being undertaken by KPC.
- ii) Confirmed that the results of samples collected by the Inter-Minestrial Taskforce at various water points around the area of the sill were tested by 3 independent laboratories ie Bureau Veritas, Kenya Bureau of standards and University of Nairobi and the tests indicated no presece of Hydro carbons in the water.
- iii) Ensured that KPC supplied adequate and clean drinking water to the residents of Kiboko until a precautionary notice on the use of the water in the area by Water Resources Authority(WRA) is lifted
- iv) Ensured that KPC provided EPRA records of monitoring of the impressed current Cathodic Protection System Installed on Line 5.
- v) Ensured that KPC comprehensively addressed all environmental concerns arising out of the oil spillage at Kiboko and in particular, ensure thorough clean-up and restoration of the site spill.
- vi) EPRA received records of monitoring of the Impressed Current Cathodic Protection Syatem (ICCPS) dated October, 2019. KPC indicated that a biannual monitoring of the system had been scheduled. However, in a meeting with KPC on 13th September, 2019 KPC was directed to undertake monthly monitoring of the ICCPS especially at ecologically sensitive areas.

7.2 INTER-MINISTERIAL COMMITTEE ON OIL SPILLAGE IN KIBOKO AREA

In order to harmonise and provide a properly coordinated programme/framework of work, the Committee during its meeting held on 19th June, 2019 resolved that an Inter- Ministerial Committee comprising of the Cabinet Secretary, Ministry of Petroleum and Mining, Cabinet Secretary, Ministry of Environment and Forestry and Cabinet Secretary, Ministry of Water and Sanitation be established.

The Inter Ministerial Committee held several meetings with the Committee and on 3rd July, 2019, the CAS Ministry of Environment and Forestry presented the Inter-Ministerial Committee Report on Kiboko oil spillage as summarized here under-

a) The hand over report of the consultant engaged in the design and construction of Line V and the report on the cause of the oil spillage at Kiboko in Makueni County

At the time of commissioning, the necessary tests were carried out and certificates issued which were signed off and approved by both the consultant and the contractor. KPC has requested for the final handover report from the consultant on the leak detection, strength test.

b) The report of the structural integrity of Line V and the safety measures put in place to ensure that in future such spillage is properly monitored and any leakage is detected and attended to immediately-

The entire Line V pipeline was filled with water and pressurized in order to carry out the strength and leak detection tests as per commissioning procedures.

KPC way leave is 30m wide, the line is buried underground, and in sections where the lines passes through wetlands and rivers, the line is buried 7m lower. In addition to the above Cathodic Protection is done to protect the pipeline from corrosion.

c) The status of compliance to the Restoration Order that was served to Ag. Managing Director Kenya Pipeline on 17th May, 2019;

In response to the Restoration Order, KPC submitted the following-

- Letter of commitment to comply with the Restoration Order,
- Hydro-geological Report,
- Emergency Response Plan,
- Preliminary Environmental and Social Incident Impact Assessment Report,
- Clean-up and Restoration Plan,
- The Social Incident Impact Assessment Report Soil and Water Sampling and Analysis

NEMA is satisfied with the speed of recovery of the product and is waiting for the structural integrity and safety audit of the pipeline which is not due.

d) The report of an independent firm to ascertain whether the water at Kiboko springs, Mutiso spring, Bridge at the Mombasa – Nairobi high way and near the SGR are fit or unfit for domestic consumption-

An analysis done by Bureau Veritas (BV) through the Joint Sampling and Testing Taskforce produced nil results for oil and grease.

e) The amount of oil that was recovered at the Kiboko area and the consequent loss of oil as a result of the oil spillage;

The amount of oil so far recovered as a result of the spillage is 194,000 litres.

f) The status of publication of the Environment Management and Coordination (EMCA) Regulations that provides for the deposit of a bond as security for good environmental practice-

The EMCA regulations that provide for deposit of a bond as security for good environmental practice have been developed and are currently at the Attorney General's office, awaiting finalization.

g) Regular reports on the progress of the conceptual framework for KP304 (Kiboko) spillage site re-instatement-

KPC is making good progress on the clean-up.

h) The status of implementation of the following Corporate Social Responsibilities (CSR) by the Ministry of Petroleum and Mining'

i) Provision of adequate water to the people of Kiboko area through water bowsers, storage tanks and sinking of boreholes;

KPC is currently distributing water to the residents of Kiboko, two (2) bowsers were hired from NYS. There is adequate supply of water to 23 points of delivery identified. As requested by the community, KPC has made arrangements to provide eight (8) storage tanks in areas that were lacking adequate storage.

ii) Supporting the children of Kiboko area through the provision of bursary funds;

KPC is in consultation with all stakeholders (Community, County and National Government) to develop a suitable framework for provision of bursaries.

iii) Establishment of a free medical camp for the residents of Kiboko area to examine the effects if any of the hydrocarbons in their bodies.

KPC is currently running medical camps across the County, in line with the Government Big 4 Agenda that will cover Kiboko area, as part of the program.

7.3. KENYA PIPELINE COMPANY

The acting Managing Director, Kenya Pipeline Company informed the Committee that following the petroleum products spill incident that occurred in Kiboko Area, Makueni County on 30th March, 2019, the Company developed a clean-up and remediation plan for the affected sites. The remediation plan followed the following steps-

- i) Repair of pipeline damage;
- ii) Site hydrogeological survey to establish extent of spill and underground pathways;
- iii) Stemming product flow;
- iv) Site Environmental monitoring;

- v) Recovery of Spilled product;
- vi) Flushing the impacted soils and rock;
- vii) Site bioremediation; and
- viii) Site reforestation and afforestation.

Status to date:

- i) Steps 1-4 has been completed;
- ii) Step 5(Product Recovery) was at the tail end of completion;
- iii) Step 6 (Flushing of soils/rocks) is currently at 65% of the ring segments that were formed for stemming the flow;
- iv) Step 7 (site remediation) this was expected to commence once Step 5 was completed; and
- v) Step 8 (reforestation/ afforestation) shall involve planting of indigenous trees on the site.

7.4 MINISTRY OF WATER AND SANITATION

On 30th October, 2019, the Cabinet Secretary Ministry of Water and Sanitation, presented the status report of water in Kiboko Area and informed the Committee that-

On various dates, 5th, 8th, 25th April, 2019 and 5th May, 2019, Kiboko Spring water samples were taken from Kiboko Spring site for Laboratory analysis with regard to suspected pollution. The samples were analysed from WRA Central Testing Laboratories in Nairobi with regard to petroleum/oil products spillage. The Laboratory results analysis indicated traces of oil and grease in the water sampled from Kibiko Springs of Kiboko River.

Based on the laboratory analyses and the information from the Kiboko WRUA who included Kiboko residents, as a precautionary measure on water resource pollution, on May, 2019, WRA issued and displayed at strategic places a notice to all water users within Kiboko sub-Catchment to be on the lookout for drastic changes to water quality from the springs. They were advised to contact WRA office or Kiboko WRUA office in case of any unusual physical observations with regard to smell, colour, taste and ecological flora and fauna.

In assessment of the oil products spillage to the ground water, WRA conducted a tomography hydrogeological survey on the 16th -17th October, 2019 along and parallel to the spillage area. The results showed that the oil products penetrated below the ground level. The plume at the point of the oil spill was inferred at a depth of 4 meters to 19 meters beneath the ground.

The Cabinet Secretary Ministry of Water and Sanitation directed establishment of a Joint Water Quality and Pollution Sampling and monitoring Taskforce. The Taskforce Comprised of KPC, NEMA, WRA, Makueni County Commissioner Office, Makueni County Government and Kiboko WRUA.

The Taskforce agreed on four parameters to be tested- oil and grease, Total petroleum Hydrocarbons, BTEX (benzene, Toluene and Xylene, and Lead). In their analysis, Both UON and BV have reported non-detectable levels of oil and grease, TPH and BTEX.

Based on the tests, it was concluded that-

- i) The surface water resources are free from oil and grease. However, Kiboko residents users are advised to use treated water, and for those drawing water directly from the spring and rivers, they need to satisfactorily disinfect or through boiling and observe hygiene through the water usage chain.
- ii) WRA will continue carrying out water quality and pollution monitoring with a close surveillance of Kiboko catchment area especially during the rainy season.
- iii) The precautionary Public Notice issued on 10th May, 2019 is lifted but may be restored depending on the results of the monitoring.
- iv) The ground water resources have shown presence of oil products within a stretch of 200 meters from the centre of spill point at depth of 4 to 19 meters. The residents are advised not to drill boreholes within this radius and surrounding environs until otherwise advised by WRA.

7.5 COMMENTS BY THE COMMITTEE ON THE OIL SPILLAGE

A. Sinai Fire Incident - 2011

The Committee noted with concern the number of incidents that have been reported on the oil spillage in the country. The Committee is alive to the fire incident in Sinai that took place on 12th August, 2011 where over 100 people died in the accident and scores others were injured. A large number of survivors were hospitalized for long periods for the treatment and management of their injuries.

B. River Thange Oil Spillage - 2015

The Committee is also considering a petition by Thange River Basin Community where the oil spillage occurred on 12th May, 2015. The incident has negatively impacted the local residents who are still pursuing compensation.

In this regard, the Committee requests the Ministry of Petroleum and Mining to seriously undertake its mandate and provide oversight on KPC to ensure that the petroleum products are transported and distributed in a safe and secure manner pursuant to the strategic intentions of the Ministry.

C. Comparative Analysis of oil spillage compensation Framework

The Committee further undertook some comparative analysis for oil spillage compensation framework and recommends that the Ministry of Petroleum and Mining

considers the ratification to international conventions for governing and managing oil pollution. These conventions aim to establish a unified liability regime and mechanisms for providing adequate compensation to parties affected by oil pollution.

D. Oil Spill Liability Trust Fund in the US

The Committee noted that in the United States of America, an Oil Spill Liability Trust Fund was established for the following purposes-

- i) Prompt payment of costs for responding to and removing oil spills;
- ii) Payment of the costs incurred by the federal and state trustees of natural resources for assessing the injuries to natural resources caused by an oil spill; and developing and implementing the plans to restore or replace the injured natural resources;
- iii) Payment of parties' claims for uncompensated removal costs, and for uncompensated damages (e.g., financial losses of fishermen, hotels, and beachfront businesses);
- iv) Payment for the net loss of government revenue, and for increased public services by a state or its political subdivisions; and
- v) Payment of federal administrative and operational costs, including research and development, and \$25 million per year for the Coast Guard's operating expenses.

8.0 FINDINGS/OBSERVATIONS, RECOMMENDATIONS, ACTION AND TIMELINES

Ref. No.	Findings	Recommendations	Action	Timelines
1.	Lack of proper co-ordination and synergy in addressing oil spillage among the Government agencies	An Inter-Ministerial Committee was established to coordinate and address all matters relating to the oil spillage	Cabinet Secretary, Ministry of Petroleum and Mining, Cabinet Secretary, Ministry of Environment and Forestry and Cabinet Secretary Ministry of Water and Sanitation	Immediately
2.	NEMA Issued an Environmental Restoration Order	Expedite and implement an oil spill clean-up and remediation plan. NEMA should continue to monitor compliance to the Environmental Restoration Order and any further orders or directions as may be issued.	Kenya Pipeline Company (KPC) National Environment Management Authority(NEMA) Energy and Petroleum Regulatory Authority (EPRA)	As per the Restoration Order
3.	WRA had initially issued a precautionary Public Notice No: 10 on safety of water	Safe and clean domestic water be provided to the people of Kiboko area through water boozers, water tanks and digging of boreholes	Kenya Pipeline Company (KPC), Ministry of Water & Sanitation County Government of Makueni	Immediately

			Energy and Petroleum Regulatory Authority (EPRA)	
4.	KPC had recovered and evacuated eleven thousand (11,000) litres of Automotive Gasoil (AGO) from the spillage site	KPC & EPRA should ensure that the losses occasioned by the oil spillage is not transferred to the consumers through the monthly adjustments of fuel prices	Kenya Pipeline Company (KPC) Energy and Petroleum Regulatory Authority (EPRA)	Immediately
5.	Oil spill is within a stretch/radius of 200m from centre of spill and depth of 4 – 19 meters	Residents advised not to drill borehole within the said radius and surrounding environment. WRA to sensitize the residents of Kiboko area against drilling of boreholes within the environs or close proximity to the oil spillage area of Kiboko until further advice by WRA.	Residents Kenya Pipeline Company (KPC) County Government of Makueni Water Resources Authority (WRA)	Immediately
6.	Ministry of Water & Sanitation lifted the precautionary Public Notice issued on 10 th May, 2019.	KPC to continue supplying water to the affected community basis until the catchment area is restored.	Kenya Pipeline Company (KPC)	Continuously
7.	Environmental Management and	The requisite EMCA Regulations be	Cabinet Secretary Ministry of	Immediately

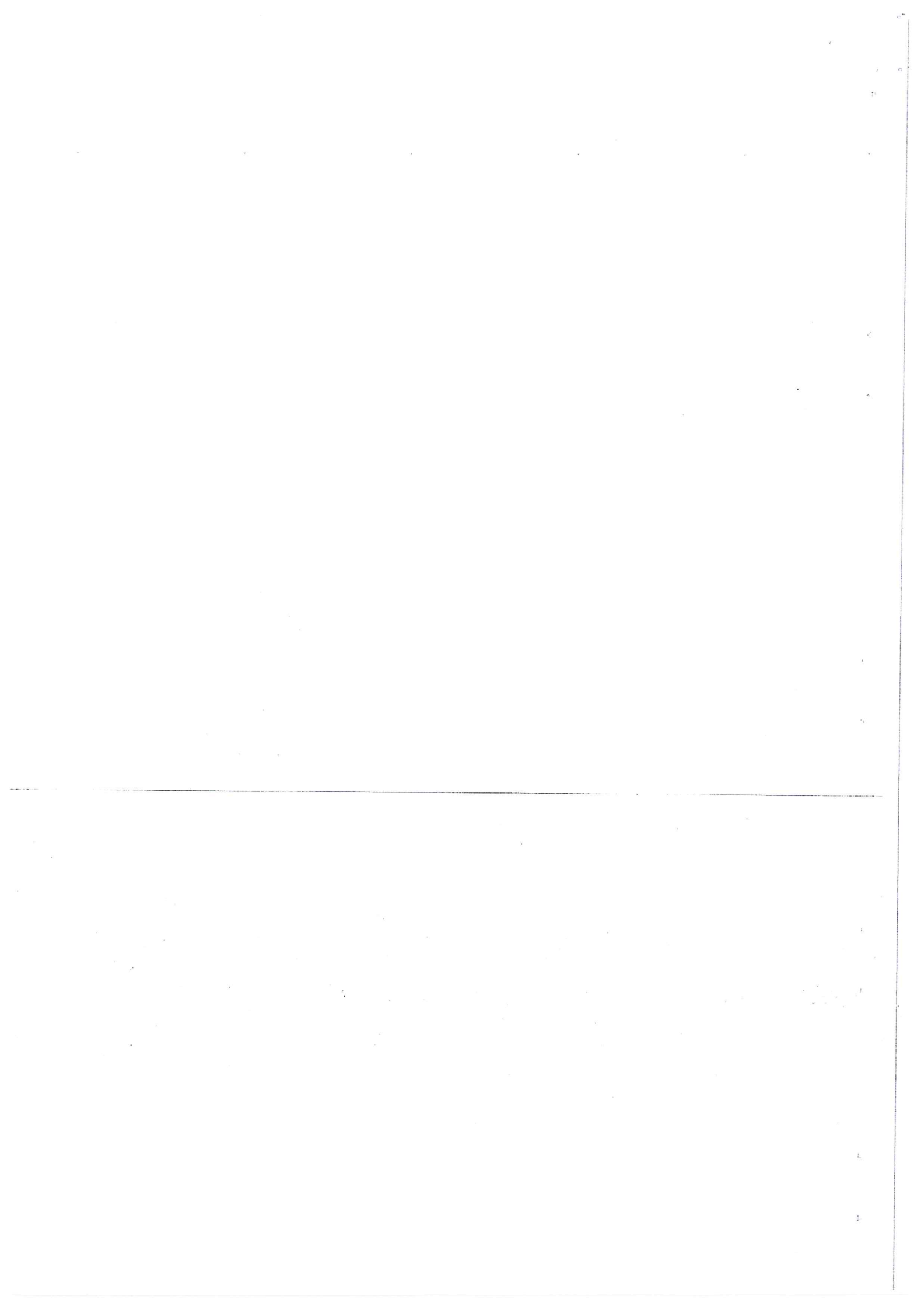
	Coordination (EMCA) Regulations is yet to be gazetted to provide for mechanism of depositing a security Bond for good environmental practice	gazetted to provide for the deposit of a security bond	Environment and Forestry	
8.	There are health concerns as a result of using the contaminated water.	<p>A free medical camp be established at the Kiboko area to examine and provide treatment to the residents of Kiboko on the effects of the hydrocarbons if any, in their bodies.</p> <p>EPRA to undertake a sensitization program to the people of Kiboko on the risks of the polluted water and oil leakages.</p> <p>WRA should further sensitize the community in Kiboko area on the importance of using treated, boiled or disinfected water for their domestic use.</p>	<p>Kenya Pipeline Company (KPC)</p> <p>Energy and Petroleum Regulatory Authority (EPRA)</p> <p>Water Resources Authority (WRA)</p>	Immediately
9.	The residents of Kiboko area have been deprived their income from farming due to the oil spillage	Compensate the residents of Kiboko area for losses occasioned by the oil spillage.	Kenya Pipeline Company (KPC)	Immediately
10.	There are divergent views on whether the	An independent firm be contracted to do a	National Environment	Immediately

	water is contaminated with the hydrocarbons or not.	further chemical water analysis and tests to ascertain if indeed it is safe for domestic consumption	Management Authority(NEMA) County Government of Makueni Water Resources Authority (WRA)	
11.	There are concerns that the spillage might have affected other neighbouring areas whose source of water is from the Kiboko ecosystem such as Kajiado and Mbiuni areas	NEMA should expedite an Environmental and Social Economic Impact Assessment (ESEIA) Report to ascertain the extent of pollution and losses caused by the oil spillage in the area.	National Environment Management Authority(NEMA)	Immediately
12.	Failure to install a Multi Layered Leak Detection System (LDS) despite it being in the design and EIA report submitted to EPRA	EPRA should take a stern action on KPC for failure to install the leak detection system on Line V. EPRA should enforce the applicable sanctions on KPC that will act as a preventive/deterrence mechanism/measure to address the oil spillage from recurring in the future. EPRA should ensure that the issue of non-	Energy and Petroleum Regulatory Authority (EPRA)	Immediately

		<p>compliance is reported to the relevant government agencies;</p> <p>A multi layered leak detection system be installed</p> <p>Conduct an inline inspection of all its pipelines (Lines 1 – 5) to determine any underlying defects, enhance ground patrols and aerial surveillance to avoid or prevent any future oil spillage occurrence.</p> <p>The Ethics and Anti Corruption Commission (EACC) and the Director of Criminal Investigations should investigate the matter.</p>	<p>Kenya Pipeline Company (KPC)</p> <p>The Ethics and Anti Corruption Commission (EACC) & Director of Criminal Investigations (DCI)</p>	
13.	<p>Failure by the Ministry of Petroleum and Mining to provide oversight on KPC to ensure that the petroleum products are transported and distributed in a safe and secure manner pursuant to the strategic</p>	<p>The Cabinet Secretary Ministry of Petroleum & Mining to intervene and ensure that the necessary leak detection systems in all the pipelines (1-5) are urgently put in</p>	<p>CS Ministry of Petroleum & Mining</p> <p>Energy and Petroleum Regulatory Authority (EPRA)</p>	<p>June 2020</p>

	intentions of the Ministry.	place in the course of the current financial year.	Kenya Pipeline Company (KPC)	
14.	Failure by KPC to monitor the already installed and commissioned Impressed Current Cathodic Protection System (ICCPs).	Cabinet Secretary Ministry of Petroleum and Mining and EPRA to ensure that KPC undertakes a monthly monitoring of the ICCPS especially at ecologically sensitive areas and train employees on how to interpret data generated by the system.	CS Ministry of Petroleum and Mining Kenya Pipeline Company (KPC) Energy and Petroleum Regulatory Authority (EPRA)	Monthly
15.	Ineffective Cathodic Protection for line 5 led to external corrosion of the pipe material.	Review the effectiveness of the Cathodic Protection (CP) for all KPC lines.) (Lines 1-5)	CS Ministry of Petroleum & Mining Kenya Pipeline Company (KPC)	Immediately
16.	Coating failure as a result of improper handling during transportation, lowering or backfilling.	Take the necessary administrative action (s) to any officer who will be found to be culpable of any negligence during the discharge his/her responsibilities during the construction of Line V.	CS Ministry of Petroleum & Mining Kenya Pipeline Company (KPC)	Immediately
17.	Failure in following the back filling procedure.	Put in place procedures for	CS Ministry of Petroleum &	Immediately

	All pipelines are required to be cushioned from sharp edged rocks and objects using either sand or other acceptable soft soil grade.	transportation, laying, excavation, and repair and back filling of pipelines	Mining Kenya Pipeline Company (KPC)	
18.	Inadequate supervision of the contractor leading to use of substandard backfill material during the laying of the pipeline.	Take the necessary administrative action (s) to any officer who will be found to be culpable of any negligence during the discharge his/her responsibilities during the construction of Line V.	CS Ministry of Petroleum & Mining Kenya Pipeline Company (KPC)	Immediately
19.	Section 97 (2) of the Petroleum Act provides that any person engaged in the storage, transportation or sale of petroleum and petroleum products must have an oil clean-up plan in compliance with the National Oil Spill Policy, relevant environmental health and safety regulations or guidelines.	Pursuant to Section 101(v) of the Petroleum Act, EPRA should recommend to the Cabinet Secretary Ministry of Petroleum and Mining to make regulations providing for the development and coordination of a National oil spill response plan including measures to prevent oil spills and a mechanism for compensation in the event of an oil spill.	Energy and Petroleum Regulatory Authority (EPRA)	Immediately



ANNEX 1 – MINUTES OF THE COMMITTEE



MINUTES OF THE 10TH SITTING OF THE STANDING COMMITTEE ON ENERGY HELD ON TUESDAY 13TH JUNE, 2019 IN COUNTY HALL MINI CHAMBER, FIRST FLOOR, COUNTY HALL AT 11:00A.M.

PRESENT

- | | |
|-------------------------------|--------------------|
| 1. Sen. (Eng.) Ephraim Maina | - Chairperson |
| 2. Sen. Mary Seneta | - Vice Chairperson |
| 3. Sen. Susan Kihika | - Member |
| 4. Sen. (Prof.) Imana Malachy | - Member |
| 5. Sen. Mwaruma Johnes | - Member |
| 6. Sen. (Dr.) Ochillo Ayacko | - Member |
| 7. Sen. Ledama Olekina | - Member |

ABSENT WITH APOLOGY

- | | |
|-------------------------|----------|
| 1. Sen. Mithika Linturi | - Member |
| 2. Sen. Aaron Cheruiyot | - Member |

IN ATTENDANCE

A. THE SENATE

- | | |
|-------------------------------|---------------------------|
| 1. Sen. Mutula Kilonzo Junior | - Friend to the Committee |
|-------------------------------|---------------------------|

B. MINISTRY OF WATER AND SANITATION

- | | |
|--------------------------|------------------------------|
| 1. Mr. Joseph Irungu | - PS Water & Sanitation |
| 2. Mr. Chrispus O. Juma | - Director Ministry of Water |
| 3. Eng. Boniface Mwaniki | - WRA |
| 4. Mr. Fred Nyongesa | - WRA |

C. MINISTRY OF ENVIRONMENT AND FORESTRY

- | | |
|---------------------------|---------------|
| 1. Hon. Mohamed Elmi | - CAS Mo E &F |
| 2. Mr. Rodney Omari | - Mo E &F |
| 3. Mr. Erick F. N. Akotsi | - Mo E &F |
| 4. Mr. Robert Orina | - NEMA |
| 5. Mr. Stephen Kimutu | - NEMA |

D. MAKUENI COUNTY EXECUTIVE

- | | |
|---------------------------|------|
| 1. Mr. Richard K. Munyoka | -MCA |
| 2. Ms. Rosie M. Ndibo | -MCA |
| 3. Ms. Jane Wambua | -MCA |
| 4. Ms. Janet Kitunga | -MCA |

- | | |
|-----------------------|------------------|
| 5. Ms. Elizabeth Kiio | -MCA |
| 6. Ms. Rose Mbithe | -Committee Clerk |
| 7. Ms. Mercy David | -Committee Clerk |
| 8. Mr. Julius Nzau | -Committee Clerk |

E. COMMITTEE SECRETARIAT

- | | |
|----------------------------|-------------------------------|
| 1. Mr. Boniface Lenairoshi | - Principal clerk Assistant 1 |
| 2. Ms. Elizabeth Muhia | - Principal Legal Counsel |
| 3. Mr. Wellington Namenge | - Research Officer |
| 4. Mr. Fredrick Ouma | - S.A.A |
| 5. Ms. Lucianne Limo | - MRO |
| 6. Ms. Nancy Akinyi | - Intern |

MIN. NO.045/2019

- PRELIMINARIES

The Chairperson called the meeting to order at 11:21 a.m. This was followed by a word of prayer and a round of introductions.

MIN. NO.046/2019

- ADOPTION OF THE AGENDA

The agenda of the meeting was adopted as presented having been proposed by Sen. Johnes Mwaruma and seconded by Sen. Mary Seneta as follows-

AGENDA

1. Preliminaries;
 - a) Prayer
 - b) Introductions
2. Adoption of the Agenda;
3. Consideration of the responses to the statement on oil spillage in Kiboko area;
4. Any Other Business;
5. Date of the next meeting and Adjournment.

MIN. NO.047/2019

CONSIDERATION OF THE RESPONSES TO THE STATEMENT ON OIL SPILLAGE IN KIBOKO AREA

1. Ministry of Water and Sanitation-
 - a) The oil spillage occurred at KM 304, Line V, around 400 meters from the Kiboko springs which forms the Kiboko wetland and river eco systems that is of great use to inhabitants of Kiboko area

The Ministry through Water Resources Authority (WRA) reiterated that the water sources with traces of oil product from the oil spillage site remained unsafe and will

advise the residents accordingly from the time to time as the water quality and pollution monitoring continues. The traces of oil products as analyzed by WRA under the parameter are oil and grease on the Kiboko ecosystem.

- b) The site is swampy and is dominated by Acacia trees which is an indicator of a high water table-**

The said catchment has porous volcanic formation with high water table and it is the source of little Kiboko River that drains into the Athi River and serves the Kiboko town residents, downstream users and ecosystems along its course.

- c) Kenya Pipeline Company had dug several trenches /trial pits to establish the extent of the spillage within Kiboko area-**

The ministry had some recommendation to KPC;

- i. Based the Hydrogeological Survey Study, to fund the drilling of 4 strategic dedicated boreholes for ground water observation, that may be used as production boreholes after the spillage is contained to provide water to the residents in the events of water shortages;
- ii. Ascertain the spread and depth of the spilled oil products, develop injection well and employ bioremediation technologies to neutralize the pollutant spilled oil products/hydrocarbons to render the water resources safe for use.

- d) There was evidence of oil/grease in all the pits that were sampled measuring 1 and 2 inches;**

From the results being sampled by WRA, traces of oil product continue to be detected in the water resources. The traces of oil products may continue to show up in both surface and ground water bodies as water passing through the fissures come into contact with the spilled oil products.

- e) Recovered products (diesel) was also being evacuated from some pits and tracked to Nairobi for cleaning;**

This is highly appreciated as long as the byproducts of the clean-up are safely disposed away from water resources. KPC should document this process for our evaluation and approval so that further pollution does not occur.

- f) Weekly test are being carried out to determine the levels of concentration of oil/grease in the trenches/ pits;**

WRA will continue to conduct analyses and monitoring in accordance with its mandates as per the Water Act 2016 and also participate in the joint taskforce and advise the residents accordingly with regard to water quality.

- g) The Water Resource Authority (WRA) had issued a precautionary notice to members of the public to seek alternative safe water sources pending confirmatory reports from the authority on the safety of the water-**

The oil spillage site remained unsafe and WRA will advise residents accordingly from time to time as the water quality and pollution monitoring continues. Further, the Makueni Governor and the Minister directed KPC in collaboration with Kiboko WRUA/residents to seek and provide safe water to the affected community for domestic use. KPC is yet to submit any proposal on this directive.

- h) The members of the public have no alternative than to purchase water for their domestic consumption-**

Due to the possible health risks occasioned by the oil spillage to the residents of Kiboko to access clean water for humans and their livestock, KPC should facilitate emergency water trucking services to the area by dedicating 4 water trucks with a combined capacity of 40 cubic meters of water daily to the area until normal situation is restored.

- i. KPC be required to excavate and expose for physical examination of the 2 lines (Line 1 and 2) passing through Kiboko catchment to confirm that there is no other leakage points;
- ii. KPC be required to excavate and expose its pipelines for physical examination regularly for leaks where they traverse environmentally sensitive areas to avoid pollution and contamination of water resources;
- iii. The water Act 2016 amended to compel all companies with potential of polluting water resources to file annual inspection reports indicating any incidences or threats to water resources and the environment.

2. National Environment Management Authority-

The progress made in regard to compliance to Environmental Restoration Order includes;

1. Submission of Letter of commitment to comply with the ERO
2. Submission of the Hydrogeological Survey Report of the affected area
3. Submission of the Clean-up and Remediation Action Plan.

4. Soil and Water Sampling and Analysis Report

5. KPC Global emergency preparedness and response Manual.

NO.	DOCUMENT SUBMITTED	PURPOSE/EXPECTATION OF THE DOCUMENT	SUMMARY OF PLEMINARY EXAMINATION
1	Letter of commitment by KPC to comply with ERO.	A confirmation of commitment to comply	Letter signed by the Ag. Managing Director KPC as the CEO of the "polluter entity"
2	Hydrogeological Survey Report	To provide accurate data and information on the underground spread, extent and any possible movement (direction of flow) of the pollutants as well as identify any affected or potentially affected biotic and abiotic components of the environment.	Undertaken by SGS, A NEMA accredited Laboratory. The plume that has developed following the incident at the site migrated from the incident spot for at least 400m as at the date of examination. The East-West plume growth augurs well for the Kiboko springs.
3	Clean-up and Remediation Action plan	To describe the actors and their technical and technological capacities, experiences and capabilities To explain machinery, equipment and other material deployed to the incident site and the competence, efficiency and effectiveness	Done by KPC in consultation/collaboration with relevant state and non- state actors. The Action Plan is divided into four (4) phases, namely : cutting off the contaminated area, product recovery, decontamination and remediation The phases may overlap or run concurrently and it is expected to take up to about 12 months of activity.
4	Soil and Water Sampling and Analysis Report	To show the immediate or the current magnitude of contamination/pollution and its impacts	Undertaken by SGS, A NEMA- accredited Laboratory WATER: All the nearest possible sensitive

		<p>surface water receptors of the pollutant hydrocarbons, like the Mutiso Earth Dam and Kiboko main Spring have returned concentrations of hydrocarbons below the analytical methodology detection limits; an indication that they have not been impacted with the petroleum hydrocarbons.</p> <p>SOILS: Soils within the extent of the spill area are highly contaminated with petroleum hydrocarbon.</p> <p>Soils from the KARLO farm have not shown presence of petroleum hydrocarbons.</p> <p>The petroleum hydrocarbon plume is still contained within the spill area as per the hydro geological report.</p>
Emergency preparedness and Response Manual	To show KPCs preparedness to respond to such oil spill incidents.	Report undergoing comparative review and analysis.

NEMA is undertaking a comprehensive critical and comparative analysis the reports with a view to providing further directions

Further it must be noted that two important documents have not yet been received, namely-

- i. An Environmental and Social Incident Impact Assessment Report
- ii. A Structural Integrity and Safety Audit Report of the New Oil pipeline

The Authority continues to monitor and evaluate the progress of the management of this incident with a view to alleviating the severity of the impacts and to minimize such occurrence in future.

Members of the County Assembly of Makueni –

That the Kenya Pipeline Company should fast track the restoration exercise and ensure that the affected residents of Kiboko area are compensated and given adequate water and medical camps put in place to examine and treat the effects of the hydrocarbons.

Committee Observation-

The Committee observed that both NEMA and WRMA have been issuing reminders of precautionary notice to KPC to restore Kiboko Area and no action has been made so far by KPC as required.

Committee Recommendations-

- i. NEMA to investigate all the design & approvals that was made for Line V, and its recommendations and report back to the Committee;
- ii. The Committee urged NEMA and Ministry of Water to invoke their powers and prosecute KPC if possible;
- iii. NEMA to direct KPC to finalize the mop up exercise and recover pollutant petroleum product from the underground environment to prevent the spread of contamination in the affected area and minimize impacts in Kiboko Springs and River.

MIN. NO.048/2019

- ANY OTHER BUSINESS

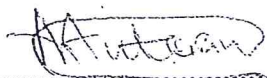
There was no agenda discussed under AOB.

MIN. NO.049/2019

- DATE OF THE NEXT MEETING AND
ADJOURNMENT

The Committee adjourned at 1:12 p.m. and agreed to have a follow up meeting on Wednesday 19th June, 2019 at 11:00 a.m.

SIGN.....



SEN EPHRAIM MAINA, M.P.

CHAIRPERSON

DATE: 2/11/2019

8

MINUTES OF THE 11TH SITTING OF THE STANDING COMMITTEE ON ENERGY HELD ON TUESDAY 19TH JUNE, 2019 IN COUNTY HALL MINI CHAMBER, FIRST FLOOR, COUNTY HALL AT 11:00A.M.

PRESENT

- | | |
|-------------------------------|---------------|
| 1. Sen. (Eng.) Ephraim Maina | - Chairperson |
| 2. Sen. (Prof.) Imana Malachy | - Member |
| 3. Sen. Mwaruma Johnes | - Member |
| 4. Sen. (Dr.) Ochillo Ayacko | - Member |
| 5. Sen. Ledama Olekina | - Member |

ABSENT WITH APOLOGY

- | | |
|-------------------------|--------------------|
| 1. Sen. Mary Seneta | - Vice Chairperson |
| 2. Sen. Mithika Linturi | - Member |
| 3. Sen. Aaron Cheruiyot | - Member |
| 4. Sen. Susan Kihika | - Member |

IN ATTENDANCE

A. THE SENATE

- | | |
|---------------------------|---------------------------|
| 1. Sen. Mutula J. Kilonzo | -Friend to the Committee |
| 2. Sen. Samson Cherarkey | - Friend to the Committee |

B. MINISTRY OF PETROLEUM AND MINING

- | | |
|-----------------------|-----------------------------|
| 1. Hon John Munyes | - CS MoP&M |
| 2. Mr. Joshua Angeliu | - MoP&M |
| 3. Mr. Hudson Andambi | - Ag. MD KPC |
| 4. Ms. Carol Kiplagat | - Chief Env. Officer KPC |
| 5. Mr. Josua Mutea | - Ag. GM Maintenance KPC |
| 6. Mr. John Kones | - Ag. GM infrastructure KPC |

C. MINISTRY OF ENVIRONMENT AND FORESTRY

- | | |
|---------------------------|--------------|
| 1. Mr. Keriako Tobiko | - CS Mo E &F |
| 2. Mr. Rodney Omari | - Mo E &F |
| 3. Prof. Geoffrey Wahungu | - DG - NEMA |
| 4. Mr. Robert Orina | - NEMA |
| 5. Mr. Stephen Kimutu | - NEMA |

D. MINISTRY OF WATER AND SANITATION

- | | |
|--------------------------|-------------------------|
| 1. Mr. Joseph Irungu | - Water Secretary/ MoWS |
| 2. Eng. Boniface Mwaniki | - MoWS |

- | | |
|-------------------------|------------|
| 3. Mr. Festus m. Mutuku | - SSWE/WRA |
| 4. D.T Mogusu | - MoWS |
| 5. Mr. Fred Nyongesa | - WRMA |

E. COMMITTEE SECRETARIAT

- | | |
|----------------------------|-------------------------------|
| 1. Mr. Boniface Lenairoshi | - Principal clerk Assistant 1 |
| 2. Ms. Elizabeth Muhia | - Principal Legal Counsel |
| 3. Mr. Wellington Namenge | - Research Officer |
| 4. Ms. Lucy Mwaniki | - S.A.A |
| 5. Ms. Lucianne Limo | - MRO |
| 6. Ms. Nancy Akinyi | - Intern |

MIN. NO.050/2019

- PRELIMINARIES

The Chairperson called the meeting to order at 11:21 a.m. This was followed by a word of prayer and a round of introductions.

MIN. NO.051/2019

- ADOPTION OF THE AGENDA

The agenda of the meeting was adopted as presented having been proposed by Sen. Johnes Mwaruma and seconded by Sen. Imana Malachy as follows-

AGENDA

1. Preliminaries;
 - a) Prayer
 - b) Introductions
2. Adoption of the Agenda;
3. **Consideration of the responses to the statement on oil spillage in Kiboko area;**
4. Any Other Business;
5. Date of the next meeting and Adjournment.

MIN. NO.052/2019

- CONSIDERATION OF THE RESPONSES TO THE STATEMENT ON OIL SPILLAGE IN KIBOKO AREA

The Chairperson started by welcoming the CS's and all other stakeholders who honored the invitation by the Committee. The Chairperson updated the Committee on the discussions of the previous meetings held on the same incident and requested for the response from the respective Ministries-

1. Response by Cabinet Secretary Ministry of Petroleum & Mining

The CS updated the Committee on the steps undertaken by the Ministry of Petroleum & Mining and KPC since the Oil Spillage on 31st March, 2019 as follows-

- a) The CS confirmed to the Committee that KPC responded immediately to the incident and hydro-geological study has been done to map out the extent of spillage and direction of the flow;
- b) In the interim, the Kenya Pipeline Company will provide water, water storage tanks, dig two boreholes, establish a medical camp and provide bursary to children in Kiboko area;
- c) The CS assured the Committee that KPC continues to comply with all the Restoration Order from the respective authorities as required and the Ministry is willing to have a joint task force with all the Ministries involved to expedite on the process of restoration.

2. Response from Cabinet Secretary Ministry of Environment and Forestry

- a) The officers visited the spillage area to ascertain the effect of the oil spillage and established that excavation is ongoing and the ministry is still monitoring and following up on the Restoration Orders that was issued to KPC;
- b) That there is need to address the cause of the oil spillage to ensure that it is preventable and does not recur in future; and
- c) Regulations on the "Deposit Bonds" have been finalized and are awaiting the Cabinet approval for publication.

3. Response from the Ministry of Water & Sanitation

The Water Secretary who represented the Cabinet Secretary Ministry of Water and Sanitation informed the Committee that-

- a) the water not fit for human consumption and alternative sources of water should be supplied to the community and
- b) the Ministry through WRMA is still monitoring the clean-up at the site.

Deliberations ensued

After the deliberations the Committee resolved that an inter-ministerial committee be established comprising of the Cabinet Secretary Ministry of Petroleum and Mining, Cabinet Secretary Ministry of Environment and Forestry and the Cabinet Secretary Ministry of Water and Sanitation.

The Committee further resolved that the inter – ministerial committee established should report to the Standing Committee on Energy fortnightly with effect from 3rd July, 2019 on the status of the following issues-

- a) The hand over report of the consultant engaged in the design and construction of Line V and the report on the cause of the oil spillage at Kiboko in Makueni County;
 - b) The report of the structural integrity of Line V and the safety measures put in place to ensure that in future such spillage is properly monitored and any leakage is detected and attended to immediately;
 - c) The status of compliance to the Restoration Order that was served to Ag. Managing Director Kenya Pipeline on 17th May, 2019;
 - d) The report of an independent firm to ascertain whether the water at Kiboko springs, Mutiso spring, Bridge at the Mombasa – Nairobi high way and near the SGR are fit or unfit for domestic consumption;
 - e) The amount of oil that was recovered at the Kiboko area and the consequent loss of oil as a result of the oil spillage;
 - f) The status of publication of the Environment Management and Coordination (EMCA) Regulations that provides for the deposit of a bond as security for good environmental practice;
 - g) Regular reports on the progress of the conceptual framework for KP304 (Kiboko) spillage site re-instatement; and
-
- h) The status of implementation of the following Corporate Social Responsibilities (CSR) by the Ministry of Petroleum and Mining'
 - i) Provision of adequate water to the people of Kiboko area through water boozers, storage tanks and sinking of boreholes;
 - ii) Supporting the children of Kiboko area through the provision of bursary funds; and
 - iii) Establishment of a free medical camp for the residents of Kiboko area to examine the effects if any of the hydrocarbons in their bodies.

MIN. NO.053/2019

- ANY OTHER BUSINESS

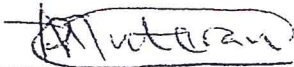
There was no agenda discussed under AOB.

MIN. NO.054/2019

DATE OF THE NEXT MEETING AND
ADJOURNMENT

The Committee adjourned at 1:36p.m. and agreed to have a follow up meeting on Wednesday 3rd July, 2019 at 11:00 a.m.

SIGN.....



SEN EPHRAIM MAINA, M.P.

CHAIRPERSON

DATE:

21/11/2019

6. Mr. John N. Kinyanjui - WRA

D. MINISTRY OF ENVIRONMENT AND FORESTRY

1. Hon. Mohamed Elmi - CAS MoE&F
2. Prof. Geoffrey Wahungu - DG NEMA
3. Mr. Rodney Omari - MoF&E

E. COMMITTEE SECRETARIAT

1. Mr. Boniface Lenairoshi - Principal clerk Assistant 1
2. Ms. Elizabeth Muhia - Principal Legal Counsel
3. Ms. Lucianne Limo - MRO
4. Ms. Lucy Mwaniki - S.A.A
5. Ms. Nancy Akinyi - Intern

MIN. NO.055/2019

- PRELIMINARIES

The Chairperson called the meeting to order at 11:25 a.m. This was followed by a word of prayer and a round of introductions.

MIN. NO.056/2019

- ADOPTION OF THE AGENDA

The agenda of the meeting was adopted as presented having been proposed by Sen. (Prof.) Imana Malachy, M.P. and seconded by Sen. (Dr.) Ochilo Ayacko, M.P. as follows-

AGENDA

1. Preliminaries;
 - a) Prayer
 - b) Introductions
2. Adoption of the Agenda;
3. Consideration of a report from the Inter-Ministerial Committee on Kiboko Oil Spillage;
4. Consideration of response to the statement on Gas Yetu- "The Mwananchi Gas Project";
5. Any Other Business;
6. Date of the next meeting and Adjournment.

The CAS Ministry of Environment and Forestry presented the Inter-Ministerial Committee report on Kiboko oil spillage as summarized here under-

- a) **The hand over report of the consultant engaged in the design and construction of Line V and the report on the cause of the oil spillage at Kiboko in Makueni County**
At the time of commissioning, the necessary tests were carried out and certificates issued which were signed off and approved by both the consultant and the contractor. KPC has requested for the final handover report from the consultant on the leak detection, strength test.
- b) **The report of the structural integrity of Line V and the safety measures put in place to ensure that in future such spillage is properly monitored and any leakage is detected and attended to immediately-**

The entire Line V pipeline was filled with water and pressurized in order to carry out the strength and leak detection tests as per commissioning procedures.

KPC way leave is 30m wide, the line is buried underground, and in sections where the lines passes through wetlands and rivers, the line is buried 7m lower. In addition to the above Cathodic Protection is done to protect the pipeline from corrosion.

- c) **The status of compliance to the Restoration Order that was served to Ag. Managing Director Kenya Pipeline on 17th May, 2019;**

In response to the Restoration Order, KPC submitted the following-

- Letter of commitment to comply with the Restoration Order,
- Hydro-geological Report,
- Emergency Response Plan,
- Preliminary Environmental and Social Incident Impact Assessment Report,
- Clean-up and Restoration Plan,
- The Social Incident Impact Assessment Report Soil and Water Sampling and Analysis

NEMA is satisfied with the speed of recovery of the product and is waiting for the structural integrity and safety audit of the pipeline which is not due.

- d) **The report of an independent firm to ascertain whether the water at Kiboko springs, Mutiso spring, Bridge at the Mombasa – Nairobi high way and near the SGR are fit or unfit for domestic consumption-**
 An analysis done by Bureau Veritas (BV) through the Joint Sampling and Testing Taskforce produced nil results for oil and grease.
- e) **The amount of oil that was recovered at the Kiboko area and the consequent loss of oil as a result of the oil spillage;**
 The amount of oil so far recovered as a result of the spillage is 194,000 litres.
- f) **The status of publication of the Environment Management and Coordination (EMCA) Regulations that provides for the deposit of a bond as security for good environmental practice-**
 The EMCA regulations that provide for deposit of a bond as security for good environmental practice have been developed and are currently at the Attorney General's office, awaiting finalization.
- g) **Regular reports on the progress of the conceptual framework for KP304 (Kiboko) spillage site re-instatement-**
 KPC is making good progress on the clean-up.
- h) **The status of implementation of the following Corporate Social Responsibilities (CSR) by the Ministry of Petroleum and Mining'**
- i) **Provision of adequate water to the people of Kiboko area through water bowsers, storage tanks and sinking of boreholes;**
 KPC is currently distributing water to the residents of Kiboko, two (2) bowsers were hired from NYS. There is adequate supply of water to 23 points of delivery identified. As requested by the community, KPC has made arrangements to provide eight (8) storage tanks in areas that were lacking adequate storage.
- ii) **Supporting the children of Kiboko area through the provision of bursary funds;**
 KPC is in consultation with all stakeholders (Community, County and National Government) to develop a suitable framework for provision of bursaries.
- iii) **Establishment of a free medical camp for the residents of Kiboko area to examine the effects if any of the hydrocarbons in their bodies.**
 KPC is currently running medical camps across the County, in line with the Government Big 4 Agenda that will cover Kiboko area, as part of the program.

Committee Observations-

Based on the report from the Energy and Petroleum Regulatory Authority, the Committee made the following observations-

- a) That there was an ineffective cathodic protection for line 5 that led to the external corrosion of the pipeline;
- b) That there was coating failure as a result of improper handling during transportation, lowering or backfilling;
- c) That there was failure to follow proper backfilling procedure;
- d) Failure to strictly follow the quality assurance and quality control procedures;
- e) Failure to install an advanced leak detection system despite the same being conceptualized at the EIA and design stage.

Committee Recommendations-

- a) That the consultant who supervised the installation of Line 5 be held personally liable for negligence during the installation process and be charged accordance to the provisions of the law;
- b) The water tanks be installed in two weeks time and water be supplied to the residents of Kiboko area in order to provide them with adequate water until the clearance is given by Water Resources Management Authority on the safety of water;
- c) An in line inspection process to check the integrity of the pipeline be done regularly before installation of the leak detector system;
- d) The requisite EMCA Regulations be gazetted to provide for the deposit of a security bond;
- e) The report of the Environmental Socio-Economic Impact Assessment that was submitted to the National Environment Management Authority (NEMA) on 27th June, 2019 be submitted to the Committee;
- f) A free medical camp be established at the Kiboko area to examine and provide treatment to the residents of Kiboko on the effects of the hydrocarbons if any, in their bodies;
- g) Bursaries be provided to assist and compensate the poor families in educating their children;
- h) A multi layered leak detection system be installed;
- i) Review the effectiveness of the Cathodic Protection (CP) for all KPC lines.) (Lines 1- 5); and
- j) Put in place procedures for transportation, laying, excavation, and repair and back filling of pipelines

Status of the Project Implementation

The Gas Yetu LPG roll out (Mwananchi Gas Project) kicked off on 23rd July, 2017 with a pilot in Ngong Town, Kajiado North Sub-County followed by a roll out in Machakos County during the week of 21st August, 2017. Kajiado and Machakos Counties were chosen for the initial pilot due to their proximity to Nairobi to ensure quick response time for the necessary project interventions.

The two Counties were also chosen because of their cosmopolitan nature and reflection of population demographics across rural, urban and peri-urban which was key for gathering learnings.

A total of 28,035 households in Machakos and Kajiado counties benefited from the complete cylinder set consisting of a 6kg cylinder, burner, grill and gas during this initial pilot phase of the project.

After the initial cylinder distribution, a total of 27,945 cylinder were refilled before the Court order on 26th October, 2018 stopping any further distribution of Mwananchi Gas Cylinders. In addition, a total of 3,900 public administrators and 5,000 women and youth group leaders were also sensitized on the project.

Findings from the Pilot in Kajiado and Machakos County

- a) Strong interest among the communities in taking up LPG as a fuel for cooking, however, the initial upfront cost of the cylinder, accessories and gas was a major inhibitor. The cost of Kshs. 2,000 for the complete cylinder set compared to the market price of Kshs 4,500 was therefore very welcome and
- b) The initial pilot entailed registration of beneficiaries through a manual registration process done by the local chiefs. However, it was identified that there was need to quickly replace the manual registration with an automated registration system to safeguard against multiple allocation of cylinders to the same individuals. However, the Court order issued on 26th October, 2018 came into effect before the mobile application could be deployed.

Budget Allocated

The budget allocated for this project by the Ministry of Petroleum and Mining in 2017/18 financial year was Kshs 2B. The budget was for purchase of cylinders, accessories and distribution containers

Procurement of Cylinders

Initial set of 357, 000 cylinders were procured by the Ministry of Petroleum and Mining in 2017. A total of 67, 251 cylinders were rejected upon inspection. Having experienced the high failure rate of the cylinders that had been received thus far, National Oil requested the approval of the Ministry to engage an independent inspector to check on the structural integrity of the cylinders. However, the court order issued on 26th October, 2018 stopping the project took effect before the independent inspector could commence work. Hence 75, 662 cylinders that were received by National Oil are pending inspection and acceptance and are still lying at the Corporation's depot in Industrial Area.

Household Beneficiary Identification

During the initial first pilot, the Corporation developed vetting criteria that was shared with the local Chiefs and was used to identify eligible beneficiaries. The Chiefs were asked to identify households that had an income of Kshs 15, 000 per household was settled upon based on the KNBS Household Income Survey of 2015/16 as the level within which the households would be able to set aside a disposable income to sustain the LPG refill which would be key to the success to the project.

As part of project improvement and learning, National Oil observed the need to enhance the eligibility process and eliminate the discretion of local chiefs. In this regard in March 2018, National Oil engaged the services of Kenya Institute of Public Policy Research and Analysis (KIPPRA) to help leverage their household microeconomic analysis and modelling with a view to:

- i. Define an eligibility criteria based on among others; household income and average household spend on energy
- ii. Developing a too (questionnaire) for gathering data on eligible households (Appendix 2: Gas Yetu Questionnaire)
- iii. Refined workflow for the beneficiary identification/mapping, recruitment and registration process
- iv. Defining a criteria and establishing a baseline for project impact assessment
- v. Develop a criterion for prioritizing counties for the roll out based on per capita consumption of kerosene and charcoal.

List of Beneficiaries

All duly filled application booklets with the details of all the beneficiaries in the two Counties were provided.

Reasons why the project has stalled

Project was put on hold following a court order issued on 26th October 2018 in the matter filed by the Consumer Federation of Kenya (Cofek) citing concerns over procurement of faulty cylinders which could harm consumers.

The office of the Directorate of Criminal Investigations wrote a letter dated 7th November, 2018 informing the Corporation that they were carrying out investigation into the fraudulent acquisition of faulty LPG Gas cylinders and requested the Corporation not to release any new Mwanainchi LPG Gas cylinders at our depot to enable them carry out verification.

Deliberations ensued

Committee Recommendations

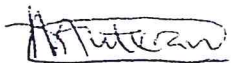
- a) A comprehensive report (overall plan) be issued on how the Ministry of Petroleum and Mining intends to roll out the Gas Yetu - "the mwananchi gas project" in the remaining 45 counties; and
- b) Due to the pending court case, the Ministry of Petroleum and Mining should try and establish alternative methods to ensure that the project is effectively and urgently implemented and rolled out in all the forty seven counties without further delays.

MIN. NO.059/2019

DATE OF THE NEXT MEETING AND
ADJOURNMENT

There being no other business for consideration, the committee adjourned at 1:46p.m., the date of the next meeting to be set by notice.

SIGN.....



SEN EPHRAIM MAINA, M.P.

CHAIRPERSON

DATE:

21/11/2019

MINUTES OF THE 15TH SITTING OF THE STANDING COMMITTEE ON ENERGY HELD ON THURSDAY, 25TH JULY, 2019 IN THE COMMITTEE ROOM 5, FIRST FLOOR, MAIN PARLIAMENT BUILDINGS, AT 11:00 A.M

PRESENT

- | | |
|------------------------------|--------------------|
| 1. Sen. (Eng.) Ephraim Maina | - Chairperson |
| 2. Sen. Mary Seneta | - Vice Chairperson |
| 3. Sen. Mwaruma Johnes | - Member |
| 4. Sen. (Dr.) Ochilo Ayacko | - Member |
| 5. Sen. Ledama Olekina | - Member |

ABSENT WITH APOLOGY

- | | |
|-------------------------------|----------|
| 1. Sen. Aaron Cheruiyot | - Member |
| 2. Sen. (Prof.) Imana Malachy | - Member |
| 3. Sen. Susan Kihika | - Member |
| 4. Sen. Mithika Linturi | - Member |

IN ATTENDANCE

A. THE SENATE

- | | |
|-------------------------------|---------------------------|
| 1. Sen. Mutula Kilonzo Junior | - Friend to the Committee |
|-------------------------------|---------------------------|

B. ENERGY & PETROLEUM REGULATORY AUTHORITY

- | | |
|----------------------|--------------------|
| 1. Mr. Pavel Oimeke | - DG EPRA |
| 2. Mr. Edward Kinyua | - Ag. MD Oil & Gas |

C. SECRETARIAT

- | | |
|----------------------------|-------------------------------|
| 1. Mr. Boniface Lenairoshi | - Principal Clerk Assistant 1 |
| 2. Ms. Carol Cheruyuit | - Legal Counsel |
| 3. Ms. Lucianne Limo | - Media Relations Officer |
| 4. Mr. Wellington Namenge | - Researcher Officer |
| 5. Ms. Nancy Akinyi | - Intern |

MIN. NO.069/2019 : PRELIMINARIES

The Chairperson called the meeting to order at 11:25 a.m. and started with a word of prayer and a round of introductions.

MIN. NO.070/2019 :

- ADOPTION OF THE AGENDA

The agenda of the meeting was adopted as presented having been proposed by Sen. Ledama OleKina and seconded by Sen. Mary Seneta as follows-

AGENDA

1. Preliminaries;
 - a) Prayer;
 - b) Introductions;
2. Adoption of the Agenda;
3. Meeting with the Director General EPRA (Formerly ERC);
 - a) Report on the Kiboko Oil Spillage; and
 - b) The Cost of Fuel (July – August 2019).
4. Any Other Business; and
5. Date of the next meeting and Adjournment.

MIN. NO.071/2019:

- CONSIDERATION OF THE REPORT
FROM THE ENERGY & PETROLEUM
REGULATORY AUTHORITY (EPRA)

a) Report on the Kiboko Oil Spillage

Section 97(1) of the Petroleum Act 2019 (the Act), obligates persons engaged in petroleum business to comply with applicable environment, health and safety laws. Further, Section 97(2) of the Act stipulates that in the event of a fire, explosion, oil spill, injury or fatality occurring in the course of operating a petroleum logistics facility, transportation or sale of petroleum, **either by accident or through negligence**, the operator shall forthwith clean up the polluted or damaged environment to the satisfaction of the licensing authority and any other relevant authority.

On 18th June 2019, EPRA filed a technical findings report where the root cause of the spill at Kiboko was identified as loss of pipe material as a result of localized corrosion. The report further identified the shortcomings that had contributed to the exposure of the pipe material to corrosion as follows-

- i) Damage to the 3 – Layer Polyethylene coating on the pipe due to improper handling during transportation or pipe laying. Detailed inspection of the pipe around the point of leak indicated that the external coating had chipped off exposing part of the metal surface to agents of corrosion.

- ii) Failure by the contractor to follow standard back filling procedure exposing the pipe to rugged back fill material. Excavated material from the leak area indicated that the backfill material consisted of mixed soft material and hard rocks.

In addition, EPRA identified the following operational shortcomings which contributed to the eventual oil spill-

- i) Failure by KPC to install a multi layered Leak Detection System contrary to the initial design described in the Environmental Impact Assessment (EIA) report submitted to EPRA. The EIA report had indicated that KPC would install a multi-layered leak detection system consisting of:
 - a) A Supervisory Control and Data Acquisition (SCADA) system set up as a minimum requirement to monitor flow rate, pressure, status of all pumps, valves and alarms. The system was envisioned to pick up leaks in case of pipeline intrusion or ruptures due to corrosion in minutes and in short sections of the pipeline in seconds and
 - b) An advanced Leak Detection System to monitor the pipeline for leaks. Specifically, KPC had indicated that the old system (the system on line 1) would be upgraded into a Digital Pipeline Leak Detection (DPLD) that was to be Fibre Optic Cable (FOC) based for real time monitoring.
- ii) Failure by KPC to monitor the already installed and commissioned Impressed Current Cathodic Protection System (ICCP). EPRA found no evidence of monitoring of the ICCPS which could have provided early warning that the pipe material was thinning out as corrosion progressed.

EPRA wrote to KPC on 1st July 2019 to show cause why stiff penalties should not be imposed on the company for failure to institute appropriate environment, health or safety control measures; an offence stipulated under Section 99 (1) (b) as read with Section 99 (1) (ii) of the Petroleum Act 2019. EPRA also directed KPC to ensure that the Leak Detection System was immediately installed to enhance easy identification of future points of leaks.

Further, the Ministry of Petroleum and Mining (MOPM) formed a multi-agency task force consisting of MOPM, EPRA, NEMA and KPC to propose short, medium and long term measures that should be put in place to ensure future pipeline leaks whether through vandalism or through accidental causes are mitigated against. The task force is in progress and has since incorporated security and investigative agencies after the discovery of the vandalism on Line V at Mlolongo Township on 27th June, 2019.

Deliberations ensued

The Committee was informed that Kurrent Technologies Consultant firm a local certified engineering partnered with Shngling Engineering Consultant Company limited were the consulting engineers for Line V. The consulting engineers were supervised/managed by the project engineers from Kenya Pipeline Company.

After the deliberations the Committee resolved that based on the powers conferred to EPRA by the Energy Act, 2019 and other relevant statutes-

- i. EPRA should direct the Kenya Pipeline Company to attend to and address the environmental concerns arising out of the oil spillage in Kiboko area;
- ii. EPRA should as a matter of urgency, direct the Kenya Pipeline Company to provide adequate water to the people of Kiboko area since there is a precautionary notice in place for the residents to refrain from using the water due to contamination;
- iii. EPRA should order the Kenya Pipeline Company to expedite the recovery of the oil products at Kiboko area;
- iv. EPRA should direct the Kenya Pipeline Company to provide the records of monitoring the installed and commissioned Impressed Current Cathodic Protection System (ICCP);
- v. EPRA should direct the Kenya Pipeline Company to take the necessary administrative action (s) to any officer who will be found to be culpable of any negligence during the discharge his/her responsibilities during the construction of Line V;
- vi. EPRA should take a stern action on KPC for failure to install the leak detection system on Line V despite it being part of the Environmental Impact Assessment (EIA) Report that was submitted in the application for the construction permit;
- vii. EPRA should ensure that the report submitted to the Committee is shared with the relevant government agencies and the said report should highlight the safety concerns of the pipeline;
- viii. EPRA should come up with a regulatory framework that will act as a preventive mechanism/measure to address the oil spillage from recurring in the future;
- ix. EPRA to provide a gaunt chart that will highlight the key issues of concern, action to be taken and the applicable sanctions as per the applicable statutes;
- x. EPRA should provide a report on the emergency preparedness and the measure put in place to ensure that in future such spillage is properly monitored and attended to immediately;
- xi. EPRA to undertake a sensitization program to the people of Makueni on the risks of the polluted water and leakages; and

xii. EPRA to give a status report on the actions taken to address the aforementioned matters by Thursday, 1st August, 2019.

b) The Cost of Fuel (July – August 2019).

The above matter was differed and the Committee agreed that the Director General to be invited at a later date to discuss the matter and also the implication on the regulator to standardize the electricity cost charges as mandated by the Energy Act, 2019.

MIN. NO.072/2019

-DATE OF THE NEXT MEETING & ADJOURNMENT

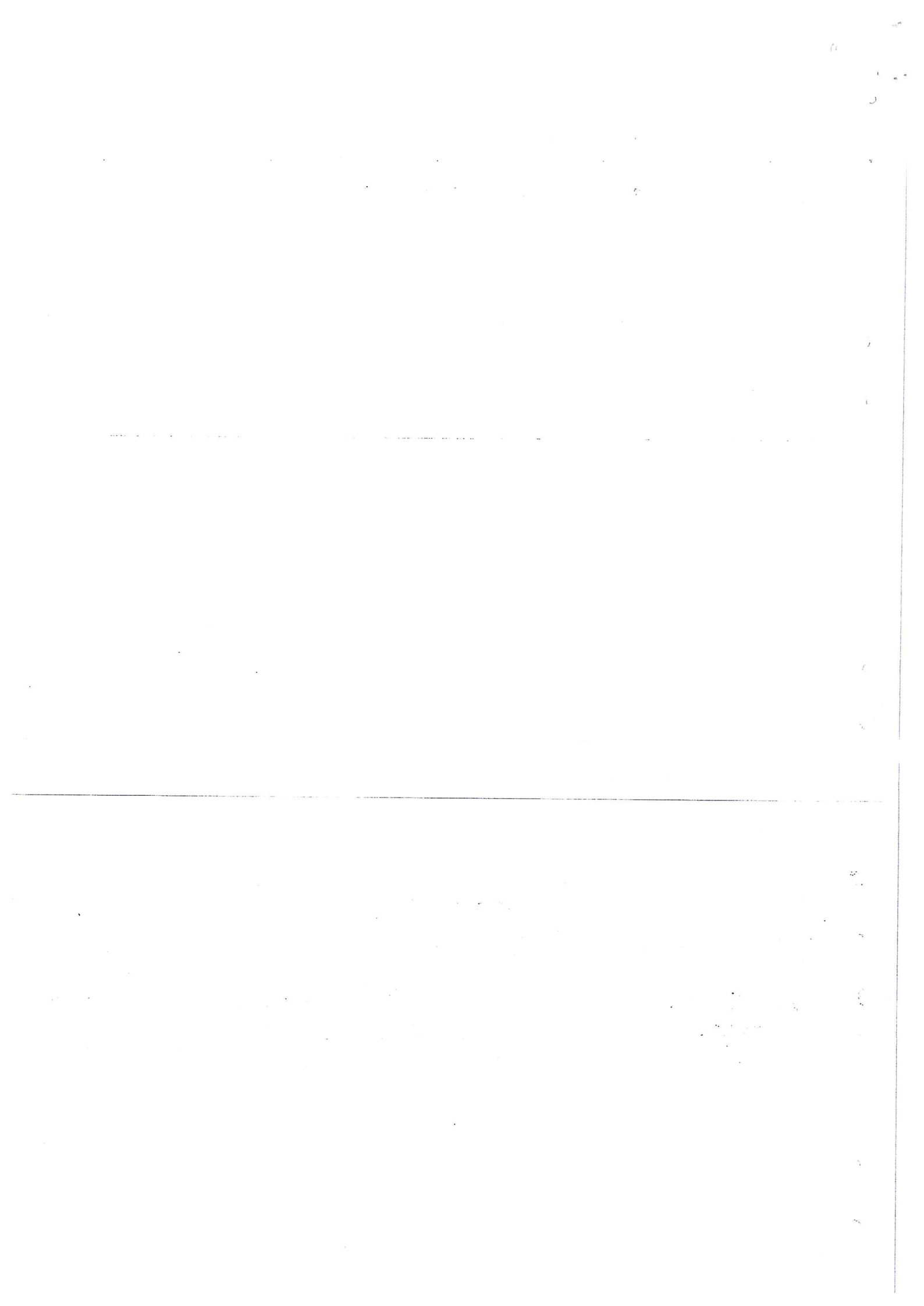
There being no other business, the meeting was adjourned the meeting at 1:42 p.m. and the next meeting to be on Wednesday 31st July, 2019.

SIGN: .....

SEN EPHRAIM MAINA

CHAIRPERSON

DATE: 21/11/2019.....



MINUTES OF THE 19TH SITTING OF THE STANDING COMMITTEE ON ENERGY HELD ON WEDNESDAY 9TH OCTOBER, 2019 IN COMMITTEE ROOM 5 MAIN PARLIAMENT BUILDING AT 11:00 A.M.

PRESENT

1. Sen. (Eng.) Ephraim Maina - Chairperson
2. Sen. Aaron Cheruiyot - Member
3. Sen. (Prof.) Imana Malachy - Member
4. Sen. Mwaruma Johnes - Member

ABSENT WITH APOLOGY

1. Sen. Mary Seneta - Vice Chairperson
2. Sen. Mithika Linturi - Member
3. Sen. Susan Kihika - Member
4. Sen. Ledama Olekina - Member
5. Sen. (Dr.) Ochilo Ayacko - Member

IN ATTENDANCE

A. KENYA PIPELINE COMPANY

1. Mr. Husdon Adambi - Ag. MD KPC
2. Ms. Beatrice Orgut - KPC
3. Mr. Joshua Mutea - KPC
4. Ms. Elizabeth Rop - KPC

B. ENERGY & PETROLEUM REGULATORY AUTHORITY

1. Mr. Pavel Oimeke - MD EPRA
2. Mr. Edward Kinyua - EPRA

C. MINISTRY OF ENVIRONMENT AND FORESTRY

1. Mr. Rodney Omari - MoE&F
2. Mr. Mohamed Elui - MoE&F

D. KIBOKO RESIDENT

Mr. Wilson Munguti - KWUA

E. SENATE SECRETARIAT

1. Mr. Crispus Njogu - Clerk Assistant
2. Ms. Carolyne Cheruiyot - Legal Counsel
3. Ms. Lucianne Limo - Media Relations
4. Ms. Lucy Mwaniki - Serjeant-At-Arms

MIN. NO. 85/2019

- PRAYER

The Chairperson called the meeting to order at 11.15 p.m. This was followed by a word of prayer.

MIN. NO. 86/2019

- ADOPTION OF THE AGENDA

The Committee adopted the agenda of the meeting as presented after being proposed by Sen. Imana Malachy, MP and seconded by Sen. Aaron Cheruiyot, M.P.

MIN. NO. 87/2019

- CONSIDERATION OF REPORTS ON OIL SPILLAGE IN KIBOGO AREA IN MAKUENI COUNTY

A. Energy Petroleum Regulatory Authority (EPRA)

EPRA informed the Committee following the oil spillage, EPRA undertook to the following measures-

- a) Visited the site of the spillage on 15th August, 2019 and were satisfied with the clean-up works being undertaken by KPC;
- b) Confirmed that the results of samples collected by the inter-ministerial taskforce at various water points around the area of the spill were tested by 3 independent laboratories i.e. Bureau Veritas, Kenya Bureau of Standards and University of Nairobi and the tests indicated no presence of Hydro carbons in the water;
- c) Ensured that KPC supplies adequate and clean drinking water to the residents of Kiboko until a precautionary notice on the use of the water in the area by Water Resources Authority(WRA) is lifted;
- d) Ensured that KPC provides EPRA with the records of monitoring of the Impressed Current Cathodic Protection System (ICCPS) Installed on Line 5;
- e) EPRA received records of monitoring of the Impressed Current Cathodic Protection System (ICCPS) dated October, 2019. KPC indicated that a biannual monitoring of the system had been scheduled. However, in a meeting with KPC on 13th September 2019 KPC was directed to undertake monthly monitoring of the ICCPS especially at ecologically sensitive areas; and
- f) Ensured that KPC comprehensively address all environmental concerns arising out of the oil spillage at Kiboko and in particular, ensure thorough clean-up and restoration of the spill site.

B. Kenya Pipeline Company (KPC)

Kenya Pipeline Company informed the Committee that following the Petroleum Products spill incident from KPC Pipeline that occurred in Kiboko area, Makueni County on 30th March, 2019, the Company developed a clean-up and remediation plan for the affected sites. The Remediation Plan followed the following steps-

- a) Repair of the damaged pipeline
- b) Site hydrogeological survey to establish extent of spill and underground pathways
- c) Stemming product flow
- d) Site Environmental monitoring
- e) Recovery of spilled product
- f) Flushing the impacted soils and rock
- g) Site bioremediation
- h) Site reforestation and afforestation.

Status to date:

- a) Steps 1-4 had been completed
- b) Step 5(Product Recovery) was at the tail end of completion
- c) Step No.6 (Flushing of soils/rocks) is currently at 65% of the ring segments that were formed fir stemming the flow.
- d) Step No. 7 (site remediation) this was expected to commence once Step 5 was completed
- e) Step No. 8 (reforestation/ afforestation) shall involve planting of indigenous trees on the site.

C. National Environment Management Authority (NEMA)

NEMA informed the Committee as follows-

- a) The NEMA issued an Environmental Restoration Order in respect of the oil spillage to the Kenya Pipeline Company on 16th May, 2019. The Order was served to A.g. Managing Director of KPC on 17th May, 2019;
- b) Monitoring of water quality and the incident area has been going on and will continue until the pollutant products are cleared;
- c) Clean up and remediation is ongoing, the Authority has written to KPC for an update on the exercise;
- d) The Environmental and Safety Audit Report of the entire pipeline has not been submitted;

- e) Point where water samples for testing was taken are-
 - i) Kiboko Mai Spring
 - ii) Kiboko River at the Nairobi-Mombasa Highway
 - iii) Kathimani Spring
 - iv) SGR Bridge
 - v) Kwa Kyalo Spring

- f) The testing parameters were checking for the presence of-
 - i) Total Petroleum Hydrocarbons
 - ii) Benzene, Toluene, Ethylene and Xylene
 - iii) Oil and Grease
 - iv) Lead

The Committee resolved that the Water Resources Authority (WRA) be requested to submit their report on the status of water in the Kiboko catchment area in order to enable the Committee to conclude on its report.

The Committee also urged KPC to continue providing water until the Water Resources Authority declares the water safe

MIN. NO. 88/2019 - ADJOURNMENT AND DATE OF THE NEXT MEETING

There being no other business for consideration, the meeting was adjourned at 1.15 p.m. The date of the next meeting was set to be communicated by notice.

SIGNED:

Ephraim Maina

**SEN. (ENG) EPHRAIM MAINA
(CHAIRPERSON)**

DATE:

21/11/2019

MINUTES OF THE 21ST SITTING OF THE STANDING COMMITTEE ON ENERGY HELD ON TUESDAY, 19TH NOVEMBER, 2019 IN COUNTY HALL, GROUND FLOOR, BOARD ROOM AT 11:00 A.M

PRESENT

- | | |
|-------------------------------|--------------------|
| 1. Sen. Mary Seneta | - Vice Chairperson |
| 2. Sen. (Dr.) Ochilo Ayacko | - Member |
| 3. Sen. (Prof.) Imana Malachy | - Member |

ABSENT WITH APOLOGY

- | | |
|------------------------------|---------------|
| 1. Sen. (Eng.) Ephraim Maina | - Chairperson |
| 2. Sen. Susan Kihika | - Member |
| 3. Sen. Aaron Cheruiyot | - Member |
| 4. Sen. Ledama Olekina | - Member |
| 5. Sen. Mwaruma Johnes | - Member |
| 6. Sen. Mithika Linturi | - Member |

IN ATTENDANCE

SECRETARIAT

- | | |
|----------------------------|---------------------------|
| 1. Mr. Boniface Lenairoshi | - Committee Clerk |
| 2. Mr. Wellington Nemenge | - Research Officer |
| 3. Ms. Carol Cheruiyuot | - Legal Counsel |
| 4. Ms. Lucianne Limo | - Media Relations Officer |
| 5. Mr. Mr. Robert Rop | - Audio Officer |

MIN. NO. 93 /2019:

- PRELIMINARIES

The Chairperson called the meeting to order at 11:28 a.m. and started with a word of prayer.

MIN. NO. 94 /2019:

- ADOPTION OF THE AGENDA

The agenda of the meeting was adopted as presented having been proposed by Sen. Ochilo Ayacko and seconded by Sen. (Prof) Imana Malachy as follows-

AGENDA

1. Preliminaries
 - a) Prayer
 - b) Introductions
2. Adoption of the Agenda
3. Consideration of the Report on the Kiboko oil spillage
4. Any Other Business and
5. Date of the next meeting and Adjournment.

MIN. NO. 95 /2019:

- CONSIDERATION OF THE REPORT ON
KIBOKO OIL SPILLAGE

Upon invitation by the Chairperson, the Clerk presented the draft Report on Kiboko oil spillage for consideration by the Committee.

The Committee deliberated on the contents of the Report and made the following recommendations-

That-

- a) The amount of oil that was recovered at Kiboko area as a result of the oil spillage be documented in the Report;
- b) The Ministry of Petroleum and Mining needs to closely play its oversight role over the management of Kenya Pipeline Company;
- c) The Ethics and Anti Corruption Commission and the Directorate of Criminal Investigations should as a matter of urgency investigate the cause of the oil spillage with a view of instituting criminal or civil proceedings to those who will be found culpable;
- d) Offenses and the applicable charges relating to oil spillage be highlighted in the report to guide further action; and
- e) Comparable studies with other jurisdictions be done on how the compensation has been awarded.

MIN. NO. 96 /2019;

- ANY OTHE BUSINESS

The Committee deliberated on the following issues under any other business-

a) Petition on Oil spillage on Thange River Basin-

The Committee noted that the matter was referred to the Committee by Mr. Speaker and it was resolved that the petitioners be invited for a meeting with the Committee on Thursday, 28th November, 2019 at 9:00 a.m.

b) Meetings with CS Ministry of Energy-

The Committee was informed that the Cabinet Secretary Ministry of Energy has been invited for a meeting with the Committee on Thursday 21st and 28th November, 2019 to brief the Committee on the alleged Power Billing and Token Scandals at KPLC and to respond to the Statement by Sen. Abshiro Halake on Electricity connectivity in Isiolo County respectively. The Committee resolved to attend the said meetings as scheduled.