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THE NATIONAL ASSEMBLY

TWELFTH PARLIAMENT – FIFTH SESSION

SELECT COMMITTEE ON IMPLEMENTATION

THE NATIONAL ASSEMBLY
PAPERS LAID
DATE: 30 SEP 2021 DAY: Thursday
TABLED BY: Hon. Moikalel Ole Ntutu
CLERK-AT-THE-TABLE: James Ginoro

REPORT ON

Implementation Status of the Report of the Departmental Committee on Environment & Natural Resources on an Inquiry into Complaints of Environmental Pollution by London Distillers Kenya Limited

Directorate of Audit, Appropriations and other Select Committees
Clerk's Chambers
Parliament Buildings
NAIROBI

Tabled on 30/9/2021
J. Ginoro

September, 2021

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LIST OF ABBREVIATIONS

EIA	Environmental Impact Assessment
EMCA	Environmental Management & Coordination Act
EPL	Erdemann Property Limited
EPZ	Export Processing Zones
EPZA	Export Processing Zones Authority
ESIA	Environmental & Social Impact Assessment
ETP	Effluent Treatment Plant
GWG	Great Wall Gardens
HFO	Heavy Fuel Oil
LDK	London Distillers Kenya
MD	Managing Director
MP	Member of Parliament
NEMA	National Environment Management Authority
NET	National Environmental Tribunal
PM	Particulate Matter
SGS	Société Générale de Surveillance
TDS	Total Dissolved Solids

CHAIRPERSON'S FOREWORD

The Select Committee on Implementation is mandated to scrutinize the resolutions of the House (including adopted Committee reports), petitions and the undertakings given by the National Executive and examine whether or not such decisions and undertakings have been implemented and where implemented, the extent to which they have been implemented, and whether such implementation has taken place within the minimum time necessary and satisfactory explanation for the delay in full implementation provided.

The Committee thus, pursuant to its mandate, resolved to be apprised on the implementation status of the recommendations contained in the report of the Departmental Committee on Environment & Natural Resources on an inquiry into complaints of environmental pollution by London Distillers Kenya Limited, as Tabled before the House on Wednesday 29th August, 2018 and adopted on 11th October 2018.

The Committee conducted inspection visits to London Distillers Kenya Limited (LDK) on Thursday 16th May, 2019 and Friday, 9th July, 2021 where it met the management of LDK and representatives from the National Environment Management Authority (NEMA) and Erdemann Properties Limited to apprise itself on status of implementation. The Committee also held meetings with officials of the Ministry of Environment & Forestry, the National Environment Management Authority; Erdemann Properties Limited and London Distillers Kenya Limited on various dates to present their submissions. Additionally, the Committee received written submissions from the Ministry of Lands and Physical Planning. The Committee, during its multiple sittings, scrutinized all the submissions received from the stakeholders.

The Committee registers its appreciation to the Offices of the Speaker and the Clerk of the National Assembly for facilitating it towards achieving its mandate and producing this report.

Pursuant to Standing Order 199 (6), it is, therefore, my pleasant duty and privilege, on behalf of the Select Committee on Implementation, to lay this report on the Table of the House for consideration and adoption.

Hon. Moitalel Ole Kenta, MP

EXECUTIVE SUMMARY

The Committee on Implementation pursuant to its mandate resolved to apprise itself on the implementation status of the recommendations contained in the Report by the Departmental Committee on Environment & Natural Resources on an inquiry into complaints of environmental pollution by London Distillers Kenya Limited, as Tabled before the House on Wednesday 29th August, 2018, and adopted on 11th October 2018.

Standing Order 209 (2) provides that the Committee shall scrutinize the resolutions of the House (including adopted Committee reports), petitions and the undertakings given by the National Executive and examine whether or not such decisions and undertakings have been implemented and where implemented, the extent to which they have been implemented; and whether such implementation has taken place within the minimum time necessary.

The Committee conducted an inspection visit in London Distillers Kenya Limited (LDK) on Thursday 16th May 2019. It met the management of LDK and representatives from the National Environment Management Authority (NEMA). The Committee thereafter met the Ministry of Environment & Forestry officials, NEMA and Erdemann Properties Limited on various dates and received oral and written submissions. The Committee further received written submissions from the Ministry of Lands and Physical Planning dated 7th June 2021. The Committee held a final inspection visit on 9th July 2021 to ascertain the status of the installation of the state of the art technology to address environmental pollution concerns.

The Committee, during its various sittings, scrutinized the written submissions received from the stakeholders. The records of evidence submitted to the Committee form the basis of the Committee's report on the implementation status of the recommendations outlined in the Report of the Departmental Committee on Environment and Natural Resources.

Having reviewed the oral and written evidence submitted to it, the Committee observed that:

1) The implementation of the recommendations of the Departmental Committee of Environment and Natural Resources has taken longer than the set period of six months from 11th October, 2018. The back and forth tussle by all parties in reporting compliance and/or implementing the recommendations has been the major reason for delay resulting in the matter being outstanding three years since the report was tabled and adopted by the House.
2) There was a remarkable improvement by London Distillers Limited, from the time the complaints were filed in 2018 to date, towards compliance to the recommendation to install state of the art technology to mitigate air and solid waste management. However, there were still some areas for improvement, considering the complainant had disputed some mitigation measures, Edermann Properties Ltd and NEMA had proposed areas for improvement by LDK.
3) NEMA reported compliance level by LDK at 86% based on 5 points recommendations by the Committee on Environment and Natural Resources and that they had exceeded the expected compliance level of above 80%. They reported that all parameters measured for ambient air quality, stack and effluent assessments had been controlled to set limits except for the Particulate Matter concentrations and colour of effluent discharge and Hydrogen Sulphide.
4) The complainant, Erdemann Properties Ltd had objected to some progress reports made regarding effluent discharge and installation of the state of the art technology. They observed that the new plant was aimed at increasing production capacity and not addressing environmental pollution concerns.
5) From the analysis of the financial documents on the investment in the state of the art technology, the Committee could only verify the total investments to be estimated at Kshs. 141,522,691.83 and not Kshs. 260,951,740 as reported by NEMA. NEMA said that they quoted figures from LDK'S Quarterly compliance reports to NEMA. Further, the investment in the state of the art technology commenced around 7th December 2016 before the complaint was registered and considered by the National Assembly in 2018. Additionally, NEMA had reported to the Committee that the LDK plant had shut down in 2017 to facilitate the installation of a new plant.
6) There are other factories/industries in the larger Athi-River area which contribute to pollution.

7) The Ministry of Environment and Natural Resources had been directed to ensure full compliance with the recommendations of the Departmental Committee on Environment and Natural Resources within six months. The recommendation of the Committee read: *"Cause closure and or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost in case they fail to implement recommendations."*

8) NEMA has proposed policy and legislative recommendations for sustainability in mixed land use in Kenya, which will go a long way in addressing such present and future conflicts. The National Assembly therefore, needs to follow up on the Guidelines on Development of Mixed-Use Area; Zoning policy; and the need to repeal the Change of User Policy as proposed by NEMA.;

9) The parties to the petition, LDK and Erdemann Properties Ltd should co-exist harmoniously as recommended by the Departmental Committee on Environment and Natural resources in their report.

The Committee, following the observations made after deliberations on the implementation status of the report of the Departmental Committee on Environment and Natural Resources, recommends that:

A. Administrative and Compliance Recommendations

1) The National Environment Management Authority (NEMA) should ensure that London Distillers Limited (LDK) continues embracing and adapting to emerging technologies to mitigate environmental pollution. In case LDK relapses on implementing the recommendations of the Departmental Committee on Environment and Natural Resources, then NEMA shall institute the necessary control orders, improvement orders, and consequently closure orders as recommended by the Departmental Committee on Environment and Natural Resources that *"Cause closure and/or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost in case they fail to implement recommendations."*

2) NEMA shall submit a satisfactory compliance report to the National Assembly after sixty (60) days of the adoption of this report and thereafter submit bi-annual progress reports to the Committee on Implementation. Failure to submit the reports, the Committee shall enforce appropriate sanctions pursuant to Standing Order 209(3) of the National Assembly Standing Orders.
3) In addressing the above recommendation (2), the National Environment Management Authority (NEMA) shall in consultation with all relevant stakeholders, identify additional effluent sampling points outside London Distillers Kenya (LDK) premises.
4) The National Environment Management Authority (NEMA) should continuously monitor and carry out periodic audits and compliance assistance programmes to address issues of environmental pollution in all industrial and mixed-use zones in Kenya to ensure that industries comply with the Environmental Management and Coordination Act, 1999 and attendant regulations and submit annual reports to the National Assembly;

B. Policy and Legislative Recommendations

5) The Departmental Committee on Lands of the National Assembly in consultation with the relevant stakeholders, should put in place a policy and legislative framework to mitigate the obscured mixed land-use conflicts and to promote sustainable development for the future;
6) The government, through the National Treasury, should reinstate the Environmental Impact Assessment (EIA) fees to help NEMA sustain operations, regular and random inspects; monitoring, equipping laboratory and build its capacity;
7) In consultation with the National Environment Management Authority (NEMA) and the Ministry of Petroleum and Mining, the Ministry of Environment and Forestry should develop and forward to Parliament a draft policy to regulate the Sulphur content in imported petroleum and petroleum products including heavy duty oil.

1.0 PREFACE

1.1 Establishment and Mandate of the Committee

1. The Committee on Implementation is a Select Committee of the House established pursuant to Standing Order 209 of the National Assembly Standing Orders.

2. The Committee is charged with scrutinizing the resolutions of the House (including adopted Committee reports), petitions and the undertakings given by the National Executive and examine whether or not such decisions and undertakings have been implemented and where implemented, the extent to which they have been implemented; and whether such implementation has taken place within the minimum time necessary; and whether or not legislation passed by the House has been operationalized and where operationalized, the extent to which such operationalization has taken place within the minimum time necessary. The Committee may also propose to the House, sanctions against any Cabinet Secretary who fails to report to the relevant select Committee on implementation status without justifiable reasons.

3. Standing Order 201 further provides that within sixty days of a resolution of the House or adoption of a report of a select committee, the relevant Cabinet Secretary under whose portfolio the implementation of the resolution falls shall provide a report to the relevant Committee of the House. The mandate of the Committee is further enhanced by the provisions of Article 153(4) (b) of the Constitution that requires Cabinet Secretaries to provide Parliament with complete and regular reports concerning matters under their control.

1.2 Committee Membership

4. The Committee comprises the following Members-

Chairperson

Hon. Moitalel Ole Kenta, MP

Narok North Constituency

Orange Democratic Movement

Vice-Chairperson

Hon. Godfrey Osotsi, MP

Nominated

Amani National Congress

Members

Hon. Moses Kuria, MP
Gatundu South Constituency
Jubilee Party

Hon. Paul Simba Arati, MP
Dagoretti North Constituency
Orange Democratic Movement

Hon. Alois Lentoimaga, MP
Samburu North Constituency
Jubilee Party

Hon. Feisal Abdalla Bader, MP
Msambweni Constituency
Independent

Hon. (Dr.) James Murgor, MP
Keiyo North Constituency
Jubilee Party

Hon. Johnson Manya Naicca, MP
Mumias West Constituency
Orange Democratic Movement

Hon. Joash Nyamache Nyamoko MP
North Mugirang'o Constituency
Jubilee Party

Hon. John Muchiri Nyagah, MP
Manyatta Constituency
Jubilee Party

Hon. Richard Onyonka, MP
Kitutu Chache South Constituency
Ford Kenya

Hon. Paul Odalo Abuor, MP
Rongo Constituency
Orange Democratic Movement

Hon. Hassan Oda Hulufo, MP
Isiolo North Constituency
Kenya Patriots Party

Hon. Michael Thoya Kingi, MP
Magarini Constituency
Orange Democratic Movement

Hon. Nelson Koech, MP
Belgut Constituency
Jubilee Party

Hon. Gabriel Kago Mukuha, MP
Githunguri Constituency
Jubilee Party

Hon. Joshua Mbithi Mwalyo, MP
Masinga Constituency
Wiper Democratic Movement-Kenya

Hon. Charles Ngusya Nguna, MP
Mwingi West Constituency
Wiper Democratic Movement-Kenya

Hon. Peter Kimari, MP
Mathioya Constituency
Jubilee Party

Hon. Jared Okello, MP
Nyando Constituency
Orange Democratic Movement

Hon. Benjamin Dalu Tayari, MP
Kinango Constituency
Orange Democratic Movement

Hon. John Njuguna Wanjiku, MP
Kiambaa Constituency
United Democratic Alliance

Hon. Silvanus Osoro, MP
South Mugirang'o Constituency
Kenya National Congress

1.3 Committee Secretariat

4. The secretariat facilitating the Committee comprise -

Ms. Tracy Chebet Koskei
Clerk Assistant I /Team Leader

Mr Abdirahman Hassan
Clerk Assistant II

Mr Salem Lorot
Legal Counsel II

Dr Donald Manyala
Research Officer II

Ms Jane Serem
Audio Officer I

Mr Moses Kariuki
Sergeant-at-Arms

2.0 BACKGROUND

2.1 Introduction

5. Erdemann Property Limited on behalf of residents of Great Wall Gardens Estate, through a letter dated 22nd January, 2018, to the National Environment Management Authority (NEMA) and copied to the National Assembly, called for an investigation into London Distillers Kenya Limited (LDK) on issues regarding environmental pollution through toxic fumes and effluent from LDK.
6. The Departmental Committee on Environment and Natural Resources conducted inquiry sittings with Erdemann Properties Limited (EPL), London Distillers Kenya Limited (LDK) and National Environment Management Authority (NEMA) in 2018. It tabled a report in the House on Wednesday 29th August 2018, for adoption by the National Assembly.
7. The Departmental Committee on Environment & Natural Resources investigated the matter and, in its report, recommended that:
   A. The National Environment Management Authority (NEMA) should:
      (i) Ensure that the London Distillers Kenya Limited invests in state-of-art technologies that contain air pollution mitigation mechanisms, recycles solid waste, and escalates and/or institutes stringent internal self-regulation. Such technologies can include but are not limited to: physical/chemical methods and biological treatment methods of odour control.
      (ii) Expand the investigation and monitoring of the industrial pollution issue in Athi River to other industries in the area to ensure the protection of the environment and residents of the larger Athi River area and the whole country in general.
      (iii) Ensure due diligence in executing its mandate to administer Environmental Impact Assessments to forestall such environmental pollution conflicts.
      (iv) Review the conduct of its officers directly involved in administering Environmental Impact Assessment on the EPL's Great wall Gardens project.

(v) Act proactively in addressing such pollution-related issues to stem environmental degradation in line with the precautionary principle in International Environmental Law.

B. London Distillers Kenya Limited should:

(i) Invest in state-of-art technologies that contain air pollution, recycle solid waste, and escalate and/or institutes stringent internal self-regulation. Such technologies can include but are not limited to: physical/chemical methods and biological treatment methods of odour control.

(ii) Strictly comply with the provisions of the Environmental Management and Coordination Act (No. 8 of 1999), the Environmental Management and Coordination (Water Quality) Regulations, 2014 and any other relevant legislation, including the obligation to keep all necessary environmental records.

(iii) Design, construct, operate and maintain structures of the highest standards that ensure safe and healthy waste disposal.

(iv) Implement the culture of reducing, recycling, and reusing waste in daily operations such as waste utilization for energy production.

(v) Implement the best structures and use the best technology to clean all resultant industrial by-products from its premises before releasing them to the environment.

(vi) Implement the procedures for assessing and reviewing the environment, health and safety policies, procedures, programmes and impact of the industry's activities.

(vii) Carry out regular and documented internal and third-party audits of the progress made towards environmental protection.

(viii) Failure to implement the above recommendations means the factory should be closed and/or relocated to other suitable areas at the owner's cost.

C. Erdemann Property Limited should exercise a certain degree of tolerance and co-existence as London Distillers Kenya Limited puts in place state-of-art technology in environmental protection and mitigation.

D. The Ministry of Lands & Physical Planning should intensify the capacity building activities to counties and regularly monitor and evaluate progress on the extent of adherence to policies by the county governments.

E. The County Government of Machakos should:

(i) Create a master plan for land use in the Athi River area to avoid the mixed user status of land which in the first place generated the environmental pollution conflict.

(ii) Ascertain whether due process was followed during processing and approval of the applications submitted by London Distillers Company and Great Wall Estate before their construction. If the process was not correctly followed, the officers directly involved in approving the change of user status of the parcel of land occupied by the EPL's Great Wall Gardens project should be held culpable.

(iii) Prepare a zoning plan to guide development within the area as the area is developing very fast. It should enforce strict adherence to the zoning plan.

F. The Ministry of Environment & Forestry should:

(i) Ensure an Environmental audit is undertaken by a NEMA certified independent Lead Expert to confirm and recommend mitigation measures regarding complaints raised by the residents in Athi River. The audit reports should be submitted to the National Assembly.

(ii) Ensure that a report is submitted to the National Assembly detailing progress made by NEMA and by extension LDK in complying with the report's recommendations.

(iii) Cause closure and/or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost if they fail to implement recommendations.

8. The Committee commenced to appraise itself on the implementation status of House resolutions pursuant to Standing Order 209 (2) that requires the Committee to scrutinize the Resolutions of the House (including adopted Committee reports), petitions and the undertakings given by the National Executive.

9. The Select Committee on Implementation has been following up on the implementation status of the recommendations of the report of the Departmental Committee on Environment and Natural Resources as provided for in the Standing Orders. The committee held various sittings with the parties and received multiple correspondences over the same. The records of evidence submitted to the Committee form the basis of the Committee's report on the implementation status as outlined in the Report.

3.0 SUBMISSIONS BY STAKEHOLDERS

10. This section contains evidence submitted orally and in writing by key witnesses invited to adduce evidence before the Committee.

3.1 Submissions by the Management of London Distillers Kenya Limited

The Director, London Distillers Kenya Limited, Ms Nina Galot Thackar, accompanied by Mr Pushpinder S. Mann, General Manager, Administration, Mr Ashok Datta, General Manager, Distillery, Mr Pawan Gehlot, General Manager, Operations, Mr Peter Muli, Group Human Resource Manager and Mr Justus Mombis, Administration Manager among others appeared before the Committee during an inspection visit that was conducted on Thursday 16th May, 2019. The Managing Director also appeared before the Committee on Thursday 4th March 2021 and presented that: -

11. LDK informed the Committee that they were not consulted before the change of land user from industrial/commercial use to residential use. Further, there are other industries in the area as the location is for commercial/industrial use. A stay order was issued, stopping the construction of Erdemann phase 2 until the disputes were resolved to prevent further industrial-residential conflicts. However, it did not materialize. NEMA has since approved the phase 2 project.
12. LDK through the Consumer Federation of Kenya (COFEK), raised queries on standards and measures required to mitigate the air quality and monitor it. NEMA indicated that the air pollution issues at LDK do not require investments but uptake of best environmental practices for the sector. LDK held a meeting with NEMA on 10th October 2018 to apprise it on the progress on the state-of-the-art pollution control technologies and practices made. Further, a site visit to the factory was undertaken by NEMA officials, Machakos County office and area leaders to ascertain the implementation status of the recommendations.
13. The Company reported that it had instituted a compliance action plan which includes compliance with the fifth schedule of Water Quality Regulations, 2006 (Legal Notice No. 121) by installing an anaerobic bio-digester design that has a lamellar clarifier for continuous de-sludge of effluent, adjustments of the pumping rate of dosing pumps & production of quality analysis reports, operationalizing of

a 2nd aerobic pond and daily internal lab analysis on effluent to confirm the homogeneity of the incoming effluent. The Company monitors the discharge and submits quarterly reports to EPZA and NEMA as part of its compliance plan.

14. LDK reported that it has further complied with the first schedule on ambient air quality standards as per the Air Quality Standards Regulations 2014 by ensuring that manholes along the effluent line are covered, regular monitoring of the automated water seal for gas dissolving to avoid any gas escapes, constant verification of the quality of fuel sources and identification of priority pollutants.
15. Effective operational and preventive maintenance systems were employed in all aspects of the process. Any failure could impact the environment by instituting a standard operating procedure manual for potentially adverse impacts, including a pollution preventative maintenance programme.
16. The management affirmed that all relevant management and operational staff (including contractors and those responsible for purchasing equipment and materials) receive adequate training concerning their responsibilities under the license, paying particular attention to minimizing environmental effects during and after operations; prevention of accidental emissions and action to be taken if it occurs and the need to report deviation from the license.
17. LDK reported that it has an accident maintenance plan documented under the Standard Operating procedure manual that identifies potential events or failures which might lead to an environmental impact and complies with the guidance covering aspects of the likelihood of occurrence, consequences, preventive actions and responses to accidents if they occur. The Company also has an emission compliance plan for fugitive emissions whose sources include the boiler, biogas digester and effluent treatment plant.
18. The company reported that it has further put in place mitigating measures against boiler emissions, which are influenced by boiler operating conditions and fuel quality and utilization of an anaerobic bio-digester, whose by-products include methane production to be used on the boiler.
19. The anaerobic bio-digester is designed to do not always air into or emit gases into the atmosphere. In the unlikely event that happens, there are leak detectors, installed online meters to monitor any leakages and a portable gas detector for measuring particular gases (hydrogen-sulphide, ammonia and carbon dioxide gases). There is

also an immediate shutdown and fixing of leaks as well as consistent boiler maintenance.

20. The effluent treatment plant has mitigation measures observed to go beyond the permissible levels set for industries. The Company has invested in a portable monitoring gadget fitted with an alarm sensor used at particular identified points including treatment line maintenance holes and the effluent ponds. The alert triggers immediate action to reduce the gas levels. There is also constant monitoring to avoid any mistaken mixture of untreated effluent with treated effluent in the effluent holding ponds.
21. As part of the Company's commitment to implementing state-of-the-art technologies, it reported that it had acquired new blowers for more aeration, thus reducing odour levels at the effluent treatment plant; more aerobic ponds for more aeration; modification of aeration from surface aeration to diffused aeration. It has also acquired an air quality monitoring gadget used daily as guided by the fourth schedule of Air Quality Regulations. Higher readings prompt action to return the levels to normalcy. The readings are compared quarterly with those done by external laboratories for consistency.
22. The Company has also raised the primary cooling pond walls, improved solid water quality and management including engaging an independent laboratory to test their dried/cured sludge, whose tests concluded that the product could be used as a soil improver with gradual nutrient add-ons crops. The management of LDK has also requisitioned two (2) new boilers for more aeration and both a dissolved oxygen meter and a TDS meter to improve the capacity of the internal effluent measurement laboratory.
23. London Distillers Kenya Limited reported that it carries out daily monitoring of the ambient air quality levels at specific sites. LDK management also contracted SGS Kenya Limited laboratory service to carry out similar tests and measurements at the same locations for comparison.
24. The Company presented that NEMA, through a letter dated 27th June, 2018 recognized that it had gone through a compliance assistance program with National Cleaner Production Centre and developed a compliance plan. NEMA undertook to monitor the compliance plan to ensure that the implementable timelines and actions were met.

25. The company reiterated that it was committed to reducing the emission of the odour-causing offending gases by reducing it to no detection levels by the time it's outside the LDK compound.

3.2 Submissions by Erdemann Properties Limited

The Managing Director, Erdemann Property Limited (EPL), Mr Zeyun Yang accompanied by Mr John Rajwayi, Head of Planning Department; Mr Joseph Barasa, Communications Department; Ms Ruth Hinga, Legal Manager and Mr Cyrus Maina, Legal Advisor, appeared before the Committee on Tuesday 9th July 2019, Thursday 4th March 2021, and Wednesday 21st April 2021, to deliberate on the implementation status of the Report on the inquiry into complaints of environmental pollution by London Distillers Kenya Limited (LDK). They made the following submission: -

26. They informed the committee that EPL provides decent and affordable housing to the low and middle-income earners in Kenya and works closely with the National and County Governments to alleviate the shortage of housing in the country.
27. EPL has developed several projects including Great Wall Gardens 1 comprising 2,173 units that are complete and currently undertaking Great Wall Gardens 2 project comprising 592 units, which was due for completion in September 2019. EPL further plans to start Great Wall Gardens 3 comprising 688 units upon getting NEMA License as they already have the County Government approvals.
28. They confirmed receipt of the adopted report on the inquiry into environmental pollution complaints by LDK on 15th October 2018. Despite the committee's recommendations being spelt out to the stakeholders and concerned parties, EPL complained of inordinate delay in implementation of the Report's recommendations by the Departmental Committee on Environment and Natural Resources on the inquiry into complaints of environmental pollution by London Distillers Kenya Limited.
29. EPL was aware of the existence of LDK when they moved to the Athi River area and bought land for residential buildings. They noted that LDK factory and residential estate residences could operate harmoniously in the same jurisdiction if every player abides by the applicable Kenya laws.

30. EPL attended a meeting at NEMA offices held on 13th September 2018 with LDK and chaired by NEMA, where EPL committed to fulfilling its part as per the Parliamentary Report. EPL also committed to continue to exercise a high degree of tolerance and co-existence as it waits for LDK to put in place state of the art technology to ensure that its industrial effluent does not damage or pollute the environment.
31. The Mangement submitted that LDK compliance with the Departmental Committee's recommendations will go a long way in reducing the environmental pollution in the Athi River area.
32. The Management of EPL also informed the Committee that the effluent from LDK has tremendously reduced the Chemical Oxygen Demand (COD) parameters, hence showing some improvement in reducing pollution. Despite noting the improvements, EPL insisted that LDK was still far from meeting the required effluent standards.
33. EPL applied for approval for the construction license from NEMA for the proposed Great Wall Gardens (GWG) phase 3 and met all the conditions of NEMA for the issuance of an environmental impact assessment (EIA) license. They have not received adverse information from NEMA as to non-compliance with EMCA or any of the Regulations or that the intended project will adversely impact the environment.
34. EPL reported that NEMA had stopped processing the EIA until a report of its technical committee was prepared and presented to the Authority. LDK's neighbours' complaints against pollution by LDK have also caused the delay of approvals for new developments. They retorted that this would negatively impact their contribution as one of the scheme's stakeholders to provide affordable housing as envisaged under the Big Four Agenda.
35. EPL complained of a delay in issuing a license for Great Wall Gardens phase 3 projects by NEMA, leading to significant losses and frustration to the investor. They averred that failure by LDK to comply should not warrant punishment to Erdemann Property Limited and other neighbours.
36. The Committee noted that it was unclear whether the change of user from light industries to residential for the GWG Phase 1 & 2 followed due process. The Committee opined that mixed land user guidelines are needed to prevent conflicts between the different land users. EPL presented that they bought the land when the

change of user to residential had already been effected by the County Government, as land management is one of the devolved functions.

37. EPL submitted that they commissioned an environmental impact study before commencing the housing scheme. However, they had not presented it before the Committee by the time of adoption of this report.
38. In a letter dated 9th March 2020, Erdemann Property Limited urged the Committee to request NEMA to appoint an independent laboratory alleging that NEMA uses the same laboratory that was appointed by LDK to do its tests raising a concern on possibility of collusion.

39. The Managing Director shared report of an analysis of tests done at LDK in November 2019 that showed that LDK was not within acceptable standards of environmental laws.

40. The Managing Director also added that during the identification of effluent sample collection points, EPL had requested that samples be taken from two additional points; a request that was not agreed to by NEMA.
41. EPL disputed results lamenting that results were not compliant outside LDK and that samples collected from the sites were diluted/compromised. EPL dismissed the report by NEMA, as compromised saying the consultant did not involve them.
42. EPL wrote to NEMA and indicated that they were not comfortable with proceeding with the collection of samples terming it as exercise in futility. EPL however didn't provide evidence of dilution but merely suspected the results.
43. EPL also presented to the Committee a photograph taken on 15th February, 2021 showing effluent from LDK that was discharged on to the road.
44. EPL also stated that they did not believe that LDK had installed any state of art technology to deal with pollution, as the company had not made any changes since 2016 when EPL first complained about the pollution.
45. During its submission, Erdemann Property Limited presented a report before the committee dated 6th March 2021, rejecting NEMA's report to the National Assembly on LDK compliance.

46. EPL reiterated that it doesn't advocate for LDK to relocate or shut down since this would cost hundreds their livelihood, but that LDK meets the EMCA and other environmental standards and regulations in order to preserve the environment.

3.3 Submissions by the Ministry of Environment and Forestry

The Principal Secretary for Environment, Ministry of Environment & Forestry, Dr. Ibrahim Mohammed and the Director General, National Environment Management Authority, Mr. Mamo B. Mamo, accompanied by Mr. Erick N. Akotsi, Acting Environment Secretary and Mr. Zephania Ouma from NEMA appeared before the Committee on Tuesday 6th August 2019 and Thursday 17th October 2019 and submitted that: -

47. The Ministry informed the Committee that London Distillers Kenya Limited (LDK) was established in 1982 on plots LR.No.12867/16, 18, 19 and 20. This was before EMCA and NEMA were established. Moreover, it was built on an area marked for industrial development. Its activities involve recycling of molasses into alcoholic beverages, which lessens the environmental impacts of molasses.
48. The Principal Secretary noted that NEMA received some complaints of environmental pollution by London Distillers Kenya Limited (LDK) from Erdemann Property Limited. The Authority had earlier received similar complaints and taken appropriate compliance and enforcement actions such as compliance assistance programs, improvement notices and closure order.
49. They noted that in 2018, Erdemann Property Limited forwarded the same environmental pollution complaints to Departmental Committee on Environment and Natural Resources. The Departmental Committee investigated the petition and made recommendations in a report dated 29th August, 2018, directing NEMA, LDK, County Government of Machakos and Ministry of Environment & Forestry to take appropriate interventions on the pollution issues raised.
50. NEMA met with the Director of London Distillers, Director of Erdemann Properties Kenya Ltd, Director of Environment-County Government of Machakos, Physical Planning Officer-County Government of Machakos, and the County Director of Environment, County of Machakos, to discuss the recommendations of the Parliamentary report on environmental complaints by London Distillers Kenya Limited.
51. On 13th September 2018, NEMA held a meeting with the management of London Distillers and Erdemann Properties Ltd and discussed the obligations of the various stakeholders in the implementation of the recommendations of the report.

52. The Authority reported that on 19th September 2018, it established a technical committee to advise it on the recommendations of the above-referred report from the National Assembly.
53. On 1st October 2018, the technical committee on London Distillers Kenya Limited deliberated on the recommendations of the Report of the Departmental Committee on Environment & Natural Resources and drew an implementation action plan.
54. On 16th October 2018, NEMA met with LDK for an update on the progress of the installation of the state-of-the-art pollution control technologies and employment of best environmental practices.
55. In November 2018, NEMA undertook an inventory of the various facilities including residential, institutional, social amenities, hospitality, agricultural, mining, commercial and industrial in the Mavoko sub-county to appreciate the mixed land use character of the area.
56. On. 20th February 2019, NEMA submitted a status report summarising the activities undertaken by the Authority and LDK, the compliance status and the following planned activities.
57. On 29th March 2019, NEMA requested for extension of the delivery period on the committee recommendations to 31st August 2019.
58. The authority in June, 2020 reported that between March and May 2019, NEMA undertook compliance monitoring, surveillance and consultations with relevant lead agencies to assess levels of compliance and to guide further actions.
59. NEMA reported that it had carried out ambient air quality measurements between the molasses storage tanks, the boundary wall adjacent to Erdemann property and the biogas plant. At the time of measurement, the wind was blowing southwest from the storage tanks towards the biogas plant and across the open space to Mombasa Road. The measurements on the fourteen (14) parameters of air pollutants were carried out for three (3) hours. This data were averaged every minute and transmitted to a server for storage and further analysis.
60. The ideal amount of time to undertake a comprehensive ambient measurement is 24 hours, based on World Health Organization (WHO) guidelines, with a minimum of 7 days per site.

61. The Authority lamented that some of the sites were inaccessible to their portable lab (a truck). Therefore, they undertook tests on point 1 (least pollution) and point 7(biomass-most pollution). Proper tests still needed to be conducted and equipment procured to access the sites and provide credible results. The Authority submitted it had requisitioned a portable kit for ambient measurement in the 2019/2020 Financial Year.
62. The Authority also reported low concentrations of hydrogen sulphide as the smell of the gas is generally offensive and noxious. The levels of carbon monoxide and carbon dioxide were within limits stipulated under the Air Quality Regulations, 2014 and the results of the particulate matters indicated average values.
63. NEMA further reported that it was only once in 2017 when LDK discharged its effluent into River Athi due to construction works at the premises. LDK effluent is directed through the Mavoko sewer lines to the EPZ sewerage treatment plant.
64. The Authority also submitted that it had finalized administrative guidelines on siting criteria of various developments in mixed-use areas/zones. The Technical committee confirmed that the processing and review of the ESIA for the Great Wall Gardens mixed-use development complied with the Environmental Management and Coordination Act, 1999, Environmental Impact Assessment and Audit (Regulations), 2003 and administrative standard operating procedures. However, the team noted that inadequate zoning schemes and "piece meal" change of user approvals are the root cause of conflicts in mixed-use areas.
65. NEMA confirmed that in complying with the committee recommendations, London Distillers Kenya Limited had undertaken the following actions: -
    (1) Mapped potential areas of priority air pollutants emission sources;
    (2) Developed a standard operating procedure for the wastewater treatment plant;
    (3) Sealed all the manhole openings along the hot effluent lines;
    (4) Submitted stack emission measurement report for the boilers;
    (5) Added one additional aeration pond, modified the aeration system at the old pond and installed two air blowers at the aeration ponds to enhance the efficiency of the waste water treatment plant;
    (6) Raised the walls of the primary cooling ponds by 1.5 metres to minimize the emission of gaseous fumes from the cooling wastewater;

(7) Acquired ambient air quality monitoring equipment (portable hand-held analyser) for self-assessment. This enables daily ambient air quality measurements at the seven sites;

(8) Contracted SGS to carry out a boiler stack emission dispersion modelling for the facility in line with the application for renewal of the emission license; and

(9) Constructed sludge drying beds for the settled solid matter from the clarifier for proper disposal.

66. The Authority reported that to ensure improved compliance and as part of the continuous monitoring process, NEMA has monitored and evaluated the performance of the investments in state-of-the-art pollution control technologies and practices by LDK and scheduled a continuous control ambient air quality measurement across the Mavoko sub-county.

67. NEMA further reported that it undertook stakeholder's engagement on proposed policy recommendations for mixed-use development across the Country and imposed a Moratorium to forestall further environmental, planning, security and public health deterioration in "hotspot areas" within the selected towns and cities.

68. The Authority also reported that the delay to approve the construction of GWS phase 3 by EPL was taking a precautionary approach to ensure that LDK and EPL were meeting standards.

69. On 7th August 2019, NEMA engaged the services of SGS Laboratory services, a NEMA designated and gazetted environmental Laboratory, to carry out ambient air quality levels at six sampling sites adjacent to the boundary lines of London Distillers Kenya Limited facility for particulate matter; Volatile Organic Compounds; Hydrogen Sulphide and Sulphur dioxide.

70. On 23rd August 2019, the Authority received a technical and financial proposal from SGS Kenya Limited for carrying out the required ambient air quality measurements at LDK Limited.

71. On 2nd September 2019, the Authority further forwarded the duly filled proposal acceptance form to SGS Kenya Limited and requested them to urgently embark on the exercise.

72. On 26th September 2019, representatives of SGS Kenya Limited accompanied by Head of Air Quality at NEMA confirmed that they could not proceed with the measurements since there was no production at the distillery.

3.4 Submissions by the National Environment Management Authority

The Director-General, National Environment Management Authority (NEMA) Mr Mamo D. Mamo; The Compliance & Enforcement Department Head Mr Robert Orina Ms Sophie Mutema, NEMA County Director, Machakos and other officials of NEMA appeared before the Committee during an inspection visit on Thursday 16th May 2019 and on Thursday 5th March 2020, 4th March 2021, 7th April 2021 and on 21st April 2021, to deliberate on the implementation status of the Report on complaints of environmental pollution by London Distillers Kenya and presented the following: -

73. NEMA informed the Committee that they visited London Distillers Kenya Limited on several occasions to confirm the implementation of the compliance plan and the set environment laws. LDK is required to meet EPZA standards for pre-treated effluent to be allowed to continue discharging their effluent into their sewer line. This includes higher charges for its effluent that did not meet the standards. NEMA reported that it had directed LDK to reduce emissions from manholes and bio-digester by ensuring that the manholes are covered and the bio-digester aerated.
74. NEMA noted that Mavoko is an industrial zone that includes six cement factories. The piecemeal change of users from industrial to residential is threatening to cause industries to relocate as they are having difficulties meeting the stringent zero emissions.
75. NEMA acknowledged that there was a need for public participation to ensure proper zoning which will reduce conflict. It proposed an amendment to EMCA to ensure land use is compatible, especially between the National and County Government in having a master plan for land use in the area to avoid the mixed user of land which in the first place generated the environmental pollution conflict.
76. NEMA reported that it engages in routine inspection of targeted risk companies. The compliance assistance program which includes cleaner production centres, provides training on mitigation measures.

77. NEMA contracted an independent laboratory, SGS, to undertake ambient air quality levels on the recommended sites to confirm the internal factory tests and analysis. After fulfilling the requirements, SGS prepared a report on compliance by LDK as part of the requirements for the issuance of the requisite compliance certificate. NEMA has procured a mobile machine to carry out tests and analysis but was yet to commission and use it.

3.4.1 Brief on Activities undertaken on the recommendations of the Report

Undertaking comprehensive test on pollution levels and air quality at the London Distiller Kenya (LDK) Limited

78. The Authority reported that on 19th September, 2019, NEMA informed LDK Limited that it should undertake sampling and analysis on the seven (7) sites recommended by the Departmental Committee of Environment.
79. The Authority further reported that on 8th November 2019, a representative of LDK Limited reported that the sewer line of the factory was undergoing reconnection after being vandalized. During this time, the Company was not in operation hence NEMA was not able to take ambient air quality measurements.
80. Once the sewer line is fully reconnected to the sewer and factory operations resumed, LDK was to notify NEMA on the new dates when emission measurements could be taken.
81. On 31st January 2020, representatives of LDK informed NEMA that the factory is back in production and NEMA may proceed to make the necessary arrangement to carry out ambient air quality measurements.
82. On 20th February 2020, NEMA reports that it undertook an inspection visit to LDK Limited to assess the progress LDK made to comply with the recommendations made by the Departmental Committee on Environment and Natural Resources and in preparation for air quality monitoring/measurement. The following were the key findings made by NEMA:
    (i) The effluent treatment plant (ETP) was not operational. The pipe channelling effluent into the ETP was being replaced after being vandalized. The maintenance and repair work had not been completed.
    (ii) NEMA reported that LDK Limited had adopted a new production system referred to as a "batch production system" whereby the production does not

run continuously. The system is shut down at programmed intervals to give way for consumption of the produced batch product. This means that the factory does not discharge effluent continuously into the EPZA Sewerage Treatment Plant. Any effluent and air quality measurements have to be done when batch production has commenced. LDK Limited was to inform NEMA when to conduct measurement once the maintenance and repair works have been completed and the ETP fully operational.

(iii) NEMA noted that LDK Limited demonstrated a willingness to comply as manifested in:

a) The capacity of the employees to monitor emissions continuously and maintain the ETP.

b) The structural integrity and safety measures at the storage tanks and the production process systems.

c) The investment in a biogas generation system that converts organic content in the effluent into useable biogas to run the plant hence enhancing the treatment of the effluent before it proceeds for further treatment at the ETP.

d) Construction of a new clarifier to further purify the treated effluent.

e) Commitments to operationalize a grievance redress mechanism (GRM) in liaison with the residential neighbours.

83. The Authority recounted that on 26th February 2020, LDK Limited, through email correspondence, informed SGS Kenya Limited to undertake air measurements from 3rd March 2020. The new date was contrary to the earlier communication requesting NEMA to undertake air quality measurement in the month of February. However, LDK Limited attributed the delay to the batch production system, which occasioned the plant's closure, including the boiler.

3.4.2 Compliance Status by LDK

84. NEMA has a compliance assistance programme to assist industries in complying with regulations and meeting NEMA standards without compromising public health.

85. As per NEMA's status report of 6th April 2021, the compliance level by LDK was at 86% on 26th February 2021, similar to what it was on 31st March 2020, having risen from 60% on 1st July 2019 and from 40% on 19th February 2019, respectively.

86. The compliance status stands at 86% based on 5 points recommendations by the Committee on Environment and Natural Resources and thus LDK Limited has exceeded the expected compliance level of above 80%.

3.4.3 Policy and Legislative Recommendations for Sustainability in Mixed Land Use in Kenya

87. On 7th August 2019, NEMA wrote to the Clerk of the National Assembly seeking legislative interventions on policy and planning recommendations to mitigate the obscured mixed land-use conflicts and to promote sustainable development for the future.

88. On 30th October 2019, the Authority wrote to the Principal Secretary, Ministry of Land & Physical Planning and the Chief Executive Officer, Council of Governors, with recommendations for policy and legislation for sustainability in mixed land use in Kenya. The letter addressed the following items.

1) **Zoning policy** - The County Government, in liaison with the Physical Planning department as the custodian of the local zoning plans, should develop and implement comprehensive zonation guidelines as a legal regulation on land use. As a plan, the periodic review of the zoning schemes should be done not less than 10 years from its adoption.

2) **Need to repeal the Provision on Change of User in the Physical Planning Act-** The *"piecemeal"* change of user should be outlawed as this is the root cause of non-conformities and incompatibility being experienced in all urban areas.

3) **Guidelines on Development of Mixed-Use Area**

NEMA directed that guidelines on development in mixed-use zones be developed, finalized and issued. NEMA also proposed an industrial park for easier regulating, for instance, moving the factories to Kenania.

3.4.4 Implementation Actions Undertaken by NEMA

89. NEMA presented a report dated 9th June 2020 and another one dated 6th April 2021, detailing actions undertaken by the Authority and LDK towards fulfilling the recommendations of the Departmental Committee on Environment and Natural Resources report.

90. NEMA reported that it contracted its approved laboratory, SGS Kenya Limited, to conduct ***ambient air quality measurements*** between 11th March, 2020 and 28th March, 2020. Samples were collected from 9 points and shipped to Spain for analysis, whose results indicated all parameters being within the Emission Limits of the Environmental Management and Coordination (Air Quality) Regulations, 2014 except for Particulate Matter attributed to their proximity to the public road with frequent vehicular traffic, quarry road construction and proximity to horse sheds.

91. On 5th March 2020, NEMA received a quarterly report from LDK on the ***Steam Boiler Emissions Measurement*** indicating that all parameters were within the Emission Limits.

92. SGS Limited Kenya carried out the ***Boiler Stack Emissions Measurement*** on 10th March 2020, whose results indicated that all parameters were within the Emission Limits.

93. NEMA received a report from LDK on 20th March 2020, providing information on the ***State-of-the-Art Pollution Control Technologies and Practices*** it had invested in controlling environmental pollution.

94. On 20th April 2020, NEMA received the ***Atmospheric Dispersion Modelling Report*** for LDK, whose findings indicated that the air emissions from the boiler have no significant impact on ambient air quality at the boundary of the facility; and that emissions from the facility have no significant effect on the nearest sensitive receptors given the fact that the concentrations of the priority pollutants are below the set emission limits.

3.4.5 Implementation Actions Undertaken by LDK

95. The Authority, in its report, further details the actions were undertaken by LDK in compliance with the Committee on Environment and Natural Resources recommendations as follows:

(i) Investment in the state–of–the–art technologies containing air pollution, recycles solid waste, and control odour is worth Kes. 260,951,740.00. The investment includes: installation of new ultra-modern plant whose capacity includes by-passing effluent primary treatment cooling ponds, lowering the amount of Heavy Fuel Oil (HFO) used in the Boiler and Management of vent gases in the atmosphere; Replacement of Boiler Chimney; Acquisition of two new blowers for more aeration; Addition of one more aerobic pond for more aeration; Modification of mode of aeration in the previous aerobic pond; Covering of the entire drain trench in front of the production plant; Acquisition of an Air Quality Monitoring Gadget; Proper Sealing of manholes; Addition of a secondary clarifier; and construction of Sludge drying and holding beds.

(ii) In compliance with provisions of the Environmental Management and Coordination Act, 1999, Environmental Management and Coordination Regulations on Water Quality, Air Quality and other legislations, all parameters had been controlled to set limits.

(iii) Construction of Sludge drying and holding beds, to comply with recommendations on design, construct, operate and maintain structures of the highest standards that ensure safe and healthy waste disposal.

(iv) More biogas was generated to reduce reliance on HFO in compliance with the recommendation on implementing the culture of reducing, recycling and reusing waste in daily operations such as utilization for energy production.

(v) Interventions including: lowering the amount of HFO used in the boiler; management of vent gases before discharge in the atmosphere; replacement of Boiler Chimney; acquisition of two new blowers for more aeration; and acquisition of a secondary Clarifier, in compliance with the recommendation on the implementation of the best structures and use of the best technology towards cleaning of all resultant industrial by-products from its premises before releasing to the environment.

96. Considering alleged conflict of interest and possible collusion between SGS and LDK, the Committee in November 2020, directed NEMA to contract an independent firm, to conduct ambient air quality measurements and effluent testing at the LDK premises and its environs. In that regard, NEMA procured the services

of Ecoserv, a NEMA designated laboratory, to carry out the assessments as directed by the Committee.

97. NEMA reported that the budget to investigate pollution levels at LDK was approved in September, 2020 and the process of procuring a consultant was finalized on 5th January 2021.

98. The Authority stated that ambient air quality was done from 25th January to 22nd February, 2021 and effluent sampling was done on 25th January, 28th January and 1st February, 2021. While Stack emission measurements at LDK premises were done on 27th, 28th, 29th and 30th January, 2021.

99. The Director-General of NEMA further informed the committee that ambient air quality, stack emission and effluent analysis reports were submitted to the Authority on 1st March, 2021.

100. The Director-General submitted that emissions from LDK Ltd complied with the Environmental Management and Coordination (Air quality) Regulations, 2014 Ambient Air quality tolerance limits. The effluent analysis indicated substantive compliance with the Environmental Management and Coordination (water quality) Regulations, 2006, effluent discharge standard into the public sewer for parameters measured.

101. NEMA reported that ambient air quality measurements at LDK Ltd complied with the Environment Management and Coordination (Air Quality) Regulations, 2014 ambient air quality tolerance limits except for the particulate matter (10) concentrations. However, wind data show that LDK Ltd was not the source of the particulate matter

102. The Authority observed that the exceedance of the Particulate Matter (PM) 10 concentrations were observed at LDK Ltd and at Great Wall Gardens 1 and 2 Estates, indicating the dusty location of these entities. This may be due to the hot and dusty weather, vehicular emissions, road construction and industrial emissions observed during the measurement. The high concentration of PM for both LDK Ltd and Great Wall Gardens 1 and 2 shows that the industry and residential estate exist in one micro-environment.

103. The Authority intimated that the contribution of other industrial facilities as sources of PM concentration on the Great Wall Garden Estates and the surrounding residential areas should be considered since the fallout points of their PM could be

the industry of the estate. The DG added that these facilities produce steel, paint, cement and foam.

104. The Authority affirmed that the stack emissions measurements for LDK Ltd boiler complied with the Environmental Management and Coordination (Air quality) Regulations, 2014 Ambient Air quality tolerance limits for the regulated parameters for a distillery.

105. NEMA further reported that Hydrogen Sulphide concentrations observed in the Stack Emissions, though within the acceptable tolerance limits should be monitored carefully since it may increase with the ageing of the stack.

106. NEMA also reported that the effluent analysis complied with the Environmental Management and Coordination (Water Quality) Regulations, 2006 Effluent Discharge Standards into Public Sewer except for colour and Hydrogen Sulphide. However, the Director-General added that LDK discharged their effluent into EPZA Sewerage system for further treatment at Kinani Sewerage treatment works.

107. The Authority informed the Committee that the wind direction during the assessment was observed to blow from North North West (NNW), North (N), North North East (NNE), East North East (NNE) and East towards West South West (WSW), South-South East (SSE) indicating that most winds originated from the direction of Great Wall Garden Estates and through LDK Ltd. The DG added that odour was observed at GWG 2 suggesting other sources of emissions.

108. The Authority reported that Ambient Air Quality at the Estate had improved significantly which was confirmed by a resident following measurement undertaken at a House selected in Block E of Great Wall Garden 2.

109. NEMA further reported that the Environmental Levy Fund was abolished in 2016 thus paralyzing the operations of the Authority. The Acting Director-General NEMA requested the Committee to assist in reinstating the levy fund.

110. NEMA reported that LDK met the set standards and adhering to the Compliance plan as adopted. It confirmed that indeed, LDK has put in the state-of-the-art technologies as recommended.

111. NEMA also reported that Mr John Rajwayi, Erdemann Property Limited Head of Planning and a representative of GreatWall Gardens homeowners attended a planning meeting held at NEMA headquarters on 11th January 2021, where sampling points and methodology of ambient air quality assessment & effluent

sample collection were discussed. LDK didn't attend the meeting despite an invite from NEMA.

112. A technical committee comprising London Distillers Kenya Ltd, Erdemann Property Limited and NEMA undertook a site visit on 14th January 2021 to identify ambient air quality measurement and effluent sample collection point.

113. NEMA reported that representatives from the National Environment Management Authority and London Distillers Kenya Limited were present during the collection of samples. However, Erdemann Property Limited was not present during sample collection despite being invited.

114. NEMA noted that it couldn't force parties to attend and participate in meetings but has done its part in bringing all parties on board as it implements the recommendations of Parliament and exercises its legal mandate.

115. NEMA reported that it followed due process and took an active role in engaging all parties during the implementation of the report on environmental pollution.

116. The reports of ambient air quality, stack emissions and effluent analysis were collected from NEMA by representatives of LDK and EPL on 3rd March 2021. NEMA noted the need for London Distillers Kenya Limited and Erdemann Properties Limited to co-exist but assured the Committee that the Authority would periodically monitor and address environmental pollution complaints accordingly.

3.5 Submissions by the Lead Consultant, Ecoserv Laboratory

The Lead Consultant for Ecoserv Laboratory, Prof. Anthony Gachanja, who is also Professor of Analytical and Environmental Chemistry and lead expert for NEMA, appeared before the Committee on 21st April, 2021 and submitted as follows, That;

117. NEMA contracted Ecoserv Laboratory to provide services for stack emission measurement, ambient air quality assessment and effluent discharge analysis of a wine and spirits distillery plant.
118. The sampling activities involved stack emission measurement of one stack in the industrial facility, ambient air quality assessment of at least 14 (fourteen) sampling points and effluent analysis at the point of discharge from the industrial facility.

3.5.1 Effluent Discharge Analysis

119. Prof Gachanja reported that composite effluent samples were collected for three (3) days within a seven (7) day period. Effluent samples were collected at the last treatment pond, at the point of flow into the sewer line using a 1.5 litre plastic jar. The dates of collection of samples were on 25th January, 28th January and on 1st of February 2021.
120. He further reported that a 1 litre grab sample was collected with the hour for 6 hours and all six samples were mixed to make a composite sample in a 10-litre plastic container.
121. The consulted observed that to avoid changes in the quality of samples during transportation to the laboratory, the collected sample was transported in an ice-cooler box. The samples taken were then analysed at a NEMA designated laboratory.

Results

122. The Consultant observed that LDK Limited factory discharged their treated effluent into the EPZA sewerage system for further treatment at Kinani Sewerage treatment works.
123. The Consultant reported that, on effluent analysis, the parameters assessed included PH, temperature, total dissolved solids, biochemical oxygen demand, oil & grease, chemical oxygen demand, colour, ammonia and sulphides.

124. He opined that only two parameters, colour recorded in the range of 175-320 mg Pt/1 and Sulphides 2-4 mg/1 were found to exceed effluent standards for discharge into the public sewers. These levels would further be reduced through treatment and dilution at the EPZA Sewerage treatment works. The colour of the effluent is also expected to decrease after treatment and dilution at the EPZA Sewerage treatment works.

Conclusions

125. The consultant presented that the sulphides and colour causing compounds are either in suspension or dissolved in the treated effluent. Therefore, they are not expected to affect the immediate aquatic environment.
126. Through dilution and further treatment in the sewerage treatment works, the values will be reduced to the regulatory values in the final effluent.

3.5.2 Stack emissions measurement report

127. The Consultant reported that the parameters measured at the stack emission included particulate matter, nitrogen oxides, sulphur oxides, carbon monoxide, carbon dioxide and oxygen. All parameters complied.

Summary for average concentration levels of regulated boiler emissions

128. The particulate matter emissions recorded were within the NEMA guideline level which is 150 mg/Nm3. The gaseous emissions including nitrous oxide and sulphur dioxide emissions, were within the NEMA limit values.
129. The consultant observed that stack emission with heavy loading of particulates and gaseous emissions would be observed when the boiler is restarted after shutdown, which should clear on stabilization to the normal levels. The boiler working condition is good and emissions pose no hazards to the environment.

3.5.3 Ambient Air Quality Report

130. For ambient air quality assessment, the consultant reported that the parameters assessed included particulate matter 2.5 and 10; Oxides of nitrogen, sulphur oxides, hydrogen sulphide, ammonia and volatile organic compounds. The measurements were done at the recommended sampling points around the industrial plant bordering sensitive receptors and at selected topics on the boundary walls of sensitive receptors neighbouring but away (not adjacent) from the

industrial facility to assess other sources of pollution. All parameters except Particulate Matter complied.

Summary

131. The Consultant intimated that sampling was done between 26th January and 18th February 2021, and the sampling area was less than 1km2. Wind direction was predominantly northern, blowing from NNW, N, NNE, ENE and E towards West South West, S, SSE, at a maximum speed of 2.4 m/s.
132. Average temperatures recorded were ranging from a low of 12.1 'c to a high of 30.5'c. The maximum daily range was 18.0 'c -7.6 'c.
133. Average levels of gases (carbon monoxide, sulphur oxides, volatile organic compounds, hydrocarbons, hydrogen sulphide and ammonia) were all below the NEMA limit levels for property boundary.
134. Average PM10/PM 2.5 levels recorded were above the NEMA limit levels for ambient air.
135. Smell/odour compounds were detected in some sampling sites, which can be attributed to the distillery waste water and molasses effluent, plant (trees) within the area, waste water and treatment plants, and textile industry softeners and construction lubricants.

Conclusions

136. The consultant observed that ambient air quality at LDK/GWG environs was monitored for 24 hours, recorded average concentration levels for gaseous pollutants in compliance with NEMA air quality tolerance levels.
137. The levels for particular matter (PM10 and PM2.5) were above the NEMA limit levels in over 60% of the days sampled. The Consultant echoed that the prevailing weather conditions impact on the dispersion of air emissions from point sources.
138. The levels of particulate matter and gaseous pollutants in ambient air quality will be higher during dry weather compared to wet conditions.
139. Prof. Gachanja reported that the laboratory used for testing the samples was the central water-testing laboratory of the Water Resource Management Authority laboratory in the industrial area.

140. The boiler is the source point of pollution and emission irrespective of the productivity capacity if boiler is functional. The boiler recorded pressure, temperature and emission and had flow hence it was working during the collection of samples. However, the lead consultant could not confirm whether the company was operational at the time of taking the samples.
141. The Consultant collected samples through a hole (a sampling pot), collected twelve samples within the sampling point and spent thirty minutes in each sampling pot.
142. In terms of pollution, the amount was measured within six hours and an average value of emissions was done on two separate days in terms of stack emission hence a clear picture of emission and particulate matter (dust).
143. Air quality is affected by weather hence it is crucial to measure humidity and rainfall. Temperature also affects the movement of air (air turbulence). The prevailing weather condition is important and there is the low temperature at night as air shade strides closer to the area.
144. A particulate matter of 10 and 2.5 is small and remains suspended in the air for so long to allow for transportation; the wind direction during sampling moves from Erdemann Property Limited towards the road.
145. Regarding the variance of air quality results done at a different time of the year, the Consultant submitted that depending on the time of the year, the wind movement is different. For instance, in August, the general wind direction would be blowing from LDK towards the Great Wall Gardens.

3.6 Inspection visit by the Ministry of Environment & Forestry

The Chief Administrative Secretary Ministry of Environment and Forestry, Hon. Mohamed Elmi, the Director-General of NEMA, Mr Mamo B. Mamo and other officers from NEMA and Ecoserv Consultants visited LDK on 20th May 2021, to update themselves on the progress in implementing the recommendations of the House resolutions and specifically to inspect the state of art technologies installed by to control pollution control.

146. In a letter dated 7th June, 2021, NEMA submitted a report of the inspection visit on behalf of the team.

147. The Authority reported that the team established that the distiller has installed a new ultra-modern plant by bypassing effluent primary treatment cooling ponds to lower the amount of heavy fuel oil used in the boiler and eliminate atmospheric emissions from the plant.

148. The company has also acquired two (2) new blowers and added one more aerobic pond for more aeration and an air quality monitoring gadget.

149. LDK has further replaced the boiler chimney as part of air pollution mitigation measures, completed a sludge drying bed, covered the entire drain trench in front of the production plant, and adequately sealed manholes.

3.7 Submission by the Ministry of Lands and Physical Planning

150. The Ministry of Lands and Physical Planning vide a letter dated 7th June 2021 submitted that it was directed to intensify capacity building activities to counties and regularly monitor and evaluate progress on the extent of adherence to policies by the county governments.

151. The Ministry also submitted that in the discharge of its mandate has formulated the National Land Use Policy (Sessional Paper No. 1 of 2017) and National Spatial Plan 2015-2045 to provide general principles to guide physical and land use planning across the country. County-specific policies such as County Integrated Strategic Plans and County Spatial Plans must conform to these policies.

152. The Physical and Land Use Planning Act (No. 13 of 2019) was enacted to among other things, make provisions for land planning, use, regulation, and development. Counties are required to adhere to the provisions of the Act in this regard.

153. The Ministry also reported that it was in the process of formulating regulations to operationalize the Act. In the interim, the Regulations under the repealed Physical Planning Act (Cap. 286) continue to apply in the enforcement of physical and land use planning standards and development controls.

154. On capacity building for counties, the Ministry has provided advisories on the preparation of physical and land use plans and enforcement of development controls; provided technical assistance to counties (on request) in the process of preparation of their county-specific Physical and Land Use Plans by deploying Physical Planning Officers to the counties, and convened several county-level forums to sensitize stakeholders on Physical and Land-use Planning Policies and the Laws.

155. The Ministry further reported that the County Government of Machakos has prepared an Integrated Strategic Urban Development Plan covering Athi River town where London Distillers Kenya Limited is located.

3.8 Inspection Visit by the Committee to the London Distiller Kenya Limited

156. The Select Committee on Implementation conducted an inspection visit on 9th July 2021 at the London Distiller Kenya Limited (LDK) factory following an inquiry into complaints of Environmental Pollution. The Committee was accompanied by Erdemann Property Limited (EPL) and officers from the Ministry of Environment and Forestry and the National Environment Management Authority (NEMA) led by the Ag. Director Compliance and Enforcement.

157. The purpose of the visit was to assess the progress made in implementing the recommendations of the report by the Departmental Committee on Environment and Natural Resources on the inquiry into complaints of environmental pollution and specifically to inspect the state of the art technologies installed to control environmental pollution, as had been noted in the implementation status report.

158. The following Members undertook the visit:

1) Hon. Godfrey Osotsi, MP – **Vice-Chairperson / Leader of Sub-Committee**
2) Hon. (Dr.) James Murgor, MP
3) Hon. Joash Nyamache Nyamoko, MP
4) Hon. Hassan Oda Hulufo, MP
5) Hon. Jared Okello, MP
6) Hon. Peter Kimari Kihara, MP

159. The following is a tabulated Inspection Findings by the Committee:-

No.	Intervention	Findings as per the guided tour
1.	Boiler Chimney	• The Company has installed a new boiler chimney which is now in operation. • A ladder is being installed to enable stack emission measurement from the Chimney by Inspectors at any time.
2	Biogas Plant	• The efficiency of the biogas utilization was said to have improved from 40% to 60% to optimize on biogas (Methane) produced to avoid accumulation in tanks which may occasionally leak and cause a nuisance. • The Gas Fare had been automated to burn excess methane in case of boiler shut down or malfunction.
3.	Covered drains	• The Open manholes had now been covered with heavy sheet metal
4.	Effluent Treatment Ponds	• Blowers had been installed to reduce on pungent smell and enhance aeration • Ponds restructured into aerobic ponds
5.	Effluent Discharge and Sample Collection Point	• Meter gauge installed to measure the amount of discharge into the EPZ Sewer line

3.9 Submissions by Stakeholders following the Field Visit

160. The Committee during the visit requested the parties present, Erdemann Property Limited, London Distillers Kenya Limited, and the National Environment Management Authority to make submissions after the visit. The following is a summary of the submissions:

3.9.1 Submission by the National Environment Management Authority (NEMA)

161. The National Environment Management Authority submitted a report on 15th July, 2021 following the field visit by the Committee on 9th July 2019.

162. The Authority submitted that the state of the art technology installed is operational and functional. The following sites were inspected:

(i) Boiler Chimney

(ii) Covered drains

(iii) Biogas plant

(iv) Effluent treatment Ponds

a) Blowers at the Aeration pond

b) Aeration ponds

(v) Effluent discharge and sample collection point

163. In addition, NEMA reported that LDK had made further improvements listed below:

(i) Boiler chimney; a ladder is being installed to enable stack emission measurement from the chimney by inspectors at any time.

(ii) Biogas plant; the efficiency of the Biogas utilization has been improved from 40% to 60% to optimize on biogas (Methane) produced to avoid accumulation in tanks which may occasionally leak and cause a nuisance

a. The Gas Fare has been automated to burn excess methane in case of boiler-shut-down or malfunction

(iii) Climate change: the bamboo tree farm in the LDK premises provides sinks to mitigate against climate change. Additionally, LDK'S utilization of methane from the biogas plant reduce the climate change effect since methane has a high Global Warming Potential

164. The Authority also attached an emission license for the Boiler at LDK Ltd that had been issued after compliance with Emission Limits for Controlled and Non-Controlled Facilities in the Fourth Schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2014 for the regulated parameters for the distillery.

165. The Authority in its submission, proposed the following opportunities for further improvements by LDK

(i) The Boiler Chimney is new and compliant with the Emissions Standards of Air Quality Regulations 2014. To take care of depreciation that comes with the aging of the Chimney, LDK should consider investing in Emission Control Technologies

(ii) Continual monitoring ambient air quality at Biogas Plant Environment to ensure they remain below the required Air Quality Standard at EMCA (air Quality) Regulations 2014 for distiller plants

166. The Authority also submitted that Erdemann Property Limited should control smoke from the chimney and odours emitted from the pumping station of the Great Wall Gardens Septic Tank, both located at the EPL Lukenya Park. This will reduce odour and particulate matter in the surrounding environment.

167. The Authority made the following general recommendations:

1) **On Sulphur Content in imported Oil:** There is a need for a policy to regulate the Sulphur Content in imported oil. This will provide a level ground or baseline for industries to invest in emission control technologies depending on their use against the quality of the oil.

2) **On Industrial Ecology (Circular Economy):** Opportunities exist for the surrounding facilities including EPL to benefit from the excess biogas that are being burnt through gas flaring, and soft water produced at the distillery to substitute/supplement hard –water.

3) The Authority added that LDK could utilize treated effluent for agriculture irrigation.

3.9.2 Submission by London Distillers Kenya Limited (LDK)

168. LDK submitted a report on 12th July 2021, referenced LDK/AD/369/21 detailing a summary of the presentation during the field visit by the Committee on Implementation. They submitted the following as regards the installation of the state of the art technology at their factory;

170. **On Air Pollution Mitigation Mechanisms:** LDK had installed a new ultra-modern plant which offers such benefits as: By-passing the use of effluent primary treatment cooling ponds; Lowering the amount of Heavy Fuel Oil (HFO) used in the boiler; and dissolves any resultant gases in the wash water released downwards into the sealed manholes for further treatment. LDK had also replaced the boiler chimney, which has positively affected the stack emissions from the boiler.

171. Additionally, they reported being in the process of installing an access ladder and platform to grant safe access for the laboratories and NEMA personnel whenever necessary. LDK also incorporated a control mechanism at the Biogas plant for flaring any excessive gas. This ensures that in the off-chance of a sudden boiler shutdown, all the biogas is burnt to an odour-less form before the system is turned back on or shut down for maintenance. LDK further reported to have covered the entire drain trench in front of the production plant, acquired an air quality monitoring gadget and properly sealed all manholes.

172. **On Waste Water Quality Mitigation Measures:** LDK reported to have added a secondary clarifier for pre-treatment of effluent; acquired two new blowers for more aeration; added on the more aerobic pond for more aeration; and modified the mode of aeration in the previous aerobic pond.

173. **On Solid Waste Quality Mitigation Measures:** LDK reported to have completed construction of a sludge drying bed at the newly added second clarifier; and engaged an independent laboratory for testing dried/cured sludge.

3.9.3 Submission by Greatwall Gardens Limited (GWG)

174. GWG submitted a report on 13th July 2021, referenced GWG/0408/001, detailing a summary of the presentation during the field visit by the Committee on Implementation. They submitted the following as regards the state of the art technology installation by LDK:

175. That the distillery was not operating on the inspection day; LDK continues to discharge effluent into the environment; there is no state of the art equipment installed to reduce the pollution but a new distillation plant installed to increase the production of ethanol spirit which at the same time increased the pollution to produce 150 m^3 waste effluent daily; and there are no new equipment or machines installed to treat the waste effluent and the aerobic process are old technology as they were installed ten (10) years ago as opposed to what LDK said.

3.9.4 Submissions by the Expert for Erdemann Property Limited, Dr Patrick Ajwang

176. The Lead Consultant for Katrina Management Consultant, Dr Patrick Ajwang, attended the visit as the Lead Expert for EPL. In his submission dated 15th July, 2021, the Consultant made the following observations: That,

(i) The factory/boiler was not in operation on the inspection day;

(ii) The emissions from the boiler room were not excessive. However, the quantity of emissions was not measured. There was a bit objectionable smell from the boiler room where diesel and biogas are used to provide heat energy for the distillation process. However, the smell was not too pungent, nauseating or irritating. It was mentioned that LDK employees who live in the vicinity of the plant hardly complain about the smell;

(iii) A large cylindrical tank in the compound is used as a biogas digester with molasses slurry as the feedstock. It is the primary source of effluent which is released in a clarifier before being directed in the treatment ponds at the western end of the facility. There was no remarkable smell around the tank. There was also no evidence of spillage of the effluent around the tank. A clarifier is used to eliminate impurities from the biogas;

(iv) The slurry (digestate) from the biogas plant is directed through a pipeline to the treatment ponds, where it is held and aerated before being pumped out into the sewer line. The aeration equipment in the treatment ponds had just been installed and the agitation of the ponds was visible during the visit. There was some smell from the effluent in the pond, but it was bearable;

(v) Although LDK Ltd officials stated that the quantity of effluent released from the plant per day is in the order of 150 cubic meters (approximately 150 tonnes per day), it wasn't clear whether the treatment and sewer system could safely handle the discharge;

(vi) LDK Ltd officials confirmed that all their effluent is released in the EPZA/MAVWSCO sewer lines;

(vii) The effluent delivery network is sub-surface and LDK mentioned that the manholes for the effluent delivery network that had been open in the past were appropriately covered with concrete covers;

(viii) The pumps from the effluent treatment ponds were operational;

(ix) The sludge from the treatment ponds was not in large quantities and there was no strong objectionable smell from the sludge ponds;

(x) The team was shown the sampling points for effluent testing during the visit. However, it was agreed that sample testing should be done with the participation of the concerned parties in future.

(xi) It was unclear whether the amount of discharge mentioned by LDK of 150m3 could safely be handled by the treatment and sewer system since treatment of such effluent requires more extensive treatment facilities.

177. The Consultant consequently made the following proposals:

(i) The representatives of the complainants (GWG/Erdemann properties Ltd) and government institutions (NEMA, WARMA, EPZA, Machakos County and MAVWASCO) should be notified and/or involved during sample collection and testing.

(ii) There is need to confirm the effluent discharge points from LDK.

(iii) There is need for additional sampling points outside the boundary of the LDK along the dedicated LDK sewer line which should be controlled by NEMA, WARMA and the complainants as suggested by Erdemann Properties Ltd next to Sunset Boulevard and/or along Shanghai Road.

(iv) There is need for impromptu effluent tests by NEMA and WARMA since the polluter tends to comply during scheduled inspections/audits but relapses afterwards.

(v) LDK should share the factory production schedules and show optimum production levels and scheduled sampling should only be done if the factory is operating at optimal production.

(vi) The noise and air quality measurements at the Great Walls Gardens were recently monitored by Katrina Management Consultants and audits will continue to avert defaults.

(vii) LDK said they have made tremendous efforts in trying to fulfil the environmental requirements as demanded by NEMA. NEMA should ensure full compliance.

(viii) The piping for the effluent delivery is sub-surface and thus only LDK understands the connections under the ground level.

(ix) LDK Ltd should have a routine maintenance regime and equipment replacement policy to ensure that emissions are safe and effluent treatment system is properly working.

(x) LDK Ltd should ensure that they don't exceed their optimal throughout so as not to overload the effluent treatment plant. g

(xi) It is possible for LDK Ltd and Erdemann Property Ltd (Great Wall Gardens residents) to coexist harmoniously if both comply strictly with the existing environmental standards.

3.10 Analysis of financial documents on the Investment on the State of the Art Technology

178. The Committee had directed that LDK provides evidence on the procurement and installation of state of the art technology; this includes importation documents, purchase orders, invoices and receipts.

179. LDK submitted the documents via letter Ref. LDK/AG/217/21 dated 28th April, 2021.

180. The following is a tabulated analysis of the submitted documents in comparison to the report submitted by NEMA on 9th June, 2020 and 3rd March, 2021:

ITEM	**NEMA SUBMISSION** *Dated 9th June, 2020*	**LDK SUBMISSION** *Dated 28th April, 2021*
Installation of Ultra-modern production plant	Kshs. 250 million	Kshs. 127,483,049.55 *Dated 7th December, 2016, 10th January, 2019, 10th May, 2019;*
Replacement of Boiler	Kshs. 2, 450,000	Kshs. 2,969,150 *Dated 26th July, 2019,5th December, 2019; 31st January, 2020*
Two aeration blowers	Kshs. 2, 400,000	Kshs. 1,396,300 *Dated 11th July, 2018*
Aeration pipes	Kshs. 222, 560	Kshs. 174,792.28 *Dated 14th December, 2019 & 27th September, 2019*
Manhole + Reticulation line covers	Kshs. 390,000	Kshs. 394,400 *Dated 2nd September, 2019*
Air Quality Monitoring gadget	Kshs. 342, 200	Kshs. 342,200 *Dated 6th June, 2018*
Second clarifier	Kshs. 4,500, 000	Kshs. 8,264,000 *Dated 28th September, 2016 & 3rd October, 2017* *3rd August, 2017*
Sludge Drying bed	Kshs. 430,000	Kshs. 498,800 *Dated 10th September,, 2018*
Addition of one more aerobic pond for more aeration	Kshs. 216, 480	Did not provide documentation
TOTAL	**Kshs. 260, 951, 740.00**	**Kshs. 141, 522, 691.83**

3.11 Committee Observations during the Inspection Visit

181. The committee, during the guided tour of the premises held on 9th July 2021, despite the findings enumerated above and as presented by LDK, made the following observations;

a) There was remarkable improvement by London Distillers Limited; from the time the complaints were filed in 2018 to date, towards compliance to the recommendation to install state of art technology to mitigate air and solid waste management. However, there were still some areas for improvement, since the complainant had registered objections into some mitigation measures employed by LDK to address environmental pollution. NEMA and the consultant also proposed some areas for improvement.

b) NEMA reported compliance level by LDK at 86% on air quality and emissions based on 5 points recommendations by the Departmental Committee on Environment and Natural Resources and that they had exceeded the expected compliance level of above 80%. However, some objections had been registered by the complainant who further asserted that the installation of the state of the art technology as alleged by LDK was meant to improve the capacity of production and not necessarily address environmental pollution.

c) NEMA also submitted that it had issued an Emission License for the Boiler at LDK Ltd after compliance with Emission Limits for Controlled and Non-Controlled Facilities in the Fourth schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2014 for the regulated parameters for distillery. The License, which is valid for twelve months, was issued on 22nd April, 2021.

d) From the analysis of the financial documents on the investment in the state of art technology, the Committee could only verify the total investments to be estimated at Kshs. 141, 522, 691.83 and not Kshs. 260,951,740.00 as reported by NEMA. NEMA did not provide supporting documents to justify the figure reported. Further the investment in the state of the art technology commenced around 7th

December 2016 before the complaint was registered and considered by the National Assembly in 2018.

e) NEMA had reported to the Committee that the LDK plant had shut down in 2017 to facilitate installation of a new plant.

f) There are other factories/industries in the larger Athi River area which contribute to pollution of the environment.

4.0 IMPLEMENTATION STATUS OF HOUSE RECOMMENDATIONS

182. Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, touching on NEMA, the Director General of NEMA submitted as follows, That;

I: Ensure LDK invests in state-of-art technologies that contain air pollution mitigation mechanisms, recycles solid waste, and escalates and/or institutes stringent internal self-regulation.

Implementation Status

183. NEMA reported that LDK has made remarkable efforts towards investment in the state-of-art technology as recommended. Further, to ensure full compliance and also as part of the continuous monitoring process, the Authority reported to have monitored and evaluated the performance of the state-of-the-art pollution control technologies installed at LDK.
184. Some of the pollution control technologies reported include lowering the amount of heavy fuel oil used in the boiler, management of vent gases, replacement of boiler chimney, and acquisition of two new blowers for more aeration and addition of a secondary clarifier.

Committee Observation:

185. Implementation has been remarkably done, however LDK should ensure full compliance as there are some objections from the complainant and NEMA has proposed areas of improvement.

II. NEMA expand the investigation and monitoring of the industrial pollution issue in Athi River to other industries in the area to ensure protection of the environment and residents of the larger Athi River area and the whole country in general.

Implementation Status

186. NEMA undertook a stakeholder's engagement on proposed land use policy recommendations for mixed-use development across the country and imposed a moratorium to forestall further environmental, planning, security and public health deterioration in 'hotspot areas' within the selected towns and cities.

187. The Authority in its report dated 6th April, 2021 undertook an inventory of the various facilities including residential, institutional, social amenities, hospitality, agricultural, mining, commercial and industrial in Mavoko sub-county to appreciate the mixed land use character of the area. NEMA will ensure the facilities listed in the inventory undertake annual environmental audits, acquire effluent discharges and emission licences where applicable.

188. The Authority further submitted that it had carried out a country wide inspection of steel mill and sugar cane factories and issued countrywide control audits on the same. The Authority also submitted that it has carried out capacity building on petroleum and oil spill management through the Kenya Petroleum Technical Assistance programme.

Committee Observation:

189. Implementation has been done. The Committee notes that this is a continuous activity within the Authority's mandate.

III. NEMA should ensure due diligence in execution of its mandate to administer environmental impact assessments to forestall such environmental pollution conflicts.

Implementation Status

190. NEMA has proposed policy and legislative recommendations for sustainability in mixed land use in Kenya, which will address such present and future conflicts. The Authority requested the National Assembly to follow up on the guidelines on development of mixed use area; zoning policy; and the need to repeal the change of user policy as proposed by NEMA for implementation by the Ministry of Lands & Physical Planning.

191. NEMA has developed draft Environment Management and Coordination (Strategic Assessment, Integrated Impact Assessment and Audit) Regulations 2018, which is meant to repeal the Environment Management and Coordination (Environment Impact Assessment and Audit) Regulations, 2003, to include among others the development of integrated environmental impact assessment guidelines to conduct integrated environmental impact assessment study.

Committee Observation:

192. Implementation is on-going. The draft Environment Management and Coordination (Environment Impact Assessment) Regulations 2018 are undergoing validation thus yet to be submitted to the National Assembly.

IV. NEMA should review the conduct of its officers involved in administering environmental impact assessment on the EPL's Great Wall Gardens project.

Implementation Status

193. The National Environmental Tribunal confirmed that the processing and review of the Environmental Social Impact Assessment (ESIA) for the Great Wall Gardens (GWG) mixed use development complied with the provision of Environmental Management and Coordination Act, 1999, Environment Impact Assessment Regulations 2003 and administrative Standards Operating Procedures.
194. NEMA submitted that no investigation was done on NEMA Officers as the officers themselves do not undertake Environmental Impact Assessments. Experts registered by NEMA undertake the EIAs which are submitted to NEMA for review.
195. In addition, NEMA has a policy on regular staff rotation usually after three (3) years for all NEMA staff.

Committee Observation:

196. Implementation has not been done due to the fact the National Environmental Tribunal confirmed that the Environmental Impact Assessment (EIA) for the Great Wall Gardens (GWG) mixed use development was issued according to EIA procedures. Thus there was no need to investigate NEMA officers.

V. NEMA should act proactively in addressing such pollution related issues in order to stem environmental degradation in line with the precautionary principle in International Environmental Law.

Implementation Status

197. The Authority has undertaken a number of measures including quarterly ambient air quality assessment in urban areas, compliance assistance programme for industries to reduce pollution & enable them comply with environmental regulations, implemented urban rivers regeneration programme and created awareness on environmental management and pollution mitigation.
198. The Authority has also undertaken a control audit/inspection of the LDK Limited effluent treatment plant to investigate allegations of effluent discharge reported to NEMA incident desk.
199. On 5th March 2020, NEMA received a quarterly report from LDK on the Steam Boiler Emissions Measurement indicating that all parameters were within the Emission Limits.
200. NEMA contracted its approved laboratory, SGS Kenya Limited, to carry out ambient air quality measurements between 11/03/2020 and 28/03/2020. Samples were collected from 9 points and shipped to Spain for analysis, whose results indicate all parameters being within the Emission Limits of the Environmental Management and Coordination (Air Quality) Regulations, 2014 except for Particulate Matter (PM) specifically for PM2.5 and PM10 for SP1, SP4, SP5, SP6 and SP7; attributed to their proximity to public road with frequent vehicular traffic, quarry road construction and proximity to horse sheds.
201. Following the directive by the Committee that NEMA utilises a different Laboratory, the Authority contracted Eco Serve Limited to carry out Ambient Air Quality Assessment, Boiler Stack Emissions and Effluent Discharge analysis at LDK facility. The tests were conducted between January and February, 2021. Air Emissions, ambient air quality tests and stack emissions from boiler comply Environmental Management and Coordination (Air Quality) Regulations 2014.
202. There was however high concentration of Particulate Matter for both LDK Ltd GWG 1 and 2, which can be attributed to hot and dusty weather, vehicular emissions, road construction and industrial emissions observed during the measurement.
203. Effluent analysis complied with Environmental Management and Coordination (Water Quality) Regulations 2006 Effluent Discharge Standards into Public Sewer except for Colour and Hydrogen Sulphide.

204. SGS Limited Kenya carried out the Boiler Stack Emissions Measurement on 10th March 2020, whose results indicated that all parameters were within the Emission Limits.

Committee Observation:

205. Implementation of this recommendation is on-going. This is a continuous activity within NEMA's mandate.
206. Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, touching on LDK, the Director General of NEMA submitted as follows, That;

VI. Invest in state-of-art technologies that contain air pollution, recycle solid waste, and escalate and/or institutes stringent internal self-regulation. Such technologies can include, but not limited to: physical/chemical methods and biological treatment methods of odour control.

Implementation Status

207. NEMA reported that LDK had invested in state–of-art technologies that contain air pollution, recycles solid waste and control odour worth Kes. 260,951,740.00. The investment includes: installation of new ultra-modern plant whose capacity includes by-passing effluent primary treatment cooling ponds, lowering the amount of Heavy Fuel Oil (HFO) used in the Boiler and Management of vent gases in the atmosphere; Replacement of Boiler Chimney; Acquisition of two new blowers for more aeration; Addition of one more aerobic pond for more aeration; Modification of mode of aeration in the previous aerobic pond; Covering of the entire drain trench in front of the production plant; Acquisition of an Air Quality Monitoring Gadget; Proper Sealing of manholes; Addition of a secondary clarifier; and construction of Sludge drying and holding beds.

Committee Observation:

208. There was remarkable improvement by London Distillers Limited; from the time the complaint was filed in 2018 to date, towards compliance to the recommendation to install state of art technology to mitigate air and solid waste management. However, there were still some areas for improvement, as some

objections had been registered by the complainant intimating dissatisfaction and that NEMA had proposed areas for further improvement.

VII. Strictly comply with the provisions of the Environmental Management and Coordination Act (No. 8 of 1999), the Environmental Management and Coordination (Water Quality) Regulations, 2014 and any other relevant legislation, including the obligation to keep all necessary environmental records.

Implementation Status

209. NEMA in its report dated 6th April, 2021 reported that LDK had complied on environmental pollution based on air, stack and effluent assessments. All parameters Measured had been controlled to set limits except for the Particulate Matter concentrations and for colour of effluent discharge and Hydrogen-Sulphide.

Committee Observation:

210. There is need for continuous monitoring to mitigate against relapse by LDK.

VIII. Design, construct, operate and maintain structures of the highest standards that ensure safe and healthy disposal of waste.

Implementation Status

211. NEMA reported that LDK had constructed Sludge drying and holding beds in compliance with this recommendation.

Committee Observation:

212. The beds were visible during the inspection visit. Implementation has been done.

IX. Implement the culture of reduction, recycling and reuse of waste in daily operations such as waste utilization for energy production.

Implementation Status

213. NEMA reported that LDK had invested in generation of more biogas to reduce reliance on HFO in compliance with this recommendation.

Committee Observation:

214. Implementation has been done. The biogas digester was visible during the inspection visit but operational capacity could not be established.

X. Implement the best structures and use of the best technology toward cleaning of all resultant industrial by-products from its premises before release to the environment.

Implementation Status

215. NEMA reported that LDK had invested in interventions including: lowering the amount of HFO used in the boiler; management of vent gases before discharge in the atmosphere; replacement of Boiler Chimney; acquisition of two new blowers for more aeration; and acquisition of a secondary Clarifier, in compliance with this recommendation.

Committee Observation:

216. Implementation has been done, but there are still areas for improvement.

XI. Implement the procedures for assessing and reviewing the environment, health and safety policies, procedures, programmes and impact of the industry's activities.

Implementation Status

217. NEMA reported that LDK had put in place revised standard operating procedure manual for potentially adverse impact processes, in compliance with this recommendation. LDK also submitted its Environment Policy and compliance plan.

Committee Observation:

218. Implementation has been done.

XII. Carry out regular and documented internal and third party audits of the progress made towards environmental protection.

Implementation Status

219. LDK contracted SGS Limited to perform emission testing on a boiler stack at its distillery in July, 2019. The results were submitted to NEMA in August, 2019.

220. LDK also contracted Eco science and Engineering Limited to carry out Air Dispersion Modelling to evaluate air emissions impact on surrounding area. The assessment was carried out in March, 2020 whose report was submitted in April, 2020. The report indicated that air emissions from the boiler have no significant impact on ambient air quality at the boundary of the facility.

221. The report by Eco Science further indicated that the maximum impact of the boiler emissions is predicted to be located at the South West boundary of the facility except during April to June when the emissions fall out areas would be at the North West of the facility. The report added that the emissions from the facility have no significant impact on the nearest sensitive receptors given that the concentration of the relevant pollutants is below the set limits.

222. The Consultant however recommended that the results be validated by way of actual measurements and monitoring at the predicted fall out areas.

Committee Observation:

223. Implementation is on-going. LDK should continue to carry out Quarterly internal environmental audits and submit a report to NEMA.

XIII. Failure to implement the above recommendations, the factory should be closed and/or be relocated to other suitable areas at the owners Cost.

Implementation Status

224. LDK factory is still in operation as LDK is working towards compliance to all the recommendations in the report.

225. Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, touching on Erdemann, the status is as follows, That;

XIV. Erdemann Property Limited should exercise a certain degree of tolerance and co-existence as London Distillers Kenya Limited puts in place state-of-art technology in environmental protection and mitigation.

Implementation Status

226. Erdemann Property Limited reported that it has not been satisfied with the implementation status of report of the recommendations of the report of the

Departmental Committee of Environment and Natural Resources regarding pollution by LDK.

Committee Observation:

227. All parties are encouraged to continue to coexist and the Committee urges NEMA to ensure full compliance by LDK of the recommendations of the Departmental Committee on Environment and Natural Resources.
228. Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, touching on The Ministry of Lands & Physical Planning, the status is as follows, That;

XIV. The Ministry of Lands & Physical Planning should intensify the capacity building activities to counties and regularly monitor and evaluate progress on the extent of adherence to policies by the county governments.

Implementation Status

229. The Ministry submitted that in the discharge of its mandate has formulated the National Land Use Policy (Sessional Paper No. 1 of 2017) and National Spatial Plan 2015-2045 to provide general principles to guide physical and land use planning across the country. County specific policies such as County Integrated Strategic Plans and County Spatial Plans are required to conform to these policies.
230. The Physical and Land Use Planning Act (No. 13 of 2019) was enacted to inter alia make provisions for the planning, use, regulation and development of land. Counties are required to adhere to the provisions of the Act in this regard. The Ministry reported that it was in the process of formulating regulations to operationalize the Act. In the interim, the Regulations under the repealed Physical Planning Act (Cap. 286) continue to apply in the enforcement of physical and land use planning standards and development controls.
231. On capacity building for counties, the Ministry has provided advisories on the preparation of physical and land use plans and enforcement of development controls; provided technical assistance to counties (on request) in the process of preparation of their county specific Physical and Land Use Plans by deploying Physical Planning Officers to the counties, and convened several county level forums to sensitize stakeholders on Physical and Land use Planning Policies and

the Laws. The Ministry further reported that the County Government of Machakos has prepared an Integrated Strategic Urban Development Plan covering Athi River town where London Distillers Kenya Limited is located.

Committee Observation:

232. The implementation of this recommendation is on-going.

XIV. The County Government of Machakos Should Create a master plan for land use in the Athi River area to avoid the mixed user status of land which in the first place generated the environmental pollution conflict.

Implementation Status

233. The Committee did not receive any submissions directly from the County Government of Machakos, however the other national government agencies (Ministry of Lands and Physical Planning and the National Environment Management Authority) partially reported on the progress made.
234. NEMA has proposed policy and legislative reforms to address this recommendation

Committee Observation:

235. Implementation is on-going.

XIV. The County Government of Machakos should ascertain whether due process was followed during processing and approval of the applications submitted by London Distillers Company and Great Wall Estate before their construction. If the process was not properly followed, the officers directly involved in approving the change of user status of the parcel of land occupied by the EPL's Great Wall Gardens project should be held culpable.

Implementation Status

236. The National Environmental Tribunal confirmed that the processing and review of the Environmental Social Impact Assessment (ESIA) for the Great Wall Gardens (GWG) mixed use development complied with the provision of Environmental Management and Coordination Act, 1999, Environment Impact Assessment Regulations 2003 and administrative Standards Operating Procedures.

Committee Observation:

237. Implementation had been done.

XIV. The County Government of Machakos Should Prepare a zoning plan to guide development within the area which is developing very fast. It should enforce strict adherence to the zoning plan.

Implementation Status

238. The Committee did not receive any submissions directly from the County Government of Machakos, however the other national government agencies partially reported on the progress made.
239. NEMA has proposed policy and legislative reforms to address this recommendation

Committee Observation:

240. Implementation is on-going. NEMA has proposed policy and legislative reforms to address this recommendation.
241. Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, touching on The Ministry of Environment & Forestry, the status is as follows, That;

XV. The Ministry of Environment & Forestry should Ensure an Environmental audit is undertaken by a NEMA certified independent Lead Expert to confirm and recommend mitigation measures regarding complaints raised by the residents in Athi River. The audit reports should be submitted to the National Assembly.

Implementation Status

242. NEMA submitted copies of various Environmental Audits it had undertaken for various facilities including cement factories, steel mills in Athi River and other parts of the country.

Committee Observation:

243. Implementation has been done.

XVI. The Ministry of Environment & Forestry should Ensure that a report is submitted to the National Assembly detailing progress made by NEMA and by extension LDK In complying with the recommendations of the report.

Implementation Status

244. The Ministry reported that the technical body charged with environmental management is NEMA and as such it has ensured that NEMA fulfils the requirements of this recommendation.

Committee Observation:

245. Reports have been filed by NEMA to the National Assembly as and when required by the Committee in compliance with the recommendations.

246. Implementation has been done.

XVI. The Ministry of Environment & Forestry should Cause closure and/or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost in case they fail to implement recommendations.

Implementation Status

247. The Ministry reported that the technical body charged with environmental management is NEMA and as such it will ensure that NEMA fulfils the requirements of this recommendation, should it be ascertained that LDK have not fully complied as required.

Committee Observation:

248. The implementation of the recommendations of the Departmental Committee on Environmental and Natural Resources is on-going with NEMA ensuring that LDK fully complies as directed failure to which this recommendation shall be invoked.

5.0. COMMITTEE OBSERVATIONS

249. After considering the written and oral submissions provided by the stakeholders, the Committee adduced the following observations, That: -

1) The implementation of the recommendations of the Departmental Committee of Environment and Natural Resources has taken longer than the set period of six months from 11th October, 2018. The back and forth tussle by all parties in reporting compliance and/or implementing the recommendations has been the major reason for delay resulting in the matter being outstanding three years since the report was tabled and adopted by the House.
2) There was a remarkable improvement by London Distillers Limited, from the time the complaints were filed in 2018 to date, towards compliance to the recommendation to install state of the art technology to mitigate air and solid waste management. However, there were still some areas for improvement, considering the complainant had disputed some mitigation measures, Erdemann Properties Ltd and NEMA had proposed areas for improvement by LDK.
3) NEMA reported compliance level by LDK at 86% based on 5 points recommendations by the Committee on Environment and Natural Resources and that they had exceeded the expected compliance level of above 80%. They reported that all parameters measured for ambient air quality, stack and effluent assessments had been controlled to set limits except for the Particulate Matter concentrations and colour of effluent discharge and Hydrogen Sulphide.
4) The complainant, Erdemann Properties Ltd had objected to some progress reports made regarding effluent discharge and installation of the state of the art technology. They observed that the new plant was aimed at increasing production capacity and not addressing environmental pollution concerns.
5) From the analysis of the financial documents on the investment in the state of the art technology, the Committee could only verify the total investments to be estimated at Kshs. 141,522,691.83 and not Kshs. 260,951,740 as reported by NEMA. NEMA said that they quoted figures from LDK'S Quarterly compliance reports to NEMA. Further, the investment in the state of the art technology commenced around 7th December 2016 before the complaint was registered and considered by the National Assembly in 2018. Additionally,

NEMA had reported to the Committee that the LDK plant had shut down in 2017 to facilitate the installation of a new plant.

6) There are other factories/industries in the larger Athi-River area which contribute to pollution.

7) The Ministry of Environment and Natural Resources had been directed to ensure full compliance with the recommendations of the Departmental Committee on Environment and Natural Resources within six months. The recommendation of the Committee read: *"Cause closure and or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost in case they fail to implement recommendations."*

8) NEMA has proposed policy and legislative recommendations for sustainability in mixed land use in Kenya, which will go a long way in addressing such present and future conflicts. The National Assembly therefore, needs to follow up on the Guidelines on Development of Mixed-Use Area; Zoning policy; and the need to repeal the Change of User Policy as proposed by NEMA.;

9) The parties to the petition, LDK and Erdemann Properties Ltd should co-exist harmoniously as recommended by the Departmental Committee on Environment and Natural resources in their report.

6.0 COMMITTEE RECOMMENDATIONS

The Committee, following the observations made after deliberations on the implementation status of the report of the Departmental Committee on Environment and Natural Resources, recommends that:

A. Administrative and Compliance Recommendations

1) The National Environment Management Authority (NEMA) should ensure that London Distillers Limited (LDK) continues embracing and adapting to emerging technologies to mitigate environmental pollution. In case LDK relapses on implementing the recommendations of the Departmental Committee, then NEMA shall institute the necessary control orders, improvement orders, and consequently closure orders as recommended by the Departmental Committee on Environment and Natural Resources that *"Cause closure and/or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost in case they fail to implement recommendations."*
2) NEMA shall submit a satisfactory compliance report to the National Assembly after sixty (60) days of the adoption of this report and thereafter submit bi-annual progress reports to the Committee on Implementation. Failure to submit the reports, the Committee shall enforce appropriate sanctions pursuant to Standing Order 209(3) of the National Assembly Standing Orders.
3) In addressing the above recommendation (2), the National Environment Management Authority (NEMA) shall, in consultation with all relevant stakeholders, identify additional effluent sampling points outside London Distillers Kenya (LDK) premises.
4) The National Environment Management Authority (NEMA) should continuously monitor and carry out periodic audits and compliance assistance programmes to address issues of environmental pollution in all industrial and mixed-use zones in Kenya to ensure that industries comply with the Environmental Management and Coordination Act, 1999 and attendant regulations and submit annual reports to the National Assembly;

B. Policy and Legislative Recommendations

5) The Departmental Committee on Lands of the National Assembly in consultation with the relevant stakeholders, should put in place a policy and legislative framework to mitigate the obscured mixed land-use conflicts and to promote sustainable development for the future;
6) The government, through the National Treasury, should reinstate the Environmental Impact Assessment (EIA) fees to help NEMA sustain operations, regular and random inspects; monitoring, equipping laboratory and build its capacity;
7) In consultation with the National Environment Management Authority (NEMA) and the Ministry of Petroleum and Mining, the Ministry of Environment and Forestry should develop and forward to Parliament a draft policy to regulate the Sulphur content in imported petroleum and petroleum products including heavy duty oil.

Signed ..... **Date** 30/09/2021.

HON. MOITALEL OLE KENTA, M.P

CHAIRPERSON, SELECT COMMITTEE ON IMPLEMENTATION

APPENDICES

REPUBLIC OF KENYA



THE NATIONAL ASSEMBLY

TWELFTH PARLIAMENT – FIFTH SESSION

SELECT COMMITTEE ON IMPLEMENTATION

REPORT ON

INSPECTION VISIT TO LONDON DISTILLERS (K) LTD REGARDING IMPLEMENTATION STATUS OF THE RESOLUTIONS OF THE REPORT ON INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LDK

DIRECTORATE OF AUDIT, APPROPRIATIONS & OTHER SELECT COMMITTEES
CLERK'S CHAMBERS
PARLIAMENT BUILDINGS
NAIROBI

SEPTEMBER, 2021

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ABBREVIATIONS & ACRONYMS

EIA	Environment Impact Assessment
EPL	Erdemann Properties Limited
FY	Financial Year
GoK	Government of Kenya
HFO	Heavy Fuel Oil
ICT	Information Communication Technology
LDK	London Distillers Kenya Limited
NEMA	National Environment Management Authority
SIA	Social Impact Assessment
SOPs	Standard Operating Procedures

CHAIRPERSON'S FOREWORD

The Select Committee on Implementation is mandated to scrutinize resolutions of the House (including adopted Committee reports), petitions and the undertakings given by the National Executive and examine whether such decisions and undertakings have been implemented within the sixty (60) days provided for in the Standing Orders and whether such implementation has taken place within the minimum time necessary and satisfactory explanation for the delay in full implementation provided.

The Committee as part of its mandate has been following up on resolutions of the Report of the Departmental Committee on Environment and Natural Resources on Inquiry into complaints of environmental pollution by London Distillers Kenya Limited.

The Committee resolved to conduct a site visit on 9th July 2021 at the London Distillers Kenya Limited premises to assess the implementation status of the recommendations made and ascertain whether their submissions were a true reflection of actual happenings. The report entails the committee findings and a summary of submissions of the concerned parties.

The Committee registers its appreciation to the Office of the Speaker and the Clerk of the National Assembly for facilitating it towards the achievement of its mandate and the production of this report.

Pursuant to Standing Order 199 (6), it is, therefore, my pleasant duty and privilege, on behalf of the Select Committee on Implementation, to lay this report on the Table of the House.

HON. MOITALEL OLE KENTA, MP

EXECUTIVE SUMMARY

In line with its mandate, the Select Committee on Implementation wrote to various Ministries seeking the status of implementation of various House resolutions. This is pursuant to Standing Order 209 (2) which provides that the Committee shall scrutinize the resolutions of the House (including adopted Committee reports), petitions and the undertakings given by the National Executive and examine whether or not such decisions and undertakings have been implemented and where implemented, the extent to which they have been implemented; and whether such implementation has taken place within the minimum time necessary and whether or not legislation passed by the House has been operationalised and where operationalised, the extent to which such operationalisation has taken place within the minimum time necessary.

The Committee as part of its mandate has been following up on resolutions of the Report of The Departmental Committee on Environment and Natural Resources on Inquiry into Complaints of Environmental Pollution by London Distillers Kenya Limited. The Committee resolved to conduct a site visit on 9th July 2021 at the London Distillers Kenya Limited premises to assess the implementation status of the recommendations made and ascertain whether their submissions were a true reflection of actual happenings.

London Distillers Limited has been in operation at the current site since the 1980s. It runs a distillery (brewing) business. The plant is located in an area that has been classified as mixed use zone by the County Department of Physical Planning. The complaints against London Distillers Ltd emanated from the residents of the Great Wall Gardens (and neighbouring estates). The specific complaint against London Distillers is the foul smell from the inadequately treated factory effluent and air emissions. London Distillers Ltd on its own has also complained that the Great Wall Garden Estate is causing noise and air pollution during construction among other issues.

During the inspection visit, the Committee observed that: the factory/boiler did not seem to be in operation on the inspection day of 9th July 2021 as there was very minimal discharge of waste; the emissions from the boiler room were not excessive. There was a little smell from the boiler room where diesel and biogas are used to provide heat energy for the distillation

process. However, the smell was not too pungent, nauseating or irritating; There was no remarkable smell around the large cylindrical tank in the compound which is used as a biogas digester; The equipment's on site looked old and rusty thus it was not easy to establish whether they were recently installed as part of the state of the art technology interventions;.

The LDK Ltd officials stated that the quantity of effluent released from the plant per day is around 150 cubic meters (approximately 150 tonnes per day); The pumps from the effluent treatment ponds were operational; and the sludge from the treatment ponds were not in large quantities and with no strong objectionable small from the sludge ponds.

The Committee after deliberations recommends that:-

1) That NEMA should ensure that LDK continues to embrace and adapt to emerging technologies to address air pollution and affluent discharge in full compliance of the recommendations by the Departmental Committee on Environment and Natural Resources;

2) The National Environment Management Authority (NEMA) should continuously monitor and carry out periodic audits and compliance assistance programmes in order to address issues of environmental pollution in all industrial and mixed-use zones in Kenya to ensure that industries comply with the Environmental Management and Coordination Act, 1999 and attendant regulations and submit annual reports to the National Assembly; and

3) That The Ministry of Environment and Forestry in consultation with the Ministry of Petroleum and Mining and the National Environment Management Authority (NEMA) should develop and forward to Parliament, a draft policy to regulate the Sulphur Content in imported oil.

1.0 PREFACE

1.1 Mandate of the Committee

The Select Committee on Implementation is established pursuant to the provisions of Standing Order 209 of the National Assembly Standing Orders. The Committee scrutinizes the resolutions of the House (including adopted Committee reports), petitions and the undertakings given by the National Executive and examine whether or not such decisions and undertakings have been implemented and where implemented, the extent to which they have been implemented; and whether such implementation has taken place within the minimum time necessary; and whether or not legislation passed by the House has been operationalized and where operationalized, the extent to which such operationalization has taken place within the minimum time necessary.

Standing Order 201 further provides that, within sixty days of a resolution of the House or adoption of a report of a select committee, the relevant Cabinet Secretary under whose portfolio the implementation of the resolution falls shall provide a report to the relevant committee of the House in accordance with Article 153(4) (b) of the Constitution.

1.2 Committee Membership

The Committee membership comprises -

Chairperson

Hon. Moitalel Ole Kenta, MP

Narok North Constituency

Orange Democratic Movement

Vice Chairperson

Hon. Godfrey Osotsi, MP

Nominated

Amani National Congress

Members

Hon. Feisal Abdalla Bader, MP

Msambweni Constituency

Independent

Hon. Paul Simba Arati, MP

Dagoretti North Constituency

Orange Democratic Movement

Hon. Alois Lentoimaga, MP
Samburu North Constituency
Jubilee Party

Hon. Joshua Mwalyo, MP
Masinga Constituency
Wiper Democratic Movement-Kenya

Hon. (Dr.) James Murgor, MP
Keiyo North Constituency
Jubilee Party

Hon. Johnson Manya Naicca, MP
Mumias West Constituency
Orange Democratic Movement

Hon. Benjamin Dalu Tayari, MP
Kinango Constituency
Orange Democratic Movement

Hon. Gabriel Kago Mukuha MP
Githunguri Constituency
Jubilee Party

Hon. Joash Nyamache Nyamoko, MP
North Mugirang'o Constituency
Jubilee Party

Hon. Richard Onyonka, MP
Kitutu Chache South Constituency
Ford Kenya

Hon. Paul Odalo Abuor, MP
Rongo Constituency
Orange Democratic Movement

Hon. Silvanus Osoro, MP
South Mugirang'o Constituency
Kenya National Congress

Hon. Hassan Oda Hulufo, MP
Isiolo North Constituency
Kenya Patriots Party

Hon. Michael Thoya Kingi, MP
Magarini Constituency
Orange Democratic Movement

Hon. Nelson Koech, MP
Belgut Constituency
Jubilee Party

Hon. Peter Kimari Kihara, MP
Mathioya Constituency
Jubilee Party

Hon. John Muchiri Nyagha, MP
Manyatta Constituency
Jubilee Party

Hon. Charles Ngusya Nguna, MP
Mwingi West Constituency
Wiper Democratic Movement-Kenya

Hon. Moses Kiarie Kuria, MP
Gatundu South Constituency

Hon. Jared Okello, MP
Nyando Constituency

Jubilee Party

Orange Democratic Movement

1.3 Committee Secretariat

The secretariat facilitating the Committee comprise -

Ms.Tracy Chebet Koskei
Clerk Assistant I /Team Leader

Mr. Abdirahman Hassan
Clerk Assistant II

Mr. Salem Lorot
Legal Counsel II

Dr. Donald Manyala, PhD
Research Officer II

Ms. Jane Serem
Audio Officer I

Mr. Moses Kariuki
Sergeant-at-Arms

2.0 BACKGROUND OF THE INQUIRY

1. Erdemann Property Limited on behalf of residents of Great Wall Gardens estate, through a letter dated 22nd January, 2018, to the National Environment Management Authority (NEMA) and copied to the National Assembly called for investigation on London Distillers Kenya Limited (LDK) on issues regarding environmental pollution through toxic fumes and effluent from LDK.
2. The Departmental Committee on Environment and Natural Resources conducted inquiry sittings with Erdemann Properties Limited (EPL), London Distillers Kenya Limited (LDK) and National Environment Management Authority (NEMA) in the year 2018 and tabled a report in the House on 29th August 2018 for adoption by the National Assembly.
3. The Committee on Implementation has been following up on the implementation of the recommendations of the report of the Committee on Environment and Natural Resources as provided for in the Standing orders. The committee has held various sittings with the parties and received various correspondences over the same.
4. NEMA, as the sole government agency charged with matters environment, shared a report dated June 9th, 2020 vide a letter referenced NEMA/7/7/Vol. IV, to the Committee, and further submitted another report dated 6th April, 2021, and referenced NEMA/7/7/Vol. V, essentially confirming the contents of its report dated 9th June 2020, and further indicating compliance status of LDK, whose contents are summarised herein.

3.0 IMPLEMENTATION STATUS BY NEMA

5. NEMA presented a report dated 9th June 2020 and another one dated 6th April 2021, detailing actions undertaken by the Authority and the company (LDK) towards fulfilling the recommendations of the report of the Departmental Committee of Environment and Natural resources.
6. The Authority, in its quarterly report, details the following actions undertaken as at 6th June 2020:
    i. NEMA contracted its approved laboratory, SGS Kenya Limited, to carry out ***ambient air quality measurements*** between 11/03/2020 and 28/03 2020. Samples were collected from 9 points and shipped to Spain for analysis, whose

results indicate all parameters being within the Emission Limits of the Environmental Management and Coordination (Air Quality) Regulations, 2014 except for Particulate Matter (PM) specifically for $PM_{2.5}$ and PM_{10} for SP1, SP4, SP5, SP6 and SP7; attributed to their proximity to public road with frequent vehicular traffic, quarry road construction and proximity to horse sheds.

ii. On 5th March 2020, NEMA received a quarterly report from LDK on the ***Steam Boiler Emissions Measurement*** indicating that all parameters were within the Emission Limits.

iii. SGS Limited Kenya carried out the ***Boiler Stack Emissions Measurement*** on 10th March 2020, whose results indicated that all parameters were within the Emission Limits.

iv. NEMA received a report from LDK on 20th March 2020, providing information on the ***State of the Art Pollution Control Technologies and Practices*** it had invested to control environmental pollution.

v. On 20th April 2020, NEMA received the ***Atmospheric Dispersion Modelling Report*** for LDK whose findings indicate that: the air emissions from the boiler have no significant impact on ambient air quality at the boundary of the facility; and that emissions from the facility have no significant impact on the nearest sensitive receptors given the fact that the concentrations of the priority pollutants are below the set emission limits.

7. In its report dated 6th April, 2021, NEMA affirms the earlier position presented on 9th June 2020. The Authority affirms as follows:

   a. Indeed LDK has invested in the state of the art technologies as recommended, and NEMA has continuously monitored and evaluated the performance of the investments in the state-of-the-art pollution control technologies aimed at lowering the amount of Heavy Fuel Oil (HFO) used in the Boiler, management of vent gases, replacement of boiler chimney, acquisition of two new blowers for more aeration and addition of a secondary clarifier.

   b. The Biogas generated has reduced reliance on HFO and Biogas results in cleaner emission than HFO upon combustion.

   c. Boiler Stack Emissions and Ambient Air Quality Measurement which were done by SGS in March 2020, indicated compliance within the set limits. Similarly those tests conducted by EcoServ Laboratory in February 2020 for both also complied with the set limits.

d. The Authority undertook an inventory of the various facilities including residential, institutional, social amenities, hospitality, agricultural, mining, commercial and industrial in Mavoko sub-county to appreciate the mixed land use character of the area.

e. NEMA noted that the Technical Committee confirmed that the processing and review of the Environmental Social Impact Assessment (ESIA) for the Great Wall Gardens mixed used development complied with the provision of Environmental Management and Coordination Act, 1999, Environment Impact Assessment Regulations 2003 and administrative Standard Operating Procedures (SOPs), a fact confirmed by National Environment Tribunal (NET) upon an appeal lodged by LDK. Furthermore, NEMA has a policy of regular staff rotation usually after three (3) years.

f. NEMA has acted proactively of late in addressing such pollution related issues in order to stem environmental degradation in line with the precautionary principle in International Environmental Law.

4.0 IMPLEMENTATION STATUS BY LDK

8. The Authority, in its report of 9th June 2020 details the actions undertaken by LDK in compliance of the Committee on Environment and Natural Resources recommendations as follows:

   i. Investment in state –of-art technologies that contain air pollution recycles solid waste and control odour worth Kes. 260,951,740.00. The investment includes: installation of new ultra-modern plant whose capacity includes by-passing the primary treatment effluent treatment cooling pond, lowering the amount of Heavy Fuel Oil (HFO) used in the Boiler and Management of vent gases in the atmosphere; Replacement of Boiler Chimney; Acquisition of two new blowers for more aeration; Addition of one more aerobic pond for more aeration; Modification of mode of aeration in the previous aerobic pond; Covering of the entire drain trench in front of the production plant; Acquisition of an Air Quality Monitoring Gadget; Proper Sealing of machines; Addition of a secondary clarifier; and construction of Sludge drying and holding beds.

   ii. On compliance with provisions of the Environmental Management and Coordination Act, 1999, Environmental Management and Coordination

Regulations on Water Quality, Air Quality and other legislations; all parameters had been controlled to set limits.

iii. Construction of Sludge drying and holding beds, to comply with recommendation on design, construct, operate and maintain structures of the highest standards that ensure safe and healthy disposal of waste.

iv. More biogas generated to reduce reliance on Heavy Fuel Oil (HFO), in compliance with recommendation on implementation of the culture of reduction, recycling and reuse of waste in daily operations such as utilization for energy production.

v. Interventions including: lowering the amount of HFO used in the boiler; management of vent gases before discharge in the atmosphere; replacement of Boiler Chimney; acquisition of two new blowers for more aeration; and acquisition of a secondary Clarifier, in compliance with the recommendation on implementation of the best structures and use of the best technology towards cleaning of all resultant industrial by-products from its premises before release to the environment.

vi. The compliance status stands at 86% based on 5 points recommendations by the Committee on Environment and Natural Resources.

9. Overall, NEMA states that the compliance level by LDK was at 86% on 26th February 2021, similar to what it was on 31st March 2020, having risen from 60% on 1st July 2019 and from 40% on 19th February 2019 respectively. NEMA notes that LDK Limited has exceeded the expected compliance level of above 80%

5.0 INSPECTION VISIT OF 9TH JULY 2021

10. The Select Committee on Implementation conducted an inspection visit on 09th July 2021 at the London Distiller Kenya Limited (LDK) following inquiry into complaints of Environmental Pollution. The committee was accompanied by Erdemann Property Limited (EPL), and Officers from the Ministry of Environment and the National Environment Management Authority (NEMA) led by the Ag. Director Compliance and Enforcement.

11. The purpose of the visit was to assess the progress made in implementing the recommendations of the report by the Departmental Committee on Environment and Natural Resources on inquiry into complaints of environmental pollution and

specifically to inspect the state of the art technologies installed to control environmental pollution, as had been noted in the implementation status report.

12. The following Members undertook the visit:
    1) Hon. Godfrey Osotsi, MP – **Vice Chairperson / Leader of Sub-Committee**
    2) Hon. (Dr.) James Murgor, MP
    3) Hon. Joash Nyamache Nyamoko, M.P
    4) Hon. Hassan Oda Hulufo, MP
    5) Hon. Jared Okello, M.P
    6) Hon. Peter Kimari Kihara

Inspection Findings

No.	Intervention	Findings as per the guided tour
1.	Boiler Chimney	• The Company has installed a new boiler chimney which is now in operation. • A ladder is being installed to enable stack emission measurement from the Chimney by Inspectors at any time
2	Biogas Plant	• The efficiency of the biogas utilization was said to have improved from 40% to 60% to optimize on biogas (Methane) produced to avoid accumulation in tanks which may occasionally leak and cause a nuisance. • The Gas Fare had been automated to burn excess methane in case of boiler
3.	Covered drains	• The Open manholes had now been covered with heavy sheet metal
4.	Effluent Treatment Ponds	• Blowers had been installed to reduce on pungent smell and enhance aeration • Ponds restructured into aerobic ponds
5.	Effluent Discharge and Sample Collection Point	• Meter gauge installed to measure the amount of discharge into the EPZ Sewer line

5.2 SUBMISSIONS BY STAKEHOLDERS FOLLOWING THE FIELD VISIT

13. The Committee during the visit requested the parties present; Erdemann Property Limited, London Distillers Kenya Limited, and the National Environment Management Authority to make submissions after the visit.
14. The following is a summary of the submissions:

5.2.1 Submission by the National Environment Management Authority (NEMA)

15. The National Environment Management Authority submitted a report on 15th July, 2021 following the field visit by the Committee on 9th July, 2019.

16. The Authority submitted that the state of art technology installed are operational and functional. The following sites were inspected:
    i. Boiler Chimney
    ii. Covered drains
    iii. Biogas plant
    iv. Effluent treatment Ponds
        a) Blowers at the Aeration pond
        b) Aeration ponds
    v. Effluent discharge and sample collection point

17. In addition, LDK had made further improvements listed below:

    i. Boiler chimney; a ladder is being installed to enable stack emission measurement from the chimney by inspectors at any time.
    ii. Biogas plant; the efficiency of the Biogas utilization has been improved from 40% to 60% to optimize on biogas (Methane) produced to avoid accumulation in tanks which may occasionally leak and cause a nuisance
        a. The Gas Fare has been automated to burn excess methane in case of boiler-shut-down or malfunction
    iii. Climate change: the bamboo tree farm in the LDK premises provides sinks to mitigate against climate change. Additionally, LDK'S utilization of methane from the biogas plant reduce climate change effect since methane has a high Global Warming Potential

18. The Authority also attached an emission license for the Boiler at LDK Ltd had been issued after compliance with Emission Limits for Controlled and Non-Controlled Facilities in the Fourth schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2014 for the regulated parameters for distillery.

19. The Authority in its submission proposed the following opportunities for further improvements by LDK
    i. The Boiler Chimney is new and compliant to the Emissions Standards of Air Quality Regulations 2014. In order to take care of depreciation which comes with aging of the Chimney, LDK should consider investing in Emission Control Technologies
    ii. Continual monitoring ambient air quality at Biogas Plant Environment to ensure they remain below the required Air Quality Standard at EMCA (air Quality) Regulations 2014 for distiller plants

20. The Authority also submitted that Erdemann Property Limited should control smoke from chimney and odour emitted from pumping station of the Great Wall Gardens Septic Tank, both located at the EPL Lukenya Park. This will reduce odour and particulate matter in the surrounding environment.

21. The Authority made the following general recommendations:

(1) Sulphur Content in imported Oil

There is need for a policy to regulate the Sulphur Content in imported oil. This will provide a level ground or baseline for industries to invest in emission control technologies depending on their use against the quality of the oil;

(2) Industrial Ecology (Circular Economy)

Opportunities exist for the surrounding facilities including EPL to benefit from the excess biogas which at the moment is being burnt through gas flaring, and soft water produced at the distillery to substitute / supplement hard –water.

The Authority added that LDK can utilize treated effluent for agriculture irrigation.

5.2.2 Submission by London Distillers Kenya Limited (LDK)

22. LDK submitted a report on 12th July 2021, referenced LDK/AD/369/21 detailing a summary of the presentation during the field visit by the Committee on Implementation. They submitted the following as regards the installation of the state of the art technology at their factory;
23. **On Air Pollution Mitigation Mechanisms:** LDK had installed a new ultra-modern plant which offers such benefits as: By-passing the use of effluent primary treatment cooling ponds; Lowering the amount of Heavy Fuel Oil (HFO) used in the boiler; and dissolves any resultant gases in the wash water released downwards into the sealed manholes for further treatment. LDK had also replaced the boiler chimney which has had a positive effect on the stack emissions from the boiler. Additionally, they reported to be in the process of installing an access ladder and platform to grant safe access for the laboratories and NEMA personnel whenever necessary. LDK also reported to have incorporated a control mechanism at the Biogas plant for flaring of any excessive gas. This ensures that in the off-chance of a sudden boiler shutdown, all the biogas is burnt to an oduor-less form before the system is turned back on or shut down for maintenance. LDK further reported to have covered the entire drain trench in front of the production plant; acquired an air quality monitoring gadget; and properly sealed all manholes.

24. **On Waste Water Quality Mitigation Measures:** LDK reported to have added a secondary clarifier for pre-treatment of effluent; acquired two new blowers for more aeration; added on more aerobic pond for more aeration; and modified the mode of aeration in the previous aerobic pond.
25. **On Solid Waste Quality Mitigation Measures:** LDK reported to have completed construction of a sludge drying bed at the newly added second clarifier; and engaged an independent laboratory for testing dried/cured sludge.

5.2.3 Submission by Greatwall Gardens Limited (GWG)

26. GWG submitted a report on 13th July 2021, referenced GWG/0408/001 detailing a summary of the presentation during the field visit by the Committee on Implementation. They submitted the following as regards the state of the art technology installation by LDK:
27. That the distillery was not operating on the inspection day; LDK continues to discharge effluent into the environment; there is no state of the art equipment installed to reduce

the pollution but a new distillation plant installed to increase the production of ethanol spirit which at the same time increased the pollution to produce 150 m^3 waste effluent daily; and there are no new equipment or machines installed to treat the waste effluent and the aerobic process are old technology as they were installed ten (10) years ago as opposed to what LDK said.

5.2.4 Submissions by the Expert for Erdemann Property Limited, Dr. Patrick Ajwang

28. The Lead Consultant for Katrina Management Consultant, Dr. Patrick Ajwang attended the visit as the Lead Expert for EPL. In his submission dated 15th July, 2021, the Consultant made the following observations: That,

(i) The factory/boiler was not in operation on the inspection day;

(ii) The emissions from the boiler room were not excessive. However, the quantity of emissions was not measured. There was a little objectionable smell from the boiler room where diesel and biogas are used to provide heat energy for the distillation process. However, the smell was not too pungent, nauseating or irritating. It was mentioned that LDK employees who live in the vicinity of the plant hardly complain about the smell;

(iii) There is a large cylindrical tank in the compound which is used as a biogas digester with molasses slurry as the feed stock. It is the main source of effluent which is released in a clarifier before being directed in the treatment ponds at the western end of the facility. There was no remarkable smell around the tank. There was also no evidence of spillage of the effluent around the tank. A clarifier is used to eliminate impurities from the biogas;

(iv) The slurry (digestate) from the biogas plant is directed through a pipeline to the treatment ponds where it is held and aerated before being pumped out into the sewer line. The aeration equipment in the treatment ponds had just been installed and the agitation of the ponds were visible during the visit. There was some smell from the effluent in the pond, but it was bearable;

(v) Although LDK Ltd officials stated that the quantity of effluent released from the plant per day is in the order of 150 cubic meters (approximately 150 tonnes per day), it wasn't clear whether the discharge could safely be handled by the treatment and sewer system;

(vi) LDK Ltd officials confirmed that all their effluent is released in the EPZA/MAVWSCO sewer lines;

(vii) The effluent delivery network is sub-surface and LDK mentioned that the manholes for the effluent delivery network that had been open in the past were covered properly with concrete covers;

(viii) The pumps from the effluent treatment ponds were operational;

(ix) The sludge from the treatment ponds were not in large quantities and there was no strong objectionable smell from the sludge ponds;

(x) The team was shown the sampling points for effluent testing during the visit. However, it was agreed that sample testing should be done with the participation of the concerned parties in future.

(xi) It was not clear whether the amount of discharge mentioned by LDK of 150m3 could safely be handled by the treatment and sewer system since treatment of such amounts of effluent requires larger treatment facilities.

29. The Consultant consequently made the following proposals:

(i) The representatives of the complainants (GWG/Erdemann properties Ltd) and government institutions (NEMA, WARMA, EPZA, Machakos County and MAVWASCO) should be notified and/or involved during sample collection and testing.

(ii) There is need to confirm the effluent discharge points from LDK.

(iii) There is need for additional sampling points outside the boundary of the LDK along the dedicated LDK sewer line which should be controlled by NEMA, WARMA and the complainants as suggested by Erdemann Properties Ltd next to Sunset Boulevard and/or along Shanghai Road.

(iv) There is need for impromptu effluent tests by NEMA and WARMA since the polluter tends to comply during scheduled inspections/audits but relapses afterwards.

(v) LDK should share the factory production schedules and show optimum production levels and scheduled sampling should only be done if the factory is operating at optimal production.

(vi) The noise and air quality measurements at the Great Walls Gardens were recently monitored by Katrina Management Consultants and audits will continue to avert defaults.

(vii) LDK said they have made tremendous efforts in trying to fulfill the environmental requirements as demanded by NEMA. NEMA should ensure full compliance.

(viii) The piping for the effluent delivery is sub-surface and thus only LDK understands the connections under the ground level.

(ix) LDK Ltd should have a routine maintenance regime and equipment replacement policy to ensure that emissions are safe and effluent treatment system is properly working.

(x) LDK Ltd should ensure that they don't exceed their optimal throughout so as not to overload the effluent treatment plant. g

(xi) It is possible for LDK Ltd and Erdemann Property Ltd (Great Wall Gardens residents) to coexist harmoniously if both comply strictly with the existing environmental standards.

5.3 ANALYSIS OF FINANCIAL DOCUMENTS ON THE INVESTMENT ON THE STATE OF THE ART TECHNOLOGY

30. The Committee had directed that LDK provides evidence on the procurement and installation of state of the art technology, this includes importation documents, purchase orders, invoices and receipts.
31. LDK submitted the documents via letter Ref. LDK/AG/217/21 dated 28th April, 2021.
32. The following is a tabulated analysis of the submitted documents in comparison to the report submitted by NEMA on 9th June, 2020 and 3rd March, 2021:

ITEM	**NEMA SUBMISSION** *Dated 9th June, 2020*	**LDK SUBMISSION** *Dated 28th April, 2021*
Installation of Ultra-modern production plant	Kshs. 250 million	Kshs. 127, 483, 049.55 *Dated 7th December, 2016, 10th January, 2019, 10th May, 2019;*
Replacement of Boiler	Kshs. 2, 450,000	Kshs. 2, 969,150 *Dated 26th July, 2019,5th December, 2019; 31st January, 2020*

Two aeration blowers	Kshs. 2, 400,000	Kshs. 1,396,300 *Dated 11th July, 2018*
Aeration pipes	Kshs. 222,560	Kshs. 174,792.28 *Dated 14th December, 2019 & 27th September, 2019*
Manhole + Reticulation line covers	Kshs. 390,000	Kshs. 394,400 *Dated 2nd September, 2019*
Air Quality Monitoring gadget	Kshs. 342, 200	Kshs. 342,200 *Dated 6th June, 2018*
Second clarifier	Kshs. 4,500,000	Kshs. 8,264,000 *Dated 28th September, 2016 & 3rd October, 2017* *3rd August, 2017*
Sludge Drying bed	Kshs. 430,000	Kshs. 498, 800 *Dated 10th September,, 2018*
Addition of one more aerobic pond for more aeration	Kshs. 216, 480	Did not provide documentation
TOTAL	**Kshs. 260, 951,740.00**	**Kshs. 141, 522,691.83**

6.0 COMMITTEE OBSERVATIONS DURING THE INSPECTION VISIT

33. The committee, following the guided tour of the premises held on 9th July 2021, made the following observations;

1) There was remarkable improvement by London Distillers Limited, from the time the complaints were filed in 2018 to date, towards compliance to the recommendation to install state of art technology to mitigate air and solid waste management. However, there were still some areas for improvement.
2) NEMA reported compliance level by LDK at 86% on air quality and emissions based on 5 points recommendations by the Departmental Committee on Environment and Natural Resources and that they had exceeded the expected compliance level of above 80%.
3) NEMA also submitted that it had issued an Emission License for the Boiler at LDK Ltd after compliance with Emission Limits for Controlled and Non-Controlled Facilities in the Fourth schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2014 for the regulated parameters for distillery. The License, which is valid for twelve months, was issued on 22nd April, 2021.
4) From the analysis of the financial documents on the investment in the state of art technology, the Committee could only verify the total investments to be estimated at Kshs. 141, 522, 691.83 and not Kshs. 260,951,740.00 as reported by NEMA. NEMA did not provide supporting documents to justify the figure reported. Further the investment in the state of the art technology commenced around 7th December 2016 before the complaint was registered and considered by the National Assembly in 2018.
5) NEMA had reported to the Committee that the LDK plant had shut down in 2017 to facilitate installation of a new plant.
6) There are other factories/industries in the larger Athi River area which contribute to pollution of the environment.

7.0 COMMITTEE RECOMMENDATIONS

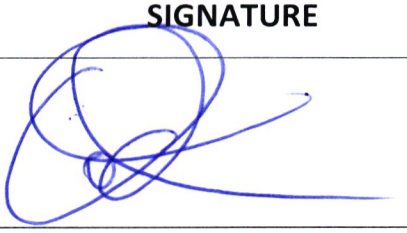
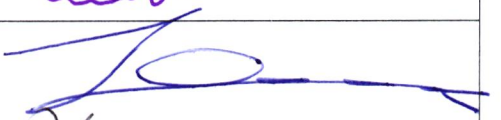
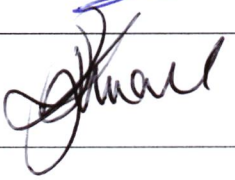
Based on the observations above, the Committee recommends the following as regards the Inspection visit:

1) **That NEMA should ensure that LDK continues to embrace and adapt to emerging technologies to address air pollution and affluent discharge in full compliance of the recommendations by the Departmental Committee on Environment and Natural Resources;**

2) **The National Environment Management Authority (NEMA) should continuously monitor and carry out periodic audits and compliance assistance programmes in order to address issues of environmental pollution in all industrial and mixed-use zones in Kenya to ensure that industries comply with the Environmental Management and Coordination Act, 1999 and attendant regulations and submit annual reports to the National Assembly; and**

3) **That The Ministry of Environment and Forestry in consultation with the Ministry of Petroleum and Mining and the National Environment Management Authority (NEMA) should develop and forward to Parliament, a draft policy to regulate the Sulphur Content in imported oil.**

8.0 ADOPTION OF THE COMMITTEE

No.	MEMBER	SIGNATURE
1.	Hon. Godfrey Osotsi, MP – Vice Chairperson / Leader of Sub-Committee	
2.	Hon. (Dr.) James Murgor, MP	
3.	Hon. Joash Nyamache Nyamoko, M.P	
4.	Hon. Hassan Oda Hulufo, MP	
5.	Hon. Jared Okello, M.P	
6.	Hon. Peter Kimari Kihara	

APPENDIX I Adoption List

The National Assembly

12th Parliament–5th Session-2021

Committee on Implementation

Agenda: Adoption of the Report on Implementation Status of the Report on Inquiry into complaints of environmental pollution by London Distillers Kenya Ltd.

Venue: **Sarova Whitesands Hotel, Mombasa**

Date: Sunday 29th August 2021

S/NO.	NAME	SIGNATURE
1.	The Hon. Moitalel Ole Kenta, MP – **Chairperson**	
2.	The Hon. Godfrey Osotsi, MP **- Vice Chairperson**	
3.	The Hon. Richard Onyonka, MP	
4.	The Hon. Alois Musa Lentoimaga, MP	
5.	The Hon. (Dr.) James Kipkosgei Murgor, MP	
6.	The Hon. Johnson Manya Naicca, MP	
7.	The Hon. Moses Kiarie Kuria, MP	
8.	The Hon. Paul Simba Arati, MP	

9.	The Hon. Charles Ngusya Nguna, MP	
10.	The Hon. Feisal Abdalla Bader, MP	
11.	The Hon. Gabriel Kago Mukuha, MP	
12.	The Hon. Hassan Oda Hulufo, MP	
13.	The Hon. Jared Okello, MP	
14.	The Hon. Joash Nyamache Nyamoko, MP	
15.	The Hon. John Muchiri Nyagah, MP	
16.	The Hon. Joshua Mwalyo Mbithi, MP	
17.	The Hon. Michael Thoya Kingi, MP	
18.	The Hon. Nelson Koech, MP	
19.	The Hon. Benjamin Dalu Tayari, MP	
20.	The Hon. Paul Abuor, MP	
21.	The Hon. Peter Kimari Kihara, MP	
22.	The Hon. Silvanus Osoro, MP	
23.	The Hon. John Njuguna Wanjiku, MP	

Committee Clerk

Name..A. G. Hassan..... ..... **Date**..31/08/2021.....

(Signature)

Form V: (r41)

0506

nema
mazingira yetu | uhai wetu | wajibu wetu

Serial No. 0506

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND COORDINATION ACT

EMISSION LICENCE

Licence No. **NEMA/AQ/EL/506**

Application Reference No. **NEMA/AQ/21/13/86**

This is to certify that the application for emission into the atmosphere received from **London Distillers Limited** (Name of applicant) of **P.O. Box 57387-005070, Nairobi**.....(address) to the National Environment Management Authority in accordance with the Air Quality Regulations, 2014 for **Boiler at London Distillers Limited**.....(facility) located at **Athi River Area, Mavoko Sub-County, Machakos County**..... (locality, Sub-County and County) has been evaluated and a license is hereby issued for emission, subject to the attached conditions.

Dated this 22nd **day of April, 2021** Signature: .....

(Official Stamp)

Director General

Conditions of Licence

1. This License is valid for a period of **Twelve (12) Months**..... from the date hereof.
2. Frequency of Monitoring (Daily/Weekly/Monthly/**Quarterly**) .....
3. **xxx**.....
4. **xxx**...***See Overleaf***.....

P.T.O.

ISO 9001:2015 Certified

APPROVAL CONDITIONS FOR EMISSION LICENCE

1. General Conditions

1.1. This license is valid for a period of **12 MONTHS** from the date hereof.

1.2. The owner/operator is licensed to emit air pollutants from the 10.34bars boiler and 750 KVA Generators through the air pollution control system as indicated on the photograph attached to the stack emission measurement report.

1.3. Without prejudice to the other conditions of this licence, the owner/operator shall implement and maintain an environmental management system, organizational structure and allocate resources that are sufficient to achieve compliance with the Environmental Management and Co-ordination Act, 1999, its subsidiary regulations and the conditions of this licence.

1.4. The Authority shall reserve the right to cancel this licence in the event of breach of any of the conditions stated herein or any contravention to the Environmental Management and Co-ordination Act, 1999 and regulations hereunder.

1.5. The owner/operator shall submit a stack emissions measurement report together with the application for renewal of this licence.

1.6. The owner/operator shall display a copy of the emission licence at the site office at all times.

1.7. This licence shall not be taken as a statutory defence against charges of pollution in respect of any manner of pollution not specified herein.

2. Operational Conditions

2.1. The owner/operator shall ensure that the air pollutants are emitted from the air pollution control system at the place specified, described and marked as the emission point on the **site layout plan** attached to the licence application.

2.2. The owner/operator shall manage the facility strictly in accordance with the Environmental Management Plan (EMP) developed in the Environment Impact Assessment (EIA) or Environmental Audit (EA) in accordance with Legal Notice No. 101 of 2003.

2.3. The owner/operator shall ensure that operational records including equipment modifications air pollution control system are kept for at least two years and availed for inspection by the environmental inspectors from the Authority at reasonable hours.

2.4. The owner/operator shall ensure that clean un-contaminated ambient air excluded from the air pollution control system.

2.5. The owner/operator shall ensure that the air pollution control system is regularly de-misted and serviced to ensure effective operation of the system/plant.

2.6. The owner/operator shall ensure that only NEMA licensed waste handlers/transporters are engaged in air pollution control system by-product and any other waste generated.

2.7. The owner/operator shall manage collected dust and any other waste generated in accordance with Environmental Management and Co-ordination (Waste Management) Regulations, 2006.

2.8. The owner/operator shall ensure that sampling points are appropriately installed as per the guidelines provided by the Authority.

3. Monitoring Conditions

3.1 The owner/operator shall ensure that sampling points are appropriately marked (NEMA sampling points) and maintained as indicated on the site layout plan attached to the license application.

3.2 The owner/operator shall ensure that laboratory tests and analysis of at least the following air pollutants: Particulate Matter, Carbon Monoxide, Sulphur dioxide, Nitrogen Oxides and Hydrogen Sulphide Compounds are carried out by NEMA designated laboratories for air quality measurements.

3.3 The owner/operator shall ensure that the emission levels do not exceed the limits specified in the Third Schedule and monitored as guided by the Fourth Schedule of Environmental Management and Co-ordination (Air Quality) Regulations 2014.

3.4 The owner/operator shall submit reports of emission levels and flows on a **Quarterly** (three-monthly) **basis** to the Authority in the prescribed format (Fifth Schedule) and for the parameters highlighted in 3.2 above.

3.5 The owner/operator shall submit an emission license renewal application accompanied with a stack emission measurement report and an emission compliance plan where applicable at least six weeks before the expiry of the current emission license

3.6 The owner/operator shall give access to Environmental Inspectors from the Authority upon identification and without prior notice and provide information, reports, records and data for inspection at reasonable hours.

3.7 The owner/operator shall develop an air pollution incident response plan covering the air pollution control system and its allied infrastructure.

3.8 The owner/operator shall develop and implement a routine inspection plan for the air pollution control system and allied infrastructure.

3.9 The owner/operator shall keep record of air pollution related complaints and action taken thereof.

3.10 The owner/operator shall submit a dispersion modelling report on the facility before submitting request for renewal of the annual emission licence.

4. Notifications

4.1. The owner/operator shall seek written approval from the Authority for any operational changes under this licence.

4.2. ***The owner/operator shall notify the authority of the day of carrying out stack particulate matter measurements***

4.3. The owner/operator shall notify the Authority at least 3 months prior to closing part or whole of the air pollution control unit for renovation.

4.4. The owner/operator shall notify the Authority at least 3 months before decommissioning the air pollution control system.

4.5. The owner/operator shall report all pollution incidents arising from the air pollution control system and allied infrastructure to the Authority through the incident hotline, **0786101100, 0704846019 email: - incidence@nema.go.ke** or at the nearest NEMA office within **6 hours**.

5. Decommissioning Conditions

5.1. The owner/operator shall submit a decommissioning plan at least three (3) months prior to decommissioning for approval by the Authority.

5.2. The owner/operator shall decommission the air pollution control system according to the decommissioning plan approved by the Authority.

nema
mazingira yetu | uhai wetu | wajibu wetu

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Telcom Wireless: 020-2183718, 020-2101370
Mobile Line: 0724 253 398, 0723 363 010, 0735 013 046
Incident Line: 0786 101 100, 0741 101 100

P.O Box 67839 - 00200
Popo Road, Nairobi, Kenya
Email: dgnema@nema.go.ke
Website: www.nema.go.ke

NEMA/7/7/Vol. V

06th April, 2021

Clerk of the National Assembly
The National Assembly
P. O. Box 41842-00100
NAIROBI

Dear Clerk,

RE: MEETING REGARDING IMPLEMENTATION STATUS OF HOUSE RESOLUTIONS

Reference is made to your letter Ref: NA/DAASC/COI/2021/(034) dated 11th March, 2021 on the above subject matter which relates to the inquiry into complaints of Environmental Pollution by London Distiller Kenya Limited (LDK Ltd).

I wish to confirm that the Authority will attend the above meeting.

Please find attached the Implementation of Status Report on the House Resolution. Also attached are the Ambient Air Quality, Boiler Stack Emission Measurement and Effluent Analysis Reports in addition to other Annexes to the Status Report.

Yours Sincerely,

MAMO B. MAMO
DIRECTOR GENERAL

Encl.



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

REPORT ON THE IMPLEMENTATION STATUS OF HOUSE RESOLUTIONS ON ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED

Ambient Air Quality

Stack Emissions

Effluent Analysis

APRIL, 2021

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1.0 Background

London Distillers Kenya (LDK) Limited was established in 1982 on plots LR.No.12867/16, 18, 19, and 20. This was before Environment Management and Coordination Act (EMCA), 1999 and National Environment Management Authority (NEMA) were established.

It was built in an area marked for industrial development. Its activities involve recycling of molasses into alcoholic beverages which lessens the environmental impacts associated with molasses waste.

The Authority received complaints of environmental pollution by LDK Limited from proprietors of Erdemann Property Limited (EPL). The Authority took appropriate compliance and enforcement actions such as compliance assistance programs, improvement notices and closure order.

Later in 2018, EPL presented the same environmental pollution complaints to the Departmental Committee on Environment and Natural Resources. The Committee investigated the petition and made recommendations (***Annex 1***) in a report dated 29th August 2018 directing NEMA to take appropriate interventions on the pollution issues raised.

2.0 Actions taken by NEMA on Environment Pollution

This section contains actions done by NEMA to investigate pollution at LDK:

(i) The Authority held a meeting with the management of London Distillers Kennya Limited (LDK) and Erdermann Properties Kenya Limited (EPL) which discussed the obligations of the various stakeholders in implementation of recommendations from parliament. The resolutions of the meeting were captured in the Minutes dates 13/09/2018 (***Annex 2***).

(ii) The Authority established a technical committee though a MEMO dated 19/09/2018 to advise it on the recommendations from Parliament (***Annex 3***). The technical committee on LDK held to

deliberate the recommendations of the parliamentary report and drew an implementation action plan.

(iii) The Authority on 7th August 2019 engaged the services of SGS (K) Ltd Laboratory services, a designated and gazetted environmental Laboratory for testing, to carry out ambient air quality levels.

(iv) NEMA undertook a site inspection of LDK Limited on 20th February 2020 to assess the progress LDK made to comply with the recommendations made by the Departmental Committee on Environment and Natural Resources and in preparation for the air quality monitoring (***Annex 4***)

(v) The Boiler Stack Emissions Measurement and Ambient Air Quality Measurement were undertaken by SGS Limited Kenya on 10th March 2020, and from 10th to 28th March 2020, respectively. The samples were then shipped to Spain for analysis. Boiler Stack Emissions ***(Annex 5)*** and Ambient Air Quality reports ***(Annex 6)*** have been attached.

(vi) The Implementation Status Report dated 09th June 2020 on the pollution assessment undertaken by SGS (K) Ltd was considered by the Select Committee on Implementation during its siting on 06th August, 2020. It also considered complaints of continued pollution by LDK and in a letter dated 11th August, 2020 it directed NEMA to commission further tests on effluent and air quality at LDK.

(vii) The budget to investigate pollution levels at LDK was approved in September, 2020 and the procurement process of the Laboratory to conduct the assessment began. The Local Purchase Order was issued on 05/01/2021to EcoServ Laboratory, a Designated Laboratory for Testing. The Laboratory presented an Inception Report on how it expected to execute the assignment (***Annex 7).***

(viii) The Authority held a planning meeting 0n 11th January 2021 at NEMA Headquarters where the House Resolution was presented and the modalities and logistics involved in the execution of the assessment

were discussed. The resolutions of the meeting were captured in the minutes dated 11/01/2021. ***(Annex 8)***

(ix) The site visit was conducted on 14th January 2021. Ambient Air Quality Measurement Points at LDK and Great Wall Gardens 1 and 2 were identified including Effluent collection point at LDK (***Annex 9***).

(x) Ambient Air Quality measurements at LDK were done on 25th January and continued to 22nd February, 2021. Effluent samples were collected on the 25th, 28th January and on 1st of February 2021, while the stack emission measurements were undertaken on 27th, 28th 29th and 30th January 2021, respectively. The reports of Ambient Air Quality (***Annex 10***), Stack Emissions (***Annex 11***) and Effluent Analysis (***Annex 12***) have been attached. These reports were all collected at NEMA by representatives of LDK and EPL on 03rd March 2021 (***Annex 13***).

3.0 Actions Taken by NEMA on the Recommendations

The following actions were undertaken by NEMA to implement the recommendations by the Departmental Committee on Environment and Natural Resources:

(i) Ensure that the London Distillers Kenya Limited invests in state-of-art technologies that contain air pollution mitigation mechanisms, recycles solid waste, and escalates and/or institutes stringent internal self-regulation. Such technologies can include, but not limited to: physical/chemical methods and biological treatment methods of odour control.

a) LDK invested in the state of the art technologies as recommended. Further, to ensure improved compliance and also as part of the continuous monitoring process, NEMA monitored and evaluated the performance of the Investments in state-of-the art pollution control technologies. The pollution control technologies are listed in the report *State of the Art Pollution Control Technologies and Practices* (***Annex 14***). Some include Lowering the amount of Heavy Fuel Oil (HFO) used in the Boiler, Management of vent gases, Replacement of

m) Promotion and implementation of green economy through the Green Growth Empowerment Programme (GGEP), a Denmark Kenya Government partnership, through sustainable natural resources management, alternative sources of energy (solar energy, biogas), waste management and development of green points.

n) Research studies and interventions especially air pollution dispersal models are guiding decision making on environment impact assessment in predicting air pollutants fallout points.

o) A Control Audit / inspection of the LDK Ltd Effluent Treatment plant to investigate allegations of effluent discharge reported to NEMA incident desk on 15th February 2021.

p) A Control Audit of Lukenya Sewerage Plant is scheduled following a site visit on 11th February 2021 and an effluent discharge incident reported to NEMA on 19th February 2021.

4.0 Compliance Status

LDK Limited has compliance with the Committee's Recommendations on environmental pollution based on air, stack and effluent assessments:

a. Ambient Air Quality measurements complied with the Ambient Air Quality Tolerance Limits in the First Schedule of the Environment Management and Coordination (Air Quality) Regulations, 2014 except for the particulate matter concentrations.
b. The Stack Emissions Measurements for the boiler also complied with the Emission Limits for Controlled and Non-Controlled Facilities in the Fourth Schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2014 for the regulated parameters for distillery.
c. The Effluent Analysis complied with the Standards for Effluent Discharge into Public Sewers of the Environmental Management and Coordination (Water Quality) Regulations, 2006 except for colour and Hydrogen Sulphide.

After the assessment, the compliance level was **86%** in 26th February 2021 (***Annex 18***). It was also **86%** in 31st March 2020 having risen from **60%** in 1st July 2019 and from **40%** in 19th February 2019, respectively. LDK Limited has exceeded the expected compliance level of above 80%.

5.0 Policy and Legislative Recommendations for Sustainability in Mixed Land Use in Kenya

On 30th October 2019, the Authority wrote to the Principal Secretary (***Annex 15***), Ministry of Land and Physical Planning, and to the Chief Executive Officer, Council of Governors on the urgent need for policy and legislative recommendations on sustainable mixed land use in Kenya. The letter addressed the following;

a. *Guidelines on Development of Mixed Use Area*

   NEMA directed that guidelines on development in mixed use zones be developed, finalized and issued.

b. *Zoning Policy*

   The County Government in liaison with the Physical Planning Department, as the custodian of the local zoning plans, should develop and implement comprehensive zonation guidelines as a legal regulation on the use of land. As a strategy, the periodic review of the zoning schemes should be in not less than 10 years from the time of its adoption.

c. *Need to repeal the Change of User*

   The "*piecemeal*" change of use should be outlawed as this is the root cause of non-conformities and incompatibility being experienced in all urban areas.

MAMO B. MAMO

DIRECTOR GENERAL

Boiler Chimney, Acquisition of two new blowers for more aeration and Addition of a Secondary Clarifier.

b) The Biogas generated has reduced reliance on Heavy Fuel Oil from the previous ratio of 55%:45% (Natural Gas-Biogas: HFO) ratio to the current ratio of 60%:40% (Natural Gas: HFO). Biogas results in cleaner emission than HFO upon combustion.

c) Boiler Stack Emissions was done by SGS (K) Limited in March 2020. All parameters measured were within the Emission Limits for Controlled and Non-Controlled Facilities in the Fourth Schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2014. Please refer to the Boiler Stack Emissions Testing Measurements Report for more information ***(Annex 5).***

d) Ambient Air Quality Measurement was done by SGS (K) Limited in March 2020. All parameters measured were within the Ambient Air Quality Tolerance Limits in the First Schedule of the Environmental Management and Coordination (Air Quality) Regulations 2014 except for Particulate Matter (PM) for 5 (Five) sampling points. Please refer to the Ambient Air Quality Measurement Report for more information ***(Annex 6)***.

e) Ambient Air Quality measurements done by EcoServ Laboratory in February 2020 complied with the Ambient Air Quality Tolerance Limits in the First Schedule of the Environment Management and Coordination (Air Quality) Regulations, 2014 except for the particulate matter concentrations. In addition, wind data showed that it originated Northwards and blew Southwards through LDK. Please refer to the Ambient Air Quality Report for more information (***Annex 10***).

f) The Stack Emissions Measurements for the boiler done by EcoServ Laboratory in February 2020 also complied with the Emission Limits for Controlled and Non-Controlled Facilities in the Fourth Schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2014 for the regulated parameters for distillery. Please

refer to the Stack Emissions Measurements Report for more information ***(Annex 11)***.

g) Effluent Analysis undertaken by EcoServ Laboratory in February 2020 complied with the Standards for Effluent Discharge into Public Sewers of the Environmental Management and Coordination (Water Quality) Regulations, 2006 except for colour and Hydrogen Sulphide. Please refer to the Effluent Analysis Report for more information (***Annex 12***).

h) Atmospheric Dispersion Modelling whose objective was to evaluate air emissions impacts on surrounding areas of the LDK and to determine the fall out areas was done. Please refer to the Atmospheric Dispersion Modelling Report for more information (***Annex 15***).

(ii) *Expand the investigation and monitoring of the industrial pollution issue in Athi River to other industries in the area to ensure protection of the environment and residents of the larger Athi River area and the whole country in general.*

a) NEMA undertook a stakeholder's engagement on proposed land use policy recommendations for mixed use development across the Country and imposed a Moratorium to forestall further environmental, planning, security and public health deterioration in "hotspot areas" within the selected towns and cities.

b) The Authority undertook an inventory of the various facilities including residential, institutional, social amenities, hospitality, agricultural, mining, commercial and industrial in Mavoko sub-county to appreciate the mixed land use character of the area (***Annex 16***).

c) Ensure facilities listed in the Inventory undertake annual environmental audits, acquire effluents discharges and emission licenses where applicable.

(iii) Ensure due diligence in execution of its mandate to administer Environmental Impact Assessments to forestall such environmental pollution conflicts.

a) NEMA has proposed policy and legislative recommendations for sustainability in mixed land use in Kenya, which will address such present and future conflicts. The National Assembly therefore needs to follow up on the Guidelines on Development of Mixed Use Area; Zoning policy; and the need to repeal the Change of User Policy as proposed by NEMA for implementation by the Ministry of Land and Physical Planning (***Annex 17***).

b) The Environment Management and Coordination (Environment Impact Assessment) Regulations 2006 has been review to include among others the development of Integrated Environmental Impact Assessment guidelines to conduct Integrated Environmental Impact Assessment study which shall be issued by the Authority.

(iv) Review the conduct of its officers directly involved in administering Environmental Impact Assessment on the EPL's Great Wall Gardens project.

a) The Technical Committee confirmed that the processing and review of the Environment Social Impact Assessment (ESIA) for the Great Wall Gardens (GWG) mixed used development complied with the provision of Environmental Management and Coordination Act, 1999, Environment Impact Assessment Regulations 2003 and administrative Standard Operating Procedures (SOPs).

b) LDK appealed to the National Environment Tribunal (NET) and NET ruled in favour of EPL and NEMA confirming that due process was followed in issuing the EIA licenses to GWG.

c) In addition, NEMA has a policy of regular staff rotation usually after 3 (three) years for all NEMA staff.

(v) *Act proactively in addressing such pollution related issues in order to stem environmental degradation in line with the precautionary principle in International Environmental Law.*

a) Quarterly Ambient Air Quality assessment in Urban Areas.

b) Country wide Control Audits of Steel Mills and Cement Factories on compliance to environmental regulations was done in August and September 2020 which included industrial facilities in Athi River, Machakos County.

c) Country wide Control Audits on Sugar Mills.

d) Compliance Assistance Programme for Industries to reduce pollution and enable them comply with environmental regulations.

e) Capacity building on petroleum and oil spill management through the Kenya Petroleum Technical Assistance Project.

f) Implementation of Urban rivers regeneration programme.

g) Countrywide enforcement on banned plastic bags.

h) Awareness creation and public education on environmental management and pollution mitigation.

i) Enforcement interventions through issuance of improvement and control orders on non-compliance and reported pollution incidents by NEMA's National and Machako's County Offices.

j) Protection of Ecosystems in Environmentally Sensitive Areas on land and aquatic areas against unauthorized exploration activities.

k) Compliance assistance on reduction in use of Mercury in Artisanal Small Scale Gold Mining in collaboration with UNDP.

l) Implementation of Global Opportunities for Long-term Development (GOLD) Integrated Sound Management of Mercury in the Kenya's Artisanal Small-scale Gold Mining (ASGM) sector to reduce/eliminate mercury releases from the Kenyan Artisanal and Small-scale Gold Mining (ASGM) sector.

658

THE NATIONAL ASSEMBLY
RECEIVED
18 JUN 2020
DIRECTOR COMMITTEE SERVICES
Signature

(2) CHEBET
Please deal
FOA 18/6/20

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Telcom Wireless: 020-2183718, 020-2101370
Mobile Line: 0724 253 398, 0723 363 010, 0735 013 046
Incident Line: 0786 101 100, 0741 101 100

P.O Box 67839 - 00200
Popo Road, Nairobi, Kenya
Email: dgnema@nema.go.ke
Website: www.nema.go.ke

NEMA/7/7/Vol. IV

(3) ENG JEW
Please note
FOA 18/6/20

June 9th, 2020

Chairman
Departmental Committee on Environment
And Natural resources
The National Assembly
P.O. Box 41482 – 00100
NAIROBI

Attention:

(1) DClerks 18/6/20.

Chairman
Parliamentary Committee on Implementation
The National Assembly
P. O. Box 41842-00100
NAIROBI

Dear

QUARTERLY REPORT ON THE SELECT COMMITTEE ON IMPLEMENTATION REGARDING IMPLEMENTATION STATUS OF THE COMMITTEE ON ENVIRONMENT AND NATURAL RESOURCES ON INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED

Please find attached the report on the response to the petition by the Select Committee on Implementation status on the House Resolution.

MAMO B. MAMO
Ag. DIRECTOR GENERAL

NATIONAL ASSEMBLY
RECEIVED
17 JUN 2020
CLERK'S OFFICE
P. O. Box 41842, NAIROBI

✓ **Copied to:** The Clerk
National Assembly
NAIROBI

REPORT ON ACTIONS TAKEN ON ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED

1.0 Background.

London Distillers Kenya (LDK) Limited was established in 1982 on plots LR.No.12867/16, 18, 19, and 20. This was before Environment Management and Coordination Act (EMCA), 1999 and National Environment Management Authority (NEMA) were established. It was built in an area marked for industrial development. Its activities involve recycling of molasses into alcoholic beverages which lessens the environmental impacts associated with molasses waste.

The Authority received some complaints of environmental pollution by LDK Limited from proprietors of Erdemann Property Limited. This is after the Authority had previously received similar complaints and taken appropriate compliance and enforcement actions such as compliance assistance programs, improvement notices and closure order.

Later in 2018, Erdemann Property Limited presented the same environmental pollution complaints to the Parliamentary Departmental Committee on Environment and Natural Resources.

The Parliamentary Departmental Committee investigated the petition and made recommendations in a report dated 29th August 2018 directing NEMA, LDK Limited, County Government of Machakos and Ministry of Environment and Forestry to take appropriate interventions on the pollution issues raised.

2.0 Actions Taken

2.1 Actions Undertaken by NEMA

- 05/03/2020: The Representative of LDK Limited through a letter dated 04/03/2020 requested NEMA to inform SGS Kenya Limited to carry out ambient air quality measurements since the factory was back in production and. ***(Annex 1).***
- 05/03/2020: NEMA received from LDK Limited the Quarterly Report on the Steam Boiler Emissions Measurement for the First Quarter of 2020. All parameters were within the Emission Limits of the Environmental Management and Coordination (Air Quality) Regulations, 2014. ***(Annex 2)***
- 10/03/2020: The Boiler Stack Emissions Measurement was undertaken by SGS Limited Kenya.

- 11/03/2020 to 28/03/2020: The Ambient Air Quality Measurement of LDK Limited was done for the seven (7) sampling points by SGS Limited Kenya. Two (2) more sampling points (SP) 8 and SP 9 were added due to their proximity to a School and Residential Building under construction respectively. The samples were then shipped to Spain for analysis.

- 20/03/2020: NEMA received from LDK Limited a Report on Investment in State of the Art Pollution Control Technologies and Practices. The report provided information on **State of the Art Pollution Control Technologies and Practices** it had invested to control environmental pollution. (*Copy of Cover and Executive Summary attached - **Annex 3***) The investment put in place are summarized in Section 2.2 of this report.

- 20/03/2020: NEMA received the 1st Draft Report of the Boiler Stack Emissions Testing Measurements of LDK Limited from SGS Kenya Limited for review and comments.

  All parameters were within the Emission Limits of the Environmental Management and Coordination (Air Quality) Regulations, 2014. *(Copy of Cover and Executive Summary attached - **Annex 4**)*

- 20/04/2020: NEMA received the **Atmospheric Dispersion Modeling Report** for the LDK Limited. (*Copy of Cover and Executive Summary attached - **Annex 5***) The report findings are summarized as follows:

  - The objective of the Air Dispersion Model was to evaluate air emissions impacts on surrounding areas of the London Distillers Kenya Limited and to determine the fall out areas.

  - The air emissions from the boiler have no significant impact on ambient air quality at the boundary of the facility.

  - The maximum impact of the boiler emissions is predicted to be located at the South West boundary of the facility except in April to June when they fall North West of the facility.

  - Emissions from the facility have no significant impact on the nearest sensitive receptors given the fact that the concentrations of the priority pollutants are below the set emission limits.

  - The simulated results should be validated by way of actual measurements and monitoring at the predicted fall out areas.

- 22/04/2020: NEMA received the 1st Draft of the Ambient Air Quality Measurement Report for LDK Limited from SGS Limited Kenya for review and comments.

- 13/05/2020: NEMA received the 2nd Draft of the Ambient Air Quality Measurement Report for LDK Limited from SGS Limited Kenya with comment incorporated for Approval. *(Copy of Cover and Executive Summary attached - **Annex 6)***
- 04/06/2020: NEMA received the Final Report of the **Boiler Stack Emissions Testing Measurements** of LDK Limited from SGS Kenya Limited. The results were within the permissible air quality limits.

  Please refer to the Table below for the Boiler Stack Emissions Testing Measurements:

Parameters	**Units**	**8 tonnes Boiler**	**EMC Regulatory limits for Liquid fuel fired Boilers**
Particulate Matter	mg/Nm^3	**23**	50
Sulphur Dioxide, SO_2	mg/Nm^3	**1289**	2000
Nitrogen Oxides, NO_X	mg/Nm^3	**209**	460
Carbon monoxide, CO	mg/Nm^3	**3**	N/A
Oxygen	%	**7.8**	N/A
Carbon Dioxide, CO_2	%	**7.5**	N/A

- 04/06/2020: NEMA received the Final Report of the ***Ambient Air Quality Measurement*** for LDK Limited from SGS Kenya Limited. The results are summarized below as follows:

  - All parameters were within the Emission Limits of the Environmental Management and Coordination (Air Quality) Regulations 2014 except for Particulate Matter (PM), specifically for PM $_{2.5}$ and PM_{10}, for SP1, SP4, SP5, SP6 and SP7.
  - The PM levels above the recommended Emission Limits on these sites were attributed to their proximity to public road with frequent vehicular traffic, quarry road construction and proximity to horse sheds. The stack emissions were within the Air Quality limits but the cumulative effect should be investigated.

Please find summarized results in the Table below for the Ambient Air Quality Measurement:

Location	Coordinates	Particulate matter PM 10 ($\mu g/m^3$)	Particulate matter PM 2.5 ($\mu g/m^3$)	Sulphur dioxide , SO_2 ($\mu g/m^3$)	Nitrogen dioxide, NO_2 ($\mu g/m^3$)	Hydrogen Sulphide, H_2S ($\mu g/m^3$)	Volatile Organic Compound (VOC) ($\mu g/m^3$)
SP 1	S 1^0 25' 44.4" E 360 58' 35.3"	14	**83**	BDL	8.73	BDL	BDL
SP 2	S 10 25' 48.8" E 360 58' 32.5"	56	42	BDL	8.36	20.24	BDL
SP 3	S 10 25' 45.1" E 360 58' 32.5"	42	14	BDL	6.71	8.10	BDL
SP 4	S 10 25' 43.8" E 360 58' 20.9"	**83**	28	BDL	6.43	12.01	BDL
SP 5	S 10 25' 27.2" E 360 58' 15.6"	**139**	42	BDL	6.89	4.59	BDL
SP 6	S 10 25' 31.8" E 360 58' 27.5"	**97**	42	BDL	5.88	0.67	BDL
SP 7	S 10 25' 39.4" E 360 58' 34.8"	28	**208**	BDL	6.89	2.29	BDL
SP 8	S 10 25' 46.6" E 360 58' 35.1"	14	42	BDL	6.98	BDL	BDL
SP 9	S 10 25' 32.97" E 360 58' 32.6"	69	14	BDL	6.89	1.08	BDL
EMC (Air Quality Regulation 2014) Limits, at property boundary in 24hours		**70 $\mu g/m^3$**	**70 $\mu g/m^3$**	**125 $\mu g/m^3$**	**150 $\mu g/m^3$**	**50 $\mu g/m^3$**	**600 $\mu g/m^3$**

2.2 Actions undertaken by London Distillers Kenya Limited

In complying with the Parliamentary Committee recommendations, LDK Limited has undertaken the following actions worth KES 260,951,740/= to address environmental pollution. The measures which have been confirmed by the Authority are as follows:

i. Investment in state-of-art technologies that contain air pollution recycles solid waste and control odour.

No.	Investment	Specifics	Mitigation	Cost
1.	Installation of our new ultra-modern plant	a. By-passing the Primary Treatment Effluent Treatment Cooling Pond	**Air pollution reduction** especially the release of Ammonia (NH_3) previously occasioned by cooling of hot spent wash which is now pumped directly after cooling in the New Plant to the sealed Anaerobic Bio-digester.	KES 250 Million
		b. Lowering the amount of Heavy Fuel Oil (HFO) used in the Boiler	Air pollution reduction. Flue gases emission is reduced at the boiler stack. More Biogas being generated in the New Plant is used to reduce reliance on HFO (from 55:45% ratio to now 60:40% ratio i.e. Natural Gas: HFO). Biogas results in cleaner emission compared to HFO upon combustion.	
		c. Management of vent gases into the atmosphere.	The New Plant is designed not to allow venting of any resultants gas emissions during production into the atmosphere which was the case in the old plant.	

No.	Investment	Specifics	Mitigation	Cost
2.	Replacement of Boiler Chimney	Chimney replaced by end of January, 2020.	Air emissions from the Boiler Stack to meet Emission Limits.	KES 2.45 Million
3.	Acquisition of two new blowers for more aeration.	Installed in Aerobic Pond 1 and Pond 2.	Enhanced effluent treatment resulting in improved effluent quality and reduced fugitive emissions.	KES 2.4 Million
4.	Addition of one more aerobic pond for more aeration.	Aerobic pond added.	Enhanced effluent treatment resulting in improved effluent quality and reduced fugitive emissions.	KES 216,480/=
5.	Modification of mode of aeration in the previous aerobic pond.	Facilitate an even distribution of air in the aerobic pond.	Enhanced effluent treatment resulting in improved effluent quality and reduced fugitive emissions.	KES 222,560/=
6.	Covering of the entire drain trench in front of the production plant.	Placing slabs to cover the entire drain trench.	Air pollution reduction. Reducing fugitive emissions.	KES 390,000/=
7.	Acquisition of an Air Quality Monitoring Gadget.	Portable air quality equipment purchased.	Air quality monitoring.	KES 342,200/=

No.	Investment	Specifics	Mitigation	Cost
8.	Proper sealing of manholes	Effluent manholes sealed.	Air pollution reduction. Reducing fugitive emissions..	Internal Maintenance
9.	Addition of a Secondary Clarifier.	Completed.	Pretreatment of effluent- to remove fine suspended and dissolved degradable organic matter that remain after primary treatment before effluent is rendered suitable for discharge into the public sewer.	KES 4.5 Million
10.	Sludge drying and holding beds	Construction completed.	Improved Solid Waste Management	KES 430,500/=

ii. *Compliance with provisions of the Environmental Management and Coordination Act, 1999, Environmental Management and Coordination Regulations on Water Quality, Air Quality and other relevant legislations.*

- Quarterly Stack Emissions Measurement for the First Quarter of 2020 submitted in March, 2020. All parameters are within the Emission Limits of the Environmental Management and Coordination (Air Quality) Regulations, 2014. *(Copy of Cover and Executive Summary attached - **Annex 4**)*

- Atmospheric Dispersion Modeling Report, March 2020 submitted in April, 2020. ***(Annex 5)***

- Quarterly Stack Emissions Measurement for the Third Quarter of 2019 submitted in July, 2019. All parameters except Particulate Matter were within the Emission Limits of the Environmental Management and Coordination (Air Quality) Regulations, 2014.

iii. *Design, construct, operate and maintain structures of the highest standards that ensure safe and healthy disposal of waste.*

- Sludge drying and holding beds, refer to item No.: 10 in the table in (i) above.

iv. *Implement the culture of reduction, recycling and reuse of waste in daily operations such as utilization for energy production.*

- Refer to interventions listed in the Table in 2.2 (i) item 1 (b).
- Specifically, more Biogas is being generated at the Biogas Generation Plant using effluent discharged from the New Alcohol Production Plant.
- The Biogas generated is being used to reduce reliance on Heavy Fuel Oil (HFO) from the previous percentage ratio of 55%:45% (Natural Gas: HFO) ratio to the current ratio of 60%:40% (Natural Gas: HFO). Biogas results in cleaner emission than HFO upon combustion.

v. *Implement the best structures and use of the best technology towards cleaning of all resultant industrial by-products from its premises before release to the environment.*

- Refer to interventions listed in the Table in 2.2 (i) items 1(b) & (c), 2, 3, 4, 5 and 9.
- Specifically, they include:
  - Lowering the amount of Heavy Fuel Oil (HFO) used in the Boiler.
  - Management of vent gases before discharge into the atmosphere.
  - Replacement of Boiler Chimney.
  - Acquisition of two new blowers for more aeration.
  - Addition of one more aerobic pond for more aeration.
  - Modification of mode of aeration in the previous / existing aerobic ponds.
  - Addition of a Secondary Clarifier.

3 Compliance Status

The compliance status as of 31st March 2020 is **86%** based on the ten (5) points recommendations issued by the Parliamentary Departmental Committee for LDK Limited to implement. They are summarized in the table below:

No.	Criteria	Scale of (1 to 10)	Comments
i.	Within six (6) months from the date of tabling of this report, invest in state-of-art technologies that contain air pollution, recycles solid waste, and escalates and / or institutes stringent internal self-regulation. Such technologies can include, but not limited to: physical/chemical methods and biological treatment methods of odour control.	**9**	Refer to interventions implemented by LDK on item 2.2 of the report.
ii.	Strictly comply with the provisions of the Environmental Management and Coordination Act (No. 8 of 1999), the Environmental Management and Co-ordination (Water Quality) Regulations, 2006, the Environment Management and Co-ordination (Air Quality) Regulations, 2014 and any other relevant legislation, including the obligation to keep all necessary environmental records;	**7**	Water Quality Regulations • Technology investment in effluent treatment before discharge to EPZ Sewer. • Temporary effluent holding ponds not decommissioned. • Control Order issued to decommission the ponds. ***(Annex 7)***
		8	Air Quality Regulations • Stack emissions meet the required emission standards. • Ambient Air Quality levels were below the required levels except for particulate matter (PM). Refer to 2.1 • Control Order issued to identify and monitor PM sources. ***(Annex 7)***

No.	Criteria	Scale of (1 to 10)	Comments
iii.	Design, construct, operate and maintain structures of the highest standards that ensure safe and healthy disposal of waste.	**9**	• Biogas digester utilizes organic load in effluent to produce methane used to supplement Company's energy requirement. • A Clarifier constructed to further purify effluent before discharge to EPZ public sewage treatment plant. • Replacement of Boiler Chimney. The old chimney has been decommissioned.
iv.	Implement the culture of reduction, recycling and reuse of waste in daily operations such as waste utilization for energy production.	**9**	• Biogas digester utilizes organic load in effluent to produce methane to supplement Company's energy requirement.
v.	Implement the best structures and use of the best technology toward cleaning of all resultant industrial by-products from its premises before release to the environment.	**9**	• Addition of a Secondary Clarifier to treat effluent. • Construction of sludge drying and holding beds to manage sludge solid waste. • Modification of mode of aeration in the previous aerobic pond to treat effluent. • Acquisition of two new blowers for more aeration in effluent treatment.
TOTAL		43/50 × 100 = **86%**	Expected compliance level of above 80% met.

- The compliance level has risen from **60%** in **1st July 2019.** On **19th February 2019** it was at **40%.**
- LDK Limited has exceeded the expected compliance level of above 80%.

4 Policy and Legislative Recommendations for Sustainability in Mixed Land Use in Kenya.

On 30th October 2019, the Authority wrote to the Principal Secretary, Ministry of Land and Physical Planning, and to the Chief Executive Officer, Council of Governors on the urgent need for policy and legislative recommendations on sustainable mixed land use in Kenya ***(Annex 8)***. The letter addressed the following;

a. Guidelines on Development of Mixed Use Area
NEMA directed that guidelines on development in mixed use zones be developed, finalized and issued.

b. Zoning Policy
The County Government in liaison with the Physical Planning Department, as the custodian of the local zoning plans, should develop and implement comprehensive zonation guidelines as a legal regulation on the use of land. As a strategy, the periodic review of the zoning schemes should be done in not less than 10 years from the time of its adoption.

c. Need to repeal the Change of User
The *"piecemeal"* change of use should be outlawed as this is the root cause of non-conformities and incompatibility being experienced in all urban areas.

MAMO B. MAMO

AG. DIRECTOR GENERAL

18/06/2020

Annex 1

LONDON DISTILLERS (K) LIMITED

4TH MARCH 2020

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY
RECEIVED
05 MAR 2020
DIRECTOR COMPLIANCE & ENFORCEMENT
P.O. Box 67839-00200

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY
RECEIVED
3525
05 MAR 2020
MAIN REGISTRY

THE DIRECTOR GENERAL

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

P.O BOX 67389-00200

NAIROBI.

ATTN: DIRECTOR COMPLIANCE & ENFORCEMENT

Dear Sir,

RE: MEASUREMENT OF STACK EMISSION AND AMBIENT AIR QUALITY LEVELS ALONG LONDON DISTILLERS (K) LTD BOUNDARY WALL

Reference is made to our previous communication on the above subject and your recent visit on 20th February 2020.

SGS laboratory personnel who are your appointed agent to carry out air quality measurements, came to our factory on 3rd March 2020 ready to carry out the measurements. Unfortunately, all our systems were not operational.

The purpose of this letter therefore is to request you to inform SGS personnel to come in any time from 10th March, 2020 when all the systems are expected to be running.

We apologize for any inconvenience caused. Thank you.

Yours Sincerely,

Ashok Datta

ASHOK DATTA

GENERAL MANAGER, DISTILLERY

HO: LDK House, Dunga Road, P.O. Box 57387-00200, Nairobi, Kenya +254 (0) 20 2035289, 6531007/8/9/10, 722 205854, 713 361251, 733 655478
Ldk@Londondistillers.com www.londondistillers.com +254 (0) 20 6537345/6, **Distillery:** Athi River, +254 (0) 20 3541516, 722 200049, 733 609738

Annex 2





SOURCE EMISSIONS TESTING REPORT

Steam Boiler Emissions Test Program

Prepared for:
LONDON DISTILLERS KENYA LIMITED
P. O. Box 57387-00200, Nairobi, Kenya

Contact Name: Crispus Nyaundi, Environmental Sustainability Expert
Contact No. +254 (0)716537530



Prepared by:

ecoscience ENGINEERING LTD

ECOSCIENCE AND ENGINEERING LIMITED
11th Floor, Mitsumi Business Park, Muthithi Road, Westlands
P.O. Box 55533-00200 Nairobi, Kenya

Contact Name: Philip Abuor, Principal Consultant
Contact No. +2540202000582

EEL Project No: 52000251
February 2020

QUALITY & TESTING FIRM INFORMATION

DOCUMENT **BOILER EMISSIONS TESTING REPORT 2020**

Ref **52000251**

Date **5-Mar-20**

Prepared by **Chrisphine Oduor** **Approved signatory**

Reviewed by **Philip Abuor**

Revision History

ECOSCIENCE & ENGINEERING LTD.
P.O. Box 55533 - 00200,
NAIROBI

Revision	Revision Date	Details	Authorized	
			Name/Position	Signature
00	27-Feb-2020	Boiler stack Emissions Testing Report 2020	Philip Abuor - Principal consultant	ECOSCIENCE & ENGINEERING LTD P.O. Box 55533 - 00200, NAIROBI

LONDON DISTILLERS KENYA LIMITED:

Name Crispus Michira

Position Ehs Offiar

Signature

LONDON DISTILLERS (K) LIMITED
P. O. BOX 57387 - 00200
NAIROBI - KENYA

Company stamp

EXECUTIVE SUMMARY

Ecoscience & Engineering Limited (EEL) was appointed by London Distillers Kenya (LDK) Limited to conduct a series of measurements to determine air emissions from stationary sources at its distillery in Athi River in which it operates one steam boiler. Measurements were required for License compliance as per NEMA's EMC (Air Quality) Regulations, 2014 for emitting plants. The facility is located in Athi River off Main Mombasa Road, Machakos County.

Testing was undertaken on 14th February 2020 to investigate emission concentrations of the following parameters:

- Total Particulate Matter (TPM)
- Sulphur Dioxide (SO_2)
- Oxides of Nitrogen (NO_x)
- Carbon Monoxide (CO)
- Carbon Dioxide (CO_2)
- Oxygen (O_2)

The findings are shown in Tables A below and discussed in section 8 of this report.

Table A: Emissions Testing Results

Parameter	Units	STEAM BOILER	EMC Regulatory limits
Particulate Matter	mg/Nm³	28	50
Sulphur Dioxide, SO_2	mg/Nm³	1283	2000
Nitrogen Oxides, NO_x	mg/Nm³	183	460
Carbon Monoxide, CO	mg/Nm³	22	n/a
Carbon Dioxide, CO_2	%	10.19	n/a
Oxygen, O_2	%	3.01	n/a

Annex 3

LONDON DISTILLERS (K) LIMITED

MARCH 18, 2020

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY RECEIVED 20 MAR 2020 MAIN REGISTRY

THE DIRECTOR GENERAL

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

P.O BOX 67389-00200

NAIROBI.

ATTN: DIRECTOR COMPLIANCE & ENFORCEMENT

Dear Sir,

RE: **REPORT ON INVESTMENT IN STATE OF THE ART POLLUTION CONTROL TECHNOLOGIES AND PRACTICES BY LONDON DISTILLERS (K) LIMITED**

Please find attached herewith the report on investment in state of the art pollution control technologies and practices that we have adopted.

Yours sincerely,

Ashok Datta

ASHOK DATTA

GENERAL MANAGER

HO: LDK House, Dunga Road, P.O. Box 57387-00200, Nairobi, Kenya +254 (0) 20 2035289, 6531007/8/9/10, 722 205854, 715 361251, 733 633478
Ldk@Londondistillers.com www.londondistillers.com +254 (0) 20 6537345/6, Distillery: Athi River, +254 (0) 20 3541516, 722 200049, 733 609738

Measuring Success

Key Performance Targets

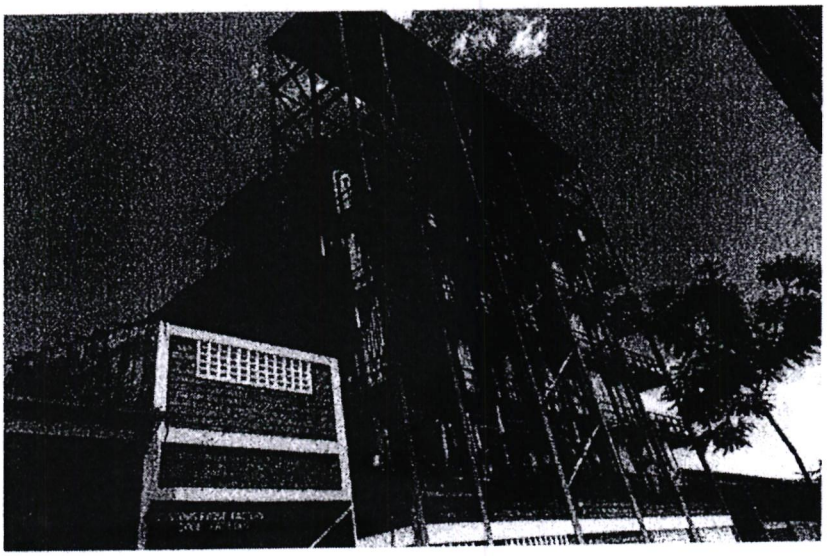
Reference	Measures	Baseline status	2018/19	2019/20	Requirements	Status
Improve waste water quality	Increase aerobic treatment capacity	One aerobic pond	Two aerobic ponds	Regular cleaning/desludging of the ponds	Pond desludging/cleaning schedule to be prepared	- Two aerobic ponds already completed and in use. -Pond Desludging/cleaning schedule prepared and currently followed stringently. **(Attached, Annex 1)**
Eliminate any breach of air quality standards from our sites	Improve monitoring capacity of priority pollutants Minimize fugitive emission points through tight sealing of manholes	Priority pollutants monitored quarterly by a third party	Mapping of all potential sources of priority pollutants emission	Implement continuous emission detection system	Acquisition of gas detector as identified by the first ambient air quality measurement report.	- Priority gases detector gadget acquired and in use. -Manufacturer- Riken Keiki -Model Number/Type - GX-6000 AM111P200L -Serial Number- 52I0037601RN - **(Calibration certificate attached, Annex 2)**
Improve tree cover and biodiversity	Continue tree planting within our facilities and partner with neighboring schools	18,500 trees planted	20% increase	50% increase	Purchase of tree seedlings	- A total of 21,480 trees planted within and around the facility. **(As confirmed on frequent inspections)**

LDK @2020

In addition to the observed interventions before, the following mechanisms have been put in place for further improvement;

A. AIR POLLUTION MITIGATION MECHANISMS

1. Installation of our new ultra-modern plant



This was done with an investment of $ 2,381,405/ Ksh.250 Million

Among other numerous advantages observed from installation of the new ultra-modern distillery, the following are the benefits observed in so far as air pollution mitigation is concerned;

a) By-passing the use effluent primary treatment cooling ponds.

Previously, the spent wash from the plant had to be conducted into open cooling ponds for cooling from the high temperatures of about 70^0C to the 40^0C required by our Anaerobic Bio-digester for primary treatment and production of Methane gas used in our boiler.

With the open cooling ponds and the high temperatures exhibited by the spent wash; this stage proved to be the biggest source of fugitive emissions of gases like Ammonia. With the installation of the new plant, this stage has been bypassed as the spent wash

from the new plant is of lower temperatures of about 40^0C - 50^0C which is suitable and is pumped directly into our completely sealed Anaerobic Bio-digester.

b) Lowering the amount of Heavy Fuel Oil (HFO) used in our boiler

The launch of the new plant has led to production of more Biogas (natural gas) used in our boiler to substitute Heavy Fuel Oil as an energy source. This has seen an increase from the previous **55:45%** ratio of Natural Gas: HFO use in the boiler to an average **60:40%** ratio. As per our quarterly boiler emission testing reports submitted to NEMA, this has drastically reduced the concentration of flue gases emitted from our boiler stack. Our latest stack emission tests done in February 2020, for instance were as below:

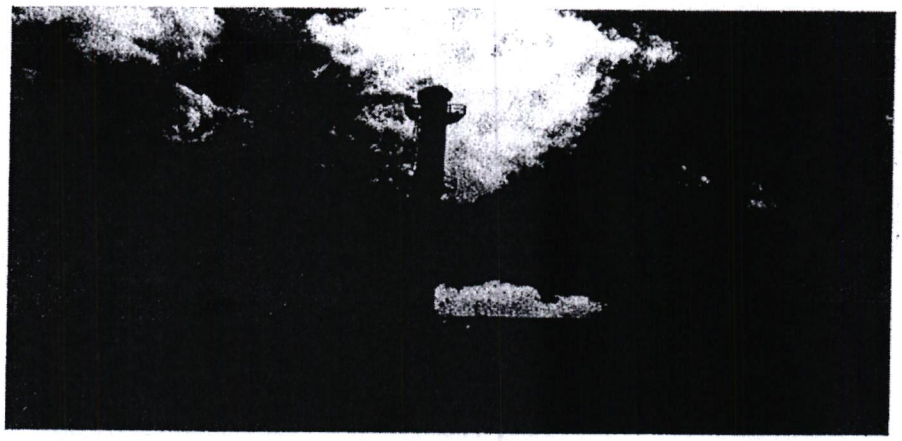
Parameters	Units	8T Boiler		EMC Regulatory limits for Liquid fuel fired Boilers
		July, 2019	February, 2020	
Particulate Matter	mg/Nm^3	64	28	50 or 150*
Sulphur Dioxide, SO2	mg/Nm^3	1654	1283	2000
Nitrogen Oxides, NOX	mg/Nm^3	196	183	460
Carbon Dioxide, CO2	mg/Nm^3	506	22	N/A
N/A refers to no emission guideline				

c) Unlike the old plant that was designed to offset any resultant gaseous emissions from the production through overhead vents into the atmosphere, the new ultra-modern plant is designed to dissolve any resultant gases in the wash water released downwards into the sealed manholes for further treatment. This has ensured no atmospheric gaseous emissions from the plant.

LDK @2020

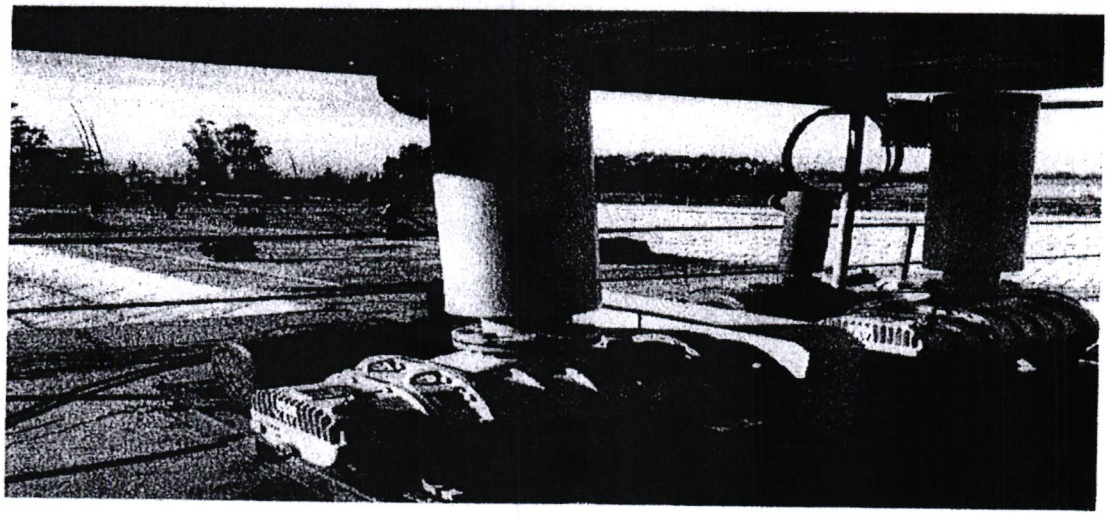
2. Replacement of our boiler chimney

After much internal inspection, we noticed that our boiler chimney was worn out and this could have a negative effect on the stack emissions. The management then set out a project to replace the chimney by the end of January, 2020 (30/01/2020). This has now been completed. From our stack emissions tests illustrated above, this also had a positive effect on the stack emissions from our boiler.



This was done with an investment of Ksh. 2.45 Million

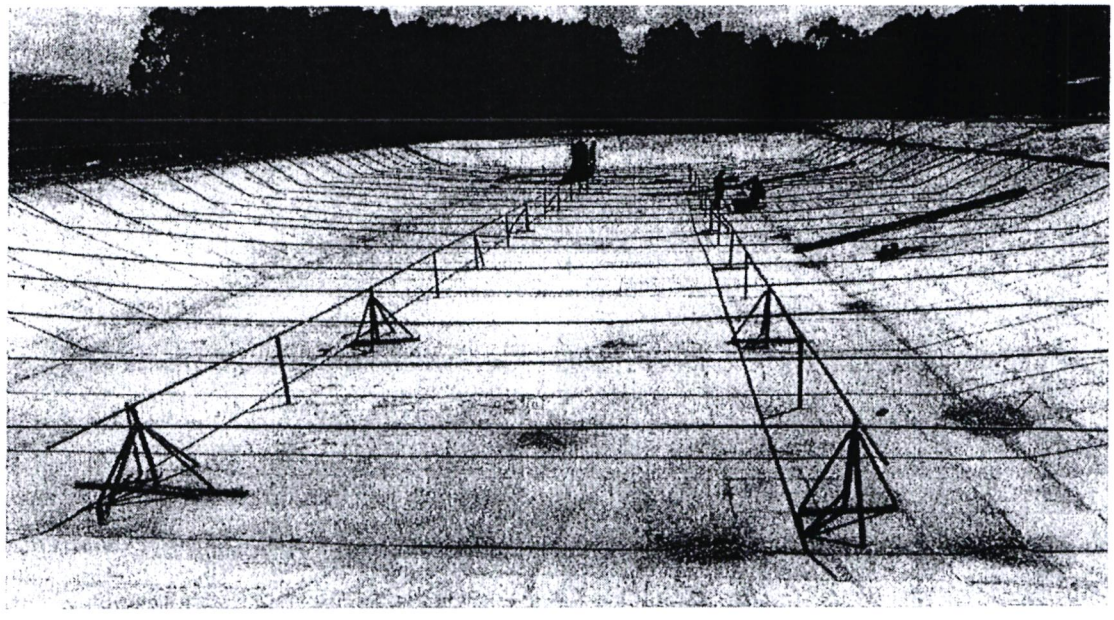
3. Acquisition of two new blowers for more aeration



This was done with an investment of $23866.86/Ksh. 2.4 Million.

- The two blowers are now being used concurrently to provide aeration for the two Aerobic ponds completed.
- Aeration is now done in a subsequent manner as effluent flows from Aerobic Pond 1 to Aerobic Pond 2 for further aeration before flowing into our Secondary clarifier.
- This has greatly reduced the oduor levels at our effluent treatment plant since it brings the water to closer contact with air in order to remove any remaining dissolved gases like CO_2, H2S, Ammonia and VOC's.
- These have greatly aided in reduction of air emissions since their acquisition on the second quarter of 2018. From observation, no oduor complaints were registered throughout the year 2019 to date.

4. Addition of one more aerobic pond for more aeration



This was done with an investment of Ksh. 216,480

LDK @2020

5. Modification of mode of aeration in the previous aerobic pond



This was done with an investment of Ksh. 222,560

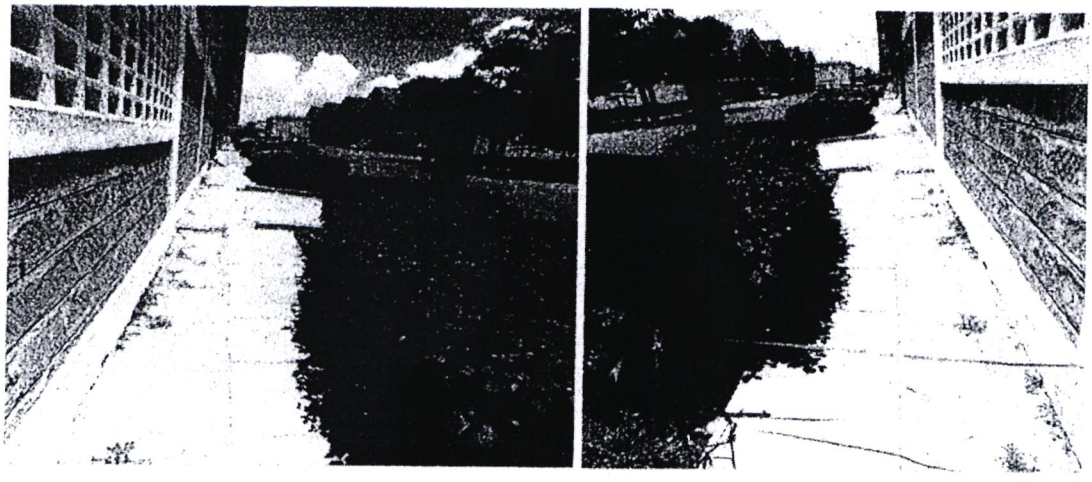
This has enabled wholesome and even distribution of air in the aerobic pond.

Advantages observed so far due to more aeration

- Increases microbial activity which actively feed on organic content in effluent. This then forms flocks which settle out and are separated as sludge.
- Brings the water to closer contact with air in order to remove dissolved gases e.g. CO2 and oxidizes any dissolved metals such as H2S and VOC's.
- This has greatly reduced the odor levels from the effluent treatment plant section greatly reduced.

LDK @2020

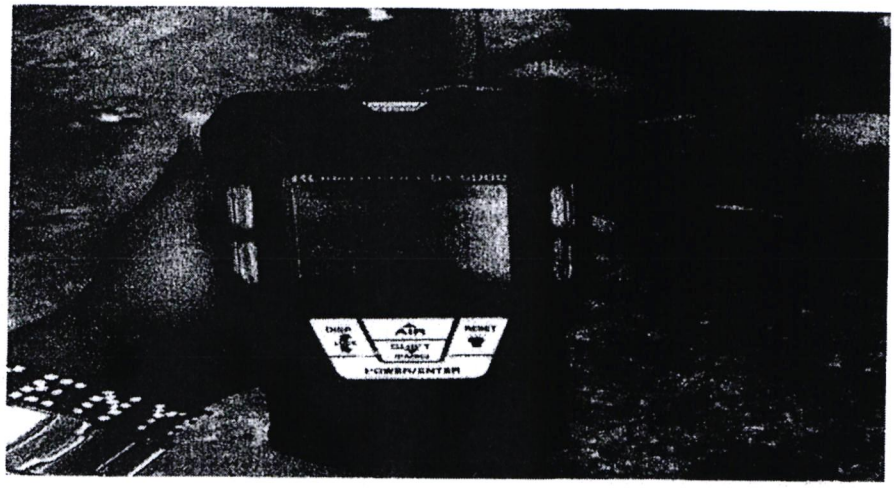
6. Covering of the entire drain trench in front of our production plant



This was done with an investment of Ksh. 390,000

This was done by use of slabs throughout the entire drain trench that serves our Still House. This trench which was initially open was observed to be one of the potential sources of fugitive emissions. Covering of the entire trench has proved to be one of the greatest milestones toward elimination of oduor from our plant so far.

7. Acquisition of an air quality monitoring gadget



This was done with an investment of Ksh. 342,200

LDK @2020

The model for the acquired Gas detector is-

Manufacturer- Riken Keiki

Model Number/Type - GX-6000 AM111P200L

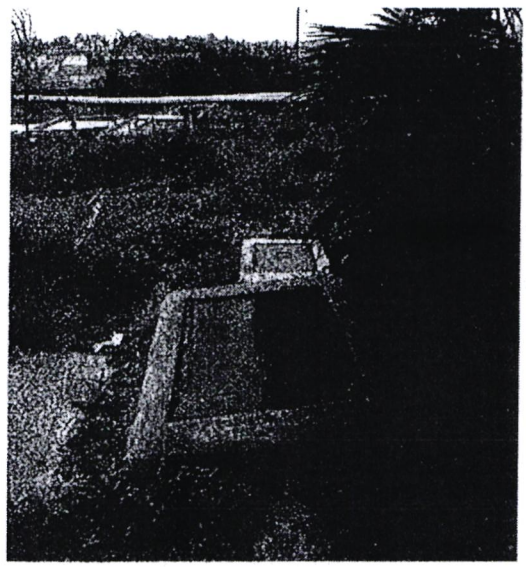
Serial Number- 52I0037601RN

- The tolerance limits for the gadget are as shown on the detector's calibration certificate **attached, Annex 2.**
- From our previous ambient air quality measurement report, the priority pollutants identified to be higher especially close to our treatment ponds were: H_2S and Ammonia. This is what guided or team to acquire the correct air quality monitoring gadget.
- The monitoring device is used on a daily basis and the readings of the priority pollutants as identified by a third party air quality analysis lab.
- These are recorded daily in checklists and filed for reference. In any case of higher readings, action is promptly taken to return the situation to normalcy.
- Any higher readings are also easy to identify since the gadget is fixed with an alarm to alert higher than normal readings.

Benefits from the gas detector

- It has helped us to actively monitor any cases of gas leakage if any from our effluent reticulation line and Biogas Plant around the clock.
- The factory embarked on this project in order to self-monitor and control any emission at the particular point sources of potential priority pollutants.
- This has enabled our team to always quickly respond appropriately to such cases to prevent any escapes from the points of source.
- From observation from the device measurements, the odor levels have greatly decreased even close to the treatment ponds ever since the interventions listed were put in place. This is also evident as no complaints have been lodged on air pollution this far.

8. **Proper sealing of manholes**





This was done by our internal maintenance team.

It has significantly prevented any fugitive gas emissions to the atmosphere by the proper sealing of effluent manholes for further treatment.

9. A NEMA accredited air quality laboratory was also engaged to conduct the quarterly stack emission measurement for the **first quarter of 2020**. The report which was submitted to NEMA in March 2020 was also within EMCA emission limits for all the given gases and Particulate Matter.

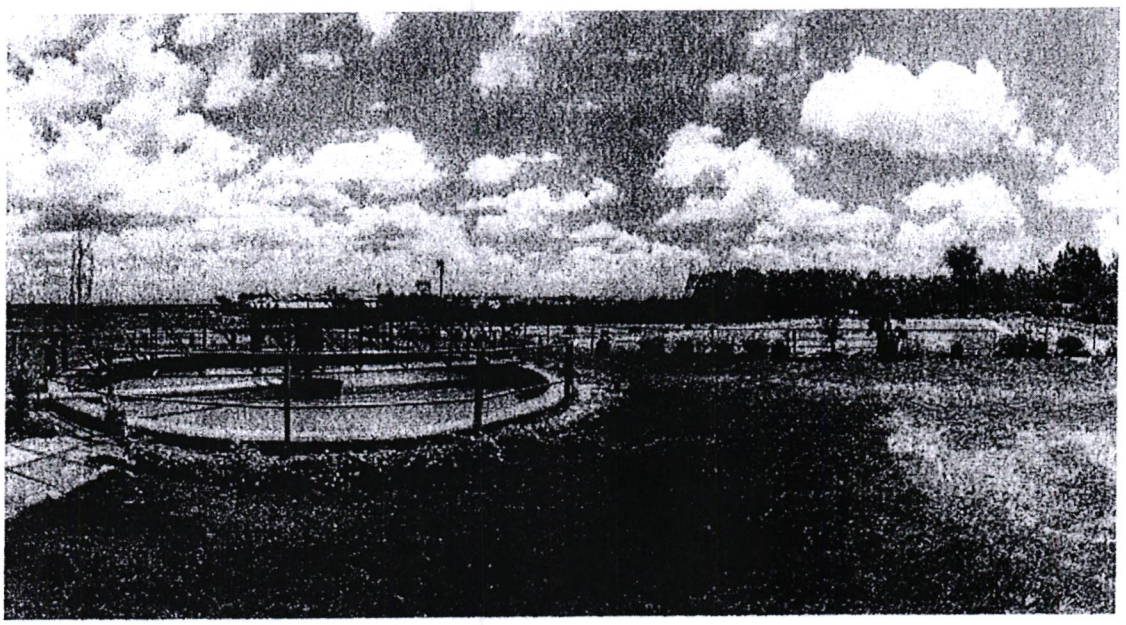
B. IMPROVEMENT IN WASTE WATER QUALITY

- Our effluent is pre-treated starting with primary treatment in our Biogas Bio-digester which in turn provides methane gas for our boiler; then through secondary treatment with flocculant and coagulant addition, two clarifiers, two aerated lagoons and two polishing ponds. After treatment, it is pumped through a private sewer-pipe to the public sewer provider's trunk sewer (EPZA public sewer line).
- The improvement observed in the waste water quality has been aided by the addition of the earlier interventions mentioned. For instance, the acquisition of

LDK @2020

the two more blowers for effluent aeration has helped on BOD and COD reduction as observed by the daily measurements done in our internal effluent laboratory and those shared with us quarterly by the sewer provider.

- For improved quality, the management also embarked in addition of a secondary clarifier for pre-treatment of our effluent.



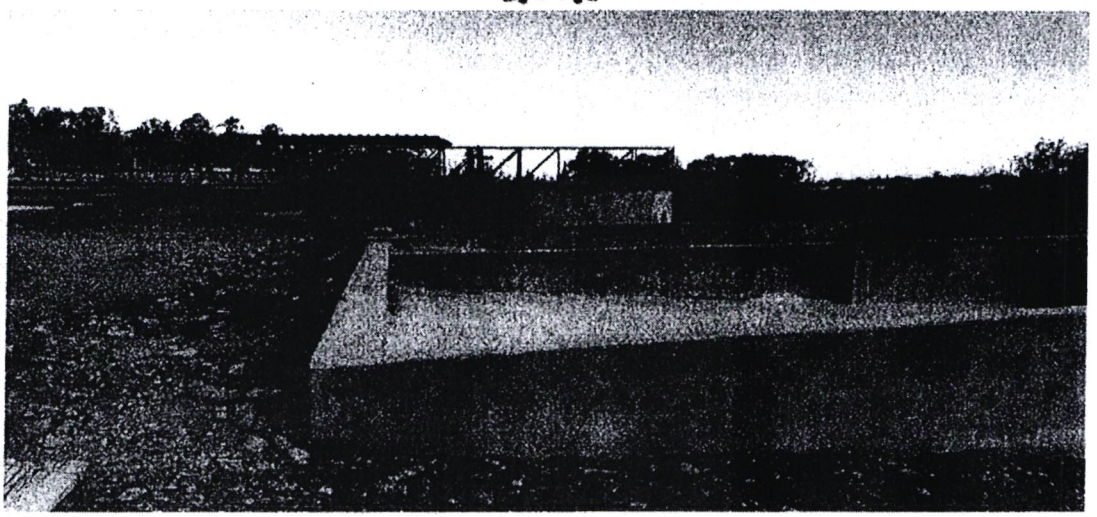
This was done with an investment of Ksh. 4.5 Million

Benefits of the secondary clarifier

The secondary clarifier acts as a sedimentation tank for removal of suspended solids by sedimentation. The settled solids are normally removed from the bottom of tanks by sludge pumps that pump the sludge to prepared/contained sludge dried beds. The sludge is dried for about 6 months after which it is utilized internally as a soil conditioner. This addition has seen a 30% addition in Total Suspended Solid reduction.

C. IMPROVEMENT IN SOLID WASTE QUALITY AND MANAGEMENT

1. **Completion of a sludge drying bed for the newly added second clarifier**



This was done with an investment of Ksh. 430,500

- Completion of our sludge drying and holding beds has ensured no leakages from the effluent treatment line.
- This has also ensured proper holding time and drying of any accumulated sludge from the clarifiers.

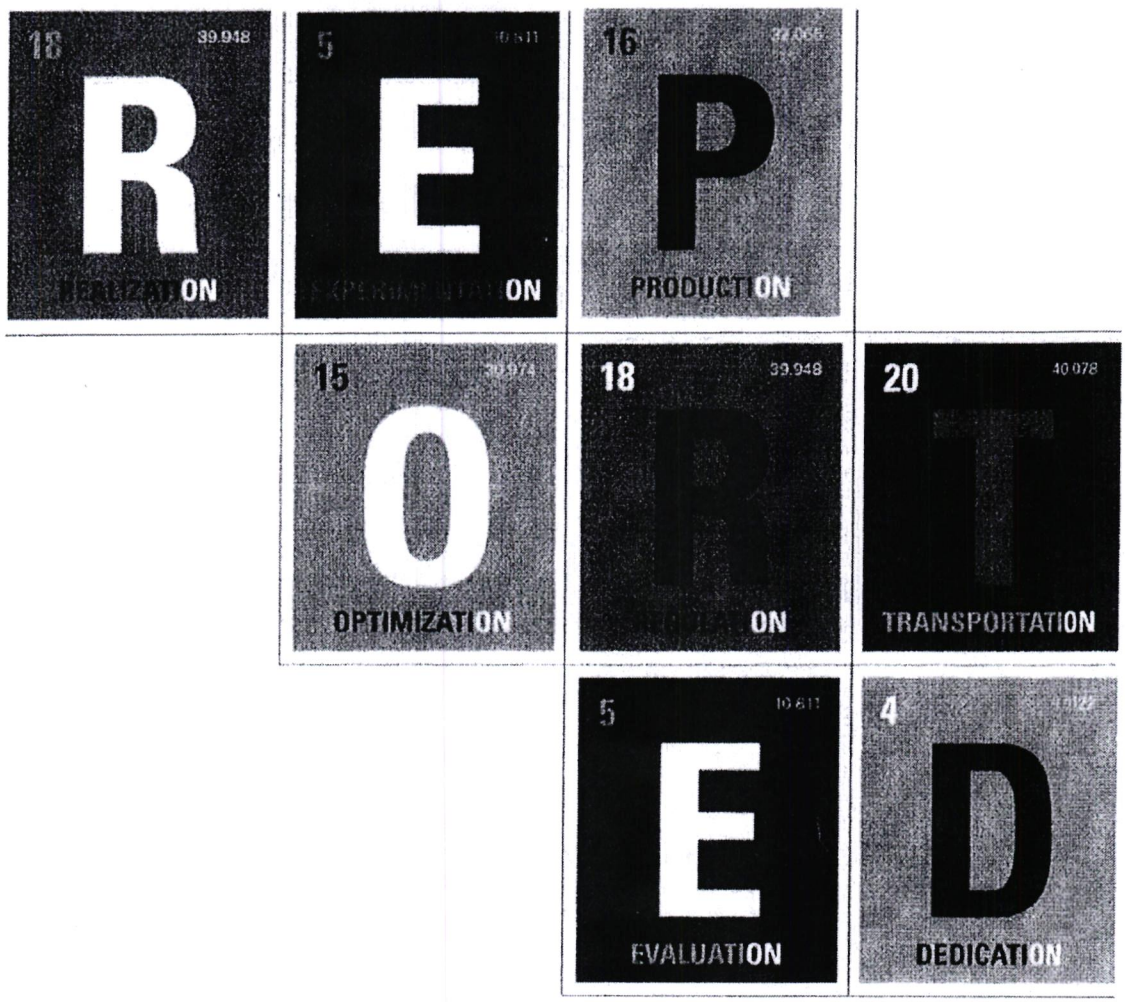
II. **Engagement of an independent laboratory for testing our dried/cured sludge**

The tests concluded that **'the product can be used as a soil improver with gradual nutrient add-ons to crops. Though the agronomic quality of the represented product is not the highest but nevertheless can be used as a soil corrective and soil improvement input.'** This enabled us to utilize our dried sludge on our grass lawns and engage it in planting of rose flowers within our facility, as a pilot test of its viability. So far the growth of the flowers and the grass has shown tremendous improvement with the use of our dried sludge with proper irrigation.

Test results of the dried sludge are attached, Annex 3.

TOTAL INVESTMENT ON THE NEW STATE OF THE ART TECHNOLOGIES DONE SO FAR AMOUNT TO: **KShs. 260,951,470 (Ksh. 260.95 Million)**

Annex 4



BOILER EMISSIONS TESTING REPORT

London Distillers Kenya Limited, Athi River

Reference: **5200282**

PREPARED FOR:

LONDON DISTILLERS KENYA LIMITED

March 2020

PROJECT QA/QC

Rev	Date	Prepared	Reviewed	Approved
00	17/03/2020	RB	JT	YJ
01	17/03/2020	RB	WM	YJ
02	19/03/2020	RB/WO	WM	JT
03				

Company Stamp		Signatures	

LONDON DISTILLERS KENYA LIMITED
Location – Athi River; Machakos County Latitude 1° 25' 43.19" S Longitude- 36°58 30.20" E
Contact Person…….. Designation…… Signature……
Company Stamp…… Date……

REPORT DETAILS

REFERENCE	5200282
REPORT TITLE	Boilers Emission Testing Report
DATE SUBMITTED:	20 March 2020
CLIENT:	LONDON DISTILLERS KENYA LIMITED
PLANT:	Athi River Distillery
PREPARED BY:	Rashid Bendera- rashid.bendera@sgs.com
SIGNED:	RB
REVIEWER:	Juliana Tek– Juliana.tek@sgs.com Walter Mochama- Walter.Mochama@sgs.com
APPROVER:	Yusuf Jin – Yusuf.Jin@sgs.com
STATUS	Draft Report
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EXECUTIVE SUMMARY

SGS Limited Kenya was contracted by National Environmental Management Authority (Nema Kenya) to perform emission testing on a boiler stack at London Distillers Kenya Limited located off Nairobi-Mombasa Highway in Athi River, Machakos County. The objective of the testing campaign was to measure particulate and gaseous emissions from the stacks and to compare the results with the local Environmental Management and Coordination Act(Air quality regulation 2014).

All stack sampling for emissions of Particulate Matter and gases were performed using a combination of United States Environmental Protection Agency (US EPA) standard test methods for isokinetic sampling, as documented in the US Code of Federal Regulations (40CFR Pt60).

The emission testing scope of work is summarised in Table 0-1 below.

Table 0-1: Scope of source emission measurements at LDK Boiler exhaust stack

Source	Dust	CO, SO_2 and NO_x
US EPA Method	5	3, 6C and 7E
8 tonnes Boiler	√	√

The tests reported were conducted on 10th March 2020, the average results of which are reported in Table 0-2 below. All concentrations have been expressed at the following reference conditions: Standard conditions of pressure (101.3 kPa) and temperature (0°C or 273 K) at a dry basis, and 3% oxygen reference.

Table 0-2: Stack emission testing values

Parameters	Units	8 tonnes Boiler	EMC Regulatory limits for Liquid fuel fired Boilers
Particulate Matter	mg/Nm^3	**23**	50
Sulphur Dioxide, SO_2	mg/Nm^3	**1289**	2000
Nitrogen Oxides, NO_x	mg/Nm^3	**209**	460
Carbon monoxide, CO	mg/Nm^3	**3**	N/A
Oxygen	%	**7.8**	N/A
Carbon Dioxide, CO_2	%	**7.5**	N/A
These values are reported in mg/Nm^3, dry gas basis @ 273K, 101.3 Kpa, and 3% O_2 reference			

Based on the results and observations made on site the following conclusions are noted: -

General Comments:

The factory has two boilers of 3 tonnes and 8 tonnes, the measurements were conducted on the 8-tonnes boiler while the 3-tonnes boiler was decommissioned. The primary fuel for the 8-tonnes boiler is Heavy Fuel Oil (HFO) and Biogas (methane gas). The Boiler is automated and runs as per steam requirements for factory's operations. Measurements were taken after confirming the emissions were stable, by continuously monitoring oxygen levels. It is set to normally run at slightly above 60% Biogas and 40% Heavy fuel oil (HFO). Emissions tests were undertaken on the boiler exhaust stack with normal operation.

Stacks Emissions Testing

- Operations personnel confirmed that all the sources were operating under normal conditions for the duration of all tests;
- Particulate matter concentration for the 8 tonnes boiler stack emission were within the Environmental Management and Coordination Act (Air quality regulation 2014), regulatory limit of 50 mg/Nm^3 for liquid fuel fired boilers and averaged at 23 mg/Nm^3.
- Dry gas measurements were performed for emissions of Nitrogen Oxides (NOx) and Sulphur dioxide (SO_2);
    - The concentration of SO_2 for the 8 tonnes Boiler was within the Environmental Management and Coordination Act (Air quality regulation 2014) limit of 2000 mg/Nm^3 and averaged 1289 mg/Nm^3;
    - Nitrogen Oxides concentration is also within the Environmental Management and Coordination Act (Air quality regulation 2014) limit for the 8T Boiler and averaged 209 mg/Nm^3 against a regulatory limit value of 460 mg/Nm^3;
    - All the other tested parameters have no limit values provided in the Environmental Management and Coordination Act (Air quality regulation 2014).

Annex 5



LONDON DISTILLERS KENYA LTD

ATMOSPHERIC DISPERSION MODELLING REPORT

AIR EMISSIONS MONITORING PROGRAM

Prepared for:

LONDON DISTILLERS KENYA LIMITED
P.O. Box 57387- 00200
Tel: +254206531007/8/9/10
Nairobi, Kenya

Prepared by:

ecoscience
ENGINEERING LTD

MARCH 2020

CERTIFICATION

REFERENCE:	52000280
REPORT TITLE:	Atmospheric Emissions Dispersion Modelling
DATE SUBMITTED:	20th March 2020
PURPOSE	Regulatory Compliance Assessment
CLIENT:	London Distillers Kenya Limited. P.O. Box 57387, 00200 Nairobi, Kenya Tel: +254 20 653 1007
PREPARED BY:	Ecoscience and Engineering Limited, P.O. Box 55533-00200, Nairobi Tel : +254713566825 E-mail : Info@ecoscienceandengineering.co.ke
APPROVED:	Philip Abuor. ECOSCIENCE & ENGINEERING LTD. P.O. Box 55533 - 00200, NAIROBI
STATUS:	Final Report
DISCLAIMER:	*This atmospheric emission assessment report has been carried out to the best of our knowledge and ability and within the terms of contract with the client and is limited to the exercise of reasonable care. This report is not intended to relieve the Establishment from their contractual obligations. This report reflects our findings at the time and place of intervention and is issued under the company's terms of service. The modelling was done for point sources only and any other sources for instance area, fugitive and volumes were not part of the scope.*

QA/QC & FIRM INFORMATION

DOCUMENT ADM_LDK_2020_20

Ref 52000280

Date 31-Mar-20

Revision	Revision Date	Details	Authorized Name/Position	Signature
00	26-Mar-2020	Air Dispersion Modelling Report	Philip Abuor / Principal consultant	

ECOSCIENCE & ENGINEERING LTD. P.O. Box 55533 - 00200, NAIROBI

LONDON DISTILLERS KENYA LIMITED:

Name Crispus M. Nyaundi Position EHS Officer

Signature _____ Company stamp LONDON DISTILLERS (K) LIMITED P. O. Box 57387 - 00200 NAIROBI - KENYA

EXECUTIVE SUMMARY

Ecoscience and Engineering Limited was engaged by London Distillers Kenya Limited to undertake an Air Dispersion Modelling to evaluate air emissions impact on surrounding areas and determine the fall out areas.

This report presents the methodology and results derived from emission simulation and air dispersion modelling to evaluate the current impact on the surroundings of the London Distillers emissions from point sources. The major source of emissions is from the Biogas (Methane) and Heavy Fuel Oil Fired Boiler.

The scope of work included the following:

- A review of the regulatory requirements for the identified key pollutants against which compliance needs to be assessed.
- A study of the receiving environment and identification of potential sensitive receptors
- The determination and simulation of ground level concentration arising from the boiler air emissions through atmospheric dispersion modeling.

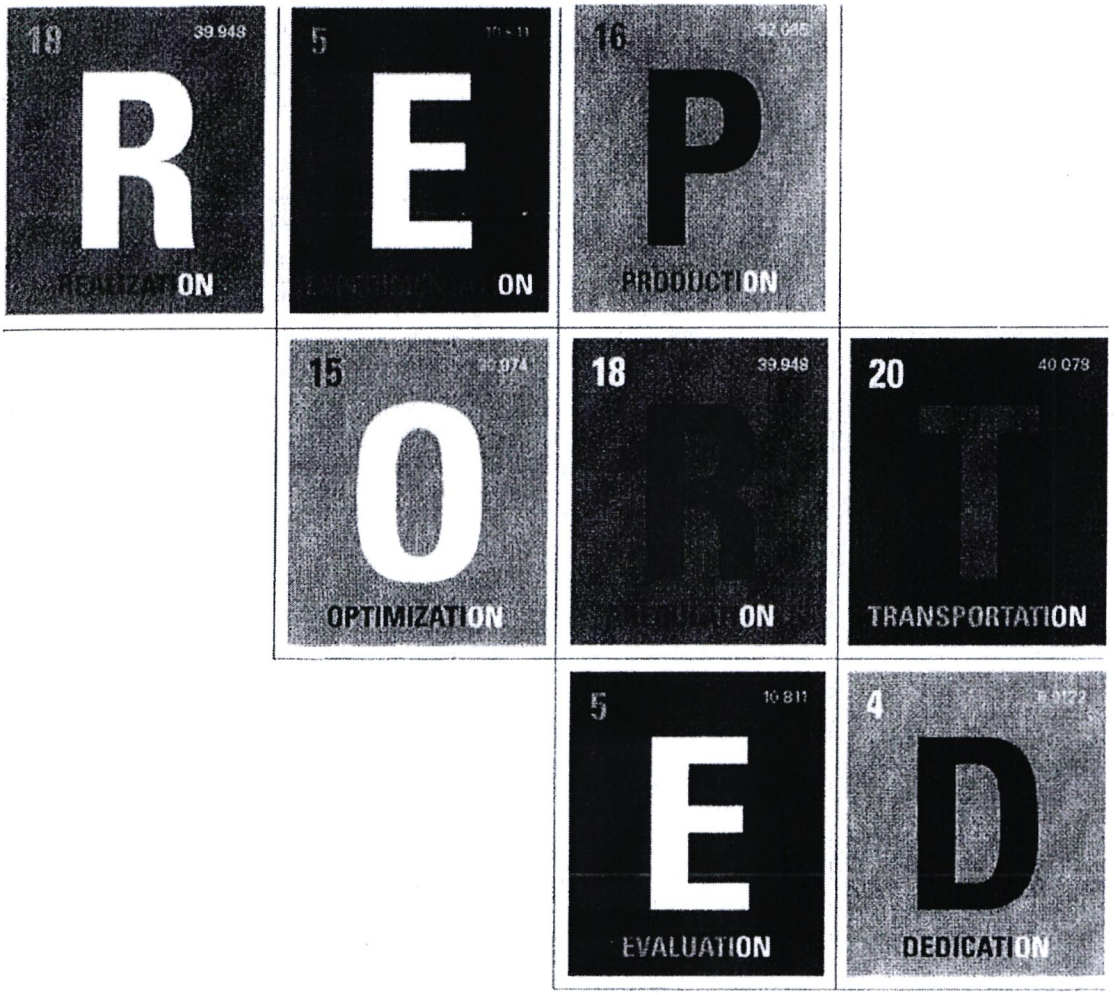
The AERMOD dispersion model was used in the estimation of ground level concentration of Sulphur Dioxide, Oxides of Nitrogen (NOx), Carbon Monoxide (CO) and Inhalable Particulate Matter (PM_{10}); the main pollutants of concern as far as Biogas and Heavy Fuel Oil Fired Boilers are concerned.

The dispersion modelling assessment indicates that the air emissions from the boiler have no significant impact on ambient air quality at the boundary of the facility. The maximum impact of the boiler emissions is predicted to be located at the South West boundary of the facility except during April to June when the emissions fall out areas would be at the North North West of the facility, which reflect the annual prevailing wind direction of the meteorological data set. The assessment also indicates that the emissions from the facility have no significant impact on the nearest sensitive receptors given that fact that the concentration of the relevant pollutants are below the set limits.

However, it is recommended that the simulated results be validated by way of actual measurements and monitoring at the predicted fall out areas. Regular monitoring should be done to verify consistency and possible impact on the sensitive receptors and the environment in case of any variations in plant operations.

It should be noted that the model only depicts specific zones: in this case, the modelling domain was chosen to be predominantly urban (industrial).

Annex 6



AMBIENT AIR QUALITY MEASUREMENT REPORT

London Distillers Kenya Ltd

Reference: 5200328

PREPARED FOR:

National Environmental Management Authority -London Distillers Kenya Ltd Site

March 2020

PROJECT QA/QC

Rev.	Date	Prepared	Reviewed	Approved
00	28/03/2020	Walter Mochama	Wilfrida Ojwang/Rashid Bendera	Juliana Tek
01	20/04/2020	Walter Mochama	Wilfrida Ojwang	Juliana Tek
02	13/05/2020	Walter Mochama	Wilfrida Ojwang	Juliana Tek

Company Stamp	Signatures	

REPORT DETAILS

REFERENCE	5200328
REPORT TITLE	Air quality measurement report
DATE SUBMITTED:	13 May 2020
CLIENT:	National Environmental Management Authority
PLANT:	London Distillers Kenya Ltd
PREPARED BY:	Walter Mochama- walter.mochama@sgs.com
SIGNED:	WM
REVIEWER:	Rashid Bendera– rashid.bendera@sgs.com
APPROVER:	Juliana Tek– juliana.tek@sgs.com
STATUS	Draft Report
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EXECUTIVE SUMMARY

SGS Kenya Limited as an independent laboratory was contracted by National Environmental Management Authority (Nema Kenya) to perform ambient air quality assessment at London distillers Kenya Limited located off Nairobi- Mombasa Highway in Athi River, Machakos County. The directive to conduct the measurements was issued by The Environmental Tribunal Court in order to form basis in decision making and ruling for the dispute between London Distillers Kenya and Erdemann Property Limited Developers on matters of environmental pollution.

The ambient air measurements included Particulate matter (2.5 and 10), Sulphur oxides (SO_2), Hydrogen sulphide H_2S, and Volatile Organic Compounds (VOCs). The concentrations were compared against the limit values stated in Environmental Management and Coordination Act (Air Quality Regulations (2014).

The London Distiller Kenya facility is in a mixed industrial and residential developments area. The mother Title deed of London distiller's Kenya Ltd indicates the facility to be an industrial zone. All the measurements were undertaken at the property's boundary neighbouring other developments such as The Great wall Garden Development, China Wuyi, Tafform, Sabaki Village among others; All the agreed points were proposed by NEMA expert; which were along the London Distillers Kenya - Property Boundary wall. The specific points were GPS mapped and coded as illustrated in Table 3-1 and Figure 1:1.

All the field measurements were conducted by SGS field experts and SO_x,NO_x and VOCs samples were submitted to SGS Spain for analysis due lack of local capability to analyze . The measurements were supervised by a Nema expert personnel to ensure objectives of the exercise were met. This report presents the findings of sampling and measurements held between 13th and 21st March 2020 at LDK property boundary.

The Environmental Management and Coordination Air Quality Regulations, 2014 does not provide regulatory limits for pollutants in a mixed industrial and residential areas. Therefore, the limits for property boundary were applied.

- The measurements results for the concentrations of Particulate Matter (PM_{10}) for SP4,SP5 and SP6 which borders the Main gate, Quarry Road and Bare land respectively, were above the limits stipulated in EMC (Air Quality Regulations, 2014) of 70 µg/m^3 for 24hrs weighted time at the property boundary. The results for SP4, SP5 and SP6 were averaged at 83 µg/m^3, 139 µg/m^3 and 97 µg/m^3 respectively.
- The measurements results for the concentrations of Particulate Matter ($PM_{2.5}$) for SP7 and SP1 which borders Great wall gardens 1 road and LDK staff residence area respectively; were above the regulatory limits of 70 µg/m^3 at 208 µg/m^3 and 83 µg/m^3 respectively.

- The measurements results for Sulphur Dioxide were within the limit values stated in the EMC(Air Quality Regulations, 2014) of 125 µg/m^3 for 24hrs weighted time at property boundary for the industries located in residential areas.
- The measurements results for Nitrogen Dioxide at all the monitored points were within the limit values stated in the values stated in the EMC (Air Quality Regulations, 2014) of 150 µg/m^3 for 24hrs weighted time at property boundary for the industries located in residential areas.
- The measurements results for Hydrogen Sulphide at all the monitored points were within the limit values stated in the values stated in the EMC(Air Quality Regulations, 2014) of 50 µg/m^3 for 24hrs weighted time at property boundary for the industries located in residential areas.
- Concentration of VOCs in all the monitored points were within the permissible limits as stipulated in the values stated in the EMC (Air Quality Regulations, 2014) of 600 µg/m^3 for 24hrs weighted time for the industrial areas. There is no provision regulatory limits for residential, rural or controlled areas neither at property boundary for VOCs.
- The blank analytes test for SO_x, NO_x, H_2S and VOCs recorded; <5.0µg/sample, <5.0µg/sample, <0.5µg/sample, <5.0µg/sample, <10µg/sample respectively.

Annex 7

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Telcom Wireless: 020-2183718, 020-2101370
Mobile Line: 0724 253 398, 0723 363 010, 0735 013 046
Incident Line: 0786 101 100, 0741 101 100

P.O Box 67839 - 00200
Popo Road, Nairobi, Kenya
Email: dgnema@nema.go.ke
Website: www.nema.go.ke

NEMA/5/11/Vol. III

09th June, 2020

Managing Director,
London Distiller (K) Limited
P.O. Box 72118-00200,
NAIROBI.

Dear Sir,

CONTROL ORDER FOR LONDON DISTILLERS KENYA LIMITED, ATHI RIVER, MACHAKOS COUNTY, FOR VIOLATING AIR QUALITY REGULATIONS 2014

The Authority undertook ambient air quality measurement at London Distillers Kenya Limited (LDK LTD). SGS Limited Kenya, a NEMA Designated Laboratory, undertook the measurement.

The parameters measured were within the Emission Limits of the Environmental Management and Coordination (Air Quality) Regulations, 2014 except for Particulate Matter (PM), specifically $PM_{2.5}$ and PM_{10}, at the following sampling points: (SPs): SP1, SP4, SP5, SP6 and SP7, as indicated in the attached report.

In addition, in the month of May 2020, the Authority received complaints of air pollution from the neighbouring residential estate. A subsequent inspection established the source of the emissions was LDK LTD specifically the biogas digester.

The Authority is also in receipt of your letter dated 18th March 2020. In this communication, LDK Limited informed NEMA of the investment it has made in the State of the Art Pollution Control Technologies including effluent treatment. However, the Authority is concerned that the temporary effluent holding ponds, have not been decommissioned since the last inspection visit that was conducted in February 2020. These ponds besides being potential sources of ground water pollution are also sources to fugitive emissions (odour).

With respect to the foregoing, the Authority would like to inform LDK LTD that the provisions of the Environment Management and Coordination Act (No. 8 of 1999) and the Environment Management and Co-ordination (Air Quality) Regulations, 2014 have been contravened specifically:

1. Causing Particulate Matter (PM) emissions into the environment beyond the recommended limits,
2. Causing Air pollution directly and indirectly that may or cause harm to public health, and

3. Causing or allowing the generation of odour that interferes with any other person's lawful use or enjoyment of their property.

Your attention is drawn to the Environment Management and Co-ordination Act (EMCA), CAP 387 Part II General Principles, Section 3 (1) which states that "Every person in Kenya is entitled to a clean and healthy environment and has a duty to safeguard and enhance the environment"

Your attention is also drawn to Regulation 21of the Environment Management and Co-ordination (Air Quality) Regulations, 2014 which states that "a Control Order may be issued in anticipation of a breach of any provision of the Air Quality Regulations or of any term or condition of a licence, or in response to such breach".

The Authority therefore directs you that within **21 (Twenty One) days** of the receipt of this Order to:

(i) Identify sources of Particulate Matter within your facility and provide mitigation measures to ensure they comply with the emission limits provided in the Air Quality Regulations.

(ii) Provide a decommissioning plan for the temporary effluent holding ponds now that the Company has invested in the State of the Art Effluent Treatment Technologies.

(iii) Identify sources of fugitive emissions and submit a written fugitive emission control plan for the control of fugitive emissions that affect the Ambient Air Quality of neighbouring facilities.

Note that failure to comply with this Control Order constitutes an environmental offence that is prosecutable under the laws of Kenya.

You have the right of appeal against this Control Order to the National Environment Tribunal if aggrieved by the order.

MAMO B. MAMO
AG. DIRECTOR GENERAL

Copied to: County Director of Environment - Nairobi,
County Director of Environment - Machakos County

Annex 8

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Telcom Wireless: 020-2183718, 020-2101370
Mobile Line: 0724 253 398, 0723 363 010, 0735 013 046
Incident Line: 0786 101 100, 0741 101 100

P.O Box 67839 - 00200
Popo Road, Nairobi, Kenya
Email: dgnema@nema.go.ke
Website: www.nema.go.ke

30th October, 2019

NEMA/AQ/21/13/86

Dr. Nicholas Muraguri
Principal Secretary
Ministry of Land and Physical Planning
ARDHI HOUSE
P.O. Box 30450-00100,
NAIROBI

C.E.O.
Council of governors
Delta Corner, 2nd Floor, Opp PWC
P.O Box 40401 - 00100
NAIROBI

POLICY AND LEGISLATIVE RECOMMENDATION FOR SUSTAINABILITY IN MIXED LAND USE IN KENYA; LESSONS LEARNT FROM THE CASE OF ERDEMANN PROPERTY LTD VS LONDON DISTILLERS KENYA LTD ON INDUSTRIAL POLLUTION IN ATHI RIVER, MACHAKOS COUNTY

Reference is made on the ongoing inquiry into complaints of environmental pollution by London distillers Kenya Limited by the National Assembly departmental committee on Environment and Natural Resources.

The National Environment Management Authority (NEMA) is cognizant of Kenya's development pathway to a middle-income state through industrialization to provide a high quality of life to all in a clean and secure environment as envisioned in the development blueprint, Vision 2030 and the Big 4 agenda on food security, affordable housing, manufacturing, and affordable healthcare for all. In the backdrop of this concerted efforts for industrialization and affordable housing in the country and the above mentioned case, NEMA has observed the increasing intersections of urban industrial and non-industrial land use planning, urban renewal, and associated environmental conflicts.

The spatial and temporal trajectories of the emerging mixed residential and industrial land use in Athi River and in other urban areas is shifting the risk scape in historical land use policies and planning while growing conflict between industrial and non-industrial land uses. While recognizing the multi-stakeholder and cross-sectoral nature of land use planning and development in Kenya and the constitutional requirement for public consultation in decision making, the Authority wishes to request for your intervention in the following policy and planning recommendations to mitigate the obscured mixed land use conflicts and to promote sustainable development in Kenya.

1. **Guidelines on Development of mixed use area**

Considering the environmental challenges related to the inherent pollution exposure risk and socioeconomic vulnerability in mixed land use areas, NEMA directs that guidelines on development in mixed use zones be developed, finalized and issued.

2. **Zoning Policy**

The Physical Planning Act CAP 286 provides for formulation of the national, regional and local physical development policies, plans, guidelines and strategies. The mandate of developing these national, county and sub-county spatial plans are vested on the Director of Physical Planning and the County Governments. All the spatial and zoning plans should have well-balanced system of settlements and ensure productive use of scarce land, water and other resources for economic, social, ecological and other functions at the county level.

As evidenced in the referenced case and elsewhere in Kenya, most urban areas like the vast Athi River/Mavoko area that is developing very fast lacks a zonation plan to guide and control land use and development. Without Urban/city physical master plans it is difficult to assess the cumulative environmental impacts through project specific environmental and social impacts assessments (ESIA) as opposed to a comprehensive strategic environmental Impacts Assessment (SEA) on the master plan. We therefore request your Ministry of Lands and Physical Planning and the Council of Governors to facilitate the development of Urban/city physical master plans for all urban areas in the counties for the benefit of sustainable development in the country.

3. **Repeal of the Change of User Policy.**

The current "piecemeal" change of use has been found to be the root cause of non-conformities, incompatibilities and conflicting mixed uses being experienced in urban areas across the country. It is our considered recommendation that the provision of "piecemeal" change of use as provided for in the Physical Planning Act CAP 286 should be repealed and have the county governments strictly adhere to the approved local zonation plans/ physical master plans to curb conflicting land use and development.

Attached is the proposed draft Guidelines on Development in mixed use areas to inform further action(s) on the same.

I seek your support.

MAMO B. MAMO
Ag. DIRECTOR GENERAL

Copied to:

The Cabinet Secretary
Through
Principal Secretary
Ministry of Environment and
Forestry

Chairman
Departmental Committee on
Environment & Natural Resources
National Assembly

H.E Wycliffe Ambetsa Oparanya, EGH
Governor Kakamega County
Chairman, Council of Governors
Delta Corner, 2nd Floor, Opp. PWC
P.O Box 40401 - 00100
NAIROBI

mazingira yetu | uhai wetu | wajibu wetu

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

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Popo Road, Nairobi, Kenya
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Website: www.nema.go.ke

NEMA/7/7/Vol. V

28th January, 2021

Clerk of the National Assembly
The National Assembly
P. O. Box 41842-00100
NAIROBI

Dear Sir,

IMPLEMENTATION STATUS OF HOUSE RESOLUTIONS

Reference is made to your letter Ref: NA/DCS/COI/2020/(88) dated 10th November, 2020 on the above subject matter which relates to the inquiry into complaints of Environmental Pollution by London Distiller Kenya Limited (LDK Ltd).

The Authority would like to register its apology for delaying to respond to your letter before the stated deadline of 11th January, 2021 since the process for conducting the assessment had just began following the issuance to EcoServ Laboratory on 05th January, 2021. I wish to inform you that the assessment has already commenced. It will be completed within 30 (Thirty) days from the date on this letter.

The Authority is seeking your guidance on the continued participation of Erdemann Property Limited following its withdrawal from the assessment on allegations it raised unless some conditions are met. The details to which have been included in the report.

Please find attached the Implementation of Status Report on the House Resolution. Also attached is the Inception Report by EcoServ Laboratory.

Yours Sincerely,

MAMO B. MAMO
DIRECTOR GENERAL

Copy to:

Principal Secretary,
Ministry of Environment and Forestry,
NHIF Building, 12th Floor,
P. O. Box 41842-00100
NAIROBI.

Mr. Avin Galot,
Managing Director,
London Distiller (K) Limited,
P.O. Box 72118-00200,
NAIROBI.

Mr. Zeyun Yang,
Managing Director,
Erdemann Property Limited,
6th Floor, Finance House, Loita Street,
P.O. Box 42541-00100,
NAIROBI

REPORT ON ACTIONS TAKEN ON THE IMPLEMENTATION STATUS OF HOUSE RESOLUTIONS ON ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED

1.0 Background.

London Distillers Kenya (LDK) Limited was established in 1982 on plots LR.No.12867/16, 18, 19, and 20. This was before Environment Management and Coordination Act (EMCA), 1999 and National Environment Management Authority (NEMA) were established. It was built in an area marked for industrial development. Its activities involve recycling of molasses into alcoholic beverages which lessens the environmental impacts associated with molasses waste.

The Authority received some complaints of environmental pollution by LDK Limited from proprietors of Erdemann Property Limited. The Parliamentary Departmental Committee investigated the petition and made recommendations in a report dated 29th August 2018 directing NEMA, LDK Limited, County Government of Machakos and Ministry of Environment and Forestry to take appropriate interventions on the pollution issues raised.

A NEMA Designated Laboratory, SGS (K) Limited, was contracted to undertake Ambient Air Quality measurements. The Final Report to Parliament through a letter Ref: NEMA/7/7/Vol.IV dated 09th June, 2020. The report was considered by the Implementation Committee during its siting on 06th August, 2020, which also considered further complaints of continued pollution by LDK and resolved that NEMA commissions further tests on pollution levels and air quality at LDK.

The actions implemented are as follows:

2.0 Actions Taken

- 08/12/2020: NEMA invited Erdemann Property Limited (EPL) to nominate two (2) representatives to take part in the assessment as directed by Parliament through a letter Ref: NEMA/7/7/Vol. IV dated 08th December, 2020 (***Annex 1***). EPL nominated two representatives through a letter Ref: EPL/00164/PRT dated 12th December, 2020 (***Annex 2***).

- 05/01/2021: The Local Purchase Order (LPO) was issued to EcoServ Laboratory, a NEMA Designated Laboratory.

- 06/01/2021: NEMA wrote to LDK through a letter Ref: NEMA/7/7/Vol. IV dated 06th January, 2021 (***Annex 3***) informing the Company to prepare for Ambient Air and Effluent in view of the procurement of a Laboratory to conduct the assessment. It also asked LDK to nominate two representatives to part in the assessment. This was followed by an email reminder dated 08.01.2021.

- 11/01/2021: The Authority held a planning meeting at NEMA Headquarters where the House Resolution was presented. EcoServ Laboratory was also introduced. The modalities and logistics involved in the execution of the assessment were discussed including Ambient Air Quality Measurement and Effluent sample collection points. The meeting agreed to set measurement points at Great Wall Gardens (GWG) Estates 1 and 2 to get a comprehensive assessment all sources of pollution that impact on the GWG 1 and 2 Estates.

  A Site Visit date was set on 14th January, 2021 to introduce the Laboratory to the measuring points at LDK and Great Wall Gardens (Estate) 1 and 2. The resolutions of the meeting were captured in the minutes dated 11/01/2021. ***(Annex 4)***

- 14/01/2021: The Authority through its letter Ref: NEMA/7/7/Vol. IV dated 11th January, 2021 informed LDK and EPL of the site visit. LDK Limited and EPL confirmed participation through letters Ref: LD/MG/27/021 dated 12th January, 2021 (***Annex 5)*** and Ref: EPL/0264/PRT dated 12th January, 2021(***Annex 6***) respectively.

  The site visit was conducted as scheduled where the Ambient Air Measurement Points at LDK and GWG 1 and 2 were identified including the Effluent collection point at LDK. The same points at LDK that were used in the initial assessment were retained for a comparative analysis and avoid variables that would be introduced by choosing new measuring points ***(Annex 7)***

- 15/01/2021: NEMA received a protest letter from EPL Ref: EPL/0264/PRT dated 15th January, 2021 where it alleged no-cooperation of LDK on Effluent and Air Sampling ***(Annex 8).*** NEMA in its response informed EPL that the contents of the Letter did not represent the correct proceedings of meeting and the site visit that took place on the 14.01.2021. The Authority informed EPL that the assessment will proceed while it seeks direction from the Parliamentary Committee on the withdrawal of EPL from the exercise unless some conditions are met (***Annex 9***).

- 19/01/2021: The Authority received a letter from LDK Limited Ref: LDK/AD/30/21 dated 18th January, 2021 inviting EcoServ Laboratory any day from the date on the

letter to proceed with the measurements of Stack Emission, Ambient Air and Effluent Quality testing ***(Annex 10).***

On the same day, NEMA received a letter from LDK Limited Ref: LDK/MG/28/21 dated 18th January, 2021 responding to the letter from EPL Ref: EPL/0264/PRT dated 15th January, 2021 on the false allegations by EPL meant to derail the process ***(Annex 11).*** The Authority took note of the letter.

- 25/01/2021: EcoServ Laboratory began the assessment by Effluent Sample collection for analysis. Stack Emission measurement is scheduled for 27th January, 2021. The same was communicated to all parties by emails dated 24th and 25th January, 2021 respectively.

- 26/01/2021: The Authority received the Inception Report ***(Annex 12)*** from EcoServ Laboratory.

MAMO B. MAMO

DIRECTOR GENERAL

Annex 1

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

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P.O. Box 67839-00200
Popo Road, Nairobi, Kenya
E-mail: dgnema@nema.go.ke
Website:www.nema.go.ke

NEMA/7/7/Vol. IV

08th December, 2020

Mr. Zeyun Yang,
Managing Director,
Erdemann Property Limited,
6th Floor, Finance House, Loita Street,
P.O. Box 42541-00100,
NAIROBI

Dear

RE: IMPLEMENTATION STATUS OF HOUSE RESOLUTONS

The Authority is in receipt of the letter Ref: NA/DCS/COI/2020/(88) dated 10th November, 2020 from the National Assembly on the above subject matter which relates to the inquiry into complaints of Environmental Pollution by London Distiller Kenya Limited (LDK Ltd).

The Authority is at an advance stage to commence environmental pollution assessment any time this month, as directed by the National Assembly. The purpose of this letter is request you to nominate 1(one) or, and not more than 2 (two) technical officers to represent your company and participate in the pollution assessment as directed by the National Assembly.

Once the Authority is in receipt of your representatives, your representative(s) will be invited to an introductory meeting at NEMA Headquarters' Nairobi prior to the commencement of the activity. The NEMA Designated Laboratory that shall be contracted for this activity shall also attend the meeting.

In addition to the previous sampling points adjacent to the LDK Ltd, 4 (four) more air sampling points shall be stationed on the boundary walls of Great Wall Garden (GWG) Estate 1 and GWG Estate 2 opposite / away from the LDK Limited. This will enable a comprehensive assessment of all air pollution sources impacting on the GWG Estates.

I look forward to your full support to enable the Authority meet the timelines set by the National Assembly.



Salome Machua
FOR: DIRECTOR GENERAL

Copy to:

Principal Secretary,
Ministry of Environment and Forestry
NHIF Building, 12th Floor,
P. O. Box 41842-00100
NAIROBI

Clerk of the National Assembly
The National Assembly
P. O. Box 41842-00100
NAIROBI

Mr. Avin Galot,
Managing Director,
London Distiller (K) Limited
P.O. Box 72118-00200,
NAIROBI

Annex 2

ERDEMANN PROPERTY LIMITED

Loita Street, Finance House - 6TH Floor • P. O. BOX 42541 – 00100 GPO NAIROBI – KENYA
Telephone: +254 20-351 3306 • Facsimile: +254 20-351 3305 • Mobile: +254 733 209 709, +254 724 209 709
E-mail: info@erdemann.co.ke • Website: www.erdemann.co.ke

Our Ref:	*Your Ref:*	*Date:*
EPL/0164/PRT		*December 23, 2020*

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY
Popo Road, Off Mombasa Road
P.O.Box 67839-00200
Nairobi,

Dear Sirs,

RE: IMPLEMENTATION STATUS OF HOUSE RESOLUTION

The above subject matter and your letter of Ref: NEMA/7/7/Vol. IV and dated 8th December, 2020 refers.

In the said letter, your office had requested that we nominate 1 or 2 persons to represent the company to participate in the pollution assessment of London Distillers (K) Limited as directed by the National Assembly.

The Company has appointed John Rajwayi & Brian Meme as our representatives. Kindly advice on the date and time when the assessment shall be conducted.

We shall appreciate your response.

Yours Faithfully,
ERDEMANN PROPERTY LIMITED

for

Zeyun Yang
MANAGING DIRECTOR

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Dr Mumbo
FMT and Rajwayi

4/1/2021

Annex 3

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

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E-mail: dgnema@nema.go.ke
Website: www.nema.go.ke

NEMA/7/7/Vol. IV

06th January, 2020

Managing Director
London Distiller (K) Limited
P.O. Box 72118-00200
NAIROBI

Attention:

General Manager
Distillery

Dear Sir

RE: AMBIENT AIR QUALITY MONITORING OF LDK LTD IN ATHI RIVER

The Authority is in receipt of the letter Ref: NA/DCS/COI/2020/(88) dated 10th November, 2020 from the National Assembly on the above subject matter which relates to the implementation status of the report of the Departmental Committee on Environment and Natural Resources on the inquiry into complaints of Environmental Pollution by London Distiller Kenya Limited (LDK).

The Authority has completed the procurement process of a NEMA Designated Laboratory, namely, *EcoServ Laboratory*, to undertake the ambient air quality measurements and effluent analysis of the LDK as directed by the Departmental Committee on Environment and Natural Resources.

The purpose of this letter is twofold:

1. To request your Company to prepare for Ambient Air Assessment and Effluent Analysis which shall commence immediately, and;
2. To invite your suitable representative(s) to take part in a planning meeting scheduled for 11th January 2020, at NEMA Headquarters, Main Boardroom starting at 9.30 am.

Due to COVID-19 Government guidelines, the meeting shall be limited to the Laboratory Manager, at least two representatives from LDK and Erdemann Ltd.

Yours sincerely

ZEPHANIA OUMA
FOR: DIRECTOR GENERAL

P.T.O

Copy to:

Principal Secretary,
Ministry of Environment and Forestry
NHIF Building, 12th Floor,
P. O. Box 41842-00100
NAIROBI

Clerk of the National Assembly
The National Assembly
P. O. Box 41842-00100
NAIROBI

Mr. Zeyun Yang,
Managing Director,
Erdemann Property Limited,
6th Floor, Finance House, Loita Street,
P.O. Box 42541-00100,
NAIROBI

Annex 4

MEETING ON THE IMPLEMENTATION STATUS OF HOUSE RESOLUTIONS ON AMBIENT AIR QUALITY MEASUREMENT OF LONDON DISTILLERS KENYA LIMITED IN ON 11TH JANUARY 2021 AT SMALL CONFERENCE BOARDROOM, NEMA HEADQUARTERS, NAIROBI

PRESENT

Name	Institution	Designation
1. Ali Mwanzei (Chairman)	NEMA	Deputy Director Field Operations
2. Grace Maina	NEMA	Compliance and Enforcement Officer
3. John Rajwayi	EPL	Head of Planning
4. Dr. John Mumbo (Secretary)	NEMA	Principal Compliance and Enforcement Officer
5. Brian Meme	EPL	Home Owner GWG
6. Prof. Antony Gachanja	EcoServ Lab.	Director
7. Jilani Chigulu	NEMA	Senior Compliance and Enforcement Officer
8. Regina Ondiko	NEMA	Senior Compliance and Enforcement Officer

AGENDA

1. Introduction
    - ✓ House Resolutions on Ambient Air Quality Monitoring at LDK
    - ✓ Ecoserv Kenya Limited
2. Sampling points and methodology of ambient air quality assessment and effluent sample collection, and;
    - ✓ Nine (9) points at LDK

- ✓ Four to Five points (4 to 5) at GWG 1 and 2 Estates
- ✓ Parameters

a. Stack Emission

b. Ambient Air Quality

c. Effluent discharge into Public Sewer

3. Dates of Assessment and duration
   - ✓ Commencement date
   - ✓ Duration

4. AOB.

MIN 01/LDK/01/2021 INTRODUCTION

The Chairman started the meeting at 09.30 am with welcoming remarks before asking those present to do self-introduction. He then informed them of the purpose of the meeting which was to plan the implementation of a National Assembly resolution into inquiry into complaints of Environmental Pollution by LDK.

He then introduced the Agenda which was accepted without modification. It was endorsed by Mr. Jilani Chigulu of NEMA and seconded by Mr. Meme of EPL.

At this point a clarification was sought by Dr. John Mumbo on whether the meeting can proceed in the absence of LDK. He informed the meeting that a letter of invitation was sent by courier followed with a reminder by email on Friday (08.01.2021) prior the meeting. He also informed the meeting that LDK through its Lawyers suggested that the Ambient Air Quality Measurement and Effluent Analysis cannot proceed due to a case in the National Environmental Tribunal (NET) on a Control Order NEMA had issued to LDK last year (2020) on possible sources of pollution and the mitigation measures following the initial assessment conducted by SGS (K) Ltd. He informed the meeting that NEMA responded to those claims stating that the current assignment had nothing to do with the Order at the NET and NEMA was implementing a Parliamentary directive.

The meeting with the direction of the Chair agreed to proceed since NEMA had done due process to inform and invite LDK to the meeting. LDK on its part had not objected to attending the meeting, nor sent a representative or an apology.

EcoServ Laboratory, a NEMA Designated laboratory was then introduced to the meeting as the laboratory that had been procured for the assignment.

MIN 02/LDK/01/2021 SAMPLING POINTS AND METHODOLOGY OF AMBIENT AIR QUALITY ASSESSMENT AND EFFLUENT SAMPLE COLLECTION

The meeting was informed that this was a repeat exercise therefore the nine (9) used in the initial assessment shall be maintained to enable comparison of data generated without introducing other variables. The methodology for measurement shall also be the same, basically, in accordance with those recommended by NEMA, Air Quality Section.

EcoServ Laboratory will undertake dispersion modelling even though it was not in the Terms of Reference.

The effluent samples shall be collected at the point of discharge into the public sewer.

In addition, at least four to five points (4 to 5) shall be introduced at GWG 1 and 2 Estates to investigate other pollution sources that could be polluting the Ambient Air Quality of the Estates. These points were agreed by all parties in the meeting.

The meeting was informed of the parameters to be measured. The selection was guided by Environment Management and Coordination (Air Quality) Regulations, 2014 and Environment Management and Coordination (Water Quality) Regulations, 2006. They are as follows:

Parameters

- ✓ Stack Emission
    a. Particulate Matter (PM)
    b. Oxides of Nitrogen (NO_X)
    c. Sulphur oxides (SO_X)
    d. Carbon monoxide (CO)
    e. Carbon dioxide (CO_2)
    f. Oxygen

- ✓ Ambient Air Quality
    a. Particulate Matter (PM) 2.5 and 10
    b. Oxides of Nitrogen (NO_x)
    c. Sulphur oxides (SO_x)
    d. Hydrogen Sulphide (H_2S
    e. Ammonia (NH_3)
    f. Volatile organic Compounds(VOC)

- ✓ Effluent discharge into Public Sewer
    a. pH
    b. Temperature
    c. Total Dissolved Solids (TDS)
    d. Electrical Conductivity (EC)
    e. Dissolved Oxygen (DO)
    f. Biochemical Oxygen Demand (BOD)
    g. Chemical Oxygen Demand (COD)
    h. Oil and grease
    i. Colour
    j. Ammonia
    k. Sulphides
    l. Ecoli

MIN 03/LDK/01/2021 DATES OF ASSESSMENT AND DURATION

a. Commencement date

The Director EcoServ Laboratory informed the meeting that the Laboratory was ready to begin the assignment. He requested for a site visit to be shown the points to conduct measurements and effluent collection, after which, the Laboratory will proceed with the assignment.

The date of the Site Visit was set on 14.01.2021 at 09.30 am. The team will visit LDK and then proceed to GWG 1 and 2.

b. Duration

The Director EcoServ Laboratory informed the meeting that he will complete the work in 30 (thirty) days.

AOB

1. NEMA was asked to explore ways to ensure LDK takes part in the exercise.
2. EcoServ will submit the Inception Report 1 (one) after the site visit.

There being no other business, the meeting ended at 09.33 am.

Chairman

Name: Ali Nuaman

Date: 25.1.2021

Signature: .....

Secretary

Name: John Mumbo, PhD, PCEO

Date: 25.01.2021

Signature: .....

Annex 5

London Distillers (K) Limited

Our Ref: LD/MG/27/021
Your Ref: NEMA/7/7/Vol. IV
12th January, 2021

The Director General
National Environment Management
Authority (NEMA)
P.O. Box 67839-00200,
Popo Road
Nairobi.

Dear Sir,

RE: - AMBIENT AIR QUALITY MONITORING AND EFFLUENT ASSESSMENT OF LONDON DISTILLERS (K) LIMITED IN ATHI RIVER, MACHAKOS COUNTY.

We thank you for your e-mailed letter dated 11th January, 2021 informing us of the site visit on 14th January, 2021 to inspect and prepare the sampling point at our company, London Distillers (K) Limited factory in Athi River as per the House Resolution from the National Assembly.

We are happy to inform you that you are most welcome and our two Company Representative are ready and will be there to meet you on the afore-mentioned date at 09:30am.

The Covid-19 Government guidelines will be observed as well.

Regards,

MOHAN GALOT
CHAIRMAN
LONDON DISTILLERS (K) LIMITED

Annex 6

ERDEMANN PROPERTY LIMITED

Loita Street, Finance House - 6TH Floor • P. O. BOX 42541 – 00100 GPO NAIROBI – KENYA
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E-mail: info@erdemann.co.ke • Website: www.erdemann.co.ke

Our Ref:	*Your Ref:*	*Date:*
EPL/0264/PRT	NEMA/7/7/Vol. IV	12th January, 2021

RECEIVED NEMA NAIROBI DIRECTOR GENERAL OFFICE

The Director General,
National Environment Management Authority,
P.O. Box 67839-00200,
Nairobi, Kenya.

Dear Sir,

RE: AMBIENT AIR QUALITY MONITORING AND EFFLUENT ASSESSMENT OF LONDON DISTILLERS KENYA (LDK) LTD IN ATHI RIVER, MACHAKOS COUNTY

We refer to the above, the meeting held at your offices on 11th January, 2021 and the subsequent letter emailed to us of reference NEMA/7/7/Vol. IV of dated 11th January, 2021.

As resolved in the said meeting and as per the guidelines of the National Assembly House resolution, we wish to confirm that our Two (2) company representatives shall be present for the inspection and preparation of the sampling points on 14th January, 2021 at both LDK and Great Wall Gardens (GWG) Estate.

We thank you for your continued effort to have a clean and healthy environment for Kenyans and commit to support this noble work.

RECEIVED 13 JAN 2021 Deputy Director Operations (NEMA) National Environmental Management Authority

Yours faithfully,
ERDEMANN PROPERTY LIMITED

for **Zeyun Yang**
Managing Director

① DCE please deal
13/01/2021

Copy to:

Principal Secretary
Ministry of Environment and Forestry,
NHIF Building 12th Floor,
Nairobi

Clerk of The National Assembly,
The National Assembly,
Parliament Building
Nairobi

② DR. Mumbo pls receive
AG DCE
12/1/2021

When replying please quote our reference number

County Director of Environment,
Machakos County,
Machakos

The Managing Director,
London Distillers (K) Limited,
P. O. Box 72118 – 00200
Nairobi

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

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lkom Wireless: 020 - 2101370, 020 - 2183718
...ident Line: 0786 -101100

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Popo Road, Nairobi, Kenya
E-mail: dgnema@nema.go.ke
Website:www.nema.go.ke

NEMA/7/7/Vol. IV **11th January, 2021**

Managing Director,
London Distiller (K) Limited
P.O. Box 72118-00200,
NAIROBI

General Manager,
Distillery
London Distiller (K) Limited
P.O. Box 72118-00200,
NAIROBI

Mr. John Rajwayi and Brian Meme,
Representing Managing Director,
Erdemann Property Limited,
6th Floor, Finance House, Loita Street,
P.O. Box 42541-00100,
NAIROBI

Dear Sir/Madam

AMBIENT AIR QUALITY MONITORING AND EFFLUENT ASSESSMENT OF LONDON DISTILLER KENYA (LDK) LTD IN ATHI RIVER, MACHAKOS COUNTY

The Authority would like to bring to your attention that it has began implementing the house resolution on the above subject matter as directed through the letter Ref: NA/DCS/COI/2020/(88) dated 10th November, 2020, from the National Assembly.

A planning meeting on 11.01.2021 at NEMA Headquarters, to which LDK was invited through a letter Ref: No. NEMA/7/7/Vol. IV dated 06. 01.2021, and by email dated 08.01.2021, but your Company was neither represented nor sent an apology.

The meeting resolved to commence with a site visit on 14th January, 2021 to inspect and prepare the sampling points at LDK and Great Wall Gardens (GWG) Estate (1, and 2). There shall be at least four (4) sampling points at GWG Estates while the original sampling points at LDK shall be maintained.

P.T.O

This therefore to inform you of the site visit which shall begin at your Company and then proceed to GWG Residential Estate. Due to COVID-19 Government guidelines, the site visit shall be limited to the Ecoserv Kenya Experts, two representatives each from Erdemann Ltd and LDK, and NEMA Officers.

Please ensure that the two (2) Company Representatives are Technical Personnel with competence on the subject matter.

Yours sincerely

Zephania Ouma
For DIRECTOR GENERAL

Copy to:

Principal Secretary,
Ministry of Environment and Forestry
NHIF Building, 12th Floor,
P. O. Box 41842-00100
NAIROBI

Clerk of the National Assembly
The National Assembly
P. O. Box 41842-00100
NAIROBI

County Director of Environment
Machakos County
MACHAKOS

Annex 7

Site Visit Report for Sample Measurement Identification Points for London Distillers Limited and Residential Estates of Great Wall Gardens (GWG) -1 and 2

Introduction

The meeting started with welcome remarks from the Environmental Expert of London Distillers Limited (LDK). This was followed by self-introduction of those in the meeting.

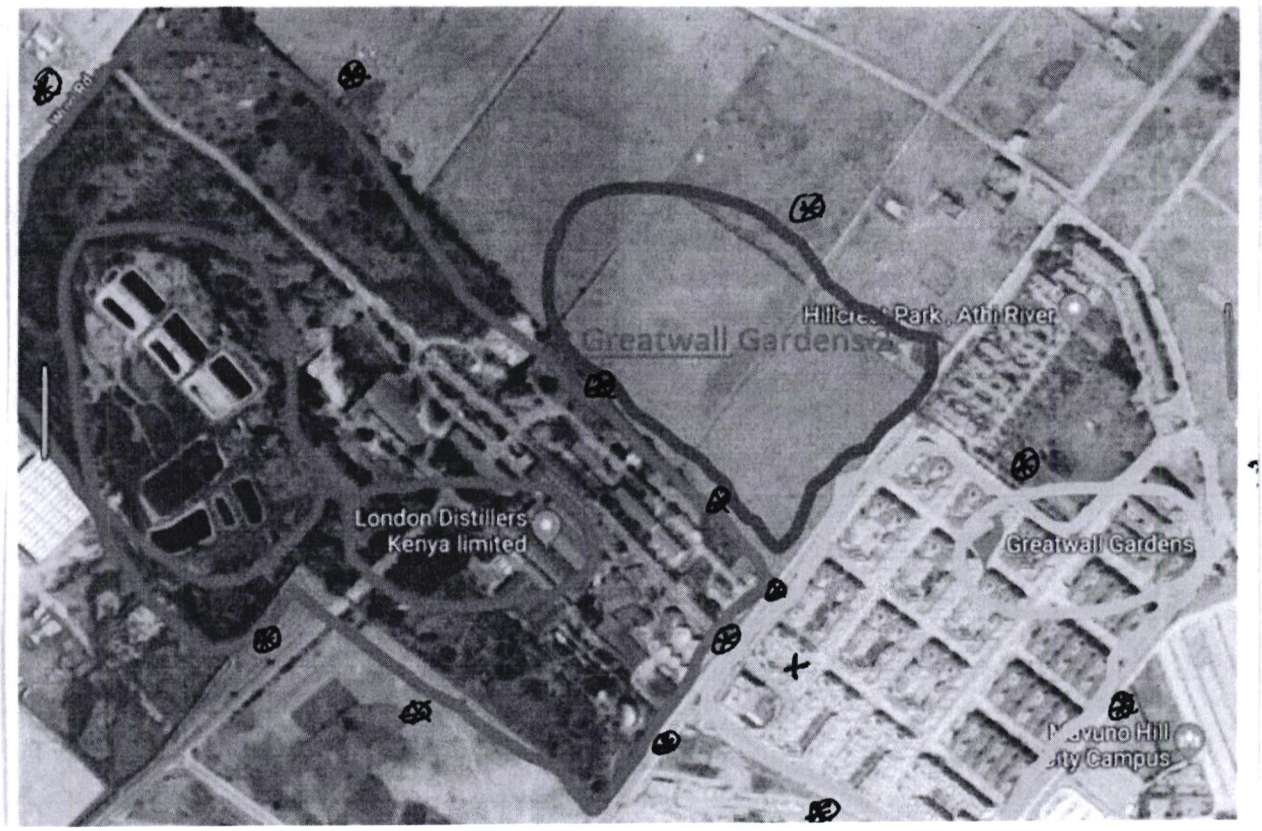
Objective

The Team Leader of the NEMA, informed the meeting that the purpose of the visit was to implement a National Assembly resolution that relates to the inquiry into complaints of Environmental Pollution by LDK.

The main purpose of the activity was to introduce the Consultant from EcoServ Laboratory and identify the Ambient Air Measurement and Effluent Sample Collection Point. He informed the meeting that this was an output of the planning meeting held at NEMA Headquarters on 11.01.2021.

NEMA outlined specific details of the meeting and the site visit as follows:

a. To introduce and visit the Sites for Ambient Air Measurement and Effluent Sample Collection at LDK and Residential Estates GWG 1 and 2. The map below was used to show the sites (stars in orange) at the meeting.



b. To introduce the Experts of EcoServ Limited, the NEMA Designated Laboratory, that will undertake the assignment.
c. To inform the technical team comprising of representatives from LDK, Erdermann Property Limited (EPL) and NEMA that the exercise was purely technical. The team should avoid introducing other issues or persons not nominated who may either disrupt or interfere with the Expert during the assessment.
d. To inform of the scope of the assessment which shall entail measurement of Ambient Air Quality and Stack Emissions, and Effluent Analysis.

LDK sought clarification on why Stack Emission Measurement was included yet in all communications from NEMA and Parliament, only Ambient Air Quality and Effluent Assessment were mentioned and Stack Emission.

NEMA provided the following reasons:

a. The assessment was a repeat exercise and all parameters in the previous assignment undertaken by SGS Kenya Limited should be included.
b. Stack Emissions influences the Ambient Air Quality, and,
c. For the benefit of the public and avoid speculations that LDK has something to hide, a comprehensive exercise should be done to settle the matter.

LDK consulted and agreed to have all components in the scope (Stack, Ambient and Effluent) to be covered during assessment. However, the Company informed the meeting that the Stack was not fully operational hence the exercise can begin with Ambient Air Quality Measurement and Effluent Analysis.

The Expert sort to know when the Factory shall be in full operation and the systems stabilized to conduct all assessment at once. Erdemann representative also sought clarification on the same noting that taking measurement before the system is running will not give correct results of ambient air when its operational. LDK informed the meeting it will communicate when the systems are fully operational for measurements to be done.

After the meeting, everybody in attendance proceeded to inspect the sites which began at LDK, then GWG 1, GWG 2 and the Erdemann Residential Estate Sewage Plant. This is summarized in the table below:

Site Visit and Verification for Ambient Air Quality Measurement and Effluent Collection

a. LDK Points

In total, 9 (eight) points were identified for Ambient Air Quality Measurement and 1 (one) Effluent Sampling Collection Point. The information is summarized in the table below:

No.	*Description*	*Site Number*	*Justification*	*Comments/ Remarks*
i.	Wall Boundary of LDK and GWG 3 Estate.	1	Proximity to neighbouring Estate	Ambient Air Retained
ii.	Wall Boundary of LDK and GWG 2 Estate.	2	Proximity to neighbouring Estate	Ambient Air Moved by consensus to correspond with wind flow between two flats
iii.	Wall Boundary of LDK and the Public Road bordering LDK and GWG 1	3	Proximity to neighbouring Estate, Storage Tanks and Emission Stack.	Ambient Air Retained LDK alerted to note the contribution of vehicular emissions at this point.
iv.	Wall Boundary of LDK and the Public Road bordering LDK and Kitengela International School.	4	Proximity to the School.	Ambient Air Retained
v.	Wall Boundary of LDK and the Public Road.	5	Proximity to the Biogas Plant	Ambient Air Retained
vi.	Wall Boundary of LDK and the area in front of the main gate.	6	To ensure all boundary walls are covered. Boundary wall of LDK facing other external industrial facilities.	Ambient Air Retained
vii.	Wall Boundary of LDK adjacent / next to the main gate.	7	Proximity to the Effluent Treatment Plants.	Ambient Air Retained
viii.	Wall Boundary of LDK adjacent to the Public Murrum Road	8	To ensure all boundary walls are covered.	Ambient Air Retained LDK alerted that Particulate Matter from the road should be noted.
ix.	Wall Boundary of LDK adjacent the Land next to GWG-3	9	To ensure all boundary walls are covered.	Ambient Air Retained

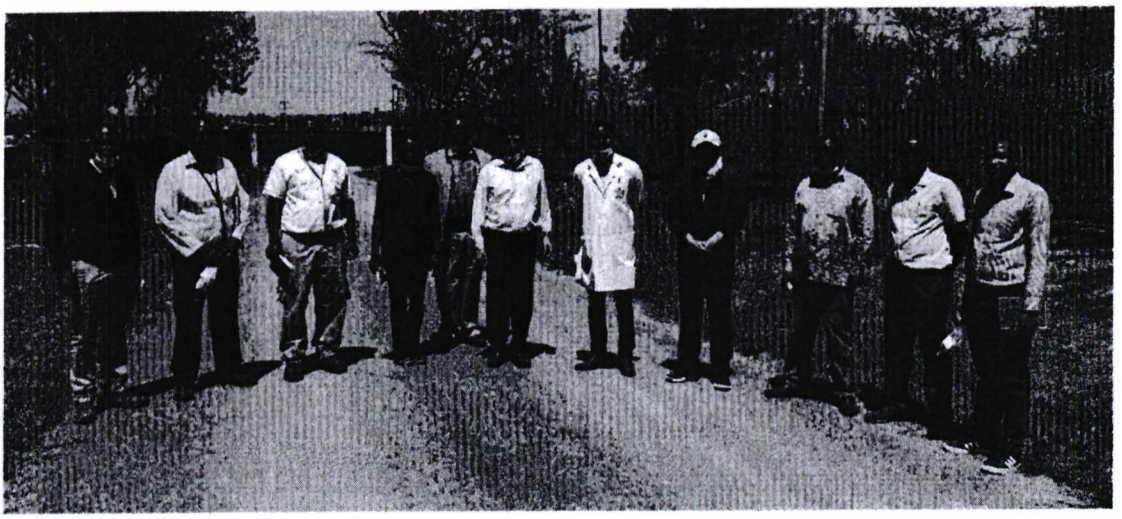
Background Assessment: It was agreed that the Consultant shall identify a point to measure the Ambient Air the equipment at LDK are in operation and when not in operation. The suggested points were site No. 2 and / or 6.

No.	*Description*	*Site Number*	*Justification*	*Comments/ Remarks*
i.	Effluent Discharge Point into the EPA Public Sewer.	1	The point at which effluent is discharged after treatment into a public sewer.	Effluent analysis. EPL suggested a sampling point external to LDK. However, it was explained that LDK had complied with EMC(Water Quality) Regulations that provides for discharge into a public sewer.

Any Other Business (AOB) at LDK

The activities in this section relate to matters which were not part of the Terms of Reference (ToR) for the activity of the day. They are as follows:

1. Upon the request of EPL, they were shown the effluent treatment plant (ETP) in order to understand the treatment process to the final effluent discharge point.
2. EPL brought to the attention of NEMA the sludge drying beds / ponds, to which they were informed that a Control Order had been issued and the matter is at the National Environment Tribunal.
3. At this point, EPL representative was asked to delete photos of the ETP since permission had not been sort prior to the visit and that this was not part of the ToR of the site visit.
4. NEMA informed EPL that if they have knowledge of another point / others points where effluent is being discharged illegally, they should inform the Authority to take action as it investigates the matter.
5. The team took a group photo, hopefully to a new beginning before they headed to GWG-2.



b. GWG-2 Estate Ambient Air Measuring Point

Only, 1 (one) point was identified for Ambient Air Quality Measurement at Great Wall Garden (GWG-2) Estate as shown below:

No.	*Description*	*Site Number*	*Justification*	*Comments/ Remarks*
i.	Wall Boundary of GWG-2 Estate away from LDK.	1	Proximity to other neighbouring homes away from the influence of activities at LDK.	Ambient Air

c. GWG-1 Estate Ambient Air Measuring Points

A total of 4 (four) points were identified for Ambient Air Quality Measurement at Great Wall Gardens (GWG-1) Estate as shown below:

No.	*Description*	*Site Number*	*Justification*	*Comments/ Remarks*
i.	Wall Boundary of GWG-1 Estate facing LDK separated by a Public Road in between GWG-1 and LDK.	1	The housing blocks (E and D) on this side are alleged to be impacted by emissions from LDK.	Ambient Air
ii.	Wall Boundary of GWG-1 Estate facing Mombasa Highway.	2	To capture other possible sources of emissions that could be impacting on the estate especially,	Ambient Air

			industrial activities along Mombasa Highway.	
iii.	Wall Boundary of GWG-1 Estate facing Mavuno Church.	3	To capture other possible sources of emissions that could be impacting on the estate especially, the Tannery and GWG sewage disposal plant.	Ambient Air
iv.	EPL / GWG Sewage Plant	4	To capture emission that could interfere with Ambient Air Quality.	Ambient Air The team could smell an odour emanating from the Sewage Plant. NEMA will conduct a separate inspection of the plant and the Ware Houses to conduct inspection. It could be observed that paint was being processed in one. This is to confirm if activities comply to the EIA license conditions.

Block – E. It was agreed that the Estate Manager will look for one of the home owners who complained of pollution in the Block to place the air quality measuring equipment.

Conclusion

The NEMA Team Leader concluded the site visit at the EPL cum GWG Sewage Plant. It was agreed that:

a. EcoServ Laboratory can commence measurements as soon as LDK production system and the Stack are operational and stabilized.
b. LDK Ltd to notify the Authority when production facility is fully operational
c. EcoServ Laboratory will submit an Inception Report on how it intends to execute the assignment.

The site visit ended with prayer at 01.30 pm.

Participants

1.	Ali Mwanzei	NEMA	Deputy Director Field Operations
2.	Benjamin Langwen	LDK	Environment Advisor
3.	Grace Maina Officer	NEMA	Compliance and Enforcement
4.	Crispus Michira	LDK	Environment Health and Safety (EHS) Officer
5.	Ashok Datta	LDK	General Manager
6.	John Rajwayi	EPL	Head of Planning
7.	Dr. John Mumbo	NEMA	Principal Compliance and Enforcement Officer
8.	Xiangguo Kong	Home Owner GWG/EPL	Director
9.	Prof. Antony Gachanja	EcoServ Consultant	Director
10.	Eng. James Gitari	Ecoserv Consultant	Consultant
11.	Wallace Mutuyi	EcoServ Consultant	

Head of the Site Visit Inspection

Name: Ali Mwanzee

Date: 25.01.2021

Signature: .....

Recorder

Name: John Mumbo, PhD, PCEO

Date: 25.01.2021

Signature: .....

Annex 8

ERDEMANN PROPERTY LIMITED

Loita Street, Finance House - 6TH Floor • P. O. BOX 42541 – 00100 GPO NAIROBI – KENYA
Telephone: +254 20-351 3306 • Facsimile: +254 20-351 3305 • +254 733 209 709, +254 724 209 709
E-mail: info@erdemann.co.ke • Website: www.erdemann.co.ke

Our Ref:	*Your Ref:*	*Date:*
EPL/0264/PRT	NEMA/7/7/Vol. IV 19 JAN 2021	15th January, 2021

The Director General,
National Environment Management Authority,
P.O. Box 67839-00200,
Nairobi, Kenya.

DCE dealt 18/1/2021

Dear Sir,

RE: AMBIENT AIR QUALITY MONITORING AND EFFLUENT ASSESSMENT OF LONDON DISTILLERS KENYA (LDK) LTD IN ATHI RIVER, MACHAKOS COUNTY

PROTEST OF NO-COOPERATION OF LDK ON EFFLUENT AND AIR SAMPLING

We refer to the above and to the meeting held on 14th January, 2021 at LDK factory in Athi River and Great Wall Gardens (GWG) to select sample collection points.

Following the National Assembly House resolution, the Parliamentary Implementation Committee wrote to NEMA on 10th November, 2020 asking NEMA to involve both LDK and Erdemann Property Limited (EPL) and it gave NEMA 60 days to submit a comprehensive report on the assessments and conclude the matter to the house. NEMA was expected to have reported back to the House by Monday 11th January, 2021.

While we appreciate the effort by NEMA officers to want to find a long lasting solution to this pollution matter and have the matter settled, we protest the action of LDK for disregarding the National Assembly resolution and failing to give the team of NEMA, EPL and the NEMA appointed consultants an enabling environment to do the work and revert to the National Assembly in a report.

On the 14th January, 2021 during the site visit:

1. LDK said their boiler/factory was not in operation
2. LDK protested at the decision by NEMA to have stack emission parameter measured
3. LDK did not fully disclose the points of discharge of the effluent from their premises
4. LDK objected to the team taking photos for reference of the outcome of the report needed by the House Assembly
5. LDK never apologized to the team led by NEMA for failing to honor request for a meeting at NEMA on 11th January, 2021
6. LDK raised unnecessary issues regarding Mavoko Water Sewerage Company (MAVWASCO) Sewer pumping station being run at Lukenya Park C by EPL as agents to try and divert attention of NEMA. Any activity on the pumping station will require the express and formal authorization from MAVWASCO

However, for this exercise to be completed and a proper and authentic report submitted to the house for further direction, the following are important:

1. All tests to be conducted during the full operation of the factory/boiler. A baseline report can be done during non-operation for comparison purposes
2. LDK should allow the team and especially the NEMA appointed experts a free hand to do their work and LDK should allow the team to take photos/videos for purposes of the report only
3. An effluent sampling point be commissioned on LDK's dedicated sewer line outside the boundary to enable sampling to be done randomly so that actual and authentic results can be obtained as LDK have control of the point of discharge that they want the samples collected and this is prone to manipulation. We propose a point opposite Sunset Boulevard Estate. Manhole can be made and its access be in the control of NEMA team.

Without the above three conditions being met, we feel we will be participating in a charade and the report will not give the true position of happenings on the ground. Without the above three, the results obtained will only try to sanitize a wrong doing by LDK. Yet we know the importance of the final report by the team and NEMA to the House Committee for decision making and or further direction.

We therefore protest at LDK's non-cooperation and withdraw from an exercise that will not show a true position of the pollution status. We will only resume once the above three important steps are allowed and implemented.

Yours faithfully,
ERDEMANN PROPERTY LIMITED

Zeyun Yang
Managing Director

Copy to:

Principal Secretary
Ministry of Environment and Forestry,
NHIF Building 12th Floor,
Nairobi

Clerk of The National Assembly,
The National Assembly,
Parliament Building
Nairobi

County Director of Environment,
Machakos County,
Machakos

The Managing Director,
London Distillers (K) Limited,
P. O. Box 72118 - 00200
Nairobi

Annex 9

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Mobile Lines: 0724-253 398, 0723-363 010, 0735-013 046
Telkom Wireless: 020-2101370, 020-2183718
Incident Lines: 0786-101100, 0741-101100

P.O. Box 67839, 00200
Popo Road, Nairobi, Kenya
E-mail: dgnema@nema.go.ke
Website: www.nema.go.ke

NEMA/7/7/Vol. V

28th January, 2021

Clerk of the National Assembly
The National Assembly
P. O. Box 41842-00100
NAIROBI

Dear Sir,

IMPLEMENTATION STATUS OF HOUSE RESOLUTIONS

Reference is made to your letter Ref: NA/DCS/COI/2020/(88) dated 10th November, 2020 on the above subject matter which relates to the inquiry into complaints of Environmental Pollution by London Distiller Kenya Limited (LDK Ltd).

The Authority would like to register its apology for delaying to respond to your letter before the stated deadline of 11th January, 2021 since the process for conducting the assessment had just began following the issuance to EcoServ Laboratory on 05th January, 2021. I wish to inform you that the assessment has already commenced. It will be completed within 30 (Thirty) days from the date on this letter.

The Authority is seeking your guidance on the continued participation of Erdemann Property Limited following its withdrawal from the assessment on allegations it raised unless some conditions are met. The details to which have been included in the report.

Please find attached the Implementation of Status Report on the House Resolution. Also attached is the Inception Report by EcoServ Laboratory.

Yours Sincerely,

MAMO B. MAMO
DIRECTOR GENERAL

Copy to:

Principal Secretary,
Ministry of Environment and Forestry,
NHIF Building, 12th Floor,
P. O. Box 41842-00100
NAIROBI.

Mr. Avin Galot,
Managing Director,
London Distiller (K) Limited,
P.O. Box 72118-00200,
NAIROBI.

Mr. Zeyun Yang,
Managing Director,
Erdemann Property Limited,
6th Floor, Finance House, Loita Street,
P.O. Box 42541-00100,
NAIROBI

Annex 10

LONDON DISTILLERS (K) LIMITED

REF: LDK/AD/30/21

18TH JANUARY 2021

19 JAN 2021

THE DIRECTOR GENERAL
NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY
P.O BOX 67389-00200
NAIROBI.

Dear Sir,

RE: AMBIENT AIR QUALITY MONITORING AND EFFLUENT ASSESSMENT OF LONDON DISTILLERS KENYA LTD IN ATHI RIVER, MACHAKOS COUNTY

Reference is made to the above subject and the technical meeting we held in our premises on 14th January 2021.

We are happy to inform you that our boiler has now fully stabilized and is ready for Stack Emission, Ambient air and Effluent quality testing.

The purpose of this letter is therefore to invite the appointed lab (EcoServ Laboratory) any day from today to proceed with the measurements.

Yours faithfully,

ASHOK DATTA
GENERAL MANAGER, DISTILLERY

Copy to:
Principal Secretary
Ministry of Environment and Forestry
NHIF Building 12th Floor
NAIROBI.

Clerk of the National Assembly
The National Assembly
Parliament Building
NAIROBI.

County Director of Environment
Machakos County
MACHAKOS

Air Quality / Lab
Note and deal
20/1/21

Annex 11

19 JAN 2021

London Distillers (K) Limited

Ref: LDK/MG/28/21
Date: 18th January 2021

The Director General
National Environment Management Authority
P.O. Box 67839 – 00200
NAIROBI.

Dr. Mumbo/Selelah DCG
Let us discuss
20/1/21

FYA
19/1/21

Dear Sir,

RE: AMBIENT AIR QUALITY MONITORING AND EFFLUENT ASSESSMENT OF LONDON DISTILLERS KENYA LTD IN ATHI RIVER, MACHAKOS COUNTY

Please refer to a letter from Erdemann Property Limited ref EPL/0264/PRT dated 15th January 2021 on the above subject copied to us among others.

We are very surprised with the content of the letter containing the false allegations by Erdemann to derail the process through blackmail and our response is as follows:

1. LDK has fully co-operated and allowed the select members to its facility and if there was any level of non-cooperation the Authority (NEMA) and the appointed Lab personnel who were present should be able to point the same out

2. The photography and filming of LDK factory and the treatment plant by Erdemann personnel was not only completely unwarranted and an invasion of the right to the privacy of our operations but was equally never ever a part of the terms of reference (TOR) for the above exercise and LDK will NOT allow it and to that effect the Erdemann representative will NOT be allowed in LDK facility

3. The overbearing attitude of the representatives of Erdermann and demonstration of arrogance to the NEMA officials is a clear demonstration that Erdemann is only interested in taking over the process from NEMA officials by dictating what it wants to be done so that only a Report favourable to its interests is the culmination of the exercise.

4. The appointed Lab personnel are free to collect samples and carry out tests on air quality at the agreed sampling points as per the program agreed during the meeting on 14th January 2021.

5. We wish to point out that during the marking of the sampling points the team was hit by an irritating and very offensive smell (odour) originating from a sewage storage tank and

the go downs some of them manufacturing paint within the Erdemann facility. LDK now expects as we proceed with the above exercise NEMA to urgently carry out in-depth audit of the sewage facility and the activities going on in the many go downs. Preliminary observation on the ground on 14th January 2021 by the experts who were present indicate that these facilities could be the source of the smell and pollution of the aquatic environment.

6. The arrogance and rudeness portrayed by Erdermann's team towards LDK team when asked to stop filming the factory operations and when asked to show the venting facility of their sewage storage tanks and why there was an overflow pipe towards the aquatic environment cannot be tolerated and if it persists, legal action will be taken against them.

7. The observations/facts in point No. 5 & 6 above are the reasons why Erdermann has written the so-called protest letter which is just diversionary and NEMA should not allow it.

8. It has been recommended by the Parliamentary Select Committee that Erdermann which started constructing residential houses 30 years after the distillery commenced its operations, must learn to peacefully co-exist with its neighbours. The clear intentions of Erdermann of adapting these intimidatory and diversionary tactics is merely to paint LDK in bad light so as to sanitise its intentions of having LDK's distillery shut down.

The Authority should take a firm decision on this matter as a regulator to unearth Erdermann's polluting activities as we allow the appointed Lab to proceed with the sampling/testing program without undue and unwarranted interference by Erdermann.

Yours faithfully

MOHAN GALOT
CHAIRMAN, LONDON DISTILLERS (K) LTD

Copy to:
Principal Secretary
Ministry of Environment and Forestry
NHIF Building 12th Floor
NAIROBI.

Clerk of the National Assembly
The National Assembly
Parliament Building
NAIROBI.

County Director of Environment
Machakos County
Machakos

Managing Director
Erdermann Property Limited
P.O. BOX 42541- 00100 GPO Nairobi

Annex 12



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

PROVISION OF SERVICES FOR STACK EMISSION MEASUREMENT, AMBIENT AIR QUALITY ASSESSMENT AND EFFLUENT DISCHARGE ANALYSIS OF A WINE AND SPIRITS DISTILLERY PLANT

INCEPTION REPORT

Report Prepared and Submitted By:

Ecoserv Laboratory

Prof Anthony Gachanja
P.O Box 1303 – 00100
Nairobi, Kenya
Tel: 254 722 882879
Email: agachanjah@yahoo.com
gachanja@ecoservkenya.com

January, 2021

received
DDE
26/1/2021

CERTIFICATION

Client: National Environment Management Authority

Assignment: Provision of Services for Stack Emission Measurement, Ambient Air Quality Assessment and Effluent Discharge Analysis of a Wine and Spirits Distillery Plant

Report Title: Inception Report

Name and Address of the Consultant Firm

Ecoserv Laboratory
P.O Box 1303 – 00100
Nairobi, Kenya
NEMA Registration No. 1858
Tel: 0722882879
Email: agachanjah@yahoo.com ; info@ecoservkenya.com

Signed: Date: 22/01/2021

Name and Address of the Proponent

National Environment Management Authority,
P.O.BOX: 67839-00200,
Nairobi.

igned: _____ Date: 26/1/2021

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Telcom Wireless: 020-2183718, 020-2101370, 020-2103696
Mobile Line: 0724 253 398, 0723 363 010, 0735 013 046
Incident Line: 0786 101 100

P. O. Box 67839 - 00200
Popo Road, Nairobi, Kenya
Email: dgnema@nema.go.ke
Website: www.nema.go.ke

NEMA/7/7/Vol. IV **27th October, 2020**

Clerk of the National Assembly
The National Assembly
P. O. Box 41842-00100
NAIROBI

Attention: Mr. Jeremiah W. Ndombi

Dear Sir,

RE: IMPLEMENTATION STATUS OF HOUSE RESOLUTONS

References is made to your letter Ref: NA/DCS/COI/2020/(73) dated 05th October, 2020 on the above subject matter which relates to the inquiry into complaints of Environmental Pollution by London Distiller Kenya (LDK) Limited.

The assessment of environmental pollution by LDK Limited did not take place within the requested time due to lack of budget to charge the activity and non-functional status of the Authority's Mobile Air Quality Laboratory which is pending annual maintenance and calibration.

The Authority would like to inform the Committee that after the budget was approved in September, 2020, the following preparatory activities have been done:

1. The procurement process of the laboratory to conduct the environmental pollution assessment has been approved. A budget of 1.8 Million has been allocated for this assignment.

2. The Terms of Reference for the procurement of the Laboratory were developed and finalized. The activity has been assigned 30 days in which the deliverables are expected in three (3) phases :

   a. Stack Emission Measurement Report – End of Week 1,
   b. Effluent Analysis Report – End of Week 2, and
   c. Ambient Air Quality Assessment Report – End of Week 3 or 4.

P.T.O.

3. Invitation of quotation by the Procurement has been initiated. The assessment shall commence at the in November, 2020.

The Authority would also wish to bring to your attention that it has not received any pollution related complaints between LDK Limited and the neighboring residential area in the recent past, an indication of substantive compliance status of LDK Limited as communicated in our quarterly report Ref. NEMA/7/7/Vol.IV and dated 21st August, 2020.

In addition, the Authority has organized quarterly inspections to monitor compliance of LDK Limited and complaints from the public on environmental pollution.

The Authority would like to state its commitment in undertaking this assignment and completing it in the shortest time possible. We highly regret the procedural delays which are beyond our control.

Thank you.

MAMO B. MAMO
DIRECTOR GENERAL

② Ag. DCE
Pls indicate the budget line to charge
Ag DFA 24/08/20

③ Please find attached
18.09.2020

① DG
You may consider
Ag DFA
18/09/20

URGENT

nema

RECEIVED
24 AUG 2020
NEMA NAIROBI
DIRECTOR FINANCE & ADMIN

RECEIVED
20 AUG 2020
DEPUTY DIRECTOR

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

CHIEF ACCOUNTANT
20 AUG 2020
RECEIVED

INTERNAL MEMO

CHIEF ACCOUNTANT
24 SEP 2020
RECEIVED

To: Director Finance and Administration	**From:** Ag. Director Compliance and Enforcement
Ref. NEMA/10/20/Vol. V	**Date:** 17th August 2020

Approved
21/9/2020

REQUEST TO PROCURE A NEMA DESIGNATED LABORATORY TO UNDERTAKE AIR QUALITY ASSESSMENT AT LDK ATHI RIVER COUNTY

The implementation Committee during its sitting of Thursday, 6th August 2020 resolved that NEMA commissions independent institutions to undertake further tests on pollution levels and air quality at LDK Limited and present a report on or before 4th September 2020. This follows an inquiry into complaints of Environmental Pollution by LDK Limited undertaken by the Departmental Committee on Environment and Natural Resource

CPO
Pls deal
25/9/20
+ CA

The purpose of this MEMO is therefore to request you to approve the procurement of NEMA Designated Laboratory to undertake tests on pollution levels and Air Quality assessment at LDK and Great Wall Gardens Estate. The proposed budget for the pollution assessment is KES 1.8 Million.

No.	Parameter	Sample Points	Total
1	Ambient Air	At least 9	900,000.00
2	Stack Emissions	1 Stack	300,000.00
3	Effluent Assessment	At least 5	600,000.00
	Total		**1,800,000.00**

The activity shall be charged under enforcing Air Quality Regulations.

① CA
Pls advice

ZEPHANIA OUMA,
Ag. DIRECTOR COMPLIANCE AND ENFORCEMENT.

7/7

17 AUG 2020

REPUBLIC OF KENYA

Telegraphic Address
"Bunge", Nairobi
Telephone: (254) 2221291/2848000
Fax: 2243694
E-mail: clerk@parliament.com
When replying please quote

NATIONAL ASSEMBLY

CLERK'S CHAMBERS
National Assembly
Parliament Buildings
P. O. Box 41842-00100
NAIROBI, KENYA

Ref:NA/DCS/COI/2020/(43)

11th August, 2020

RECEIVED
14 AUG 2020
NEMA
NAIROBI
DIRECTOR GENERAL OFFICE

Mr. Mamo B. Mamo
A.g. Director General,
National Environment Management Authority (NEMA),
South C, Popo Road off Mombasa Road,
NAIROBI

Dear Mr Mamo

RE: IMPLEMENTATION STATUS OF HOUSE RESOLUTIONS

Reference is made to your report forwarded vide your letter Ref:NEMA/7/7/Vol. IV dated 9th June, 2020 regarding the Implementation status of the report of the Departmental Committee on Environment & Natural Resources on the Inquiry into complaints into Environmental Pollution by London Distillers Kenya Ltd (LDK).

The Implementation Committee during its Sitting of Thursday, 6th August, 2020 considered the report referenced above and considered further complaints of continued pollution by LDK. Consequently, the Committee resolved that NEMA commissions independent institutions to undertake further tests on pollution levels and air quality at the London Distillers Kenya (LDK) within three (3) weeks and present a report to the Committee On or before 4th September, 2020. This will enable the Committee to finalize its report on the matter.

Kindly forward twenty-four (24) copies of your submission to the Office of the Clerk and email a soft copy to clerk@parliament.go.ke.

The liaison officers facilitating the Committee are Ms. Tracy Chebet Koskei who may be contacted on Tel. Nos. 0726416794 or email address ckoskei20@gmail.com and Mr. Abdirahman Hassan, Tel. No. 0722288756

Yours

JEREMIAH W. NDOMBI
For: CLERK OF THE NATIONAL ASSEMBLY

Copy to:-

① Ag-DCG
urgent action
treat as urg

② Dr. Mumbo
urgently discuss

S/No.	Strategy	Key Activities	Sub-Activity	Performance Indicator/ measure	Target 2020-21	GOK RECURRENT	GOK DEV.	GGEP	ADAPTATION FUND	TOTAL	Procurement		Resp.
											Work plan	Procurement	
1.2	Enhance Environmental regulations and standards	Enforce environmental legislations and standards	Undertake investigations and prosecution of Environmental crimes	% of cases prosecuted and defended	100%	5,000,000	2,500,000			**7,500,000**	6,500,000	1,000,000	LS/CE&FO
			Training of ELC judges, magistrates and ODPP on Environmental law/regulations and plastic ban	% of Targeted Judges & magistrates trained	100%	3,000,000		1,500,000		**4,500,000**	3,000,000	1,500,000	LS/CE&FO
			Finalize review of EMCA, 1999 PC target by 30th Sept, 2020	% completion	100%	2,000,000		1,000,000		**3,000,000**	2,000,000	1,000,000	LS/CE&FO
			Finalize Controlled Substances Regulations, 2007 and submit to the Cabinet Secretary Ministry of Environment and Forestry (PC Target)	Timeliness	30th Sept, 2020	-		1,000,000		**1,000,000**	-	1,000,000	DLS
			Review of air quality regulations	No. of regulations reviewed	1	-		1,000,000		**1,000,000**	-	1,000,000	DCE/LS
		Plastic packaging control and management Regulations, 2019	To make provision for substantive provision for the plastic packaging materials control and management in which the plastic regulations will be anchored	100%	Plastic Regulations in place	-	500,000	-	-	**500,000**	500,000		DLS

SIGNED: .....
OCHIENG OCHUKA
DIRECTOR FINANCE, HUMAN RESOURCES AND ADMINISTRATION

SIGNED: .....
MAMO B. MAMO
DIRECTOR GENERAL

Geoscintex

Tabere Crescent Kileleshwa
P. O. Box 44407 - 00100 Nairobi
Tel: (254) 020 239 5795
Fax: (254) 020 434 3954
Cell: (254) 700 648 880, 712 694 161
Email: geoscintex@yahoo.co.uk
geoscintexintl@yahoo.co.uk

① DFA please advice
14/10/20

RECEIVED NEMA NAIROBI DIRECTOR FINANCE & ADMIN

RECEIVED NEMA NAIROBI DIRECTOR GENERAL OFFICE

13th October 2020

Director General
National Environment Management Authority
P.O.Box 67839-00200
Nairobi

③ Ag. DCE FYA as ②
21/10/2020

② DG
The Ag DCE would raise a ... for the same for your approval
DFA
21/10/20

Dear Sir

RE: REPLACEMENT OF PARTS FOR THE MOBILE AIR QUALITY EQUIPMENT

We hereby write to inform you that we undertook to ship out the Mobile Air Quality Equipment to the Manufacturers in South Africa for Comprehensive Diagnostic and we were advised that the Equipment Requires Replacement of the Following Parts:

ITEM NO.	ITEM DESCRIPTION	PART NO.	UNIT COST Kshs.
A	**Replacement of Serenius 30 sin 17-0890**		
	Correlation wheel Assebley, CO	H014114-30	459,645/=
	Pressure Gauge Serenus PCA	C010004	73,260/=
	S30 Maintenance Kit	E020202	59,340/=
B	**Replacement of Serinus 51 SO2 +H2S Serial £ 17-1085**		
	S51 Maintenance Kit	E020205	140,815/=
	Orifice, 14mil	H010043-13	25,275/=
	Orifice, 20mil	H010043-19	29,925/=
C	**Replacement of WS800 Sensor**		
	WS800-UMB Lufft Smart Weather Sensor	8381.U01	1,210,692/=
	Surge Protection	8379 USP	83,132/=
	Power Supply 24V/4A	8366 USV1	100,618/=
	UMB Interface converter ISOCON-UMB	8160 UISO	147,924/=
	Digital-analog-converter DACON8-UMB	8160 UDAC	251,944/=
	Connection Cable 20m	8370 UKA20	50,302/=

CHIEF ACCOUNTANT RECEIVED

As you are aware the initial contract was for servicing and calibration but replacement of parts is outside the scope of our contract.

We are therefore requesting your able office to consider varying the terms of the contract to accommodate the replacement of parts and provide additional funds to cater for the same. Please find attached Quotations from the Manufacturers.

We look forward to your utmost response.

Yours Faithfully

Alex Kamito
MANAGING DIRECTOR

Please Note: The WS800 Sensor is already in Germany

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

EVALUATION CRITERIA

PROVISION OF SERVICES FOR STACK EMISSION MEASUREMENT, AMBIENT AIR QUALITY ASSESSMENT AND EFFLUENT DISCHARGE ANALYSIS OF A WINE AND SPIRITS DISTILLERY PLANT.

A. MANDATORY REQUIREMENTS

No	Requirements	YES/NO
1	Copy of Certificate of Registration / Incorporation	
2	Copy of PIN / VAT Certificate	
3	Duly Filled Confidential Business Questionnaire	
5	Supply of services on Credit	
6	Valid Single Business Permit	
7	Valid Tax Compliance Certificate -	

At this stage the tenderer's submission will either be responsive or non-responsive. The non-responsive submissions will be eliminated from the entire evaluation process and will not be considered further

TECHNICAL REQUIREMENTS

No.	Requirement	Max
1.	Be a NEMA Designated Laboratory. Attach evidence of license or letter of designation	10
2.	Demonstrate capacity to conduct stack and ambient air quality emissions measurement: a) Instrumentation for Stack Emission, b) Instrumentation for Ambient Air Quality Measurement, and c) Air Quality Experts with experience in sample collection and analysis. Attach evidence (List of equipment and Curriculum Vitae for critical laboratory staff)	30
3.	Demonstrate capacity to conduct effluent analysis: a) Instrumentation and b) Water Quality Experts with experience in sample collection and analysis. Attach evidence (List of equipment and Curriculum Vitae for critical laboratory staff)	20
3.	Has developed or participated in developing at least two (2) ambient air, stack emissions and water/effluent samples collection and assessment. Attach reports - one or two previous contracts or Purchase orders.	10
4.	All equipment calibrated and in good working conditions. Attach evidence of recent calibration for all equipment specific to their laboratory.	20
5.	Ability and commitment to complete the assignment in less and or not more than 30 (Thirty) calendar days. (Provide plan for sample collect and analysis, and commitment)	10
	Total	100%

TECHNICAL REQUIREMENTS

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	Total	100%

TERMS OF REFERENCE (TOR)

PROVISION OF SERVICES FOR STACK EMISSION MEASUREMENT, AMBIENT AIR QUALITY ASSESSMENT AND EFFLUENT DISCHARGE ANALYSIS OF A WINE AND SPIRITS DISTILLERY PLANT.

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1. Background

The National Environment Management Authority (NEMA) is established under the Environmental Management and Co-ordination Act No. 8 of 1999 (EMCA) as the principal instrument of Government to exercise general supervision and co-ordination over all matters relating to the environment and is the principal instrument of Government in implementing of all policies relating to environment.

Notwithstanding the above, every person in Kenya is entitled to a clean and healthy environment in accordance with the Constitution and relevant laws and has the duty to safeguard and enhance the environment.

The Authority has received complaints of environmental pollution, specifically, air and water pollution by an industrial facility producing alcohol spirits through distillation. In exercising its mandate, the Authority is investigating these complaints in order to establish evidence of pollution or not and advice on measures that will ensure the rights to every Kenyan to a clean and healthy environment are not infringed

2. Objective

The main objective of this assignment is to procure a designated laboratory with the capacity to undertake stack emission measurement, ambient air quality assessment and effluent analysis of an alcohol spirits producing distillery plant.

3. Scope

The scope of the assignment will include but not limited to: -

3.1 Stack emission measurement of one stack in the industrial facility.

- Parameters to be measured include`:
  - Particulate Matter (PM)
  - Oxides of Nitrogen (NO_X)
  - Sulphur oxides (SO_X)
  - Carbon monoxide (CO)
  - Carbon dioxide (CO_2)
  - Oxygen

3.2 Ambient Air Quality Assessment of at least 14 (fourteen) sampling points;

- At the recommended sampling points around the industrial plant bordering sensitive receptors;
- At selected points on the boundary walls of sensitive receptors neighboring but away (not adjacent) from the industrial facility to assess impacts from other sources of pollution.
- Parameters to be assessed include`:
  - Particulate Matter (PM) 2.5 and 10
  - Oxides of Nitrogen (NO_X)
  - Sulphur oxides (SO_X)
  - Hydrogen Sulphide (H_2S
  - Ammonia (NH_3)
  - Volatile organic Compounds(VOC)

3.3 Effluent analysis at the point of discharge from the industrial facility.

- Parameters to be assessed include`:
  - pH
  - Temperature
  - Total Dissolved Solids (TDS)

- Electrical Conductivity (EC)
- Dissolved Oxygen (DO)
- Biochemical Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD)
- Oil and grease
- Colour
- Ammonia
- Sulphides
- Ecoli
- Total coliform

4. Methodology

The Laboratory will use the:

a) The Environment Management and Coordination (Air Quality) Regulations, 2014 limits under the Third schedule for Stack Emission Measurements and First schedule for Ambient Air Quality.

b) The Environment Management and Coordination (Water Quality) Regulations, 20064 and its Standards shall apply to Effluent Analysis.

c) Have the ability to interpret the results from the analyses undertaken.

d) US EPA applicable methods for Ambient Air and Stack Emissions Measurement.

e) The reporting format for Ambient Air and Stack Emissions shall be as per Annex 2 and Annex 3 of the Emission License Application Guidance Pack respectively which is available on the NEMA website, under the laws and guidelines dropdown.

5. Deliverables

The core deliverables shall be:

5.1 Ambient Air Quality Assessment Report,

5.2 Stack Emissions Measurements Report and;

5.3 Effluent Analysis Report.

6. Reporting Obligations

The Contracted Laboratory will report to Director General of the Authority with respect to the assignment. NEMA will review and approve of all deliverables, subject to satisfactory work by the contracted laboratory. No report or document related to this assignment shall be distributed to third parties prior to the approval by the Authority. All the reports must be submitted to the client in the following form;

6.1 Six (6) No. of original booklets, on colour and glossy paper, hard bound for each deliverable with signatures and a cover letter.

6.2 A soft copy of each report.

7. Timelines

No.	Deliverable /Report	Duration
1.	Stack Emissions Measurements Report	End of Week 1
2.	Effluent Analysis Report	End of Week 2
3.	Ambient Air Quality Assessment Report	End of Week 3 or 4

8. Payment

Full payment shall be made after satisfactory completion of all deliverables in the provided duration for the assignment.

9. Client Support

The Client (NEMA) will provide all the necessary support to the Contracted Laboratory required for the successful execution of the assignment including informing the industrial facility but not in any way to influence the assignment.

10. Contract Obligation

The Contracted Laboratory shall inform the Client (NEMA) in writing before engaging or making any changes in the Contractual Agreement that may occur before or during the execution of the assignment.

NB: In case another laboratory is contracted to perform any of the assignments in order to fulfill the obligation in the duration provided, the reasons for engagement should be provided to NEMA before the assignment is executed and the conditions of this TOR shall apply.

11. Conflict of interest

The Laboratory is required to disclose any potential conflicts of interest arising out of other assignments in relation to the industrial facility before the commencement of the assignment. Where the Contracted Laboratory currently represents any party, that would create a conflict of interests or to the extent any conflict of interest would arise in the future, the Contracted Laboratory shall provide a copy of its policy and/or procedures with respect to conflicts management (only reference to such procedure will not suffice). In addition to the Contracted Laboratory conflict of interest and confidentiality policy, the Contracted Laboratory shall detail any measure that may be required to avoid conflict of interests and ensure the confidentiality of information received in connection with the implementation of this assignment

PROVISION OF SERVICES FOR STACK EMISSION MEASUREMENT, AN AIR QUALITY ASSESSMENT AND EFFLUENT DISCHARGE ANALYSIS WINE AND SPIRITS DISTILLERY PLANT

FINAL REPORT

Report Prepared and Submit
Ecoserv Laborator
Prof Anthony Gach

Anthony Gachanja, PhD, FRSC

Professor of Analytical and Environmental Chemistry

Education

1978-1981	University of Nairobi, Nairobi, Kenya. Bsc (Chemistry)
1982-1983	University of Hull, Hull, England. Msc (Anal. Science)
1988-1991	University of Hull, Hull, England. Phd (Anal./environ. chem.)
1992-1994	University of Plymouth, England. Post doctoral studies

Qualifications

1981	Bsc(Hons), Chemistry.
1983	Msc, Analytical Science.
1990	Graduate of the Royal Society of Chemistry (GRSC).
1991	PhD (Analytical and Environ chemistry).
1993	Chartered Chemist (MRSC).
1997	Kenya Chemical Society
2005	Chartered Scientist (CSci)
2014	Fellow of the Royal Society of Chemistry (FRSC)
2018	UKRI Peer Review College

Brief cv

- Experiences
- Pesticide research chemist –MOA
- Research coordinator – AICAD
- Editor in Chief of Journal of science and technology
- Member of advisory editorial board, Analytical methods, RSC
- Member of editorial Advisory board of encyclopaedia of analytical science, 3rd edition, Elsevier
- Visiting scholar, University of Plymouth and Jyvaskyla
- Lead trainer for RSC trainings for GC-MS and LC-MS/MS in Africa

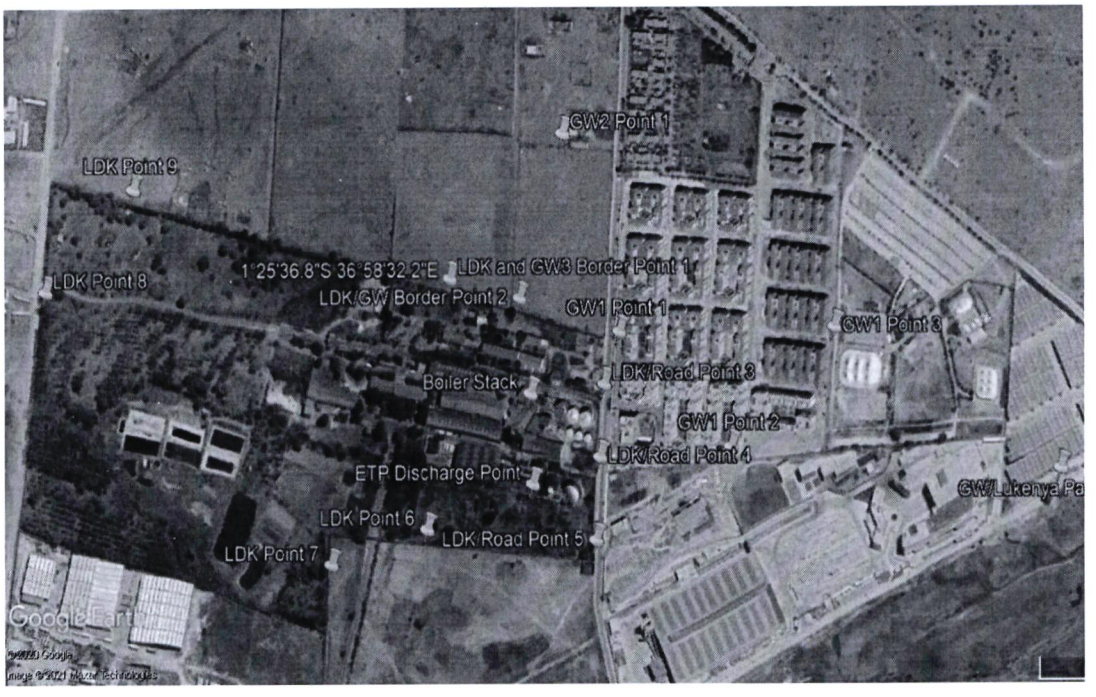
- For NEMA
- Lead expert No 0141
- Taskforce member for drafting v quality regulations
- Taskforce member for drafting a regulations
- Taskforce member for NEMA co for Village market ETP
- Taskforce member for NEMA co for Polypipes air quality

Research

MSC and PhD students in funded projects (at JKUAT) and external examiner locally and regionally

Over 50 publications in journals

Map showing the area and sampling points



HIGHLIGHTS

Sampling Activities

* Stack emission measurement of one stack in the industrial facility.

Parameters measured: Particulate Matter (PM); Oxides of Nitrogen (NO_x); Sulp (SO_x); Carbon monoxide (CO); Carbon dioxide (CO_2); Oxygen (O_2):

All parameters comply

* Ambient Air Quality Assessment of at least 14 (fourteen) sampling points;

At the recommended sampling points around the industrial plant bordering ser receptors; and at selected points on the boundary walls of sensitive receptors r but away (not adjacent) from the industrial facility to assess impacts from othe pollution.

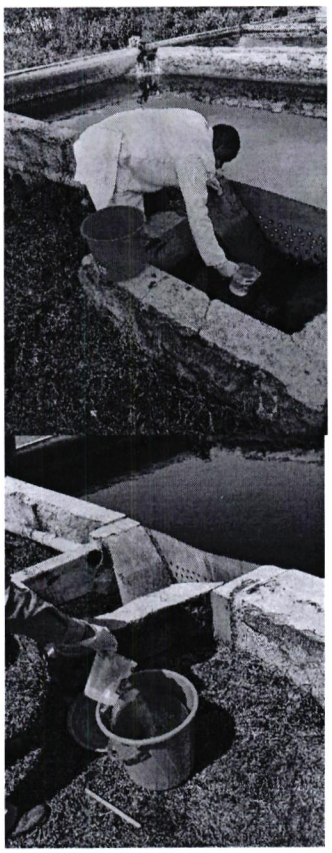
- Parameters assessed: Particulate Matter (PM) 2.5 and 10; Oxides of Nitrogen oxides (SO_x); Hydrogen Sulphide (H_2S); Ammonia (NH_3); Volatile organic Com

All parameters except PM comply

* Effluent analysis at the point of discharge from the industrial facility. Paramet

- pH; Temperature; Total Dissolved Solids (TDS); Biochemical Oxygen Demand (grease; Chemical Oxygen Demand (COD); Colour; Ammonia; Sulphides

All parameters except color and sulphides comply



PROVISION OF SERVICES
Effluent Discharge Analysis

The Environmental Management and Coordination, (water regulation, 2006, Part II, section 6a directs that

"no person shall discharge effluent from sewerage treatme industry or other point sources into the aquatic environment valid effluent license issued in accordance with provisions of

Standards of effluents discharge into sewers is given in th schedule of these regulations.

Fourth schedule, the parameters to be monitored for dischar environment from a distilling and blending of spirits facility and are listed:

Biological oxygen demand and chemical oxygen demand, pl coliforms/ E.coli, temperature, colour.

Sampling and Analysis

- Sampling was done as per the SOPs
- Composite samples of the effluent were collected for 3 days with period
- Effluent samples were collected at the last treatment pond, at th flow into the sewer line using a 1.5 litre plastic jar.
- Sampling was done on the dates of 25th, 28th January and on 1st February 2021
- A 1 litre grab sample was collected with the hour for 6 hours, all mixed to make a composite sample in a 10 litre plastic container
- To avoid sample changes in quality during transportation to the l the sample was transported in an ice-cooler box
- Samples were analysed at a NEMA designated laboratory

	Date of sampling					
Test Parameter	25/01/2021	28/01/2021	1/02/2021	range	NEMA effluent standards	com
pH	7.96	8.4	7.66	7.66-8.4	6-9	c
Color (mg Pt/L)	200	320	175	175-320	40	No
Total dissolved solids (mg/L)	1557	1240	1042	1048-1557	2000	Not
Ammonia (NH_4 -N(mg/L)	0.9	5	1.2	0.9-5.0	20	Not
Sulphides (mg/L)	4	2	4	2-4	2	No
Temperature (°C)	30	31	29	29-31	20-35	Cor
COD (mgO_2/L)	86	428	528	86-528	1000	(
BOD (20°C) mgO_2/L	30	230	470	30-470	500	(
Oil & grease (mg/L)	0.21	0.1	not detected	0-0.21	5 OR 10	no

Results

- LDK Ltd factory discharge their treated effluent into EPZA sew system for further treatment at Kinani Sewerage treatment w
- Only two parameters, color recorded in the range 175 – 320 m Sulphides 2 – 4 mg/l were found to exceed effluent standard discharge into the public sewers.
- These levels will be further reduced through treatment and di the EPZA Sewerage treatment Works.
- The color of the effluent is also expected to decrease after tre dilution at the EPZA Sewerage treatment Works.

Conclusions

The sulphides and color causing compounds are either in suspe dissolved in the treated effluent

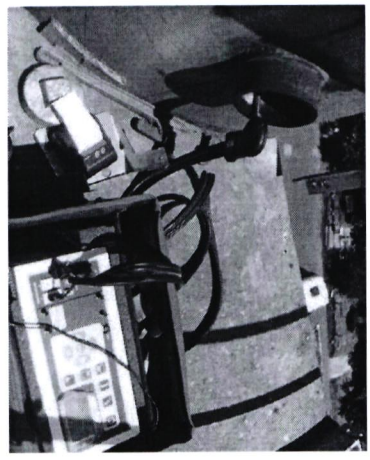
- Therefore, they are not expected to affect the immediate aqu environment.
- Through dilution and further treatment in the sewerage treatr works, the values will be reduced to the regulatory values in t effluent.

STACK EMISSIONS MEASUREMENT REPOR

Legal Notice No. 34

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION (AIR QUALI
REGULATIONS, 2014







Summary for average concentration levels of regulated boiler emi

Parameter	Methane/ IDO Boiler Stack			
	Measured Value	Oxygen referenced value	NEMA air quality guidelines	Rem
Sulphur dioxide (SO_2)	491.817 mg/Nm^3	985.422 mg/Nm^3	2000 mg/Nm^3	
Nitrous oxide (NO)	80.34 mg/Nm^3	161.44 mg/Nm^3	460 mg/Nm^3	
Particulate Matter	9.708 mg/Nm^3	Not applicable	150 mg/Nm^3	

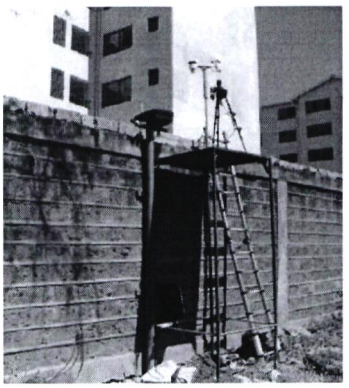
Summary for average concentration levels of all boiler emissions me

Parameter	Methane/ IDO Boiler Stack				NEMA air quality guidelines
	Measured Value	Corrected to STP	Adjusted to dry gas conditions	Oxygen referenced value	
Carbon monoxide (CO)	Below Detectable Limit	Below Detectable Limit	Below Detectable Limit	Below Detectable Limit	Not Given
Carbon dioxide (CO_2)	9.75%	19.599%	19.993%	19.599%	Not Given
Oxygen (O_2)	9.755%	16.695%	19.916%	19.61%	NA
Hydrocarbons (C_xH_y)	Below Detectable Limit				
Sulphur dioxide (SO_2)	491.817 mg/Nm^3	985.422 mg/Nm^3	(909.32 mg/Nm^3	985.422 mg/Nm^3	2000 mg/Nm^3
Nitrous oxide (NO)	80.34 mg/Nm^3	161.427 mg/Nm^3	164.64 mg/Nm^3	161.44mg/Nm^3	460mg/Nm^3
Hydrogen Sulphide	7.011 mg/Nm^3	14.0875 mg/Nm^3	15.515 mg/Nm^3	12.371 mg/Nm^3	Not Given
Particulate Matter	9.708 mg/Nm^3				150 mg/Nm

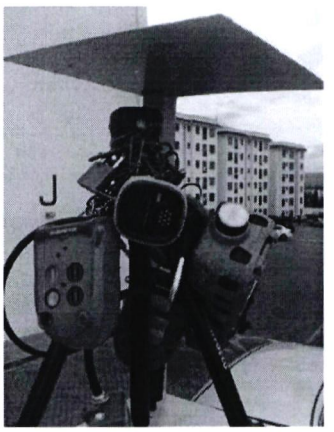
Conclusions

- The particulate matter emissions recorded were within the NE guideline level which is 150 mg/Nm^3.
- The gaseous emissions including nitrous oxide and sulphur dic emissions were within the NEMA limit values.
- During the times when the boiler is restarted after shutdown, emission with heavy loading of particulates and gaseous emis: will be observed which should clear on stabilization to the nor levels recorded in this report.
- The boiler working condition is good and emissions poses no h to the environment

Ambient Air Quality Report









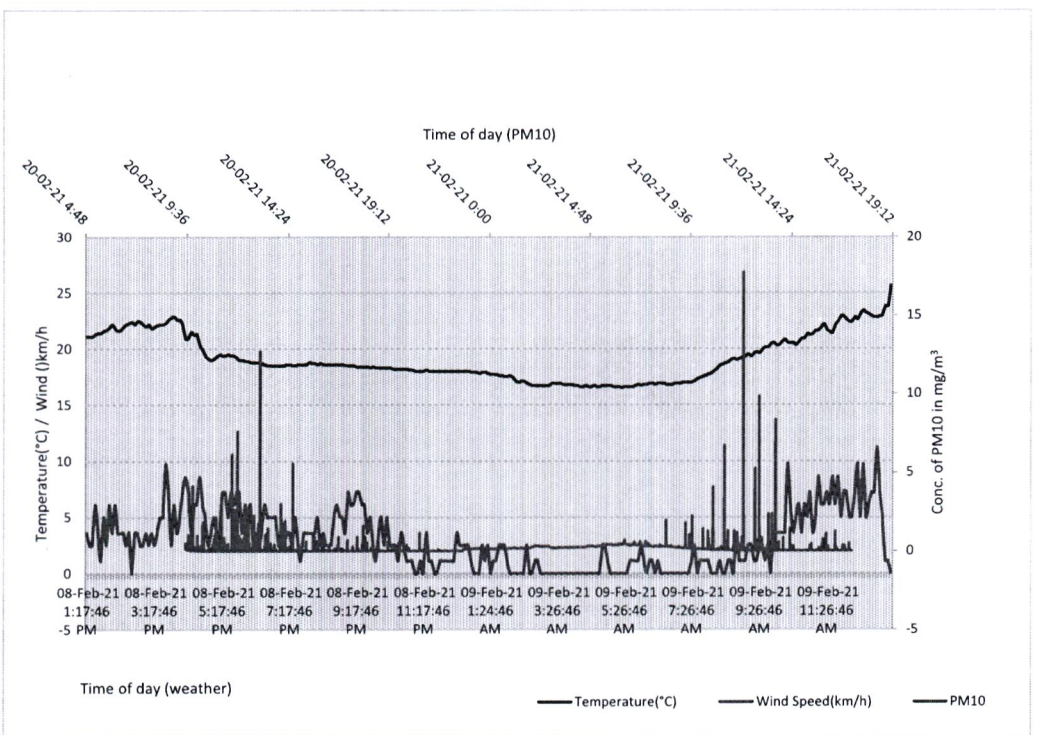
Summary

- Sampling was done between 26th January and 18th February 2021.
- Area of sampling is less than 1km^2.
- Wind direction was predominately northern, blowing from NNW, N, NNE and E towards WSW, S, SSE, at a maximum speed of 2.4 m/s.
- Average temperatures recorded were ranging from a low of 12.1 ˚C to a 30.5 ˚C. The maximum daily range was 18.0 ˚C -7.6 ˚C.
- Average levels of gases (carbon monoxide, sulphur oxides, volatile organ compounds, hydrocarbons, hydrogen sulphide and ammonia) were all be NEMA limit levels for property boundary.
- Average PM_{10} / $PM_{2.5}$ levels recorded were above the NEMA limit levels i ambient air
- Smell / odor compounds detected in some sampling sites can be attribut distillery waste water and molasses effluent, plant (trees) within the are wastewater and waste water treatment plants, textile industry, softener construction lubricants

Conclusions

- Ambient air quality at LDK / GWG environs monitored for 24 recorded average concentration levels for gaseous pollutants in compliance with NEMA air quality tolerance levels.
- Levels for particulate matter (PM_{10} and $PM_{2.5}$) were above the limit levels in over 60% of the days sampled.
- Prevailing weather conditions impact on the dispersion of air emissions from point sources.
- Levels of particulate matter and gaseous pollutants in ambient quality will be higher during dry weather compared to wet con

Diurnal variation of PM with temperature and wind speed



End of presentation

APPENDIX V

SUBMISSIONS BY ERDEMANN PROPERTY LIMITED

GREATWALL GARDENS LIMITED

Email: info@denvic.co.ke **Website:** www.denvic.co.ke
Mobile: 020-4405501, +25472 8368671

Our Ref:	*Your Ref:*	*Date:*
GWG/0408/001	**NA/DAASC/COI/2021/76**	**13th July, 2021**

The Clerk of the National Assembly
Clerk's Chambers, Parliament Buildings
P. O. Box 41842 - 00100
Nairobi, Kenya

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY
RECEIVED
14 JUL 2021
MAIN REGISTRY

Tracy Chelet
This matter is now closed. Other relevant Govt agencies to address ensuing issues.
CNA 14/7/21

Attn: Jeremiah W. Ndombi

Dear Sirs,

RE: REPORT ADOPTED BY NATIONAL ASSEMBLY ON INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS (K) LIMITED

SUBJECT: REPORT ON 9TH JULY, 2021 SITE INSPECTION VISIT

We refer you to the above and to your letter reference NA/DAASC/COI/2021/76 dated 1st July, 2021. We attended the meeting represented by Mr. Xiang Guo Kong, a home owner at Great Wall Gardens Estate.

From the site visit and after reviewing the information on the document given to us by LDK on the state of the art installations, we comment as follows:

1. The distillery was not operating on the inspection day
2. Instances of foul smell happens over the weekends and early mornings
3. LDK continues to discharge effluent into the environment and says these are incidences
4. There is no state of art of equipment installed to reduce the pollution but a new distillation plant installed to increase the production of ethanol spirit which at the same time increased the pollution to produce 150m^3 waste effluent daily
5. There are no new equipment or machines installed to treat the waste effluent and the aerobic process are old technology. The current machines, motors, blowers, pumps were installed ten years ago as opposed to what LDK said.
6. It was evident that LDK have connected the heavy waste effluent to EPZA public sewer line directly.
7. They made a fake sample collection point to cheat government authority like NEMA, WRA and the public. They are hiding too much and cheating too much.
8. They need to disclose the piping and process of their treatment plant completely and open all connection point and most importantly the pipe to connect to the EPZA sewer line and connection point.

LDK said they are producing 150m^3 heavy waste effluent from molasses distillation plant whose COD and BOD usually is above 25,000mg/L for each. In a year they are discharging over 50,000 metric tons of effluent waste to discharge to EPZA sewer line and from there to Athi river and all the way passing several counties to Mombasa and Malindi to Indian Ocean. All the way, land, organisms, animals, soil are polluted by the molasses effluent. 50,000M^3 per year and 600,000M^3 in 10 years' time. This is too much burden to the environment

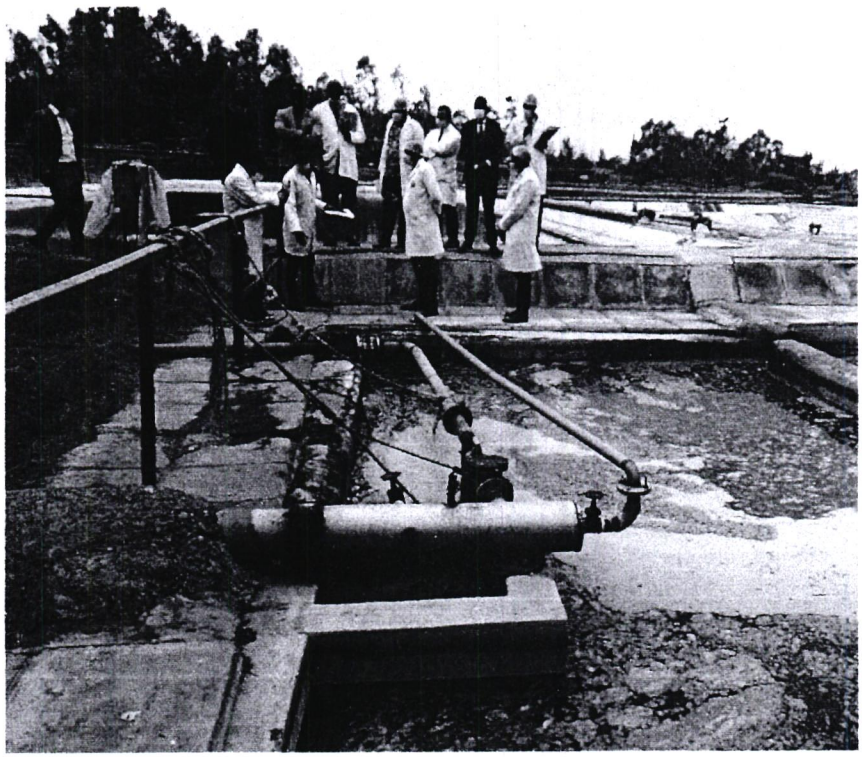


Photo 1.

From photo 1 above, either the 6" pipe is connected to the EPZA sewer line directly and the 2" pipe is to deliver the treated effluent back to the 'last sump' only for sample collection purposes or the opposite way to cheat and defraud NEMA and parliament committee members

The following issues were not answered:

1. Daily production records were not produced by LDK to show the amount of waste generated
2. Daily amount of waste from the new plant installed is $500m^3$ to $600m^3$
3. What are the values of BOD and COD of the effluent before treatment?
4. What are the values of BOD and COD of the after treatment?
5. What is the actual BOD and COD of the effluent discharged to the EPZA sewer?
6. What are the processes of treating the effluent?
7. What is the operation of the Waste Water Treatment Plant?
8. What are the specific installations done in the last 3 years?
9. Route map of the piping. The positions and connections
10. Where is the connection to the EPZA sewer trunk line inside LDK and the connection point outside the compound of LDK to the Kinanie Treatment Plant?
11. Where is the sewer pumped from since it does not flow by gravity to the EPZA sewer?

We shall be glad to provide any further information if and when called upon to do so.

Yours faithfully,

孔祥国

Xiang Guo Kong
Greatwall Gardens Limited
Management.

Cc. NEMA

INSPECTION REPORT: ENVIRONMENTAL STANDARDS' COMPLIANCE AT LONDON DISTILLERS KENYA LTD DURING VISIT BY NATIONAL ASSEMBLY COMMITTEE ON IMPLEMENTATION

Dr. Patrick Ajwang MEIK Fellow.KSEBAE
Lead Expert/ Principal Consultant
Katrina Management Consultants Limited
Nairobi, Kenya

1.0 PREAMBLE

London Distillers Limited has been in operation at the current site since the 1980s. It runs a distillery (brewing) business. The plant is located in an area that has been classified as mixed use zone by the County Department of Physical Planning. The complaints against London Distillers Ltd emanate from the residents of the Great Wall Gardens (and neighbouring estates).

The specific complaint against London Distillers is the foul smell from the inadequately treated factory effluent and air emissions. London Distillers Ltd on its own has also complained that the Great Wall Garden Estate is causing noise and air pollution during construction among other issues.

The matter had been reported to the Parliamentary Committee on Environment and Natural Resources which came up with a report "Inquiry Report into Complaints of Environmental Pollution by London Distillers (Kenya) Limited" that was adopted by the National Assembly on Thursday October 11, 2018. The committee recommended a raft of proposals that London Distillers Kenya Ltd, NEMA, Erdemann Property Limited on behalf of Great Wall Gardens residents, The County Government, Ministries ought to have complied within six months to enable the factory to continue operations at the site. There is a threat of closure for non-compliance. It is now 32 months since the report was adopted by the National Assembly.

My client Erdemann Property Limited (Great Wall Gardens) was urged to exercise a degree of tolerance and coexistence with expectations that London Distillers Kenya Ltd would comply and implement the recommendations of the committee which they have so far done.

2.0 OBSERVATIONS DURING THE INSPECTION TOUR

The members of the committee and the representatives of the parties then proceeded for a guided inspection tour around the plant, led by the Environmental Health and Safety Officer of LDK Ltd along with officials from other departments of the enterprise. Katrina Management Consultants made the following observations;

a. The factory/boiler was not in operation on the inspection day
b. The emissions from the boiler room were not excessive. However, the quantity of emissions was not measured. There was a little objectionable smell from the boiler room where diesel and biogas are used to provide heat energy for the distillation process. However, the smell was not too pungent, nauseating or irritating. It was mentioned that LDK employees who live in the vicinity of the plant hardly complain about the smell.
c. There is a large cylindrical tank in the compound which is used as a biogas digester with molasses slurry as the feed stock. It is the main source of effluent which is released in a clarifier before being directed in the treatment ponds at the western end of the facility. There was no remarkable smell around the tank. There was also no evidence of spillage of

the effluent around the tank. A clarifier located next to the next is used to eliminate impurities from the biogas.

d. The slurry (digestate) from the biogas plant is directed through a pipeline to the treatment ponds where it is held and aerated before being pumped out into the sewer line. The aeration equipment in the treatment ponds had just been installed and the agitation of the ponds were visible during our visit. There was some smell from the effluent in the pond, but it was bearable.
e. The LDK Ltd officials stated that the quantity of effluent released from the plant per day is in the order of 150 cubic meters (approximately 150 tonnes per day). It was not clear whether this discharge could safely be handled by the treatment and sewer system.
f. LDK Ltd officials confirmed that all their effluent is released in the EPZA/MAVWSCO sewer lines
g. The effluent delivery network is sub-surface and LDK mentioned that the manholes for the effluent delivery network that had been open in the past were covered properly with concrete covers.
h. The pumps from the effluent treatment ponds were operational.
i. The sludge from the treatment ponds were not in large quantities. The LDK officials showed us the sludge ponds. There was no strong objectionable small from the sludge ponds.
j. We were shown the sampling points for effluent testing during the visit. It was agreed that for the future, sampling for testing should be done with the participation of the concerned parties.

3.0 SUGGESTIONS FROM ENVIROMENTAL CONSULTANTS (KATRINA MANAGEMENT CONSULTANTS LTD) ON BEHALF OF ERDEMANN PROPERTY LTD

Having familiarized ourselves with the matter and reviewed the committee's report and subsequent developments, the following observations/suggestions are pertinent;

1. The representatives of the complainants (GWG/Erdemann properties Ltd) and government institutions (NEMA, WARMA, EPZA, Machakos County and MAVWASCO) should be notified and/or involved during sample collection and testing.
2. There is need to confirm the effluent discharge points from LDK.
3. There is need for additional sampling points outside the boundary of the LDK along the dedicated LDK sewer line which should be controlled by NEMA, WARMA and the complainants as suggested by Erdemann Properties Ltd next to Sunset Boulevard and/or along Shanghai Road.
4. Impromptu effluent tests by NEMA and WARMA are recommended. This is because the polluter tends to comply during scheduled inspections/audits but relapses afterwards.
5. Confirm the existence of the new installations for improvement and/or their importation schedules
6. LDK should share the factory production schedules and show optimum production levels to the team. Scheduled sampling should only be done if the factory is operating at optimal production.
7. Fulfilment of EMCA and Water Regulations
8. LDK should strive to coexist with neighbours harmoniously according to Legal Notice No. 16
9. LDK should admit liability for pollution.

10. Full implementation of parliamentary report is over 26 months late.
11. The noise and air quality measurements at the Great Walls Gardens were recently monitored by Katrina Management Consultants. Audits will continue to avert defaults.

4.0 CONCLUSIONS

The factory was not working on the inspection day and so it is difficult to tell whether the processes were as explained by the LDK representatives

It was not clear whether the amount of discharge mentioned by LDK of $150m^3$ could safely be handled by the treatment and sewer system as to treat such amounts of effluent, you need larger treatment facilities.

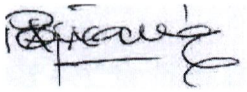
LDK said they have made tremendous efforts in trying to fulfill the environmental requirements as demanded by NEMA. NEMA should ensure full compliance

The piping for the effluent delivery is sub-surface and thus only LDK understands the connections under the ground level.

LDK Ltd should have a routine maintenance regime and equipment replacement policy to ensure that emissions are safe and effluent treatment system is properly working.

LDK Ltd should ensure that they don't exceed their optimal throughput so as not to overload the effluent treatment plant.

It is possible for LDK Ltd and Erdemann Property Ltd (Great Wall Gardens residents) to coexist harmoniously if both comply strictly with the existing environmental standards.

Signature; 

Dated: 15th July, 2021

ERDEMANN PROPERTY LIMITED

Loita Street, Finance House - 6TH Floor • P. O. BOX 42541 – 00100 GPO NAIROBI – KENYA
Telephone: +254 20-351 3306 • Facsimile: +254 20-351 3305 • +254 733 209 709, +254 724 209 709
E-mail: info@erdemann.co.ke • Website: www.erdemann.co.ke

Our Ref:	*Your Ref:*	*Date:*
EPL/0659/PRT	NA/DAASC/COI/2021(034)	6th March, 2021

The Clerk of the National Assembly
Clerk's Chambers, Parliament Buildings
P. O. Box 41842 - 00100
Nairobi, Kenya

Attn: Jeremiah W. Ndombi

Dear Sirs,

RE: MEETING REGARDING IMPLEMENTATION STATUS OF HOUSE RESOLUTIONS

SUBJECT: REJECTION OF NEMA REPORT TO PARLIAMENT ON LDK COMPLIANCE

We confirm receipt of your letter to us referenced NA/DAASC/COI/2021(034) dated 11th March, 2021 inviting us for a meeting to be held on 7th April, 2020 at 2.30pm.

We, Erdemann Property Limited (EPL), confirm that we will attend in the above meeting.

We reiterate our respect for the authority of Parliament and acknowledge and appreciate the seriousness with which the Honorable August House continues to discharge its constitutional mandate including and of particular relevance herein. We also appreciate the work of The National Management Authority (NEMA) despite the several challenges they face in ensuring Kenyans rightfully get a clean and healthy environment which is a basic human right.

We are in full support of the Parliamentary Select Committee on Implementation from the meeting of 4th March, 2021 as we state the reasons here below and without prejudice to the presentation by The Director General, NEMA on the subject matter.

The straight forward issue sought to be investigated by the Hon House is an appraisal on the status of compliance of resolutions adopted by the whole House in as far as adoption of mitigation measures against pollution by London Distillers Kenya Limited (LDK) in Athi River is concerned.

i. By a letter dated 10th November, 2020, The Committee directed that to ensure validity of the assessment results, NEMA should involve EPL and LDK during the process but EPL was left out in the assessment.
ii. NEMA failed to show any evidence to substantiate the assertion that LDK had invested in a state of the art technology to contain air and effluent pollution. There were no photos, confirmed invoices or physical confirmation by NEMA officers of the existence of any new equipment or new installation but just mere statement lifted from LDK report.
iii. NEMA gave a misleading statement to the committee that the area that the distillery is situate was an industrial zone from the onset whereas the area was initially agricultural.
iv. Reliance on the results of the Company SGS Kenya Limited by NEMA and or Parliament on compliance of the LDK cannot be credible as there is evidence of engagement of SGS

by LDK before NEMA contracted SGS. In addition, on several occasions NEMA have confirmed through letters and closure notices e.g. their letter to LDK on 9th June, 2020 (Annexed) the continued pollution despite getting a clean bill of health from SGS.

v. LDK lodged Appeals at the National Environment Tribunal to challenge the NEMA's orders and authority and further accused NEMA and its officers including the DG, of supposed complicity and incompetence merely for issuing the Control Order requiring rectification. This shows that LDK does not want to be regulated but want to operate with impunity.

vi. The lack of commitment to this cause as by LDK is evidenced by them ignoring NEMA's invite to a planning meeting on 11th January, 2021 at NEMA HQ. On the 14th January, 2021 site meeting at LDK, LDK showed the Effluent Discharge point within their compound as the only discharge point for effluent. EPL raised an objection to the sampling point on grounds that the effluent was within the full control of LDK as per the attached letter also copied to Parliament (Copy attached), NEMA is yet to address this concern.

vii. On 15th February, 2021, during the test by the NEMA appointed expert, LDK discharged effluent in to the road and environment as per the attached photos and EPL informed NEMA. However, this critical information was missing in NEMA's report to Parliament. It is quite evident that the discharge point is far from the final effluent discharge point shown by LDK further giving doubt to the effluent samples collected from the points shown by LDK. It further confirms the suspicion that LDK are concealing effluent discharge points from the Authority and other regulatory bodies

It must equally be noted that numerous Improvement Notices, Stop Orders and Closure orders have been variously issued to LDK by *NEMA, Mavoko Water and Sewerage Company (MAVWASCO), Export Processing Zones Authority (EPZA) and the County Government of Machakos* (even before EPL's entry to Athiriver area) all citing various instances of breach of environmental standards by LDK. Critically, NEMA has previously advised LDK that the fact that it has been trading since 1986 or earlier does not authorize LDK to unabated pollute the environment never mind its unmerited claims on change of user.

The County Government of Machakos, has, in consultation with the State Department for Housing and Urban Development, in the National Government proceeded to develop a plan to guide development within the Athi River Area, and the "**MAVOKO INTEGRATED STRATEGIC URBAN DEVELOPMENT PLAN NO. MKS 8/2020/02**" completed on ***24th September, 2020*** has since been developed ascertaining the various Land uses in the subject area and acknowledging the mixed user [COPY ENCLOSED].

We remain consistent and steadfast in calling for the appropriate law enforcement agencies on matters environment to resist the attempts at harassment and proceed undeterred without fear, favor, ill-will and/or bias and hold the LDK and its officials to account. The law confers upon the Honorable House and its Committees not to only summon any person to appear before it, but also equally penalize any person who under the offence of contempt of scandalizing the House – akin to the power of the High Court – engages in conduct contrived and designed to bring into disrepute the Hon Membership and proceedings of the House.

We assure the House of our continued respect for its authority and the rule of law, and our continued full cooperation.

We look forward to your further quick action.

Yours faithfully,
ERDEMANN PROPERTY LIMITED

Zeyun Yang
Managing Director

Copy to:

1) Hon.Richard Moitalel Ole Kenta, MP
   The Chairman of Implementation Committee
   P. O. Box 41842 - 00100
   Nairobi, Kenya

2) Dr. Chris Kiptoo, CBS
   Principal Secretary,
   Ministry of Environment and Forestry,
   NHIF Building, 12th Floor,
   Ragati Road, Upper Hill,
   Nairobi.

3) Mr. Mamo B. Mamo,
   The Director General,
   National Environment Management Authority,
   P.O. Box 67839-00200,
   Nairobi, Kenya.

LETTER FROM PARLIAMENTARY COMMITTEE ON IMPLEMENTATION RECOMMNDING INVOLVEMENT OF EPL IN SAMPLING PROCESS

(12

REPUBLIC OF KENYA

Telegraphic Address
"Bunge", Nairobi
Telephone: 2848000/2221291
Fax: 2243694
E-mail: clerk@parliament.go.ke
When replying please quote

NATIONAL ASSEMBLY

CLERK'S CHAMBERS
National Assembly
Parliament Buildings
P.O. Box 41842-00100
NAIROBI, Kenya

Ref:NA/DCS/COI/2020/(88)

10th November, 2020

ERDERMAN PROPERTY LIMITED
RECEIVED
12 NOV 2020

Mr. Mamo B. Mamo
Director General
National Environment Management Authority (NEMA)
Popo Road, South C, off Mombasa Road
NAIROBI

Dear

RE: IMPLEMENTATION STATUS OF HOUSE RESOLUTIONS

Reference is made to your letter Ref:NEMA/7/7/Vol. IV dated 27th October, 2020 regarding the Implementation status of the report of the Departmental Committee on Environment & Natural Resources on the Inquiry into complaints into Environmental Pollution by London Distillers Kenya Ltd (LDK).

The Committee during its Sitting of 6th November, 2020, considered your submission on the request to undertake ambient air quality assessment and effluent discharge analysis at the London Distillers Kenya Ltd. During the meeting the Committee raised concern that this matter had taken inordinately long to be resolved.

Consequently, the Committee directed that to ensure validity of the assessment results, NEMA should involve Erderman Properties Limited and London Distillers Kenya Ltd. during the assessment process.

In that regard, the Committee resolved to give your office a further sixty (60) days to submit a comprehensive report on the assessments, and thereafter conclude the matter and to the House.

Kindly forward twenty-four (24) copies of your submissions to the Office of the Clerk, and email a soft copy to clerk@parliament.go.ke and ckoskei20@gmail.com on or before **Monday, 11th January, 2021.**

The liaison officer facilitating the matter is **Ms. Tracy Chebet Koskei** who may be contacted on **Tel. No. 0726416794 or email address: ckoskei20@gmail.com.**

Yours

JEREMIAH W. NDOMBI
For: CLERK OF THE NATIONAL ASSEMBLY

Copy to :-

Received
12/11/2020

Dr. Chris Kiptoo, CBS
Principal Secretary
Ministry of Environment and Forestry
NHIF Building, 12th Floor,
Ragati Road, Upper Hill
NAIROBI

Mr. Zeyun Yang
Managing Director
Erdemann Property Limited
6th Floor,Finance House, Loita Street
NAIROBI

Mr. Avin Galot
Managing Director
London Distillers Kenya Ltd.
NAIROBI

LETTER FROM NEMA TO LDK ON NON COMPLIANCE DATED 9TH JUNE 2020

Annex 7

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Telcom Wireless: 020-2183718, 020-2101370
Mobile Line: 0724 253 398, 0723 363 010, 0733 613 045
Incident Line: 0786 101 100, 0741 101 100

P.O Box 67839 - 00200
Popo Road, Nairobi, Kenya
Email: dgnema@nema.go.ke
Website: www.nema.go.ke

NEMA/S75/11/Vol. III

09th June, 2020

Managing Director,
London Distiller (K) Limited
P.O. Box 72118-00200,
ATHI RIVER.

Dear Sir,

CONTROL ORDER FOR LONDON DISTILLERS (K) LTD A LIMITED, ATHI RIVER, MACHAKOS COUNTY FOR VIOLATING AIR QUALITY REGULATIONS 2014

The Authority undertook ambient air quality measurement at London Distillers Kenya limited (LDK LTD). SGS Limited Kenya, a NEMA Designated Laboratory, undertook the measurement.

The parameters measured were within the Emission limits of the Environmental Management and Coordination (Air Quality) Regulations, 2014 except for Particulate Matter (PM), or officially PM_{10} and $PM_{2.5}$ at the following sampling points: (SPs): SP1, SP4, SP6, SP8 and SP7, as indicated in the attached report.

In addition, in the month of May 2020, the Authority received complaints of air pollution from the neighbouring residential estate. A subsequent inspection established the source of the emissions was LDK LTD specifically the biogas digester.

The Authority is also in receipt of your letter dated 3rd March 2020. In this communication, LDK Limited informed NEMA of the investments it has made in the State of the Art Pollution Control Technologies including effluent treatment. However, the Authority is concerned that the temporary effluent holding ponds have not been decommissioned since the last inspection visit that was conducted in February 2020. These ponds besides being potential sources of ground water pollution are also sources of fugitive emissions (odour).

With respect to the foregoing, the Authority would like to inform LDK LTD that the provisions of the Environment Management and Coordination Act (No. 8 of 1999) and the Environment Management and Coordination (Air Quality) Regulations, 2014 have been contravened specifically:

1. Causing Particulate Matter (PM) emissions into the environment beyond the recommended limits,
2. Causing Air pollution directly and indirectly that may or cause harm to public health, and

3. Causing or allowing the generation of odour that interferes with any other person's lawful use or enjoyment of their property.

Your attention is drawn to the Environment Management and Co-ordination Act (EMCA), CAP 387 Part II General Principles, Section 8 (1) which states that "Every person in Kenya is entitled to a clean and healthy environment and has a duty to safeguard and enhance the environment".

Your attention is also drawn to Regulation 21 of the Environment Management and Co-ordination (Air Quality) Regulations, 2014 which states that "a Control Order may be issued in anticipation of a breach of any provision of the Air Quality Regulations or of any term or condition of a licence, or in response to such breach".

The Authority therefore directs you that within [illegible] days of the receipt of this Order to:

(i) Identify sources of Particulate matter within your facility and provide mitigative measures to ensure they comply with the emission limits provided in the Air Quality Regulations.

(ii) Provide a decommissioning plan for the [illegible] the Company has invested in the State of the Art Effluent Treatment Facilities.

(iii) Identify sources of fugitive emissions and submit a written fugitive emission control plan for the control of fugitive emissions that affect the Ambient Air Quality of neighbouring facilities.

Note that failure to comply with this Control Order constitutes an environmental offence that is prosecutable under the laws of Kenya.

You have the right of appeal against this Control Order to the National Environment Tribunal if aggrieved by the order.

MAMO E. MAMO
AG. DIRECTOR GENERAL

Copied to: County Director of Environment, Nairobi.
County Director of Environment, Machakos County.

LETTER FROM EPL TO NEMA COMPLAINING ON THE SAMPLING POINTS WITHIN LDK COMPOUND

ERDEMANN PROPERTY LIMITED

Loita Street, Finance House - 6TH Floor • P. O. BOX 42541 – 00100 GPO NAIROBI – KENYA
Telephone: +254 20-351 3306 • Facsimile: +254 20-351 3305 • +254 733 209 709, +254 724 209 709
E-mail: info@erdemann.co.ke • Website: www.erdemann.co.ke

Our Ref: EPL/0164/PRT

Your Ref: NEMA/7/7/Vol. IV

Date: 10th February, 2021

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY RECEIVED 10 FEB 2021 DIRECTOR GENERAL OFFICE

ERDEMANN PROPERTY LIMITED REGISTERED P.O. Box 42541 - 00100 NAIROBI KENYA

The Director General,
National Environment Management Authority,
P.O. Box 67839-00200,
Nairobi, Kenya.

Dear Sir,

RE: AMBIENT AIR QUALITY MONITORING AND EFFLUENT ASSESSMENT OF LONDON DISTILLERS KENYA (LDK) LTD IN ATHI RIVER, MACHAKOS COUNTY

ADDITIONAL EFFLUENT SAMPLING POINTS FOR AUTHENTIC REPORT

We refer to the above and to your letter Ref NEMA/7/7/Vol. IV dated 28th January, 2021.

We appreciate your response and clarify that we do not have a problem with the identified sample collection points for the ambient air quality monitoring as discussed in the joint meeting and site visit by NEMA, EPL, LDK and EcoServ Consultants.

EPL's concern is the point of sample collection for the effluent discharge. As stated in the Site Visit Report that you sent to us: "… it was explained that LDK had complied with EMC (Water Quality) Regulations that provides for discharge into a public sewer." **But this statement could not be substantiated**.

We brought out the following reasons to NEMA for your attention and further action:

1. The identified point is inside the compound of LDK hence 100% within LDK's control.
2. LDK did not take the team to where the sewer effluent is pumped whereas it is common knowledge that LDK effluent is pumped through their dedicated sewer line to the EPZA sewer trunk line and to the Kinanie plant where sewer is treated biologically before discharge into the river. The real discharge point was therefore concealed from the team.
3. All tests previously carried out at the sample point chosen within LDK compound showed compliance by LDK yet samples collected at the Engen Petrol Station showed non-compliance to the NEMA and WRA requirements for discharge into the public sewer. See attached test reports as annexures No. 1 from LDK's compound and reports of samples collected from outside lkd's compound at Engen station as No. 2.

In order to have credible and authentic results from the current assessment and present to the National Assembly and avoid wastage of public resources, we propose that additional effluent sample collection points for testing be identified along the LDK dedicated sewer line. EPL offers and is ready to support the team by constructing manholes on agreed points along the dedicated LDK Sewer line to enable random and genuine sample collection by the team for testing to give credible results.

When replying please quote our reference number

Preeth,
Filed PK?
J.P.
11/2/2021.

We suggest a point opposite Sunset Boulevard as No. 2 sample collection point and another point within the wayleave of Shanghai road outside lukenya park C as No. 3 sample collection point for effluent testing purposes. These points should be within the control of the team for testing effluent pollution purposes. **The parties i.e. NEMA, EcoServ consultants, Great Wall Gardens and EPL are collectively in charge of the sample collection points No. 2 and No. 3 to take samples randomly for testing purposes.** See attached drawings of the manhole for sample collecting points No. 2 and No. 3 as annexures No. 3 please.

In order to implement the parliamentary resolution for the LDK's pollution issue to reveal the fact and truth of the matter to the public, we hope that you consider and accept our suggestion to allow us to construct the No. 2 and No. 3 effluent samples collection points as soon as possible please.

We look forward to your quick action.

Yours faithfully,
ERDEMANN PROPERTY LIMITED

Zeyun Yang
Managing Director

NATIONAL ASSEMBLY
REGISTRY
10 FEB 2021
2
NAIROBI - KENYA

Copy to:

Clerk of The National Assembly,
The National Assembly,
Parliament Building
Nairobi

When replying please quote our reference number

Annexures 1

FORM F/9/1/5

WATER RESOURCES AUTHORITY

NHIF building, 9th floor, Wing B
P.O. Box 45250-00100, Ngong Road, Nairobi
Tel: +254-020-2732291/2729048/9
Email: wra@wra.go.ke ,
Website: www.wra.go.ke

Central Water Testing Laboratories
P.O. Box 45250, 00100, Off Dunga Road, Nairobi, Kenya
Tel: +254 773903729
Email: cwtl@wra.go.ke;centralwatertestinglabs@gmail.com

Wastewater Laboratory Results Certificate

Report Issue Date:	15-11-2019	Sample No:	1877(A)	Year: 2019
Name of Customer:	Erdemann Property Ltd	Date Received:	4-11-2019	
Email Address:	-	Type of Sample:	Effluent	
Telephone Number:	-	Date of Sampling:	4-11-2019	
Sample submitted by:	Dennis	Source of sample:	London Distillers ltd Effluent sample (2) Athi River	
Purpose of sampling:	Monitoring	Received by:	Dennis	
County:	Machakos			

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	EFFLUENT DISCHARGE STANDARDS (MAX.)	
				ENVIRONMENT (NEMA 2006)	PUBLIC SEWERS (KS 1966-2:2007)
Temperature	°C	-	21.6	±3 ambient temp.	35
pH	pH Scale	APHA 4500-H^+ B	8.25	6.5-8.5	6-9
Conductivity	µS cm^{-1}	APHA 2510 B	1420	-	-
BOD_5 (20 °C)	mgO_2 L^{-1}	APHA 5210 D	25	30	500
COD	mgO_2 L^{-1}	APHA 5220 C	48	50	1000
Total Alkalinity	$mgCaCO_3$ L^{-1}	APHA 2320 B	460	-	-
Total Suspended Solids	mg L^{-1}	APHA 2540 D	20	30	250
Total Dissolved Solids	mg L^{-1}	APHA 2510 A	880	1200	2000
Sulfides	mg S^{2-} L^{-1}	APHA 4500-S^{2-} F	1	0.1	1
Oil + Grease	mg L^{-1}	APHA 5520 B	-	Nil	5
Ammonia	mgL^{-1}	APHA 4500-NH_3D	9	-	-
Colour	mgPt L^{-1}	APHA 2120 B	-	15	Not noticeable
Total Nitrogen	mg N L^{-1}	APHA 4500-N C	-	2 guideline values	-
Total phosphorous	mg P L^{-1}	APHA 4500-P E	-	2 guideline values	30
Total coliforms	MPN 100 mL^{-1}	APHA 9223 A	$2.42x10^3$	30	-
E. Coli	MPN 100 mL^{-1}	APHA 9223 A	$1.12x10^2$	Nil	-
Heavy Metals			-		
Chromium	mg $Cr^{6+}L^{-1}$	APHA 3110 B	-	0.05	0.05
Lead	mg Pb L^{-1}	APHA 3110 B	-	0.01	0.05
Cadmium	mg Cd L^{-1}	APHA 3110 B	-	0.01	0.05
Zinc	mg Zn L^{-1}	APHA 3110 B	-	0.5	5.0
Arsenic	µgAS L^{-1}	-	-	0.02	0.02

APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater; "<": value below method detection limit; ND: Not detectable

Comments:

Monitoring

Nicky Sitati
Laboratory Analyst

WATER RESOURCES AUTHORITY
CENTRAL WATER TESTING LABORATORY
Tel: 0773 903 729
P. O. Box 45250 - 00100, NAIROBI
centralwatertestinglabs@gmail.com
cwtl@wra.or.ke

Dr. Kenneth K'oreje
Assistant Technical Coordination Manager

The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings at the time of analysis and based on the samples submitted by the client.

FORM F/9/1/5

WATER RESOURCES AUTHORITY

NHIF building, 9th floor, Wing B
P.O. Box 45250-00100, Ngong Road, Nairobi
Tel: +254-020-2732291/2729048/9
Email: wra@wra.go.ke ,
Website: www.wra.go.ke

Central Water Testing Laboratories
P.O. Box 45250, 00100, Off Dunga Road, Nairobi, Kenya
Tel: +254 773903729
Email: cwtl@wra.go.ke;centralwatertestinglabs@gmail.com

Wastewater Laboratory Results Certificate

Report Issue Date:	28-11-2019	Sample No:	1877(B)	Year: 2019
Name of Customer:	Erdemann Property Ltd	Date Received:	4-11-2019	
Email Address:	-	Type of Sample:	Effluent	
Telephone Number:	-	Date of Sampling:	4-11-2019	
Sample submitted by:	Dennis	Source of sample:	London Distillers ltd Effluent sample (2) Athi River	
Purpose of sampling:	Monitoring	Received by:	Dennis	
County:	Machakos			

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	EFFLUENT DISCHARGE STANDARDS (MAX.)	
				ENVIRONMENT (NEMA 2006)	PUBLIC SEWERS (KS 1966-2:2007)
Temperature	^{o}C	-	21.6	±3 ambient temp.	35
pH	pH Scale	APHA 4500-H^{+} B	8.25	6.5-8.5	6-9
Conductivity	$\mu S\ cm^{-1}$	APHA 2510 B	1420	-	-
BOD_5 (20 ^{0}C)	$mgO_2\ L^{-1}$	APHA 5210 D	20	30	500
COD	$mgO_2\ L^{-1}$	APHA 5220 C	48	50	1000
Total Alkalinity	$mgCaCO_3\ L^{-1}$	APHA 2320 B	450	-	-
Total Suspended Solids	$mg\ L^{-1}$	APHA 2540 D	25	30	250
Total Dissolved Solids	$mg\ L^{-1}$	APHA 2510 A	880	1200	2000
Sulfides	$mg\ S^{2-}\ L^{-1}$	APHA 4500-S^{2-} F	1	0.1	1
Oil + Grease	$mg\ L^{-1}$	APHA 5520 B	-	Nil	5
Ammonia	mgL^{-1}	APHA 4500-NH_3D	11	-	-
Colour	$mgPt\ L^{-1}$	APHA 2120 B	-	15	Not noticeable
Total Nitrogen	$mg\ N\ L^{-1}$	APHA 4500-N C	-	2 guideline values	-
Total phosphorous	$mg\ P\ L^{-1}$	APHA 4500-P E	-	2 guideline values	30
Total coliforms	MPN 100 mL^{-1}	APHA 9223 A	$2.24x10^3$	30	-
E. Coli	MPN 100 mL^{-1}	APHA 9223 A	$1.12x10^2$	Nil	-
Heavy Metals			-		
Chromium	$mg\ Cr^{6+}L^{-1}$	APHA 3110 B	-	0.05	0.05
Lead	$mg\ Pb\ L^{-1}$	APHA 3110 B	-	0.01	0.05
Cadmium	$mg\ Cd\ L^{-1}$	APHA 3110 B	-	0.01	0.05
Zinc	$mg\ Zn\ L^{-1}$	APHA 3110 B	-	0.5	5.0
Arsenic	$\mu gAS\ L^{-1}$	-	-	0.02	0.02

APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater; "<": value below method detection limit; ND: Not detectable

Comments:

Monitoring

WATER RESOURCES AUTHORITY
CENTRAL WATER TESTING LABORATORY
Tel: 0773 903 729
P. O. Box 45250 - 00100, NAIROBI
centralwatertestinglabs@gmail.com
cwtl@wra.or.ke

Nicky Sitati
Laboratory Analyst

Dr. Kenneth K'oreje
Assistant Technical Coordination Manager

The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings at the time of analysis and based on the samples submitted by the client.

FORM F/9/1/5

WATER RESOURCES AUTHORITY

NHIF building, 9th floor, Wing B
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Wastewater Laboratory Results Certificate

Report Issue Date:	15-11-2019	Sample No:	1894	Year: 2019
Name of Customer:	Erdemann Property Ltd	Date Received:	5-11-2019	
Email Address:	-	Type of Sample:	Effluent	
Telephone Number:	-	Date of Sampling:	5-11-2019	
Sample submitted by:	Dennis	Source of sample:	Erdemann Property Effluent at Engen	
Purpose of sampling:	Monitoring	Received by:	Dennis	
County:	Machakos			

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	EFFLUENT DISCHARGE STANDARDS (MAX.)	
				ENVIRONMENT (NEMA 2006)	PUBLIC SEWERS (KS 1966-2:2007)
Temperature	°C	-	21.5	±3 ambient temp.	35
pH	pH Scale	APHA 4500-H^+ B	7.64	6.5-8.5	6-9
Conductivity	µS cm^{-1}	APHA 2510 B	2360	-	-
BOD_5 (20 °C)	mgO_2 L^{-1}	APHA 5210 D	480	30	500
COD	mgO_2 L^{-1}	APHA 5220 C	640	50	1000
Total Alkalinity	$mgCaCO_3$ L^{-1}	APHA 2320 B	610	-	-
Total Suspended Solids	mg L^{-1}	APHA 2540 D	250	30	250
Total Dissolved Solids	mg L^{-1}	APHA 2510 A	2171	1200	2000
Sulfides	mg S^{2-} L^{-1}	APHA 4500-S^{2-} F	4	0.1	1
Oil + Grease	mg L^{-1}	APHA 5520 B	0.24	Nil	5
Ammonia	mgL^{-1}	APHA 4500-NH_3D	18	-	-
Colour	mgPt L^{-1}	APHA 2120 B	-	15	Not noticeable
Total Nitrogen	mg N L^{-1}	APHA 4500-N C	-	2 guideline values	-
Total phosphorous	mg P L^{-1}	APHA 4500-P E	-	2 guideline values	30
Total coliforms	MPN 100 mL^{-1}	APHA 9223 A	-	30	-
E. Coli	MPN 100 mL^{-1}	APHA 9223 A	-	Nil	-
Heavy Metals			-		
Chromium	mg Cr^{6+} L^{-1}	APHA 3110 B	-	0.05	0.05
Lead	mg Pb L^{-1}	APHA 3110 B	-	0.01	0.05
Cadmium	mg Cd L^{-1}	APHA 3110 B	-	0.01	0.05
Zinc	mg Zn L^{-1}	APHA 3110 B	-	0.5	5.0
Arsenic	µgAS L^{-1}	-	-	0.02	0.02

APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater; "<": value below method detection limit; ND: Not detectable

Comments:

Monitoring

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Nicky Sitati
Laboratory Analyst

Dr. Kenneth K'oreje
Assistant Technical Coordination Manager

The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings at the time of analysis and based on the samples submitted by the client.

FORM F/9/1/5

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Wastewater Laboratory Results Certificate

Report Issue Date:	15-11-2019	Sample No:	1913	Year:	2019
Name of Customer:	Erdemann Property Ltd	Date Received:	6-11-2019		
Email Address:	-	Type of Sample:	Effluent		
Telephone Number:	-	Date of Sampling:	6-11-2019		
Sample submitted by:	Dennis	Source of sample:	London Distillers Kenya ltd outlet sample (1), Athi River		
Purpose of sampling:	Monitoring	Received by:	Dennis		
County:	Machakos				

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	EFFLUENT DISCHARGE STANDARDS (MAX.)	
				ENVIRONMENT (NEMA 2006)	PUBLIC SEWERS (KS 1966-2:2007)
Temperature	°C	-	21.9	±3 ambient temp.	35
pH	pH Scale	APHA 4500-H^+ B	7.72	6.5-8.5	6-9
Conductivity	µS cm^{-1}	APHA 2510 B	1867	-	-
BOD_5 (20 °C)	mgO_2 L^{-1}	APHA 5210 D	480	30	500
COD	mgO_2 L^{-1}	APHA 5220 C	920	50	1000
Total Alkalinity	$mgCaCO_3$ L^{-1}	APHA 2320 B	470	-	-
Total Suspended Solids	mg L^{-1}	APHA 2540 D	40	30	250
Total Dissolved Solids	mg L^{-1}	APHA 2510 A	1158	1200	2000
Sulfides	mg S^{2-} L^{-1}	APHA 4500-S^{2-} F	<1	0.1	1
Oil + Grease	mg L^{-1}	APHA 5520 B	0.3	Nil	5
Ammonia	mgL^{-1}	APHA 4500-NH_3D	2.6	-	-
Colour	mgPt L^{-1}	APHA 2120 B	-	15	Not noticeable
Total Nitrogen	mg N L^{-1}	APHA 4500-N C	-	2 guideline values	-
Total phosphorous	mg P L^{-1}	APHA 4500-P E	-	2 guideline values	30
Total coliforms	MPN 100 mL^{-1}	APHA 9223 A	$3.6x10^5$	30	-
E. Coli	MPN 100 mL^{-1}	APHA 9223 A	$1x10^4$	Nil	-
Heavy Metals			-		
Chromium	mg Cr^{6+} L^{-1}	APHA 3110 B	-	0.05	0.05
Lead	mg Pb L^{-1}	APHA 3110 B	-	0.01	0.05
Cadmium	mg Cd L^{-1}	APHA 3110 B	-	0.01	0.05
Zinc	mg Zn L^{-1}	APHA 3110 B	-	0.5	5.0
Arsenic	µgAS L^{-1}	-	-	0.02	0.02

APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater; "<": value below method detection limit; ND: Not detectable

Comments: Monitoring

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Wastewater Laboratory Results Certificate

Report Issue Date:	28-11-2019	Sample No:	1931	Year:	2019
Name of Customer:	Erdemann Property Ltd	Date Received:	7-11-2019		
Email Address:	-	Type of Sample:	Effluent		
Telephone Number:	-	Date of Sampling:	7-11-2019		
Sample submitted by:	Julie	Source of sample:	London Distillers Kenya ltd Final effluent at Discharge point (outlet)		
Purpose of sampling:	Monitoring	Received by:	Julie		
County:	Machakos				

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	EFFLUENT DISCHARGE STANDARDS (MAX.)	
				ENVIRONMENT (NEMA 2006)	PUBLIC SEWERS (KS 1966-2:2007)
Temperature	°C	-	21.6	±3 ambient temp.	35
pH	pH Scale	APHA 4500-H^+ B	7.85	6.5-8.5	6-9
Conductivity	µS cm^{-1}	APHA 2510 B	1910	-	-
BOD_5 (20 °C)	mgO_2 L^{-1}	APHA 5210 D	480	30	500
COD	mgO_2 L^{-1}	APHA 5220 C	920	50	1000
Total Alkalinity	$mgCaCO_3$ L^{-1}	APHA 2320 B	520	-	-
Total Suspended Solids	mg L^{-1}	APHA 2540 D	40	30	250
Total Dissolved Solids	mg L^{-1}	APHA 2510 A	539	1200	2000
Sulfides	mg S^{2-} L^{-1}	APHA 4500-S^{2-} F	<1	0.1	1
Oil + Grease	mg L^{-1}	APHA 5520 B	-	Nil	5
Ammonia	mgL^{-1}	APHA 4500-NH_3D	3.6	-	-
Colour	mgPt L^{-1}	APHA 2120 B	-	15	Not noticeable
Total Nitrogen	mg N L^{-1}	APHA 4500-N C	-	2 guideline values	-
Total phosphorous	mg P L^{-1}	APHA 4500-P E	-	2 guideline values	30
Total coliforms	MPN 100 mL^{-1}	APHA 9223 A	$9.8x10^5$	30	-
E. Coli	MPN 100 mL^{-1}	APHA 9223 A	$1.9x10^4$	Nil	-
Heavy Metals			-		
Chromium	mg Cr^{6+} L^{-1}	APHA 3110 B	-	0.05	0.05
Lead	mg Pb L^{-1}	APHA 3110 B	-	0.01	0.05
Cadmium	mg Cd L^{-1}	APHA 3110 B	-	0.01	0.05
Zinc	mg Zn L^{-1}	APHA 3110 B	-	0.5	5.0
Arsenic	µgAS L^{-1}	-	-	0.02	0.02

APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater; "<": value below method detection limit; ND: Not detectable

Comments: *Monitoring*

Nicky Sitati
Laboratory Analyst

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Wastewater Laboratory Results Certificate

Report Issue Date:	28-11-2019	Sample No:	1932	Year:	2019
Name of Customer:	Erdemann Property Ltd	Date Received:	7-11-2019		
Email Address:	-	Type of Sample:	Effluent		
Telephone Number:	-	Date of Sampling:	7-11-2019		
Sample submitted by:	Julie	Source of sample:	London Distillers Kenya ltd Final effluent at discharge point (outlet)		
Purpose of sampling:	Monitoring	Received by:	Julie		
County:	Machakos				

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	EFFLUENT DISCHARGE STANDARDS (MAX.)	
				ENVIRONMENT (NEMA 2006)	PUBLIC SEWERS (KS 1966-2:2007)
Temperature	°C	-	21.6	±3 ambient temp.	35
pH	pH Scale	APHA 4500-H^+ B	7.86	6.5-8.5	6-9
Conductivity	µS cm^{-1}	APHA 2510 B	1947	-	-
BOD_5 (20 °C)	mgO_2 L^{-1}	APHA 5210 D	480	30	500
COD	mgO_2 L^{-1}	APHA 5220 C	820	50	1000
Total Alkalinity	$mgCaCO_3$ L^{-1}	APHA 2320 B	500	-	-
Total Suspended Solids	mg L^{-1}	APHA 2540 D	90	30	250
Total Dissolved Solids	mg L^{-1}	APHA 2510 A	1207	1200	2000
Sulfides	mg S^{2-} L^{-1}	APHA 4500-S^{2-} F	<1	0.1	1
Oil + Grease	mg L^{-1}	APHA 5520 B	-	Nil	5
Ammonia	mgL^{-1}	APHA 4500-NH_3D	2.4	-	-
Colour	mgPt L^{-1}	APHA 2120 B	-	15	Not noticeable
Total Nitrogen	mg N L^{-1}	APHA 4500-N C	-	2 guideline values	-
Total phosphorous	mg P L^{-1}	APHA 4500-P E	-	2 guideline values	30
Total coliforms	MPN 100 mL^{-1}	APHA 9223 A	$9.4x10^5$	30	-
E. Coli	MPN 100 mL^{-1}	APHA 9223 A	$1.7x10^4$	Nil	-
Heavy Metals			-		
Chromium	mg Cr^{6+} L^{-1}	APHA 3110 B	-	0.05	0.05
Lead	mg Pb L^{-1}	APHA 3110 B	-	0.01	0.05
Cadmium	mg Cd L^{-1}	APHA 3110 B	-	0.01	0.05
Zinc	mg Zn L^{-1}	APHA 3110 B	-	0.5	5.0
Arsenic	µgAS L^{-1}	-	-	0.02	0.02

APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater; "<": value below method detection limit; ND: Not detectable

Comments:

Monitoring

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Wastewater Laboratory Results Certificate

Report Issue Date:	29-11-2019	Sample No:	2007	Year:	2019
Name of Customer:	Erdemann Properties Ltd	Date Received:	11-11-2019		
Email Address:	-	Type of Sample:	Effluent		
Telephone Number:	-	Date of Sampling:	11-11-2019		
Sample submitted by:	Dennis	Source of sample:	London Distillers Kenya ltd Outlet (2) Sample, Athi River		
Purpose of sampling:	Monitoring	Received by:	Dennis		
County:	Machakos				

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	EFFLUENT DISCHARGE STANDARDS (MAX.)	
				ENVIRONMENT (NEMA 2006)	PUBLIC SEWERS (KS 1966-2:2007)
Temperature	°C	-	20.8	±3 ambient temp.	35
pH	pH Scale	APHA 4500-H^+ B	7.66	6.5-8.5	6-9
Conductivity	µS cm^{-1}	APHA 2510 B	2580	-	-
BOD_5 (20 °C)	mgO_2 L^{-1}	APHA 5210 D	470	30	500
COD	mgO_2 L^{-1}	APHA 5220 C	704	50	1000
Total Alkalinity	$mgCaCO_3$ L^{-1}	APHA 2320 B	530	-	-
Total Suspended Solids	mg L^{-1}	APHA 2540 D	20	30	250
Total Dissolved Solids	mg L^{-1}	APHA 2510 A	1600	1200	2000
Sulfides	mg S^{2-} L^{-1}	APHA 4500-S^{2-} F	24	0.1	1
Oil + Grease	mg L^{-1}	APHA 5520 B	-	Nil	5
Ammonia	mgL^{-1}	APHA 4500-NH_3D	3.0	-	-
Colour	mgPt L^{-1}	APHA 2120 B	-	15	Not noticeable
Total Nitrogen	mg N L^{-1}	APHA 4500-N C	-	2 guideline values	-
Total phosphorous	mg P L^{-1}	APHA 4500-P E	-	2 guideline values	30
Total coliforms	MPN 100 mL^{-1}	APHA 9223 A	$1.21x10^6$	30	-
E. Coli	MPN 100 mL^{-1}	APHA 9223 A	$2x10^5$	Nil	-
Heavy Metals			-		
Chromium	mg $Cr^{6+}L^{-1}$	APHA 3110 B	-	0.05	0.05
Lead	mg Pb L^{-1}	APHA 3110 B	-	0.01	0.05
Cadmium	mg Cd L^{-1}	APHA 3110 B	-	0.01	0.05
Zinc	mg Zn L^{-1}	APHA 3110 B	-	0.5	5.0
Arsenic	µgAS L^{-1}	-	-	0.02	0.02

APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater; "<": value below method detection limit; ND: Not detectable

Comments: *Monitoring*

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Annexures 2

FORM F/9/1/5

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Wastewater Laboratory Results Certificate

Report Issue Date:	9-10-2019	Sample No:	1198	Year: 2019
Name of Customer:	Mavoko Sub-county Administrator	Date Received:	24-09-2019	
Email Address:	-	Type of Sample:	Effluent	
Telephone Number:	-	Date of Sampling:	23-09-2019	
Sample submitted by:	-	Source of sample:	London Distillers Effluent at EPZA Line	
Purpose of sampling:	Monitoring	Received by:	Dennis Onyango	
County:	Machakos			

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	EFFLUENT DISCHARGE STANDARDS (MAX.)	
				ENVIRONMENT (NEMA 2006)	PUBLIC SEWERS (KS 1966-2:2007)
Temperature	°C	-	-	±3 ambient temp.	35
pH	pH Scale	APHA 4500-H^+ B	7.37	6.5-8.5	6-9
Conductivity	µS cm^{-1}	APHA 2510 B	3440	-	-
BOD_5 (20 °C)	mgO_2 L^{-1}	APHA 5210 D	960	30	500
COD	mgO_2 L^{-1}	APHA 5220 C	1600	50	1000
Total Alkalinity	$mgCaCO_3$ L^{-1}	APHA 2320 B	780	-	-
Total Suspended Solids	mg L^{-1}	APHA 2540 D	133	30	250
Total Dissolved Solids	mg L^{-1}	APHA 2510 A	2133	1200	2000
Sulfides	mg S^{2-} L^{-1}	APHA 4500-S^{2-} F	<1	0.1	1
Oil + Grease	mg L^{-1}	APHA 5520 B	-	Nil	5
Ammonia	mgL^{-1}	APHA 4500-NH_3D	11	-	-
Colour	mgPt L^{-1}	APHA 2120 B	-	15	Not noticeable
Total Nitrogen	mg N L^{-1}	APHA 4500-N C	-	2 guideline values	-
Total phosphorous	mg P L^{-1}	APHA 4500-P E	-	2 guideline values	30
Total coliforms	MPN 100 mL^{-1}	APHA 9223 A	-	30	-
E. Coli	MPN 100 mL^{-1}	APHA 9223 A	-	Nil	-
Heavy Metals			-		
Chromium	mg Cr^{6+} L^{-1}	APHA 3110 B	-	0.05	0.05
Lead	mg Pb L^{-1}	APHA 3110 B	-	0.01	0.05
Cadmium	mg Cd L^{-1}	APHA 3110 B	-	0.01	0.05
Zinc	mg Zn L^{-1}	APHA 3110 B	-	0.5	5.0
Arsenic	µgAS L^{-1}	-	-	0.02	0.02

APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater; "<": value below method detection limit; ND: Not detectable

Comments:

Monitoring

WATER RESOURCES AUTHORITY
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Loycephyllis Onchari
Laboratory Analyst

Celline Obuya
for:Assistant Technical Coordination Manager

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SEPTEMBER 25TH 2019

LABORATORY TEST REPORT

Description of Sample: UNTREATED EFFLUENT
Sample Source: MAVOKO
Submitted By: MAVOKO WATER & SEWERAGE CO
Customer Contact: 0722 998 042
Sampled by: CLIENT

Date of Sampling: 18/09/2019
Date sample Received: 19/09/2019
Date of Analysis: 19/09/2019
Date of Report Issue: 25/09/2019
Sample ID: EFF/0513/675

EFFLUENT WATER ANALYSIS

PARAMETERS	METHOD	RESULTS	KENYA STANDARD FOR EFFLUENT WATER; EMCR 2006, FIFTH SCHEDULE. MAXIMUM LEVELS PERMISIBLE.
pH (pH Units)	USEPA Electrode: 8156	7.2	6– 9
Temperature(^{o}C)	Direct Method	23.9	20-35
COD(mg/L)	**TNT :8000**	**5545**	**1000**
BOD(mg/L)	**Dilution Method:8043**	**810**	**500**
Color(Pt. Co. APHA)	**Platinum-Cobalt: 8025**	**9678**	**40**
Total Suspended Solids(mg/L)	**Photometric:8006**	**920**	**250**
Total Dissolved Solids (mg/L)	AQL/TM/PHY/01	1563	2000
Copper(mg/L)	APHA Method 3111B	0.1	1.0
Chromium (mg/L)	ChromaVer3: 8023	0.04	0.05
Total Chromium (mg/L)*	APHA Method 3111 B	0.1	2
Phosphate(mg/L PO_4^{-3})	**AQL/TM/CHEM/01**	**70.3**	**30**
Oil & Grease (mg/L HEM)	**APHA Method 5520 D**	**10**	**5**
Detergents(mg/L)	Crystal violet method	0.1	15
Selenium(mg/L)*	APHA Method 3500 se	0.08	0.2
Zinc(mg/L)	Zincon: 8009	0.01	5.0
Ammonia(mg/L NH_3)	Salicylate: 8155	5.2	20
Nitrate(mg/L)	Cadmium Reduction: 8039	15.5	20
Cadmium(mg/L)*	APHA Method 3111B	0.06	0.5
Mercury(mg/L)*	APHA Method 3500 Hg	<0.003	0.05
Arsenic(mg/L)*	APHA Method 3500 As	<0.01	0.02
Nickel(mg/L)	PAN:8150	0.02	3.0
Lead(mg/L)*	APHA Method 3111B	<0.01	1.0
Cyanide(mg/L)	Pyridine-Pyrazalone:8027	0.1	2
Phenols(mg/L)*	APHA Method 5530	0.6	10

NS: No Set Standard, ND: Not Detected, TN: Too Numerous to Count, REV: Revised, BOD: Biochemical Oxygen Demand, COD: Chemical Oxygen Demand, HEM: Hexane Extractable Material, EMCR: Environmental Management and Co-ordination (Water Quality) Regulations

The test report shall not be reproduced except in full, without written approval from Aqualytic laboratories Ltd.
The tests subcontracted are clearly identified as * and the results are expressed as outsourced.

COMMENTS

Based on the tested parameters only the water sample was found not to be within the set specifications for discharge into the public sewer. The levels of color, COD, BOD, total suspended solids, phosphate and oil & grease were found not to be within the standard. Treatment is therefore advised.

MUGUN KIPCHUMBA
TECHNICAL MANAGER

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LABAN WAWERU
ASSISTANT TECHNICAL MANAGER

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SEPTEMBER 25TH 2019

LABORATORY TEST REPORT

Description of Sample:	UNTREATED EFFLUENT	**Date of Sampling:**	18/09/2019
Sample Source:	MAVOKO	**Date sample Received:**	19/09/2019
Submitted By:	MAVOKO WATER & SEWERAGE CO	**Date of Analysis:**	19/09/2019
Customer Contact:	0722 998 042	**Date of Report Issue:**	25/09/2019
Sampled by:	CLIENT	**Sample ID:**	EFF/0513/675

EFFLUENT WATER ANALYSIS

PARAMETERS	METHOD	RESULTS	KENYA STANDARD FOR EFFLUENT WATER; EMCR 2006, FIFTH SCHEDULE. MAXIMUM LEVELS PERMISIBLE.
pH (pH Units)	USEPA Electrode: 8156	7.2	6– 9
Temperature(^{O}C)	Direct Method	23.9	20-35
COD(mg/L)	**TNT :8000**	**5545**	**1000**
BOD(mg/L)	**Dilution Method:8043**	**810**	**500**
Color(Pt. Co. APHA)	**Platinum-Cobalt: 8025**	**9678**	**40**
Total Suspended Solids(mg/L)	**Photometric:8006**	**920**	**250**
Total Dissolved Solids (mg/L)	AQL/TM/PHY/01	1563	2000
Copper(mg/L)	APHA Method 3111B	0.1	1.0
Chromium (mg/L)	ChromaVer3: 8023	0.04	0.05
Total Chromium (mg/L)*	APHA Method 3111 B	0.1	2
Phosphate(mg/L PO_4^{-3})	**AQL/TM/CHEM/01**	**70.3**	**30**
Oil & Grease (mg/L HEM)	**APHA Method 5520 D**	**10**	**5**
Detergents(mg/L)	Crystal violet method	0.1	15
Selenium(mg/L)*	APHA Method 3500 se	0.08	0.2
Zinc(mg/L)	Zincon: 8009	0.01	5.0
Ammonia(mg/L NH_3)	Salicylate: 8155	5.2	20
Nitrate(mg/L)	Cadmium Reduction: 8039	15.5	20
Cadmium(mg/L)*	APHA Method 3111B	0.06	0.5
Mercury(mg/L)*	APHA Method 3500 Hg	<0.003	0.05
Arsenic(mg/L)*	APHA Method 3500 As	<0.01	0.02
Nickel(mg/L)	PAN:8150	0.02	3.0
Lead(mg/L)*	APHA Method 3111B	<0.01	1.0
Cyanide(mg/L)	Pyridine-Pyrazalone:8027	0.1	2
Phenols(mg/L)*	APHA Method 5530	0.6	10

NS: No Set Standard, ND: Not Detected, TN: Too Numerous to Count, REV: Revised, BOD: Biochemical Oxygen Demand, COD: Chemical Oxygen Demand, HEM: Hexane Extractable Material, EMCR: Environmental Management and Co-ordination (Water Quality) Regulations

The test report shall not be reproduced except in full, without written approval from Aqualytic laboratories Ltd.
The tests subcontracted are clearly identified as * and the results are expressed as outsourced.

COMMENTS

Based on the tested parameters only the water sample was found not to be within the set specifications for discharge into the public sewer. The levels of color, COD, BOD, total suspended solids, phosphate and oil & grease were found not to be within the standard. Treatment is therefore advised.

MUGUN KIPCHUMBA
TECHNICAL MANAGER

AQUALYTIC LABORATORIES LTD
CERTIFIED COPY

LABAN WAWERU
ASSISTANT TECHNICAL MANAGER

UNIVERSITY OF NAIROBI
COLLEGE OF BIOLOGICAL AND PHYSICAL SCIENCES
SCHOOL OF PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY
P.O. Box 30197-00100, Nairobi, Kenya

REF: UON/CBPS/CHEM

Tel: 254 772459087

DATE: 15th November2019

Email: dept-chem@uonbi.ac.ke

Mavoko Water and Sewerage Company Ltd (MAVWASCO)

P.O. Box 582-00204

Athi River

Attn: Michael Mang'eli

SUBJECT: ANALYSIS OF WASTE WATER SAMPLES

Two waste-water sampleswere received in the Department for laboratory analysis for parameters indicated. The samples, Effluent 01 and LDK Sewer 02 were received on 18/09/2019 and 23/09/2019 respectively.Standard methods of analysis were used for the physico-chemical parameters and the results are summarized in Table 1.The sample were filtered and filtrate dried and weighed to obtain the Total Dissolved Solids (TDS). For Total Suspended Solids(TSS), the samples were filtered and the residue dried and weighed. The pH were measured with pH meter after calibration with buffer pH 7. For COD determination, the samples were mixed with dichromate, concentrated sulphuric acid and refluxed for two and half hours and then titrated with ferrous ammonium sulphate. The BOD (5 daysincubation) was determined using the azide method. The lead and Zn analysis was done using AAS method after digestion of sample using aqua regia. The results for various parameters are summarized in Table 1

below. For comparison the National Environment (Standards for Discharge of Effluent into Water or on Land) Regulationsare provided in the Table as well.

Table 1. Results for Physico-Chemical analysis of water samples.

PARAMETER	SAMPLE 01	SAMPLE 02	COMMENTS *Standards
pH	7.5 ±0.1	7.5 ±0.1	6-9
Colour	6008.4 Hz	4000 Hz	Less than 40 Hazen units
Alkalinity	<1.7 mg OH-	<1.7 mg OH-	-
Lead (Pb)	< 0.5 ppm	< 0.5 ppm	1 mg/1
Zinc (Zn)	0.3355±0.072 ppm	1.295±0.103 ppm	5 mg/1
TSS	2881±174mg/l	616±75mg/l	250 mg/1
TDS	3212±584mg/l	2544±341mg/l	2000mg/1
BOD	7720±1987 mgO/l	3187±2663 mgO/l	500**mg/l max**
COD	28600±1778 mgO/l	3800 ±1216 mgO/l	1000**mg/L max**

*STANDARDS FOR EFFLUENT DISCHARGE INTO PUBLIC SEWERS (FIFTH SCHEDULE), *Kenya Gazette supplement No 68 29th September, 2006*

As shown in Table 1, some of the parameters are within the recommended values, but some exceed the guidelines for effluent discharge into public sewers and appropriate mitigation measures should be taken to ensure compliance.

DEPARTMENT OF CHEMISTRY
UNIVERSITY OF NAIROBI
P. O. Box 30197, NAIROBI.

PROF JOHN M ONYARI
CHAIRMAN
DEPARTMENT OF CHEMISTRY

aqualytic
Environmental & water research labs

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P.O. Box 4600 - 00506 Nairobi
Ramco Court
Off Mombasa Road
Email: lab@aqualyticlab.com
Website: www.aqualyticlab.com
Tel: (20) 5249675 Cell: 0722 54 73 44

SEPTEMBER 10TH 2019

LABORATORY TEST REPORT

Description of Sample:	EFFLUENT WATER	**Date of Sampling:**	28/08/2019
Sample Source:	MACHAKOS COUNTY	**Date sample Received:**	29/08/2019
Submitted By:	COUNTY GVT OF MACHAKOS	**Date of Analysis:**	29/08/2019
Customer Contact:	LONDON DISTILLERS KENYA LTD	**Date of Report Issue:**	10/09/2019
Sampled by:	CLIENT	**Sample ID:**	EF0513/598

EFFLUENT WATER ANALYSIS

PARAMETERS	METHOD	RESULTS	KENYA STANDARD FOR EFFLUENT WATER; EMCR 2006, FIFTH SCHEDULE. MAXIMUM LEVELS PERMISIBLE.
pH (pH Units)	USEPA Electrode: 8156	7.3	6– 9
Temperature(^{o}C)	Direct Method	22.7	20-35
COD(mg/L)	**TNT :8000**	**7500**	**1000**
BOD(mg/L)	**Dilution Method:8043**	**3800**	**500**
Color(Pt. Co. APHA)	**Platinum-Cobalt: 8025**	**12000**	**40**
Total Suspended Solids(mg/L)	**Photometric:8006**	**511**	**250**
Total Dissolved Solids (mg/L)	**AQL/TM/PHY/01**	**2187**	**2000**
Copper(mg/L)	APHA Method 3111B	ND	1.0
Chromium (mg/L)	ChromaVer3: 8023	ND	0.05
Total Chromium (mg/L)*	APHA Method 3111 B	0.1	2
Phosphate(mg/L PO_4^{-3})	AQL/TM/CHEM/01	2.4	30
Oil & Grease (mg/L HEM)	APHA Method 5520 D	ND	5
Selenium(mg/L)*	APHA Method 3500 se	0.02	0.2
Zinc(mg/L)	Zincon: 8009	0.01	5.0
Ammonia(mg/L NH_3)	**Salicylate: 8155**	**185.2**	**20**
Cadmium(mg/L)*	APHA Method 3111B	0.09	0.5
Mercury(mg/L)*	APHA Method 3500 Hg	<0.003	0.05
Arsenic(mg/L)*	APHA Method 3500 As	<0.01	0.02
Nickel(mg/L)	**PAN:8150**	**4.5**	**3.0**
Lead(mg/L)*	APHA Method 3111B	0.03	1.0
Cyanide(mg/L)	Pyridine-Pyrazalone:8027	ND	2
Phenols(mg/L)*	APHA Method 5530	0.3	10
Surfactants(mg/L)	Crystal violet method	1.6	15
Sulphide (mg/L)	**Methylene Blue Method:8131**	**71**	**2.0**

NS: No Set Standard, ND: Not Detected, TN: Too Numerous to Count, REV: Revised, BOD: Biochemical Oxygen Demand, COD: Chemical Oxygen Demand, HEM: Hexane Extractable Material, EMCR: Environmental Management and Co-ordination (Water Quality) Regulations

The test report shall not be reproduced except in full, without written approval from Aqualytic laboratories Ltd.

The tests subcontracted are clearly identified as * and the results are expressed as outsourced.

COMMENTS

Based on the tested parameters only, the water sample was found not to be within the set specifications for discharge into the public sewer. The levels of COD, BOD, color, total suspended solids, total dissolved solids, ammonia, Nickel and sulphide were found not to be within the standard. Treatment is therefore advised.

MUGUN KIPCHUMBA
TECHNICAL MANAGER

AQUALYTIC LABORATORIES LTD CERTIFIED COPY

MUTHONI JOHN
QUALITY MANAGER

FORM F/9/1/5

WATER RESOURCES AUTHORITY

NHIF building, 9th floor, Wing B
P.O. Box 45250-00100, Ngong Road, Nairobi
Tel: +254-020-2732291/2729048/9
Email: wra@wra.go.ke,
Website: www.wra.go.ke

Central Water Testing Laboratories
P.O. Box 45250, 00100, Off Dunga Road, Nairobi, Kenya
Tel: +254 773903729
Email: cwtl@wra.go.ke;centralwatertestinglabs@gmail.com

Wastewater Laboratory Results Certificate

Report Issue Date:	13-09-2019	Sample No:	0821	Year: 2019
Name of Customer:	County Government of Machakos	Date Received:	29/8/2019	
Email Address:	-	Type of Sample:	Effluent	
Telephone Number:	-	Date of Sampling:	28/8/2019	
Sample submitted by:	-	Source of sample:	London Distillers Kenya Ltd final effluent, Athi River	
Purpose of sampling:	Monitoring	Received by:	Loycephyllis	
County:	Machakos			

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	EFFLUENT DISCHARGE STANDARDS (MAX.)	
				ENVIRONMENT (NEMA 2006)	PUBLIC SEWERS (KS 1966-2:2007)
Temperature	°C	-	20.8	±3 ambient temp.	35
pH	pH Scale	APHA 4500-H^+ B	5.73	6.5-8.5	6-9
Conductivity	µS cm^{-1}	APHA 2510 B	4220	-	-
BOD_5 (20 °C)	mgO_2 L^{-1}	APHA 5210 D	2500	30	500
COD	mgO_2 L^{-1}	APHA 5220 C	7200	50	1000
Total Alkalinity	$mgCaCO_3$ L^{-1}	APHA 2320 B	950	-	-
Total Suspended Solids	mg L^{-1}	APHA 2540 D	3300	30	250
Total Dissolved Solids	mg L^{-1}	APHA 2510 A	2616	1200	2000
Sulfides	mg S^{2-} L^{-1}	APHA 4500-S^{2-} F	64	0.1	1
Oil + Grease	mg L^{-1}	APHA 5520 B	-	Nil	5
Ammonia	mg L^{-1}	APHA 4500-NH_3D	47.5	-	-
Colour	mg Pt L^{-1}	APHA 2120 B	-	15	Not noticeable
Total Nitrogen	mg N L^{-1}	APHA 4500-N C	-	2 guideline values	-
Total phosphorous	mg P L^{-1}	APHA 4500-P E	-	2 guideline values	30
Total coliforms	MPN 100 mL^{-1}	APHA 9223 A	-	30	-
E. Coli	MPN 100 mL^{-1}	APHA 9223 A	-	Nil	-
Heavy Metals			-		
Chromium	mg Cr^{6+} L^{-1}	APHA 3110 B	-	0.05	0.05
Lead	mg Pb L^{-1}	APHA 3110 B	-	0.01	0.05
Cadmium	mg Cd L^{-1}	APHA 3110 B	-	0.01	0.05
Zinc	mg Zn L^{-1}	APHA 3110 B	-	0.5	5.0
Arsenic	µgAS L^{-1}	-	-	0.02	0.02

APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater; "<": value below method detection limit; ND: Not detectable

Comments:

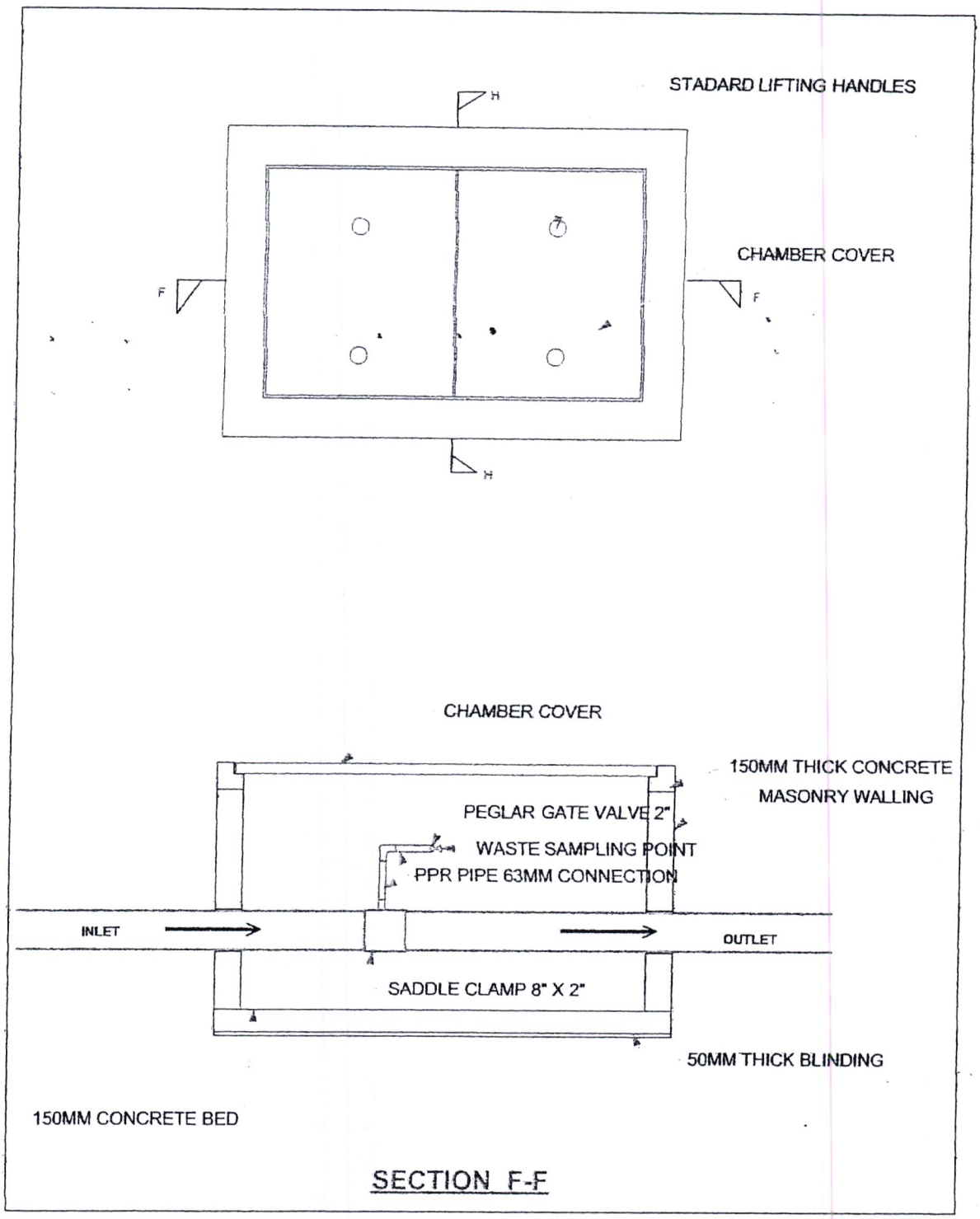
Monitoring

Nicky Sitati
Laboratory Analyst

Dr. Kenneth Kloreje
Assistant Technical Coordination Manager

The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings at the time of analysis and based on the samples submitted by the client.

Annexures 3


STADARD LIFTING HANDLES
H
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CHAMBER COVER
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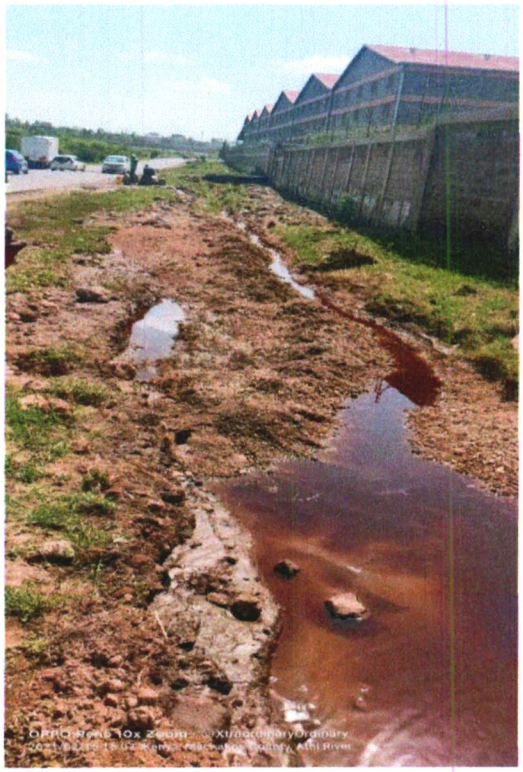
CHAMBER COVER
150MM THICK CONCRETE
MASONRY WALLING
PEGLAR GATE VALVE 2"
WASTE SAMPLING POINT
PPR PIPE 63MM CONNECTION
INLET
OUTLET
SADDLE CLAMP 8" X 2"
50MM THICK BLINDING
150MM CONCRETE BED

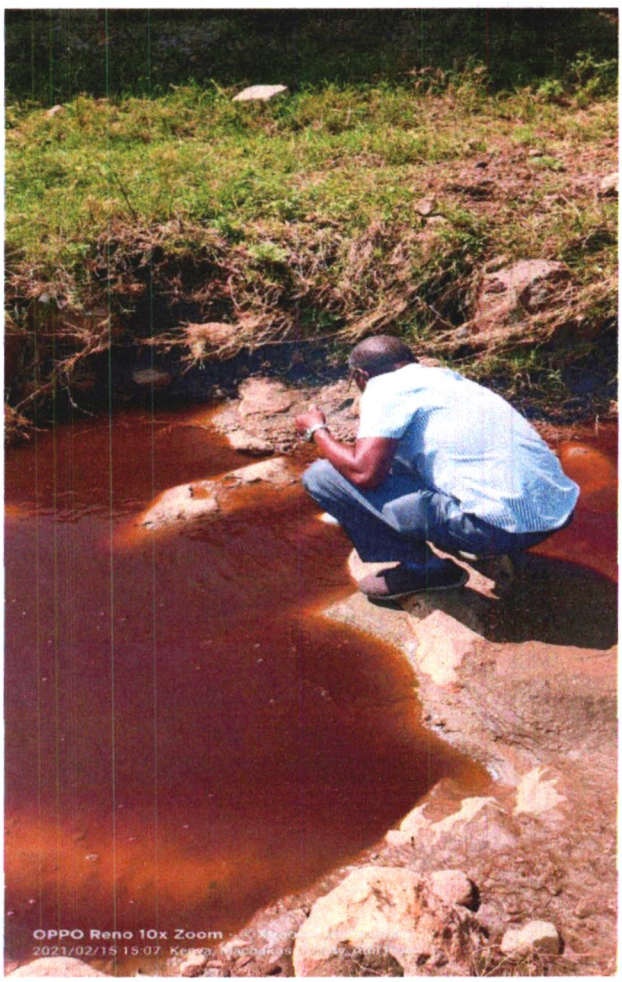
SECTION F-F

PHOTOS OF EFFLUENT FROM LDK DISCHARGED ON THE ROAD

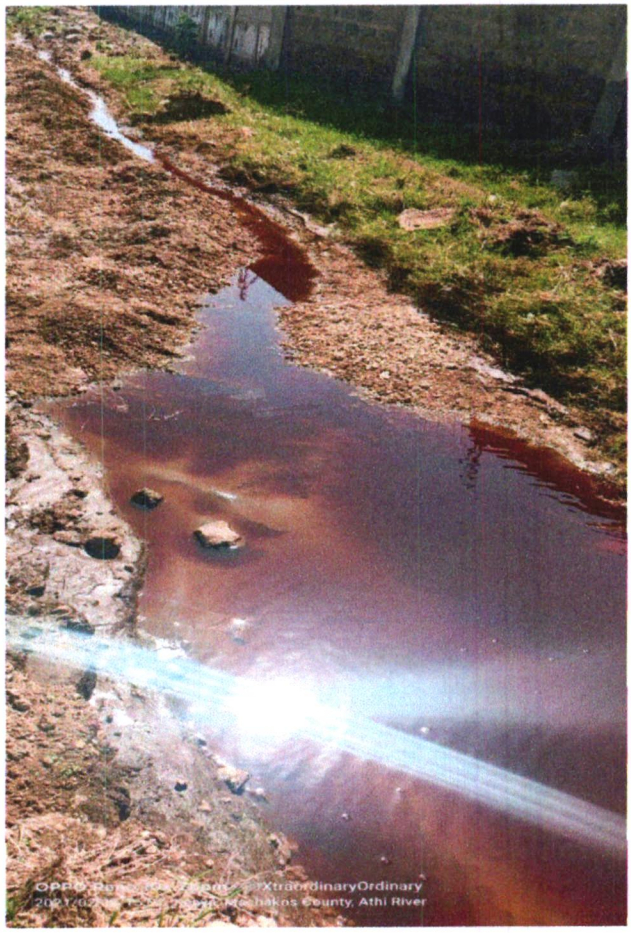
INFORMATION MISSING FROM THE EXPERT'S REPORT TO NEMA AND STAKEHOLDERS
Pollution by LDK to the environment










ExtraordinaryOrdinary
Machakos County, Athi River




OPPO Reno10x Zoom
2021/02/15 15:34 Kenya, Machakos County, Athi River


OPPO Reno 10x Zoom · © Xtraordinary Ordinary
2023/02/15 15:34 Kenya, Machakos County, Athi River


OPPO Reno 10x Zoom · © Xtraordinary Ordinary
2023/02/15 15:33 Kenya, Machakos County, Athi River



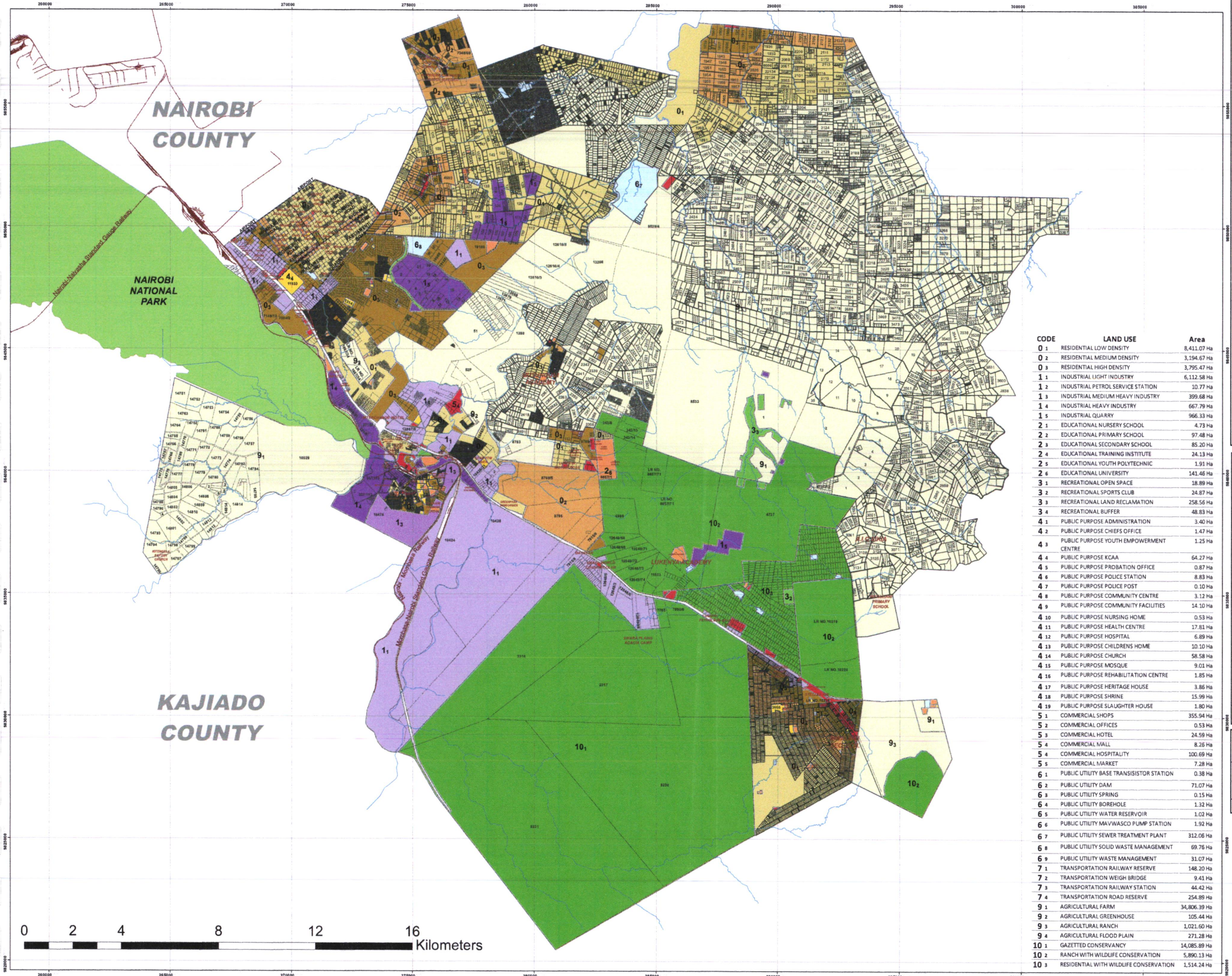






MAVOKO INTEGRATED STRATEGIC URBAN DEVELOPMENT PLAN NO. MKS 8/2020/02

MAVOKO PROPOSED LAND USE PLAN



Legend

- River
- Railway
- Conservation Areas
- Property Boundary

Land Use

- COMMERCIAL
- TRANSPORTATION
- AGRICULTURAL
- RECREATIONAL
- EDUCATIONAL
- LIGHT INDUSTRIAL
- MEDIUM HEAVY INDUSTRIAL
- HEAVY INDUSTRIAL
- PUBLIC PURPOSE
- PUBLIC UTILITY
- RESIDENTIAL LOW DENSITY
- RESIDENTIAL MEDIUM DENSITY
- RESIDENTIAL HIGH DENSITY
- CONSERVATION

CODE	LAND USE	Area
0 1	RESIDENTIAL LOW DENSITY	8,411.07 Ha
0 2	RESIDENTIAL MEDIUM DENSITY	3,194.67 Ha
0 3	RESIDENTIAL HIGH DENSITY	3,795.47 Ha
1 1	INDUSTRIAL LIGHT INDUSTRY	6,112.58 Ha
1 2	INDUSTRIAL PETROL SERVICE STATION	10.77 Ha
1 3	INDUSTRIAL MEDIUM HEAVY INDUSTRY	399.68 Ha
1 4	INDUSTRIAL HEAVY INDUSTRY	667.79 Ha
1 5	INDUSTRIAL QUARRY	966.33 Ha
2 1	EDUCATIONAL NURSERY SCHOOL	4.73 Ha
2 2	EDUCATIONAL PRIMARY SCHOOL	97.48 Ha
2 3	EDUCATIONAL SECONDARY SCHOOL	85.20 Ha
2 4	EDUCATIONAL TRAINING INSTITUTE	24.13 Ha
2 5	EDUCATIONAL YOUTH POLYTECHNIC	1.91 Ha
2 6	EDUCATIONAL UNIVERSITY	141.46 Ha
3 1	RECREATIONAL OPEN SPACE	18.89 Ha
3 2	RECREATIONAL SPORTS CLUB	24.87 Ha
3 3	RECREATIONAL LAND RECLAMATION	258.56 Ha
3 4	RECREATIONAL BUFFER	48.83 Ha
4 1	PUBLIC PURPOSE ADMINISTRATION	3.40 Ha
4 2	PUBLIC PURPOSE CHIEFS OFFICE	1.47 Ha
4 3	PUBLIC PURPOSE YOUTH EMPOWERMENT CENTRE	1.25 Ha
4 4	PUBLIC PURPOSE KCAA	64.27 Ha
4 5	PUBLIC PURPOSE PROBATION OFFICE	0.87 Ha
4 6	PUBLIC PURPOSE POLICE STATION	8.83 Ha
4 7	PUBLIC PURPOSE POLICE POST	0.10 Ha
4 8	PUBLIC PURPOSE COMMUNITY CENTRE	3.12 Ha
4 9	PUBLIC PURPOSE COMMUNITY FACILITIES	14.10 Ha
4 10	PUBLIC PURPOSE NURSING HOME	0.53 Ha
4 11	PUBLIC PURPOSE HEALTH CENTRE	17.81 Ha
4 12	PUBLIC PURPOSE HOSPITAL	6.89 Ha
4 13	PUBLIC PURPOSE CHILDRENS HOME	10.10 Ha
4 14	PUBLIC PURPOSE CHURCH	58.58 Ha
4 15	PUBLIC PURPOSE MOSQUE	9.01 Ha
4 16	PUBLIC PURPOSE REHABILITATION CENTRE	1.85 Ha
4 17	PUBLIC PURPOSE HERITAGE HOUSE	3.86 Ha
4 18	PUBLIC PURPOSE SHRINE	15.99 Ha
4 19	PUBLIC PURPOSE SLAUGHTER HOUSE	1.80 Ha
5 1	COMMERCIAL SHOPS	355.94 Ha
5 2	COMMERCIAL OFFICES	0.53 Ha
5 3	COMMERCIAL HOTEL	24.59 Ha
5 4	COMMERCIAL MALL	8.26 Ha
5 4	COMMERCIAL HOSPITALITY	100.69 Ha
5 5	COMMERCIAL MARKET	7.28 Ha
6 1	PUBLIC UTILITY BASE TRANSISISTOR STATION	0.38 Ha
6 2	PUBLIC UTILITY DAM	71.07 Ha
6 3	PUBLIC UTILITY SPRING	0.15 Ha
6 4	PUBLIC UTILITY BOREHOLE	1.32 Ha
6 5	PUBLIC UTILITY WATER RESERVOIR	1.02 Ha
6 6	PUBLIC UTILITY MAVWASCO PUMP STATION	1.92 Ha
6 7	PUBLIC UTILITY SEWER TREATMENT PLANT	312.06 Ha
6 8	PUBLIC UTILITY SOLID WASTE MANAGEMENT	69.76 Ha
6 9	PUBLIC UTILITY WASTE MANAGEMENT	31.07 Ha
7 1	TRANSPORTATION RAILWAY RESERVE	148.20 Ha
7 2	TRANSPORTATION WEIGH BRIDGE	9.41 Ha
7 3	TRANSPORTATION RAILWAY STATION	44.42 Ha
7 4	TRANSPORTATION ROAD RESERVE	254.89 Ha
9 1	AGRICULTURAL FARM	34,806.39 Ha
9 2	AGRICULTURAL GREENHOUSE	105.44 Ha
9 3	AGRICULTURAL RANCH	1,021.60 Ha
9 4	AGRICULTURAL FLOOD PLAIN	271.28 Ha
10 1	GAZETTED CONSERVANCY	14,085.89 Ha
10 2	RANCH WITH WILDLIFE CONSERVATION	5,890.13 Ha
10 3	RESIDENTIAL WITH WILDLIFE CONSERVATION	1,514.24 Ha

Detailed action plans will apply in respective specific areas

CERTIFICATION

I certify that this plan has been prepared and published as per the requirements of The Physical and Land Use Planning Act of 2019

Signature: ..... Date: .....
PLAN. PAUL G. CHEGE - (REG. NO. 0106), LEAD PLANNER

RECOMMENDED BY:

Signature: ..... Date: .....
Director of Physical and Land Use Planning, Machakos County

APPROVAL:

Hansard No: ..... Date: .....
Machakos County Assembly

ENDORSED:

Signature: ..... Date: .....
H.E. GOVERNOR

APPROVED PLAN NO: .....

PROJECT NAME:	INTEGRATED STRATEGIC URBAN DEVELOPMENT PLAN FOR TEN (10) TOWNS AND TWO (2) CORRIDORS WITHIN THE NAIROBI METROPOLITAN REGION (2020 - 2030)
SCALE:	1:50,000
DATE:	
DRAWN BY:	DANIEL KABIRU

CLIENTS

MINISTRY OF TRANSPORT, INFRASTRUCTURE, PUBLIC WORKS,HOUSING AND URBAN DEVELOPMENT
1ST NGONG AVENUE,
P.O. BOX 30450-00100,
NAIROBI, KENYA
TEL: 254-020-2718050
FAX: 254-020-2721248
REPUBLIC OF KENYA

COUNTY GOVERNMENT OF MACHAKOS
Mavoko Municipality
P.O Box 11 - 00204,
Athi river
Phone No.: (044) 20246
Email:
Info@machakosgovernment.com

CONSULTANT

VISIONRI CONNEXION SERVICES PVT. LTD
in collaboration with
URBAN LINES CONSULTANTS LTD

Ministry of Environment
And Forestry
P. O. Box 30126 - 00100, Nairobi
★ 15 JAN 2021 ★
MAIN REGISTRY
RECEIVED

ERDEMANN PROPERTY LIMITED

Lolta Street, Finance House - 6TH Floor • P. O. BOX 42541 – 00100 GPO NAIROBI - KENYA
Telephone: +254 20-351 3306 • Facsimile: +254 20-351 3305 • +254 733 209 709, +254 724 209 709
E-mail: info@erdemann.co.ke • Website: www.erdemann.co.ke

Our Ref:	*Your Ref:*	*Date:*
EPL/0264/PRT	NEMA/7/7/Vol. IV	15th January, 2021

RECEIVED
15 JAN 2021
NEMA
NAIROBI

15.1.21

The Director General,
National Environment Management Authority,
P.O. Box 67839-00200,
Nairobi, Kenya.

Dear Sir,

RE: AMBIENT AIR QUALITY MONITORING AND EFFLUENT ASSESSMENT OF LONDON DISTILLERS KENYA (LDK) LTD IN ATHI RIVER, MACHAKOS COUNTY

PROTEST OF NO-COOPERATION OF LDK ON EFFLUENT AND AIR SAMPLING

We refer to the above and to the meeting held on 14th January, 2021 at LDK factory in Athi River and Great Wall Gardens (GWG) to select sample collection points.

Following the National Assembly House resolution, the Parliamentary Implementation Committee wrote to NEMA on 10th November, 2020 asking NEMA to involve both LDK and Erdemann Property Limited (EPL) and it gave NEMA 60 days to submit a comprehensive report on the assessments and conclude the matter to the house. NEMA was expected to have reported back to the House by Monday 11th January, 2021.

While we appreciate the effort by NEMA officers to want to find a long lasting solution to this pollution matter and have the matter settled, we protest the action of LDK for disregarding the National Assembly resolution and failing to give the team of NEMA, EPL and the NEMA appointed consultants an enabling environment to do the work and revert to the National Assembly in a report.

On the 14th January, 2021 during the site visit:

1. LDK said their boiler/factory was not in operation
2. LDK protested at the decision by NEMA to have stack emission parameter measured
3. LDK did not fully disclose the points of discharge of the effluent from their premises
4. LDK objected to the team taking photos for reference of the outcome of the report needed by the House Assembly
5. LDK never apologized to the team led by NEMA for failing to honor request for a meeting at NEMA on 11th January, 2021
6. LDK raised unnecessary issues regarding Mavoko Water Sewerage Company (MAVWASCO) Sewer pumping station being run at Lukenya Park C by EPL as agents to try and divert attention of NEMA. Any activity on the pumping station will require the express and formal authorization from MAVWASCO

However, for this exercise to be completed and a proper and authentic report submitted to the house for further direction, the following are important:

When replying please quote our reference number

1. All tests to be conducted during the full operation of the factory/boiler. A baseline report can be done during non-operation for comparison purposes
2. LDK should allow the team and especially the NEMA appointed experts a free hand to do their work and LDK should allow the team to take photos/videos for purposes of the report only
3. An effluent sampling point be commissioned on LDK's dedicated sewer line outside the boundary to enable sampling to be done randomly so that actual and authentic results can be obtained as LDK have control of the point of discharge that they want the samples collected and this is prone to manipulation. We propose a point opposite Sunset Boulevard Estate. Manhole can be made and its access be in the control of NEMA team.

Without the above three conditions being met, we feel we will be participating in a charade and the report will not give the true position of happenings on the ground. Without the above three, the results obtained will only try to sanitize a wrong doing by LDK. Yet we know the importance of the final report by the team and NEMA to the House Committee for decision making and or further direction.

We therefore protest at LDK's non-cooperation and withdraw from an exercise that will not show a true position of the pollution status. We will only resume once the above three important steps are allowed and implemented.

Yours faithfully,
ERDEMANN PROPERTY LIMITED

Zeyun Yang
Managing Director

Copy to:

Principal Secretary
Ministry of Environment and Forestry,
NHIF Building 12th Floor,
Nairobi

Clerk of The National Assembly,
The National Assembly,
Parliament Building
Nairobi



County Director of Environment,
Machakos County,
Machakos

The Managing Director,
London Distillers (K) Limited,
P. O. Box 72118 - 00200
Nairobi

When replying please quote our reference number

APPENDIX VI

SUBMISSIONS BY LONDON DISTILLERS KENYA LIMITED

LONDON DISTILLERS (K) LIMITED

Our Ref: LDK/AD/369/21

12th July 2021

The Clerk of the National Assembly
Clerk's Chambers
National Assembly
Parliament Buildings
P.O. BOX 41842-00100
Nairobi, Kenya

Tracy chelest.. CNA has given clear advice on this matter TNA CNA 14/7/21

Dear Sir,

RE: INSPECTION VISIT BY THE SELECT COMMITTEE ON IMPLEMENTATION TO CONSIDER STATUS OF THE REPORT ON INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED

Following the verification visit to London Distillers Kenya Limited (LDK) by the Select Committee on Implementation on Friday, 9th July 2021, attached please find the state-of-the-art technologies that were verified by the Committee during the visit for control of Air pollution and Waste Water quality.

As observed by the Select Committee Members during the factory tour and from the presentation by NEMA, it was noted with satisfaction that the installed state-of-the-art technologies have enabled London Distillers Kenya Limited to meet the Air Quality Regulations of 2014 and Water Quality Regulations of 2006 to a rating of 86%.

LDK Management now hopes for and awaits the closure of this matter by the Implementation Committee of Parliament.

Yours Sincerely,

Ashok Datta

ASHOK DATTA
GENERAL MANAGER
LONDON DISTILLERS KENYA LIMITED

14 JUL 2021

Copy to:
Mr. Mamo B. Mamo
Director General
National Environmental Management Authority (NEMA)
Popo Road, South C, off Mombasa Road
Nairobi.

Dr. Chris. K. Kiptoo
The Principal Secretary
Ministry of Environment & Forestry
12th Floor, NHIF Building
Nairobi



LDK

LONDON DISTILLERS (K) LTD IMPLEMENTATION STATUS REPORT

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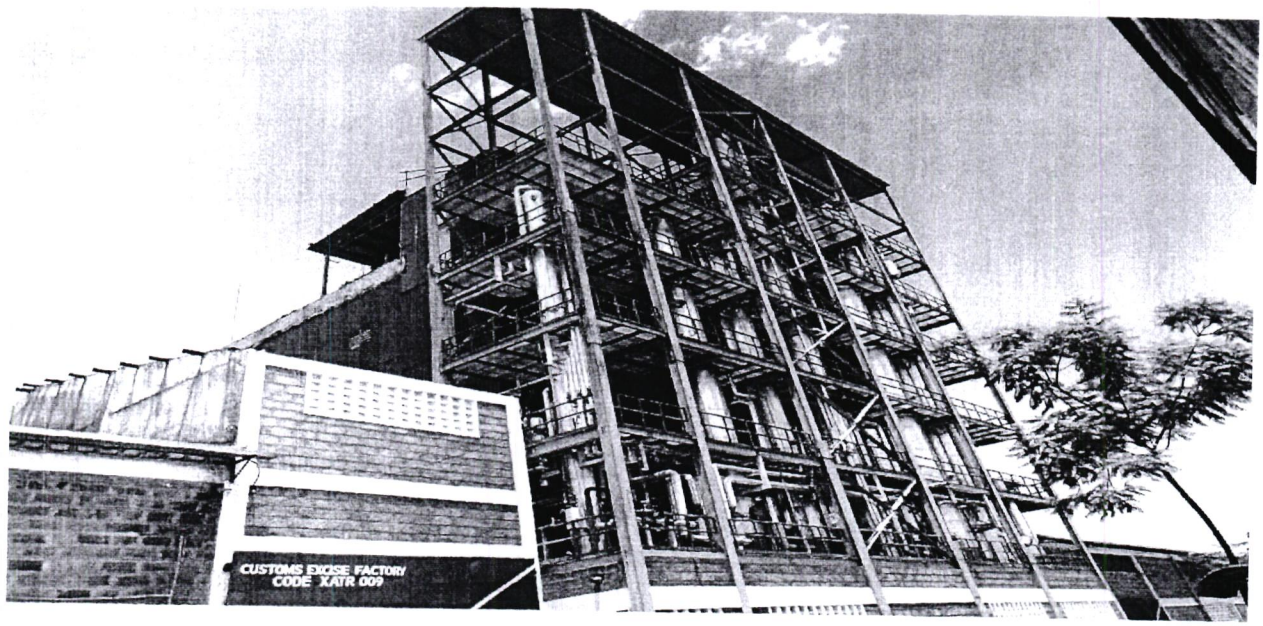
LDK

A. AIR POLLUTION MITIGATION MECHANISMS

1. Installation of a new ultra-modern plant



Among other numerous advantages observed from installation of the new ultra-modern distillery, the following are the benefits observed in so far as air pollution mitigation is concerned;

a) By-passing the use effluent primary treatment cooling ponds.

Previously, the spent wash from the plant had to be conducted into open cooling ponds for cooling from the high temperatures of about 70^0C to the 40^0C required by our Anaerobic Bio-digester for primary treatment and production of Methane gas used in our boiler.

With the open cooling ponds and the high temperatures exhibited by the spent wash; this stage proved to be the biggest source of fugitive emissions of gases like Ammonia. With the installation of the new plant, this stage has been bypassed as the spent wash from the new plant is of lower temperatures of about 40^0C - 50^0C which is suitable and is pumped directly into our completely sealed Anaerobic Bio-digester.

b) Lowering the amount of Heavy Fuel Oil (HFO) used in our boiler

The launch of the new plant has led to production of more Biogas (natural gas) used in our boiler to substitute Heavy Fuel Oil as an energy source. This has

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seen an increase from the previous **55:45%** ratio of Natural Gas: HFO use in the boiler to an average **60:40%** ratio.

c) Unlike the old plant that was designed to offset any resultant gaseous emissions from the production through overhead vents into the atmosphere, the new ultra-modern plant is designed to dissolve any resultant gases in the wash water released downwards into the sealed manholes for further treatment. This has ensured no atmospheric gaseous emissions from the plant.

2. Replacement of our boiler chimney



After much internal inspection, we noted that our boiler chimney was worn out and this could have a negative effect on the stack emissions. The management then set out a project to replace the chimney by the end of January, 2020 (30/01/2020). This has now been completed and in operation. From our stack emissions tests illustrated above, this also had a positive effect on the stack emissions from our boiler.

- Additionally, in order to facilitate easy sampling when conducting the quarterly stack emission measurements, we have embarked on installing an access ladder and platform to grant safe access for the laboratories and NEMA personnel whenever necessary. As observed during the tour, this in progress and will be completed by end of July 2021.

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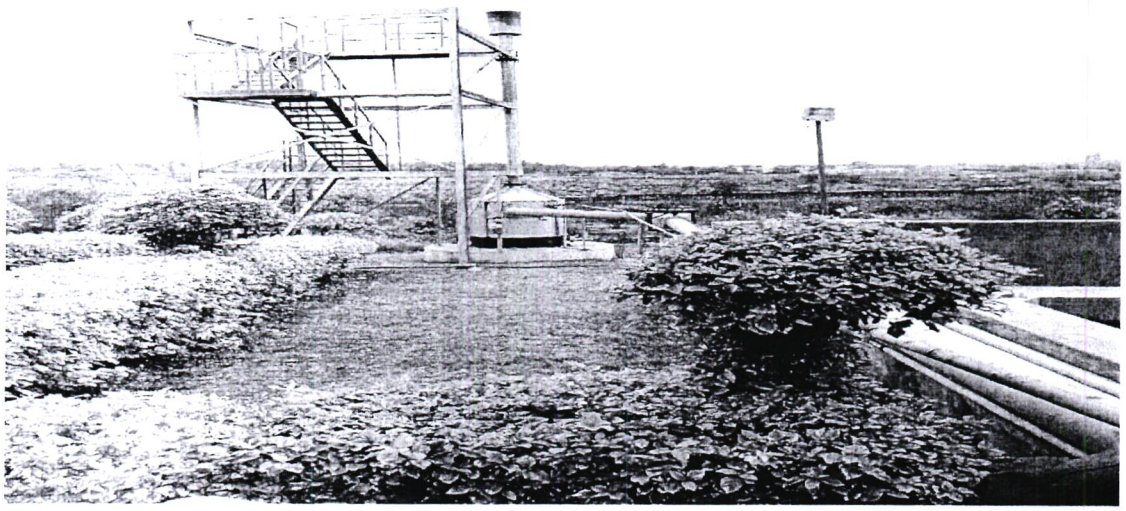
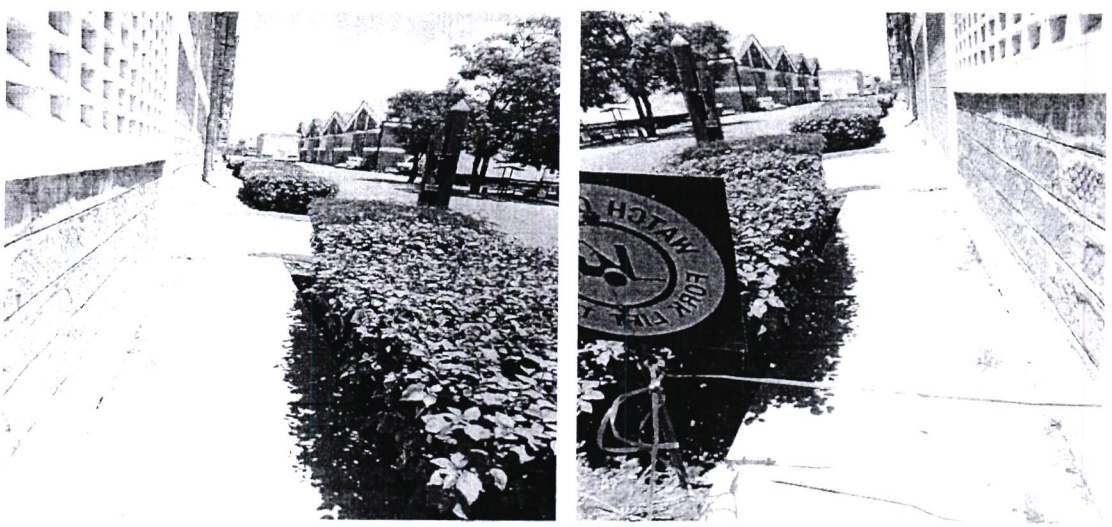
3. Flaring of any excessive gas at our Biogas Plant



This control mechanism incorporated at our Biogas Plant works has now been automated in order to burn any excess Biogas (if any) from escaping from our Anaerobic Biodigester plant. From practice, Methane (natural gas) is one of the cleanest burning sources of fuel which burns in the presence of Oxygen to give off Water vapor and trace amounts of CO_2. Therefore, this ensures that in the off-chance of a sudden boiler shutdown, all the biogas is burnt to an oduor-less form before the system is turned back on or shut down for maintenance.

4. Covering of the entire drain trench in front of our production plant



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This was done by use of slabs throughout the entire drain trench that serves our Still House. This trench which was initially open was observed to be one of the potential sources of fugitive emissions. Covering of the entire trench has proved to be one of the greatest milestones toward elimination of oduor from our plant so far.

5. Acquisition of an air quality monitoring gadget



The model for the acquired Gas detector is-

Manufacturer- Riken Keiki

Model Number/Type - GX-6000 AM111P200L

Serial Number- 52I0037601RN

- From our previous ambient air quality measurement report, the priority pollutants identified to be higher especially close to our treatment ponds were: H_2S and Ammonia. This is what guided or team to acquire the correct air quality monitoring gadget.
- The monitoring device is used on a daily basis and the readings of the priority pollutants as identified by a third-party air quality analysis lab.
- These are recorded daily in checklists and filed for reference. In any case of higher readings, action is promptly taken to return the situation to normalcy.
- Any higher readings are also easy to identify since the gadget is fixed with an alarm to alert higher than normal readings

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Benefits from the gas detector

- It has helped us to actively monitor any cases of gas leakage if any from our effluent reticulation line and Biogas Plant around the clock.
- The factory embarked on this project in order to self-monitor and control any emission at the particular point sources of potential priority pollutants.
- This has enabled our team to always quickly respond appropriately to such cases to prevent any escapes from the points of source.
- From observation from the device measurements, the odor levels have greatly decreased even close to the treatment ponds ever since the interventions listed were put in place. This is also evident as no complaints have been lodged on air pollution this far.

6. Proper sealing of manholes





This was done by our internal maintenance team.

It has significantly prevented any fugitive gas emissions to the atmosphere by the proper sealing of effluent manholes for further treatment.

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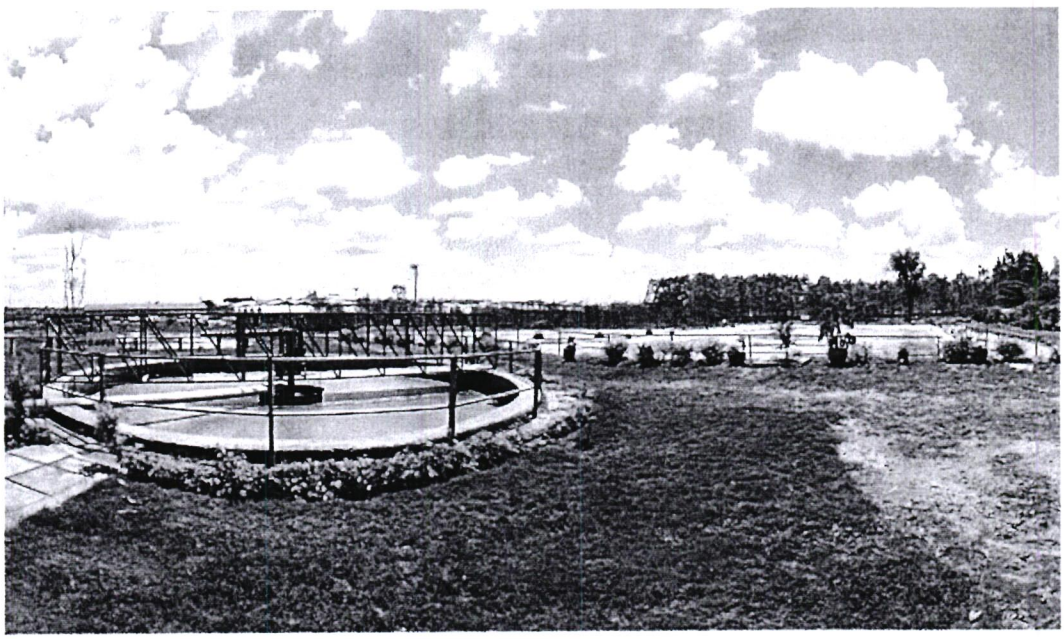
B. WASTE WATER QUALITY MITIGATION MEASURES

- Our effluent is pre-treated starting with primary treatment in our Biogas Bio-digester which in turn provides methane gas for our boiler; then through secondary treatment with flocculant and coagulant addition, two clarifiers, two aerated lagoons and two polishing ponds. After treatment, it is pumped through a private sewer-pipe to the public sewer provider's trunk sewer (EPZA public sewer line).
- The improvement observed in the waste water quality has been aided by the addition of the earlier interventions mentioned. For instance, the acquisition of the two more blowers for effluent aeration has helped on BOD and COD reduction as observed by the daily measurements done in our internal effluent laboratory and those shared with us quarterly by the sewer provider. These are some the interventions implemented:

1. Addition of a secondary clarifier for pre-treatment of our effluent



Benefits of the secondary clarifier

The secondary clarifier acts as a sedimentation tank for removal of suspended solids by sedimentation. The settled solids are normally removed from the

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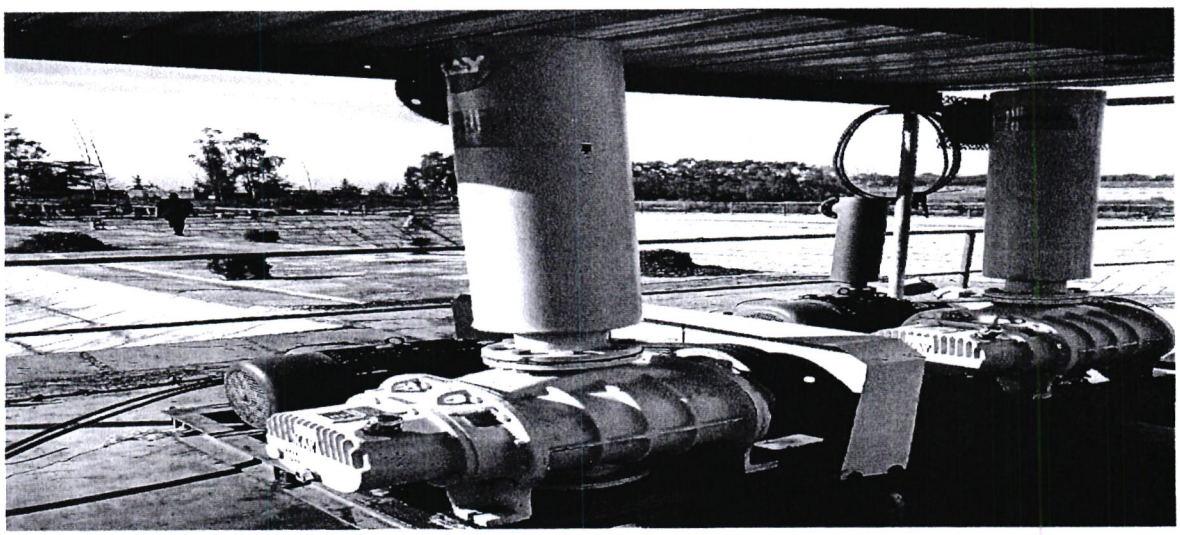
bottom of tanks by sludge pumps that pump the sludge to prepared/contained sludge dried beds. The sludge is dried for about 6 months after which it is utilized internally as a soil conditioner. This addition has seen a 30% addition in Total Suspended Solid reduction.

2. Acquisition of two new blowers for more aeration



- The two blowers are now being used concurrently to provide aeration for the two Aerobic ponds completed.
- Aeration is now done in a subsequent manner as effluent flows from Aerobic Pond 1 to Aerobic Pond 2 for further aeration before flowing into our Secondary clarifier.
- This has greatly reduced the oduor levels at our effluent treatment plant since it brings the water to closer contact with air in order to remove any remaining dissolved gases like CO_2, H2S, Ammonia and VOC's.
- These have greatly aided in reduction of air emissions since their acquisition on the second quarter of 2018. From observation, no oduor complaints were registered throughout the year 2019 to date.

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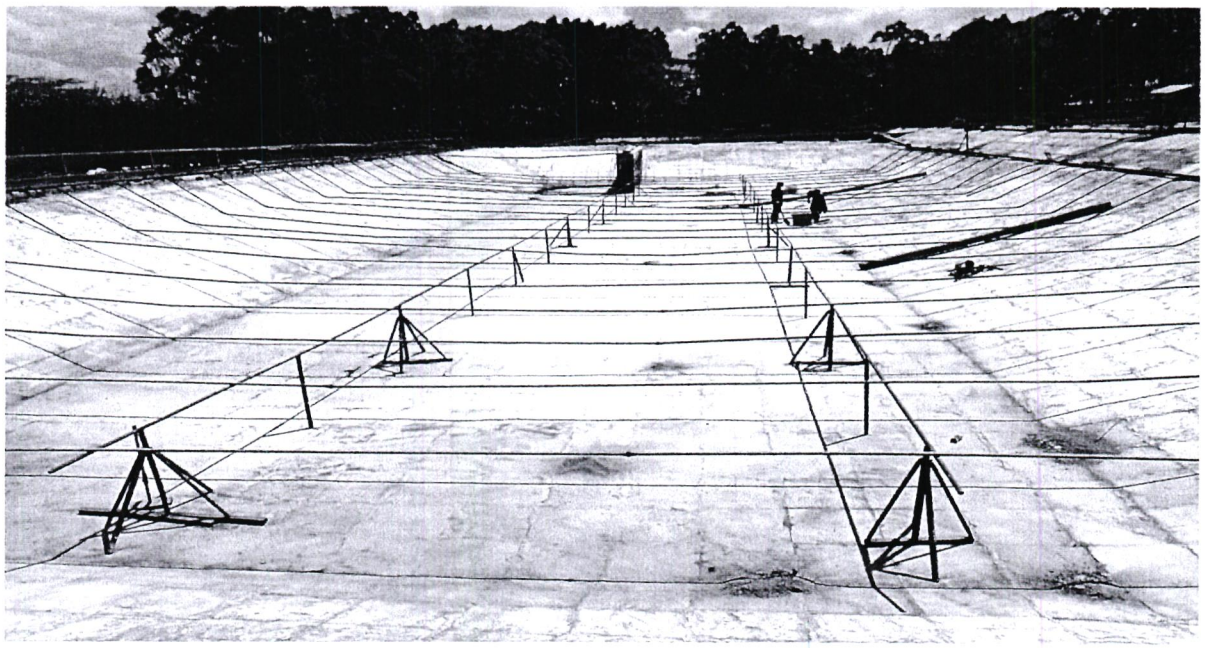
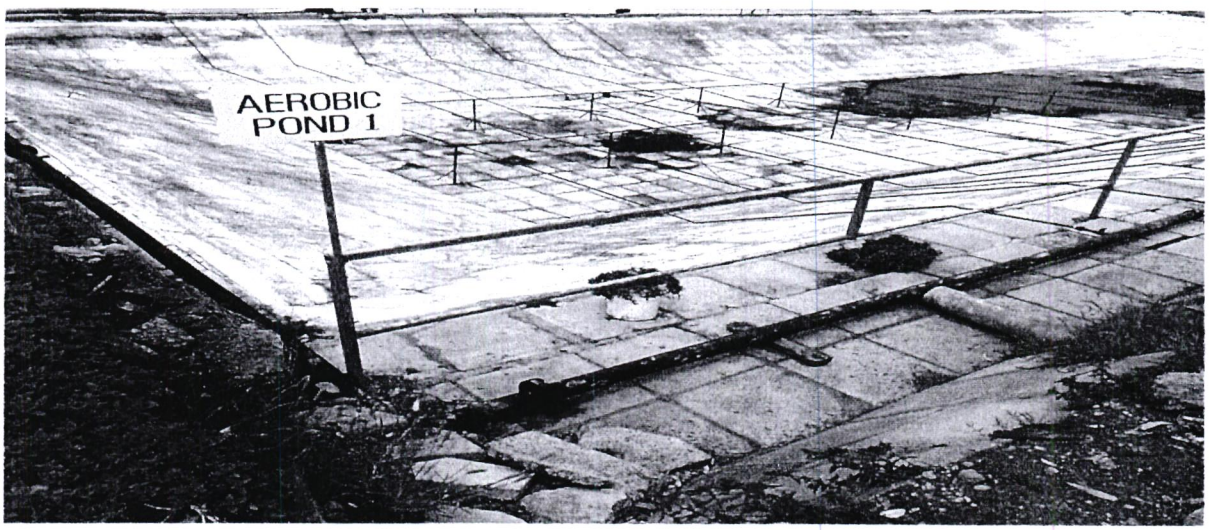
3. Addition of one more aerobic pond for more aeration



4. Modification of mode of aeration in the previous aerobic pond



This has enabled wholesome and even distribution of air in the aerobic pond.

Benefits observed so far due to more aeration

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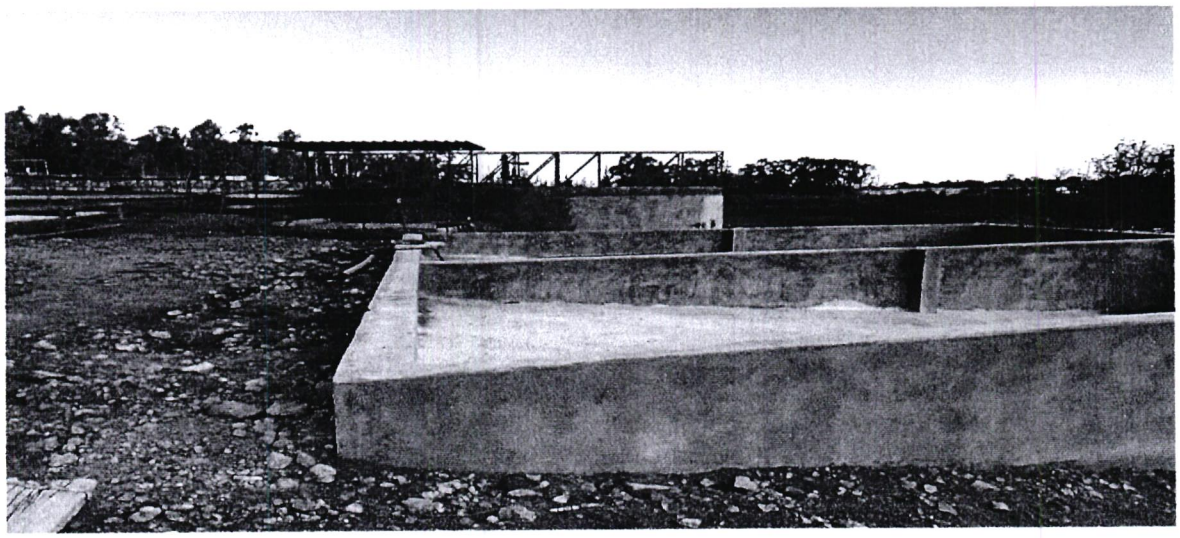
- Increases microbial activity which actively feed on organic content in effluent. This then forms flocks which settle out and are separated as sludge.
- Brings the water to closer contact with air in order to remove dissolved gases e.g. CO2 and oxidizes any dissolved metals such as H2S and VOC's.
- This has greatly reduced the oduor levels from the effluent treatment plant section greatly reduced.

C. SOLID WASTE QUALITY MITIGATION MEASURES

1. Completion of a sludge drying bed at the newly added second clarifier



- Completion of our sludge drying and holding beds has ensured no leakages from the effluent treatment line.
- This has also ensured proper holding time and drying of any accumulated sludge from the clarifiers.

2. Engagement of an independent laboratory for testing our dried/cured sludge

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The tests concluded that **'the product can be used as a soil improver with gradual nutrient add-ons to crops. Though the agronomic quality of the represented product is not the highest but nevertheless can be used as a soil corrective and soil improvement input.'** This enabled us to utilize our dried sludge on our grass lawns and engage it in planting of rose flowers within our facility, as a pilot test of its viability. So far, the growth of flowers and grass on our lawns has shown tremendous improvement with the use of our dried sludge as a soil conditioner. This is as per the following Third-Party independent laboratory analysis report.

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SGS

Date: 09/11/2018

SGS Kenya Limited Laboratory Services

SGS Kenya Ltd.
SGS House
Ali Punjani Street
P.O. Box 90264
80100 Mombasa
Kenya

ANDOTECH CONSULTANTS LIMITED
P.O BOX 38499-00100
NAIROBI
KENYA

Analysis Report MA18-05000.001

PRODUCT DESCRIPTION:	MANURE
SAMPLED BY:	CLIENT
SAMPLE RECEIVED:	25/10/2018
ANALYSIS STARTED:	26/10/2018
SGS ORDERNO:	131027
MARKS:	CONDITION OF SAMPLE:DELIVERED IN PLASTIC BOTTLE MANURE AS MOLASSES BY PRODUCT
REPORT COMMENTS:	This report refers to a submitted sample and all details in respect of source; quantities; marks are not verified or confirmed.

TESTS	METHOD	RESULT	UNITS
pH	RMMA	7.76	
Electrical conductivity	RMMA	1.58	mmhos/cm
Nitrogen	RMMA	0.64	%
Organic carbon	ICARDA 5.5	7.53	%
Carbon Nitrogen Ratio	CALCULATION	12.33	
Ash Content in manure and compost	LMSPA	86.39	%
Organic matter in manure and compost	LMSPA	13.61	%
Phosphorus as P	EPA 3050B	1.32	%
Potassium as K	EPA 3050B	8660.05	mg/kg
Calcium as Ca	EPA 3050B	10.23	%
Magnesium as Mg	EPA 3050B	5758.43	mg/kg
Sulphur as S	EPA 3050B	3181.31	mg/kg
Copper as Cu	EPA 3050B	145.28	mg/kg
Iron as Fe	EPA 3050B	1.85	%
Manganese as Mn	EPA 3050B	2481.10	mg/kg
Zinc as Zn	EPA 3050B	224.15	mg/kg
Molybdenum	EPA 3050B	3.62	mg/kg
Boron as B	EPA 3050B	3.92	mg/kg
Arsenic as As	EPA 3050B	<0.005	mg/kg
Cadmium as Cd	EPA 3050B	<0.02	mg/kg
Cobalt as Co	EPA 3050B	17.18	mg/kg
Chromium as Cr	EPA 3050B	19.65	mg/kg

Authorised Signatory *Technical Signatory* *Technical Signatory*

Walter Ogara - Multi-Lab Manager Grace Karisa-Chemist David Omondi-Chemist

2018 1213 0000099632

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Date: 09/11/2018

SGS Kenya Limited Laboratory Services

SGS Kenya Ltd.
SGS House
Ali Punjani Street
P.O. Box 90264
80100 Mombasa
Kenya

ANDOTECH CONSULTANTS LIMITED
P.O BOX 38499-00100
NAIROBI
KENYA

Analysis Report MA18-05000.001

PRODUCT DESCRIPTION:	MANURE
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REPORT COMMENTS:	This report refers to a submitted sample and all details in respect of source; quantities; marks are not verified or confirmed.

TESTS	METHOD	RESULT	UNITS
Nickel as Ni	EPA 3050B	13.75	mg/kg
Lead as Pb	EPA 3050B	2.52	mg/kg
Selenium as Se	EPA 3050B	8.74	mg/kg
Mercury as Hg	COLD VAPOUR	<0.005	mg/kg

End of Analytical Results

Authorised Signatory *Technical Signatory* *Technical Signatory*

Walter Ogara - Multi-Lab Manager Grace Karisa-Chemist David Omondi-Chemist

12018 1213 0000099632

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SGS Kenya Ltd.

SGS House, Ali Punjani Street, P.O.Box 90264, Mombasa 80100 Kenya, t:+254(41)222 667-9| 722202145| 733611105, f:+254(41) 222 8703, e: lab.kenya@sgs.com

Member of the SGS Group (Société Générale de Surveillance)

Analysis Report Comments: MA 18-05000.01

Product/ sample description – Manure sample as Molasses by-product.

General Comments and product use as manure:

Important crop parameters:

Key parameters to crops include: pH, EC, N%, Organic Carbon and Organic Matter, C/N, Ash Content, P, K, Ca, Mg, S, Cu, Fe, Mn, Zn, Mo, B.

Basing our evaluation on European standards (Britain, Switzerland, France) and Canada – Kenya has no documented guides/standards for manure and or compost analysis: most of the parameters are within accepted levels (lower end)

EC and pH.

Nutrients: N, P, K.

%N : Only ¼ of the available N in the tested sample will be available for the 1st year. Laboratory results depict 6.4 Kg/ton – economically this represents low N availability to important crops.

However, the C/N is low and thus could represent a rapid release of organic nutrients including organic Nitrogen over the period of decomposition.

Phosphorous – availability of P from manure will be upto 70% in the 1st year but can be limited by soil pH – acidic soils can lock up phosphorous. Laboratory results show 13.2 kg/ton of available phosphorous – this amount is fairly low compared to a guide average of 30 kg/ton or 3% of total weight.

K, Potassium – up to 90% of K20 will be available to crops in the 1st year. Laboratory results show 8.6 kg/ton which is ideal – noting that much of these would be available in the 1st year, this would represent reduced need in synthetic K fertilizers.

Organic Matter and Organic Carbon: Ideal manure levels for organic matter should range between 15% - 25% of total weight. Reported result is 13.61% for Organic matter which represents a slightly lower content for the submitted sample.

C/N ratio: Reported calculation is 12.33 – C:N ratio is an indicator of compost/ manure mineralization or decomposition rate, i.e. the lower the C:N the higher the expected rate of nutrient release. Majority-carbon manure/ compost take longer to decompose as microbes use more energy to breakdown carbon debris/products and vice-versa for Nitrogen dominated manure/compost.

Heavy metals:

These includes Arsenic, Cadmium, Cobalt, Chromium, Lead, Nickel, Selenium and Mercury.

SGS

All the above listed heavy metals reported results are lower than the prescribed specifications in guides. The submitted sample thus will have low environmental and heavy metals accumulation in areas used – this however is subject to extensive tests as per NEMA standards on environmental impact.

Conclusion.

The product represented by the submitted sample as characterized in the laboratory test as manure, can be used as a soil improver with gradual nutrient add-ons to crops. The agronomic quality of the represented product is not the highest but nevertheless can be used as a soil corrective and soil improvement input. Nutritionally, manure and other organic nutrient sources only provide small nutrient amounts over prolonged periods – for instance up to 25% available organic nitrogen is released in the 1st year from the total, up to 70% of organic P will be available in the 1st year and for K up to 90% can be available in the 1st year.

Regarding Kenya standards on quality manure/ compost; there are no reference specifications to guide against and thus our use of varied specifications as used in Canada, Switzerland, France, Britain and Germany.

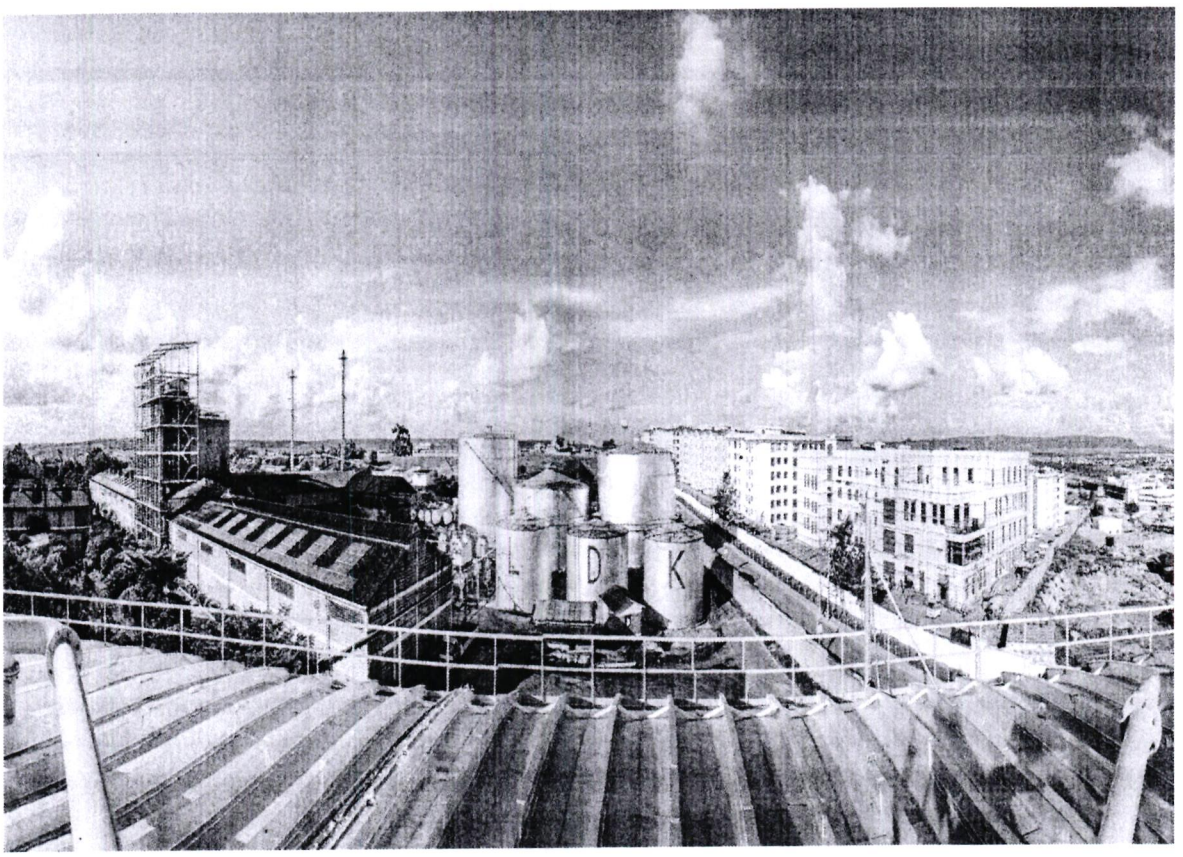
Additional tests are recommended for the facility and or area producing the molasses by product for heavy metals and organic pollutants with reference to NEMA and or KEBS standards.

Annex 4

RECEIVED

LONDON DISTILLERS KENYA LIMITED

COMPLIANCE PLAN



MAY 2018

ENVIRONMENTAL POLICY

The London Distillers Company is committed to prevent, mitigate or offset the harmful effect of our activities on the environment. We hold ourselves and contractors involved in our activities to account for this,

We will achieve this by,

- Empowering employees to work in an environmentally responsible way and stop any activity that will result in non-compliance with policy, legal, or other requirements including license conditions and improvement orders issued by the regulatory authorities.

- Caring for the environment by preventing pollution, adopting resource efficiency and cleaner production technologies and GHG emission reduction, minimizing harm and encouraging environmentally responsible behavior in all our staff

- Encouraging everyone to take responsibility for the environment and providing the capacity and resources for employees to fulfil their individual environmental responsibilities as clearly defined in our descriptions.

- Providing and maintaining an appropriate environment management system that supports best practice

- Being open to positive advice from stakeholders on our environmental performance in order to achieve continuous improvement

As a responsible industry, we believe we can succeed in our business goal if we do well in our environmental performance.

for **Managing Director**

London Distillers Kenya Ltd

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As a responsible industry, we believe we can succeed in our business goal if we do well in our environmental performance.

for **Managing Director**

London Distillers Kenya Ltd

Compliance Plan

Introduction

As we aim to achieve our Environmental Policy, London Distillers Kenya Ltd has and will continue to be committed to the highest standards of integrity and accountability in its environmental management. To evidence this commitment, LDK has developed and is implementing a Compliance Plan, which is intended to provide an environmental compliance roadmap for the company's operations. The Plan emphasizes the adoption of resource efficient and cleaner production technologies to reduce waste emissions to the environment while pursuing its business goal. The LDK Compliance Plan has been developed to ensure that the company adheres to the highest ethical standards while complying with all applicable national and county environmental legislation.

The Plan has the following objectives:

First, this Compliance Plan, establishes an administrative framework for conducting an effective and diligent monitoring and auditing of the effectiveness of its pollution control measures to avoid pollution to the environment and in case of system malfunction, attend to the problem in an efficient and timely manner

Second, the Compliance Plan provides a basis for integrating environmental best practices throughout its production process by adopting cleaner production technologies

Third, it outlines a commitment to educate company personnel regarding environmental compliance requirements and how to conduct their job activities in a manner that promotes compliance with national and county laws.

Fourth, the Compliance Plan creates an effective communication channel to deliver the company's commitment to adherence to the best environmental practices and receive stakeholder's feedback on the same

Delivering our Compliance Plan Goals;

1. A Responsive Administrative Structure

The outcomes we are aiming for and what we are doing to achieve them

Focused oversight in the implementation of the plan



The LDK top management will directly be involved in the oversight of the implementation of this Compliance Plan. Besides, the Company has employed a technical officer in charge of environment, occupational health and safety to deal with the day-to-day responsibility for the operation and oversight of the Compliance Plan.

The technical officer is responsible for directing and assuring the active functioning of the company's compliance efforts which include the following:

- supervise implementation of the Compliance Program and coordinate all compliance efforts
- establish a Compliance Committee, educate committee members regarding their environmental compliance responsibilities

- Liaise with human resources department to ensure that environmental compliance is an integral part of performance assessment and that the adoption of cleaner production technologies is checked with respect to all employees and agents.
- Develop communications (e-mails, newsletters, etc.) that encourage employees to report possible non-compliance or leakage for quick response by the environment committee
- Identify and assess areas of the company operations that present the greatest compliance risk; prioritize resources to address those risk areas
- Report on a regular basis to the management regarding day to-day compliance efforts

2. Commitment to Cleaner Production Practices

The outcomes we are aiming for and what we are doing to achieve them

Resource Efficient and minimized emissions of waste

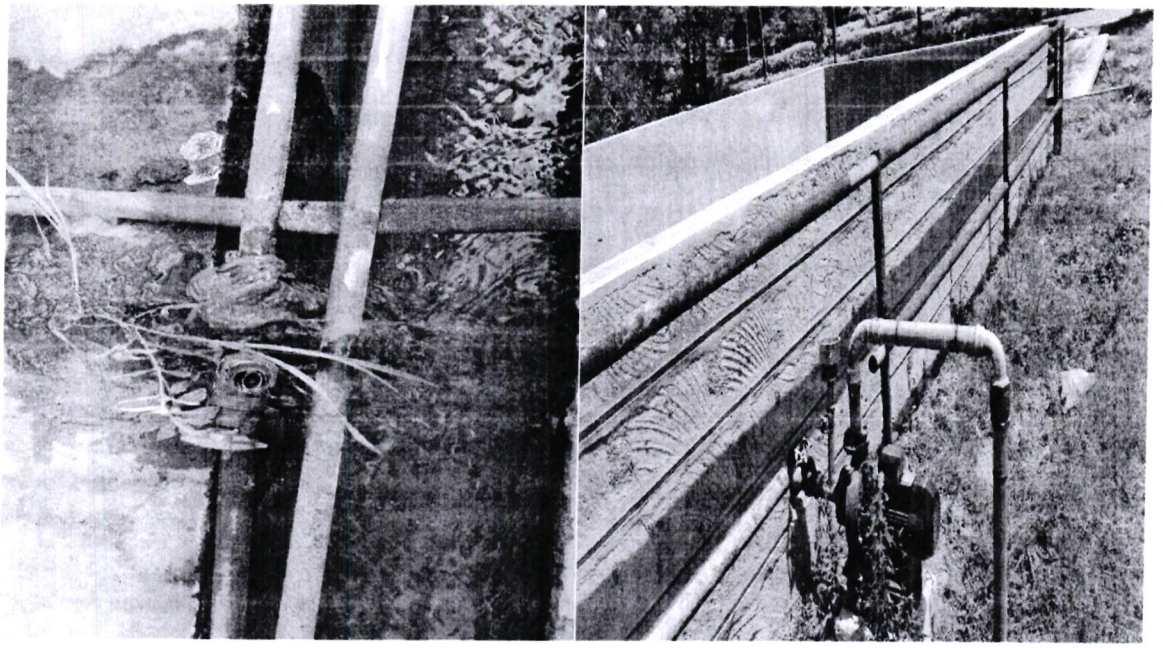
The LDK has committed to the initiative of the National Environment Management Authority and Kenya National Cleaner Production Centre through a compliance assistance program to integrate the best environmental practices into its operations. Through this initiative the company has seen tremendous improvement in its environmental footprint as shown in table below.

Situation Before	Intervention	Current Situation
Waste water never used to be separated but all of it was directed to the ETP thus causing overloading of the system	Separation of water at the points of source i.e. Distillation, still-house cleaning, vats cleaning and bottling operation	Significant reduction of waste water loads
Too much generation of waste water from return osmosis (RO) process that overloads the ETP	Utilization of the reject water from the water purification section for irrigation of the factory lawns	Reduction of waste water loads
Leakages at various points that contributed to increased waste water	Repairs on the entire system piping	Overall water savings
Leakages of diesel at HFO tanks, next to molasses tanks	Repair and good house-keeping	Oil receiving bay well-maintained and waste oil handled by a NEMA licensed handler

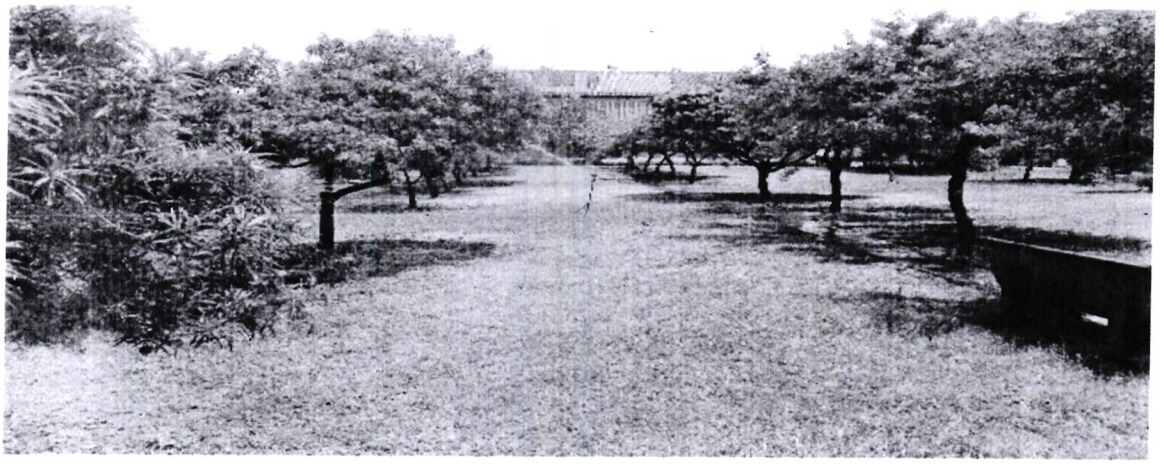
The management is fully committed to the compliance assistance program and will be receptive to any innovative ideas for continued improvement.

Such leakages that were addressed with cleaner production approach

Before **After**



Pump and collection tank installed



Water recycled for irrigation

3. Information cascaded to all employees

The outcomes we are aiming for and what we are doing to achieve them

Knowledgeable workforce in best environmental practices

In order to ensure a knowledgeable workforce in best environmental practices, managers and supervisors establish, implement and maintain a system for communicating with employees about environmental practices. Management presents in a manner readily understood by all employees. This is supplemented with written materials or postings. Statutes and policies affecting employees are available in the workplaces.

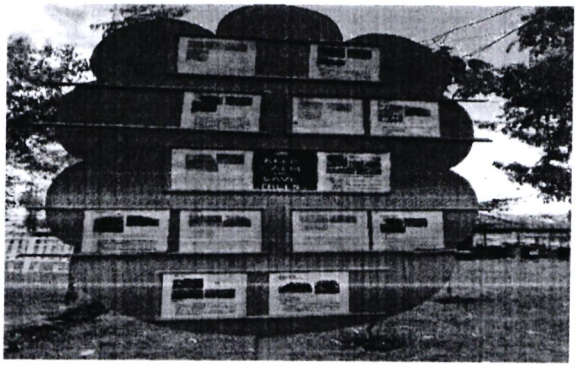
All these inputs are to ensure an accountable culture starting from top management to procurement and the LDK environment all the way to operations office.

Training and awareness of staff



Cascading of information through postings and signage





4. Improved communication with external stakeholders

The outcomes we are aiming for and what we are doing to achieve them

Increased stakeholders trust in our processes

LDK keeps constant and interactive contact with our market consumers, the public and its neighbors.

This is done through meetings, factory visit invitations and even social media forums.

Frequent stakeholder tours of our facility



Environmental Performance

1. Improved Aquatic Environment

The outcomes we are aiming for and what we are doing to achieve them

Improvement of discharge water quality

The company has employed both cleaner production technologies and convectional end of pipe treatment technologies to reduce quantities and improve quality of waste water respectively.

In order to maintain the final effluent to the National standards that complies with the waste water discharge legislation, the company has invested in an anaerobic system (Bio-digester) which is a primary treatment that has besides improving the quality of waste water, made it possible to harness biogas for firing the boiler. Further the effluent is then taken through a secondary treatment that is aerobic. The final resultant effluent from this process has the following parameters which meets the national standards for public sewer.

	Effluent results	**NEMA Standards**
pH	7.9-8.5	6.5-8.5
Temperature	25.2-25.5^{0}C	25
BOD	<450 mg/l	500
COD	< 800 mg/l	1000
TSS	<350 mg/l	250
TDS	< 700 mg/l	700

This effluent is discharged into the EPZ sewer system that regularly monitors the quality of our waste water.

2. Air pollution prevention

The outcomes we are aiming for and what we are doing to achieve them

No breaches of air quality standards from our sites

The company has put in place pollution control measures to reduce emission of pollutants into the environment. From the recent both ambient and stack emission analysis, emission of priority pollutants from our processes have greatly reduced. However, the company still keeps closer monitoring of its emission sources to ensure no release of pollutants above the standards

Measures	**Source**	**Priority pollutant**	**Current state**		**NEMA standard**
Use of energy mix (biogas and furnace oil) on priority basis in favor of biogas.	Stack Emissions		8T boiler	3T boiler	
		SPM,	38	46	50
		SO2,	944	1790	2000
		NOx	285	347	650
		CO	7	21.42	-
		CO2	8.80	12.27	-
Flaring of excess gases	Ambient Air Quality	SPM,	34		150
		RPM,	20		75
		SO2,	BDL		125
		NOx	5		100
		H2S	161		150
-Installation of bio-digester. -Shifting to aerobic treatment fully at the lagoon section -Connecting to sewer line	Waste water	pH,	6-8		9
		BOD,	450 mg/l		500 mg/l
		COD,	800 mg/l		1000 mg/l
		SS,	< 350 mg/l		250 mg/l
		TDS;	700 mg/l		2000 mg/l
		Oil & Grease	< 0.1 mg/l		10 mg/l

Other interventions that have significantly reduced fugitive gas leakages is the proper sealing of manholes and raising of the primary cooling pond walls as shown in photo 1 and 2 below

Photo 1.

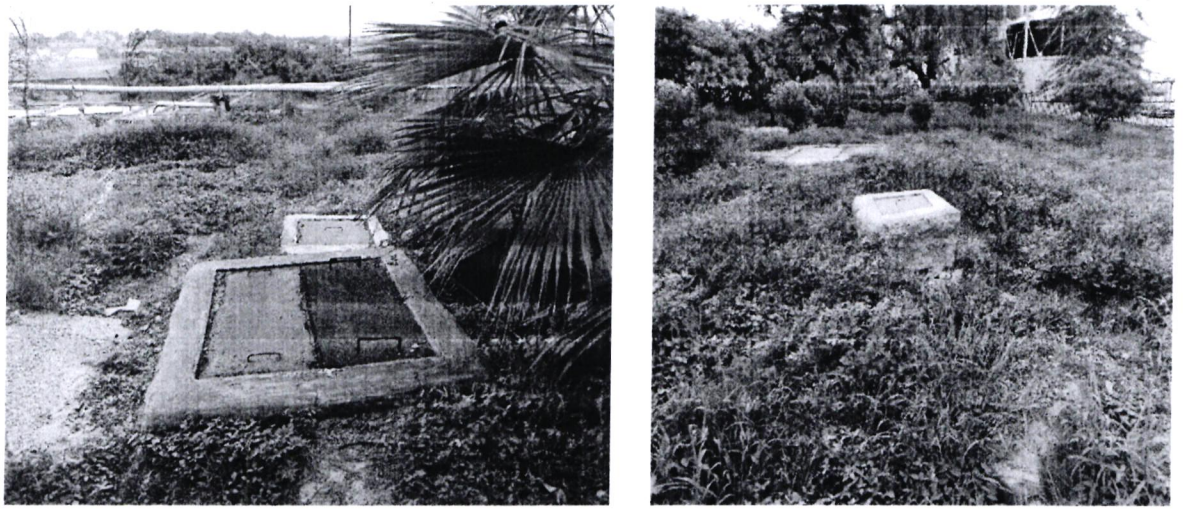
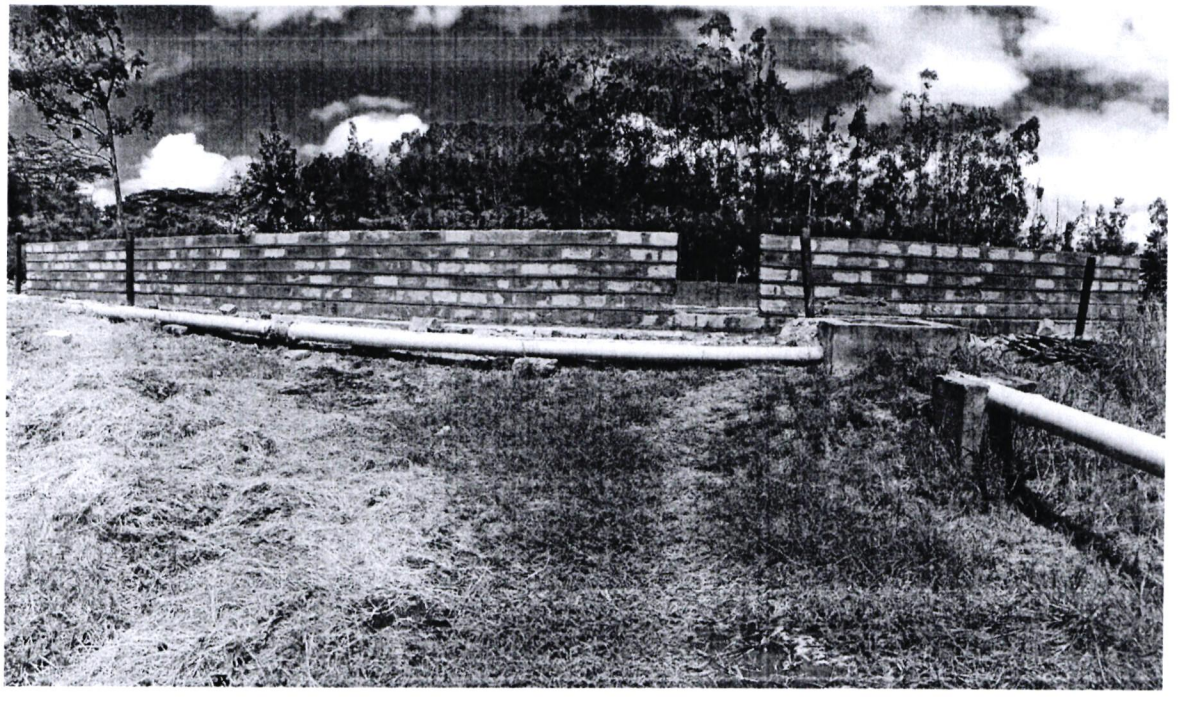


Photo 2



3. Enhancement of the Environment

The outcomes we are aiming for and what we are doing to achieve them

Improved tree cover and biodiversity

The company has engaged in massive tree planting in all its open spaces to contribute to the government target of 10 % tree cover. This is also in line with the company's corporate responsibility to mitigate climate change impacts and reduce its carbon footprint.

So far the company has planted a total number of 18,459 various tree species which include; more than 15,000 bamboo trees, Jacaranda, Grevillea, Eucalyptus, Mango trees, Senna siamea, Bottle brush etc.








STAFF HOUSES
STAFF HOUSES
STAFF HOUSES


Welcome to LDK
Home of 7,139 trees

Compliance to National and County Legislation

National Requirements	
Conduct environmental impact assessments for all new projects as specified in schedule II of EMCA	The company facilities were in place before the enactment of the EMCA However, all new projects have EIA licenses e.g. bio-digester, upgrade of distillation and all new molasses tanks
Conduct environmental audit annually	Audits are conducted annually
Carry out quarterly effluent analysis and submit results to NEMA	Quarterly effluent analysis conducted by an internationally approved and NEMA accredited lab are punctually submitted to NEMA
Obtain effluent discharge license from either NEMA or water company depending on whether connected to sewer or not	EPZA sewer connection agreement present and regularly reviewed as per the terms
Segregate waste, recycle and dispose of appropriately	Keeping of waste handlers licenses and tracking documents.
Annual emission license	Air quality measurements made by a NEMA accredited lab Payment and application for annual emission license made
County Requirements	
Possession of Liquor license	Available and renewed annually
Food manufacturing permit	Available and renewed annually
Workplace registration	Available and renewed annually
Business permits	Available and renewed annually
Contractors work permits	These are checked and confirmed before commencement of work

Measuring Success

Key Performance Targets

Reference	Measures	Baseline status	2018/19	2019/20	Requirements
Improve waste water quality	Increase aerobic treatment capacity	One aerobic pond	Two aerobic ponds	Three aerobic ponds	Will involve acquisition of more aeration blowers
Eliminate any breach of air quality standards from our sites	Improve monitoring capacity of priority pollutants Minimize fugitive emission points through tight sealing of manholes Bench-mark in industries with same operations to adopt best practices	Priority pollutants monitored quarterly by a third party (SGS)	Map all potential areas of priority pollutants emission	Install continuous emission detection system	Acquisition of gas detectors
Improve tree cover and biodiversity	Continue tree planting within our facilities and partner with neighboring schools	18,500 trees planted	10% increase	10% increase	Purchase of tree seedlings

Action Plan

Compliance Requirement	Area of improvement	Required Action	Responsibility	Time frame
Compliance with the fifth schedule of the Water Quality 2006	Reduce the organic loads from the bio-digester effluent	Regular checks on the physical measures of desludging the bio-digester effluent e.g. clarifier, screens, flow equalization	Bio-gas In-charge	Continuous
		Use right dosage of chemicals in the flocculation process based on the effluent flow and avoid Sulphur based flocculants	Bio-gas In-charge	Continuous
	Storm water mixing with effluent	Segregate non-contaminated wastewater streams from contaminated streams	ETP In-charge	Continuous
	Siltation of lagoons	Regular desludging of the lagoons	Biogas/ETP In-charge GM Distillery	Continuous
	Right bacterial activity	Regular analysis of type and composition of bacteria in the effluent	Biogas/ETP In-charge	Continuous
	Aerobic system	Increase the capacity (More aerobic ponds and aeration blowers)	Biogas/ETP In-charge	2nd Aerobic pond- October 2018 3rd Aerobic pond- Year 2018/19.
	Anaerobic	Stabilize the system by	Biogas/ETP In-	Continuous

	system (bio-digester	ensuring homogeneity of the incoming effluent	charge	
Discharge monitoring	Quarterly sample analysis reports	Submit the reports to the Authority	Environmental Officer	Continuous (Quarterly)
Compliance with First Schedule on ambient air quality standards	Fugitive emission from evaporation of wastewater, spills and material handling, equipment and valve leaks	Minimize the openings along the hot effluent lines Avoid spills and leaks	Distillery Manager Biogas/ETP In-charge GM Distillery	Continuous
	Gas venting	Regular monitoring of the automated water seal for gas dissolving to avoid any gas escapes	Biogas In-charge	Continuous
	Stack emission	Constant verification of the quality of fuel sources	Distillery Manager Factory Engineer	Continuous
		Regular maintenance on Effi-clean for impurities removal from the fuel used in the boiler		
	Acquisition of gas detectors	Regular monitoring and identification of priority pollutants	General Manager	August 2018
Effective operational and preventive maintenance system shall be employed on all aspects of the	Documentation	Document operating procedures for operations that may have an adverse impact on the environment	Environmental Officer	Continuous

process where any failure could impact on the environment		Establish a procedure for identifying, reviewing and prioritizing items of plant for which a preventative maintenance regime is appropriate	Environmental Officer Biogas In-charge	Continuous
		Develop a pollution preventative maintenance programme which include regular checks and formal inspections of 'static' items such as tanks, pipework, retaining walls, bunds and ducts	Environmental officer Biogas In-charge	Continuous
The Operator shall ensure that all relevant management and operational staff (including contractors and those responsible for purchasing equipment and materials) receive adequate training with regard to their responsibilities under the license. Particular attention should be given to the following: □ Minimization of all potential environmental effects from operation	Capacity building of employee and contractors	Develop a training needs assessment that □ Identifies all posts for which specific environmental awareness training is required; and □ Identifies the scope and level to which such training is to be given	Environmental officer	Continuous
		Assess the potential environmental risks posed by the work of contractors and provide instructions to contractors about protecting the environment while working on site	Environmental officer	Continuous

under normal, abnormal, start up and shut down circumstances; □ Prevention of accidental emissions and action to be taken when accidental emissions occur; a □ The need to report deviation from the license.				
The Operator shall maintain an accident management plan which identifies potential events or failures which might lead to an environmental impact		Develop an accident plan that complies with the guidance covering the following aspects of foreseeable scenarios: likelihood, consequences, actions to prevent, action to take in the event it occurs	Environmental officer	Continuous
Organization commitment	Environmental policy	Institutionalize the environmental policy by having it signed and instilled in employees' behavior	Managing Director GM Distillery Environmental officer	Policy reviewed annually

nema

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

MEETING BETWEEN NEMA AND LONDON DISTILLERS

22nd JUNE 2018 AT THE MAIN BOARDROOM HQ

ATTENDANCE LIST

NO.	NAME	SECTION / organization	CONTACTS	SIGNATURE
1	David Ongiwa	C & E	dongare@nema.go.ke	[signature]
2	Muitungi Mwai	AD	mmwai@nema.go.ke	[signature]
3	Robert Orima	Enforcement	rorima@nema.go.ke	[signature]
4.	MAUREEN NJERI	WASTE	mnjeri@nema.go.ke	[signature]
5.	ERIC DECHE	EEIPP	edeche@nema.go.ke	[signature]
6.	Anne N. OMAMBIA, PhD	C & E	anomambia@nema.go.ke	[signature]
7.	Catherine Mbaisi	EEIPP	cmbaisi@nema.go.ke	[signature]
8.	Salome Machua	Enforcement	Salo SMachua@nema.go.ke	[signature]

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY
(NEMA)

MEETING BETWEEN NEMA AND LONDON DISTILLERS

22nd JUNE 2018 AT THE MAIN BOARDROOM HQ

ATTENDANCE LIST

NO.	NAME	SECTION	CONTACTS	SIGNATURE
9	ASHOK DATTA	C.M DISTILLERY	london-distillers@yahoo.com	
10	Mahesh Baluguna	Biogas/ETP incharge	0732 712 291	
11.	Crispus Nyaundi	EHS Officer	0716537530	

APPENDIX II Minutes of the Committee

MINUTES OF THE 38TH SITTING OF THE COMMITTEE ON IMPLEMENTATION HELD ON SUNDAY, 29TH AUGUST, 2021, IN THE BARAZA CONFERENCE HALL, WHITE SANDS HOTEL, MOMBASA, AT 2.30 P.M.

PRESENT

1. The Hon. Moitalel Ole Kenta, MP - **Chairperson**
2. The Hon. Godfrey Osotsi, MP - **Vice Chairperson**
3. The Hon. Alois Musa Lentoimaga, MP
4. The Hon. Richard Onyonka, MP
5. The Hon. (Dr.) James Kipkosgei Murgor, MP
6. The Hon. Mukuha Gabriel Kago, MP
7. The Hon. John Muchiri Nyagah, M.P
8. The Hon. Joash Nyamache Nyamoko, MP
9. The Hon. Joshua Mbithi Mwalyo, MP
10. The Hon. Benjamin Dalu Tayari, MP
11. The Hon. Hassan Oda Hulufo, MP
12. The Hon. Peter Kihara, MP
13. The Hon. Silvanus Osoro, MP
14. The Hon. John Wanjiku, MP

APOLOGIES

1. The Hon. Johnson Manya Naicca, MP
2. The Hon. Moses Kuria, MP
3. The Hon. Paul Simba Arati, MP
4. The Hon. Charles Ngusya Nguna, MP
5. The Hon. Feisal Bader, MP
6. The Hon. Jared Okello, MP
7. The Hon. Michael Kingi, MP
8. The Hon. Nelson Koech, MP
9. The Hon. Paul Odalo Abuor, MP

IN-ATTENDANCE

SECRETARIAT

1. Ms. Tracy Chebet Koskei - First Clerk Assistant
2. Mr. Abdirahman G. Hassan - Second Clerk Assistant
3. Mr. Donald Manyala - Research Officer II
4. Ms. Jane Serem - Audio Officer I
5. Mr. Moses Kariuki - Sergeant-at-arms

MIN. NO.NA/COI/2021/174: PRELIMINARIES

The Chairperson called the meeting to order at thirty minutes past two o'clock and said the Prayer. The Agenda for the meeting was adopted, as proposed and seconded by the Hon. Godfrey Osotsi, MP, Vice Chairperson, and the Hon. Hassan Hulufo, MP, respectively.

MIN. NO.NA/COI/2021/175: CONFIRMATION OF MINUTES

Confirmations of the Minutes of the previous sitting were deferred to the next sitting.

MIN. NO.NA/COI/2021/176: ADOPTION OF THE REPORT ON IMPLEMENTATION STATUS OF THE REPORT ON INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED

The Committee having scrutinized the Report on implementation status of the Report of the Departmental Committee on Environment and Natural Resources on inquiry into complaints of environmental pollution by London Distillers Kenya Limited, unanimously adopted the report, after it was proposed and seconded by the Hon. Peter Kihara, MP, and the Hon. (Dr.) James Murgor, MP, respectively.

Committee Recommendations

The Committee, following the observations made, recommends the following;

A. Administrative and Compliance Recommendation

1) That, the National Environment Management Authority (NEMA) should ensure that London Distillers Limited (LDK) continues to embrace and adapt to emerging technologies to mitigate environmental pollution. Should LDK relapse on implementing the recommendations of the Departmental Committee on Environment and Natural Resources, then NEMA shall institute the necessary control orders, improvement orders, and consequently closure orders as recommended by the Departmental Committee on Environment and Natural Resources that *"Cause closure and/or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost in case they fail to implement recommendations."*
2) NEMA shall submit a satisfactory compliance report to the National Assembly after sixty (60) days of the adoption of this report and thereafter submit bi-annual progress reports to the Committee on Implementation. Failure to submit the

reports, the Committee shall enforce appropriate sanctions pursuant to Standing Order 209(3) of the National Assembly Standing Orders.

3) In addressing the above recommendation (2), the National Environment Management Authority (NEMA) shall, in consultation with all relevant stakeholders, identify additional effluent sampling points outside London Distillers Kenya Limited (LDK) premises.
4) The National Environment Management Authority (NEMA) should continuously monitor and carry out periodic audits and compliance assistance programmes to address issues of environmental pollution in all industrial and mixed-use zones in Kenya to ensure that industries comply with the Environmental Management and Coordination Act, and attendant regulations and submit annual reports to the National Assembly.

B. Policy and Legislative Recommendations

5) The Departmental Committee on Lands of the National Assembly in consultation with the relevant stakeholders, should put in place a policy and legislative framework to mitigate the obscured mixed land-use conflicts and to promote sustainable development for the future;
6) The government, through the National Treasury, should reinstate the Environmental Impact Assessment (EIA) fees to help NEMA sustain operations, regular and random inspects; monitoring, equipping laboratory and build its capacity.
7) In consultation with the National Environment Management Authority (NEMA) and the Ministry of Petroleum and Mining, the Ministry of Environment and Forestry should develop and forward to Parliament a draft policy to regulate Sulphur Content in imported petroleum and petroleum products including heavy duty oil.

MIN.NO.NA/COI/2021/177: ADJOURNMENT

The meeting was adjourned at thirty minutes past four o'clock. (4.30 p.m).

Sign..... **Date**.30/09/2021.

(Chairperson)

MINUTES OF THE 37TH SITTING OF THE COMMITTEE ON IMPLEMENTATION HELD ON SUNDAY, 29TH AUGUST, 2021, IN THE BARAZA CONFERENCE HALL, WHITE SANDS HOTEL, MOMBASA, AT 9.30 A.M.

PRESENT

1. The Hon. Moitalel Ole Kenta, MP - **Chairperson**
2. The Hon. Godfrey Osotsi, MP - **Vice Chairperson**
3. The Hon. Alois Musa Lentoimaga, MP
4. The Hon. Richard Onyonka, MP
5. The Hon. (Dr.) James Kipkosgei Murgor, MP
6. The Hon. Mukuha Gabriel Kago, MP
7. The Hon. John Muchiri Nyagah, M.P
8. The Hon. Joash Nyamache Nyamoko, MP
9. The Hon. Joshua Mbithi Mwalyo, MP
10. The Hon. Benjamin Dalu Tayari, MP
11. The Hon. Hassan Oda Hulufo, MP
12. The Hon. Peter Kihara, MP
13. The Hon. Silvanus Osoro, MP
14. The Hon. John Wanjiku, MP

APOLOGIES

1. The Hon. Johnson Manya Naicca, MP
2. The Hon. Moses Kuria, MP
3. The Hon. Paul Simba Arati, MP
4. The Hon. Charles Ngusya Nguna, MP
5. The Hon. Feisal Bader, MP
6. The Hon. Jared Okello, MP
7. The Hon. Michael Kingi, MP
8. The Hon. Nelson Koech, MP
9. The Hon. Paul Odalo Abuor, MP

IN-ATTENDANCE

SECRETARIAT

1.	Ms. Tracy Chebet Koskei	-	First Clerk Assistant
2.	Mr. Abdirahman G. Hassan	-	Second Clerk Assistant
3.	Mr. Donald Manyala	-	Research Officer II
4.	Ms. Jane Serem	-	Audio Officer I
5.	Mr. Moses Kariuki	-	Sergeant-at-arms

MIN. NO.NA/COI/2021/170: PRELIMINARIES

The Chairperson called the meeting to order at quarter to ten o'clock and said the Prayer. The Agenda for the meeting was adopted, as proposed and seconded by the Hon. Joash Nyamoko, MP and the Hon. Gabriel Kago, MP, respectively.

MIN. NO.NA/COI/2021/171: CONFIRMATION OF MINUTES

Confirmations of the Minutes of the previous sitting were deferred to the next sitting.

MIN. NO.NA/COI/2021/172: CONSIDERATION OF THE REPORT ON IMPLEMENTATION STATUS OF THE REPORT ON INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED

The Committee considered the Report on implementation status of the Report of the Departmental Committee on Environment and Natural Resources on inquiry into complaints of environmental pollution by London Distillers Kenya Limited. After considering the written and oral submissions provided by the stakeholders, the Committee adduced the following observations, That: -

1) The implementation of the recommendations of the Departmental Committee of Environment and Natural Resources has taken longer than the set period of six months from 11th October, 2018. The back and forth tussle by all parties in reporting compliance and/or implementing the recommendations has been the major reason for delay resulting in the matter being outstanding three years since the report was tabled and adopted by the House.
2) There was a remarkable improvement by London Distillers Limited, from the time the complaints were filed in 2018 to date, towards compliance to the recommendation to install state of the art technology to mitigate air and solid waste management. However, there were still some areas for improvement, considering some mitigation measures had been disputed by the complainant, Edermann Properties Ltd and that NEMA had proposed areas for improvement by LDK.
3) NEMA reported compliance level by LDK at 86% based on 5 points recommendations by the Committee on Environment and Natural Resources and that they had exceeded the expected compliance level of above 80%. They

reported that all parameters measured for ambient air quality, stack and effluent assessments had been controlled to set limits except for the Particulate Matter concentrations and the colour of effluent discharge and Hydrogen Sulphide.

4) The complainant, Edermann Properties Ltd had objected to some progress reports made regarding effluent discharge and installation of the state of the art technology. They observed that the new plant was aimed at increasing production capacity and not addressing environmental pollution concerns.

5) From the analysis of the financial documents on the investment in the state of the art technology, the Committee could only verify the total investments to be estimated at Kshs. 141,522,691.83 and not Kshs. 260,951,740 as reported by NEMA. NEMA reported that they quoted figures from LDK'S Quarterly compliance reports to NEMA. Further, the investment in the state of the art technology commenced around 7th December 2016 before the complaint was registered and considered by the National Assembly in 2018. Additionally, NEMA had reported to the Committee that the LDK plant had shut down in 2017 to facilitate the installation of a new plant.

6) There are other factories/industries in the larger Athi-River area which contribute to pollution.

7) The Ministry of Environment and Natural Resources had been directed to ensure full compliance with the Departmental Committee's recommendations within six months. The recommendation of the Committee read: *"Cause closure and/or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost in case they fail to implement recommendations."*

8) NEMA has proposed policy and legislative recommendations for sustainability in mixed land use in Kenya, which will go a long way in addressing such present and future conflicts. The National Assembly therefore needs to follow up on the Guidelines on Development of Mixed-Use Area; Zoning policy; and the need to repeal the Change of User Policy as proposed by NEMA.

9) The parties to the petition, LDK and Erdmann Properties Ltd should co-exist harmoniously as recommended by the Departmental Committee on Environment and Natural resources in their report.

MIN.NO.NA/COI/2021/173: ADJOURNMENT

The meeting was adjourned at 1.00 p.m.

Sign..... **Date** 30/09/2021.

(Chairperson)

MINUTES OF THE 36TH SITTING OF THE COMMITTEE ON IMPLEMENTATION HELD ON SATURDAY, 28TH AUGUST, 2021, IN THE BARAZA CONFERENCE HALL, WHITE SANDS HOTEL, MOMBASA, AT 2.30 P.M.

PRESENT

1. The Hon. Moitalel Ole Kenta, MP - **Chairperson**
2. The Hon. Godfrey Osotsi, MP - **Vice Chairperson**
3. The Hon. Alois Musa Lentoimaga, MP
4. The Hon. Richard Onyonka, MP
5. The Hon. (Dr.) James Kipkosgei Murgor, MP
6. The Hon. Mukuha Gabriel Kago, MP
7. The Hon. John Muchiri Nyagah, M.P
8. The Hon. Joash Nyamache Nyamoko, MP
9. The Hon. Joshua Mbithi Mwalyo, MP
10. The Hon. Benjamin Dalu Tayari, MP
11. The Hon. Hassan Oda Hulufo, MP
12. The Hon. Peter Kihara, MP
13. The Hon. Silvanus Osoro, MP
14. The Hon. John Wanjiku, MP

APOLOGIES

1. The Hon. Johnson Manya Naicca, MP
2. The Hon. Moses Kuria, MP
3. The Hon. Paul Simba Arati, MP
4. The Hon. Charles Ngusya Nguna, MP
5. The Hon. Feisal Bader, MP
6. The Hon. Jared Okello, MP
7. The Hon. Michael Kingi, MP\
8. The Hon. Nelson Koech, MP
9. The Hon. Paul Odalo Abuor, MP

IN-ATTENDANCE

SECRETARIAT

1.	Ms. Tracy Chebet Koskei	-	First Clerk Assistant
2.	Mr. Abdirahman G. Hassan	-	Second Clerk Assistant
3.	Mr. Donald Manyala	-	Research Officer II
4.	Ms. Jane Serem	-	Audio Officer I
5.	Mr. Moses Kariuki	-	Sergeant-at-arms

MIN. NO.NA/COI/2021/166: PRELIMINARIES

The Chairperson called the meeting to order at thirty minutes past two o'clock and said the Prayer. The Agenda for the meeting was adopted, as proposed and seconded by the Hon. Alois Lentoimaga, MP and the Hon. Peter Kihara, MP, respectively.

MIN. NO.NA/COI/2021/167: CONFIRMATION OF MINUTES

Confirmations of the Minutes of the previous sitting were deferred to the next sitting.

MIN. NO.NA/COI/2021/168: CONSIDERATION OF THE REPORT ON IMPLEMENTATION STATUS OF THE REPORT ON INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED

The Committee considered the Report on implementation status of the Report of the Departmental Committee on Environment and Natural Resources on inquiry into complaints of environmental pollution by London Distillers Kenya Limited. After deliberations, the Committee made the following as Implementation status of the recommendations contained in the aforementioned Report: -

Implementation status of House Recommendations

Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, touching on NEMA, the Director General of NEMA submitted as follows, That;

I: Ensure LDK invests in state-of-art technologies that contain air pollution mitigation mechanisms, recycles solid waste, and escalates and/or institutes stringent internal self-regulation.

Implementation Status

NEMA reported that LDK has made remarkable efforts towards investment in the state-of-art technology as recommended. Further, to ensure full compliance and also as part of the continuous monitoring process, the Authority reported to have monitored and evaluated the performance of the state-of-the-art pollution control technologies installed at LDK.

Some of the pollution control technologies reported include lowering the amount of heavy fuel oil used in the boiler, management of vent gases, replacement of boiler chimney, and acquisition of two new blowers for more aeration and addition of a secondary clarifier.

Committee Observation:

Implementation has been remarkably done, however LDK should ensure full compliance as there are some objections from the complainant and NEMA has proposed areas of improvement.

II. NEMA expand the investigation and monitoring of the industrial pollution issue in Athi River to other industries in the area to ensure protection of the environment and residents of the larger Athi River area and the whole country in general.

Implementation Status

NEMA undertook a stakeholder's engagement on proposed land use policy recommendations for mixed-use development across the country and imposed a moratorium to forestall further environmental, planning, security and public health deterioration in 'hotspot areas' within the selected towns and cities.

The Authority in its report dated 6th April, 2021 undertook an inventory of the various facilities including residential, institutional, social amenities, hospitality, agricultural, mining, commercial and industrial in Mavoko sub-county to appreciate the mixed land use character of the area. NEMA would ensure the facilities listed in the inventory undertake annual environmental audits, acquire effluent discharges and emission licences where applicable.

The Authority further submitted that it had carried out a country wide inspection of steel mill and sugar cane factories and issued countrywide control audits on the same. The Authority also submitted that it carried out capacity building on petroleum and oil spill management through the Kenya Petroleum Technical Assistance programme.

Committee Observation:

Implementation has been done. The Committee noted that this is a continuous activity within the Authority's mandate.

III. NEMA should ensure due diligence in execution of its mandate to administer environmental impact assessments to forestall such environmental pollution conflicts.

Implementation Status

NEMA had proposed policy and legislative recommendations for sustainability in mixed land use in Kenya, which would address such present and future conflicts. The Authority requested the National Assembly to follow up on the guidelines on development of mixed use area; zoning policy; and the need to repeal the change of user policy as proposed by NEMA for implementation by the Ministry of Lands & Physical Planning.

NEMA had developed draft Environment Management and Coordination (Strategic Assessment, Integrated Impact Assessment and Audit) Regulations 2018, which was meant to repeal the Environment Management and Coordination (Environment Impact Assessment and Audit) Regulations, 2003, to include among others the development of

integrated environmental impact assessment guidelines to conduct integrated environmental impact assessment study.

Committee Observation:

Implementation is on-going. The draft Environment Management and Coordination (Environment Impact Assessment) Regulations 2018 are undergoing validation thus yet to be submitted to the National Assembly.

IV. NEMA should review the conduct of its officers involved in administering environmental impact assessment on the EPL's Great Wall Gardens project.

Implementation Status

The National Environmental Tribunal confirmed that the processing and review of the Environmental Social Impact Assessment (ESIA) for the Great Wall Gardens (GWG) mixed use development complied with the provision of Environmental Management and Coordination Act, 1999, Environment Impact Assessment Regulations 2003 and administrative Standards Operating Procedures.

NEMA submitted that no investigation was done on NEMA Officers as the officers themselves do not undertake Environmental Impact Assessments. Experts registered by NEMA undertake the EIAs which are submitted to NEMA for review.

In addition, NEMA has a policy on regular staff rotation usually after three (3) years for all NEMA staff.

Committee Observation:

Implementation has not been done due to the fact the National Environmental Tribunal confirmed that the Environmental Impact Assessment (EIA) for the Great Wall Gardens (GWG) mixed use development was issued according to EIA procedures. Thus there was no need to investigate NEMA officers.

V. NEMA should act proactively in addressing such pollution related issues in order to stem environmental degradation in line with the precautionary principle in International Environmental Law.

Implementation Status

The Authority has undertaken a number of measures including quarterly ambient air quality assessment in urban areas, compliance assistance programme for industries to reduce pollution & enable them comply with environmental regulations, implemented urban rivers regeneration programme and created awareness on environmental management and pollution mitigation.

The Authority also undertook a control audit/inspection of the LDK Limited effluent treatment plant to investigate allegations of effluent discharge reported to NEMA incident desk.

On 5th March 2020, NEMA received a quarterly report from LDK on the Steam Boiler Emissions Measurement indicating that all parameters were within the Emission Limits.

NEMA contracted its approved laboratory, SGS Kenya Limited, to carry out ambient air quality measurements between 11th March 2020 and 28th March 2020. Samples were collected from 9 points and shipped to Spain for analysis, whose results indicate all parameters being within the Emission Limits of the Environmental Management and Coordination (Air Quality) Regulations, 2014 except for Particulate Matter (PM) specifically for PM2.5 and PM10 for SP1, SP4, SP5, SP6 and SP7; attributed to their proximity to public road with frequent vehicular traffic, quarry road construction and proximity to horse sheds.

Following the directive by the Committee that NEMA utilises a different Laboratory, the Authority contracted Eco Serve Limited to carry out Ambient Air Quality Assessment, Boiler Stack Emissions and Effluent Discharge analysis at LDK facility. The tests were conducted between January and February, 2021. Air Emissions, ambient air quality tests and stack emissions from boiler comply Environmental Management and Coordination (Air Quality) Regulations 2014.

There was however high concentration of Particulate Matter for both LDK Ltd GWG 1 and 2, which can be attributed to hot and dusty weather, vehicular emissions, road construction and industrial emissions observed during the measurement.

Effluent analysis complied with Environmental Management and Coordination (Water Quality) Regulations 2006 Effluent Discharge Standards into Public Sewer except for Colour and Hydrogen Sulphide.

SGS Limited Kenya carried out the Boiler Stack Emissions Measurement on 10th March 2020, whose results indicated that all parameters were within the Emission Limits.

Committee Observation:

Implementation of this recommendation is on-going. This is a continuous activity within NEMA's mandate.

Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, touching on LDK, the Director General of NEMA submitted as follows, That;

VI. Invest in state-of-art technologies that contain air pollution, recycle solid waste, and escalate and/or institutes stringent internal self-regulation. Such technologies can include, but not limited to: physical/chemical methods and biological treatment methods of odour control.

Implementation Status

NEMA reported that LDK had invested in state–of-art technologies that contain air pollution, recycles solid waste and control odour worth Kes. 260,951,740.00. The investment includes: installation of new ultra-modern plant whose capacity includes by-passing effluent primary treatment cooling ponds, lowering the amount of Heavy Fuel Oil (HFO) used in the Boiler and Management of vent gases in the atmosphere; Replacement of Boiler Chimney; Acquisition of two new blowers for more aeration; Addition of one more aerobic pond for more aeration; Modification of mode of aeration in the previous aerobic pond; Covering of the entire drain trench in front of the production plant; Acquisition of an Air Quality Monitoring Gadget; Proper Sealing of manholes; Addition of a secondary clarifier; and construction of Sludge drying and holding beds.

Committee Observation:

There was remarkable improvement by London Distillers Limited; from the time the complaint was filed in 2018 to date, towards compliance to the recommendation to install state of art technology to mitigate air and solid waste management. However, there were still some areas for improvement, as some objections had been registered by the complainant intimating dissatisfaction and that NEMA had proposed areas for further improvement.

VII. Strictly comply with the provisions of the Environmental Management and Coordination Act (No. 8 of 1999), the Environmental Management and Coordination (Water Quality) Regulations, 2014 and any other relevant legislation, including the obligation to keep all necessary environmental records.

Implementation Status

NEMA in its report dated 6th April, 2021 reported that LDK had complied on environmental pollution based on air, stack and effluent assessments. All parameters measured had been controlled to set limits except for the Particulate Matter concentrations and for colour of effluent discharge and Hydrogen-Sulphide.

Committee Observation:

There is need for continuous monitoring to mitigate against relapse by LDK.

VIII. Design, construct, operate and maintain structures of the highest standards that ensure safe and healthy disposal of waste.

Implementation Status

NEMA reported that LDK had constructed Sludge drying and holding beds in compliance with this recommendation.

Committee Observation:

The beds were visible during the inspection visit. Implementation has been done.

IX. Implement the culture of reduction, recycling and reuse of waste in daily operations such as waste utilization for energy production.

Implementation Status

NEMA reported that LDK had invested in generation of more biogas to reduce reliance on HFO in compliance with this recommendation.

Committee Observation:

Implementation has been done. The biogas digester was visible during the inspection visit but operational capacity could not be established.

X. Implement the best structures and use of the best technology toward cleaning of all resultant industrial by-products from its premises before release to the environment.

Implementation Status

NEMA reported that LDK had invested in interventions including: lowering the amount of HFO used in the boiler; management of vent gases before discharge in the atmosphere; replacement of Boiler Chimney; acquisition of two new blowers for more aeration; and acquisition of a secondary Clarifier, in compliance with this recommendation.

Committee Observation:

Implementation has been done, but there are still areas for improvement.

XI. Implement the procedures for assessing and reviewing the environment, health and safety policies, procedures, programmes and impact of the industry's activities.

Implementation Status

NEMA reported that LDK had put in place revised standard operating procedure manual for potentially adverse impact processes, in compliance with this recommendation. LDK also submitted its Environment Policy and compliance plan.

Committee Observation:

Implementation has been done.

XII. Carry out regular and documented internal and third party audits of the progress made towards environmental protection.

Implementation Status

LDK contracted SGS Limited to perform emission testing on a boiler stack at its distillery in July, 2019. The results were submitted to NEMA in August, 2019.

LDK also contracted Eco science and Engineering Limited to carry out Air Dispersion Modelling to evaluate air emissions impact on surrounding area. The assessment was

carried out in March, 2020 whose report was submitted in April, 2020. The report indicated that air emissions from the boiler have no significant impact on ambient air quality at the boundary of the facility.

The report by Eco Science further indicated that the maximum impact of the boiler emissions is predicted to be located at the South West boundary of the facility except during April to June when the emissions fall out areas would be at the North West of the facility. The report added that the emissions from the facility have no significant impact on the nearest sensitive receptors given that the concentration of the relevant pollutants is below the set limits.

The Consultant however recommended that the results be validated by way of actual measurements and monitoring at the predicted fall out areas.

Committee Observation:

Implementation is on-going. LDK should continue to carry out Quarterly internal environmental audits and submit a report to NEMA.

XIII. Failure to implement the above recommendations, the factory should be closed and/or be relocated to other suitable areas at the owners Cost.

Implementation Status

LDK factory is still in operation as LDK is working towards compliance to all the recommendations in the report.

Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, touching on Erdemann, the status is as follows, That;

> ***XIV. Erdemann Property Limited should exercise a certain degree of tolerance and co-existence as London Distillers Kenya Limited puts in place state-of-art technology in environmental protection and mitigation.***

Implementation Status

Erdemann Property Limited reported that it has not been satisfied with the implementation status of report of the recommendations of the report of the Departmental Committee of Environment and Natural Resources regarding pollution by LDK.

Committee Observation:

All parties are encouraged to continue to coexist and the Committee urges NEMA to ensure full compliance by LDK of the recommendations of the Departmental Committee on Environment and Natural Resources.

Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, touching on the Ministry of Lands & Physical Planning, the status is as follows, That;

XIV. The Ministry of Lands & Physical Planning should intensify the capacity building activities to counties and regularly monitor and evaluate progress on the extent of adherence to policies by the county governments.

Implementation Status

The Ministry submitted that in the discharge of its mandate has formulated the National Land Use Policy (Sessional Paper No. 1 of 2017) and National Spatial Plan 2015-2045 to provide general principles to guide physical and land use planning across the country. County specific policies such as County Integrated Strategic Plans and County Spatial Plans are required to conform to these policies.

The Physical and Land Use Planning Act (No. 13 of 2019) was enacted to inter alia make provisions for the planning, use, regulation and development of land. Counties are required to adhere to the provisions of the Act in this regard. The Ministry reported that it was in the process of formulating regulations to operationalize the Act. In the interim, the Regulations under the repealed Physical Planning Act (Cap. 286) continue to apply in the enforcement of physical and land use planning standards and development controls.

On capacity building for counties, the Ministry has provided advisories on the preparation of physical and land use plans and enforcement of development controls; provided technical assistance to counties (on request) in the process of preparation of their county specific Physical and Land Use Plans by deploying Physical Planning Officers to the counties, and convened several county level forums to sensitize stakeholders on Physical and Land use Planning Policies and the Laws. The Ministry further reported that the County Government of Machakos has prepared an Integrated Strategic Urban Development Plan covering Athi River town where London Distillers Kenya Limited is located.

Committee Observation:

The implementation of this recommendation is on-going.

XIV. The County Government of Machakos Should Create a master plan for land use in the Athi River area to avoid the mixed user status of land which in the first place generated the environmental pollution conflict.

Implementation Status

The Committee did not receive any submissions directly from the County Government of Machakos, however the other national government agencies (Ministry of Lands and Physical Planning and the National Environment Management Authority) partially reported on the progress made.

NEMA has proposed policy and legislative reforms to address this recommendation.

Committee Observation:

Implementation is on-going.

XIV. The County Government of Machakos should ascertain whether due process was followed during processing and approval of the applications submitted by London Distillers Company and Great Wall Estate before their construction. If the process was not properly followed, the officers directly involved in approving the change of user status of the parcel of land occupied by the EPL's Great Wall Gardens project should be held culpable.

Implementation Status

The National Environmental Tribunal confirmed that the processing and review of the Environmental Social Impact Assessment (ESIA) for the Great Wall Gardens (GWG) mixed use development complied with the provision of Environmental Management and Coordination Act, 1999, Environment Impact Assessment Regulations 2003 and administrative Standards Operating Procedures.

Committee Observation:

Implementation had been done.

XIV. The County Government of Machakos Should Prepare a zoning plan to guide development within the area which is developing very fast. It should enforce strict adherence to the zoning plan.

Implementation Status

The Committee did not receive any submissions directly from the County Government of Machakos, however the other national government agencies partially reported on the progress made.

NEMA has proposed policy and legislative reforms to address this recommendation

Committee Observation:

Implementation is on-going. NEMA has proposed policy and legislative reforms to address this recommendation.

Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, touching on The Ministry of Environment & Forestry, the status is as follows, That;

> ***XV. The Ministry of Environment & Forestry should Ensure an Environmental audit is undertaken by a NEMA certified independent Lead Expert to confirm and recommend mitigation measures regarding complaints raised by the residents in Athi River. The audit reports should be submitted to the National Assembly.***

Implementation Status

NEMA submitted copies of various Environmental Audits it had undertaken for various facilities including cement factories, steel mills in Athi River and other parts of the country.

Committee Observation:

Implementation has been done.

XVI. The Ministry of Environment & Forestry should Ensure that a report is submitted to the National Assembly detailing progress made by NEMA and by extension LDK In complying with the recommendations of the report.

Implementation Status

The Ministry reported that the technical body charged with environmental management is NEMA and as such it has ensured that NEMA fulfils the requirements of this recommendation.

Committee Observation:

Reports have been filed by NEMA to the National Assembly as and when required by the Committee in compliance with the recommendations.

Implementation has been done.

XVI. The Ministry of Environment & Forestry should Cause closure and/or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost in case they fail to implement recommendations.

Implementation Status

The Ministry reported that the technical body charged with environmental management is NEMA and as such it will ensure that NEMA fulfils the requirements of this recommendation, should it be ascertained that LDK have not fully complied as required.

Committee Observation:

The implementation of the recommendations of the Departmental Committee on Environmental and Natural Resources is on-going with NEMA ensuring that LDK fully complies as directed failure to which this recommendation shall be invoked.

MIN. NO.NA/COI/2021/169: ADJOURNMENT

There being no other business, the meeting was adjourned at five o'clock (5.00 pm).

Sign.....**Date**.....30/09/2021.

(Chairperson)

MINUTES OF THE 17TH SITTING OF THE COMMITTEE ON IMPLEMENTATION HELD ON WEDNESDAY 21ST APRIL 2021, IN THE COMMITTEE ROOM 7, MAIN PARLIAMENT BUILDINGS AT 10.00 AM

PRESENT

1. The Hon. Moitalel Ole Kenta, MP - **Chairperson**
2. The Hon. Godfrey Osotsi, MP - **Vice Chairperson**
3. The Hon. Richard Onyonka, MP
4. The Hon. Alois Musa Lentoimaga, MP
5. The Hon. Johnson Manya Naicca, MP
6. The Hon. Moses Kuria, MP
7. The Hon. Paul Simba Arati, MP
8. The Hon. Charles Ngusya Nguna, MP
9. The Hon. Feisal Bader, MP
10. The Hon. Mukuha Gabriel Kago, MP
11. The Hon. Hassan Oda Hulufo, MP
12. The Hon. Jared Okello, MP
13. The Hon. Joash Nyamache Nyamoko, MP
14. The Hon. Joshua Mbithi Mwalyo, MP
15. The Hon. Michael Kingi, MP
16. The Hon. Nelson Koech, MP
17. The Hon. Owen Yaa Baya, MP
18. The Hon. Silvanus Osoro, MP

APOLOGIES

1. The Hon. (Dr.) James Kipkosgei Murgor, MP
2. The Hon. John Muchiri Nyaga, M.P
3. The Hon. Paul Odalo Abuor, MP
4. The Hon. Peter Kihara, MP

IN-ATTENDANCE

National Environment Management Authority (NEMA)

1. Mr. Mamo B. Mamo - Director General
2. Mr. Zephaniah Ouma - Acting Director, Compliance & Enforcement
3. Dr. John Mumbo, PhD - Principal Compliance & Enforcement Officer

Ministry of Environment & Forestry

1. Hon. Mohammed Elmi, EGH, MBE - Chief Administrative Secretary
2. Mr. Rodney Omari - Senior Assistant Secretary
3. Mr. Erick Akotsi - Acting Environment Secretary

Ecoserv Laboratory

Prof. Anthony Gachanja – Lead Consultant

Erdemann Property Limited (EPL)

1. Mr. Zeyun Yang - Managing Director
2. Mr. John Rajwayi - Head of Planning
3. Mr. Cyrus Maina - EPL's Lawyer

Committee Secretariat

1. Ms. Tracy Chebet - First Clerk Assistant
2. Mr. Abdirahman Hassan - Second Clerk Assistant
3. Ms. Jane Serem - Audio Officer

MIN. NO.NA/COI/2021/74: PRELIMINARIES

The Chairperson called the meeting to order at twenty-five minutes past ten o'clock and said the Prayer. Introductions were made thereafter. The Agenda for the meeting was adopted, as proposed and seconded by the Hon. Godfrey Osotsi, MP and the Hon. Charles Ngusya Nguna, MP, respectively.

MIN. NO.NA/COI/2021/75: CONFIRMATION OF MINUTES

The following Minutes were confirmed: -

1. The Minutes of the 11th Sitting held on Friday 12th March 2021 were confirmed as a true record of the proceedings as proposed and seconded by the Hon. Godfrey Osotsi, MP and the Hon. Johnson Naicca, MP, respectively.

2. The Minutes of the 12th Sitting held on Wednesday 24th March 2021 were confirmed as a true record of the proceedings as proposed and seconded by the Hon. Godfrey Osotsi, MP and the Hon. Owen Baya, MP, respectively.

3. The Minutes of the 13th Sitting held on Wednesday 7th April 2021 were confirmed as a true record of the proceedings as proposed and seconded by the Hon. Feisal Abdalla, MP and the Hon. Paul Arati, MP, respectively.

4. The Minutes of the 14th Sitting held on Thursday 8th April 2021 were confirmed as a true record of the proceedings as proposed and seconded by the Hon. Johnson Naicca, MP and the Hon. Gabriel Kago, MP, respectively.

5. The Minutes of the 15th Sitting held on Wednesday 14th April 2021 were confirmed as a true record of the proceedings as proposed and seconded by the Hon. Alois Lentoimaga, MP and the Hon. Joash Nyamoko, MP, respectively.

6. The Minutes of the 16th Sitting held on Thursday 15th April 2021 were confirmed as a true record of the proceedings as proposed and seconded by the Hon. Johnson Naicca, MP and the Hon. Owen Baya, MP, respectively.

MIN. NO.NA/COI/2021/76: MATTERS ARISING

The following matters arose from the Minutes of the 11th Sitting: -

UNDER MIN NO.NA/COI/2021/51: Meeting with CS Foreign Affairs

The Committee resolved to fast track preparation of an addendum report and debate/adoption of its report regarding implementation status of House resolution on conditional approval of Ms. Mwende Mwinzi as an Ambassador to Seoul, South Korea.

MIN. NO.NA/COI/2021/77: CONSIDERATION OF ERDEMANN PROPERTY LIMITED'S RESPONSE REGARDING ALLEGATIONS OF COMMITTEE'S BIAS BY THE LONDON DISTILLERS KENYA LIMITED

The Chairperson informed the Committee of contents of a letter from EPL dated 14th April, 2021 responding to the allegations of improper conduct by the Committee and that Committee Members were given houses for free or at subsidized prices. EPL denied the allegations and stated that the allegations were tactics to divert attention from the Committee's follow up on the implementation of the report of the Departmental Committee on Environment and Natural Resources. The Chairperson noted with concern that the Committee's resolutions had taken over two (2) years to be fully implemented.

The Chairperson also noted that LDK's decision to recuse itself from attending the Committee's sittings was unfounded as the Committee was acting within its mandate as prescribed in Standing Order 209 of the National Assembly Standing Orders.

The Chairperson also noted that Article 125 of the Constitution provides for the power of Parliament to summon any person to appear before it for the purpose of giving evidence or providing information and Parliament has the same powers as the High Court to enforce the attendance of witnesses and examine them on oath, affirmation or otherwise; to compel the production of documents; and to issue a commission or request to examine witnesses abroad. Similar powers obtain in the Parliamentary Powers and Privileges Act (No. 29 of 2017) specifically sections 18 to 23.

Following deliberations, the Committee made the following resolutions, that:

1) The Committee will continue to follow up on the implementation status of the report of the Departmental Committee on Environment and Natural Resources on its inquiry into complaints of pollution by LDK and table its report pursuant to Standing Order 209 of the National Assembly Standing Orders.

2) The Committee to advise the Honorable Speaker of the National Assembly to direct that the allegations made by London Distillers Limited be investigated by the Powers and Privileges Committee.

3) The Committee would summon London Distillers Kenya Limited if the Committee deems fit for the Company to appear before the Committee.

MIN. NO.NA/COI/2021/78: **MEETING WITH THE NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY AND OTHER PARTIES REGARDING THE IMPLEMENTATION STATUS OF THE REPORT ON INQUIRY INTO COMPLAINTS ON POLLUTION**

The meeting was attended by the officials of the National Environment Management Authority, Ministry of Environment and Forestry, Erdemann Property Limited and the Lead Consultant of Ecoserv Laboratory to apprise the Committee on the implementation status of the report of the Departmental Committee on Environment and Natural Resources on inquiry into complaints of environmental pollution by London Distillers Kenya Limited.

The Chairperson noted that London Distillers Kenya Limited were not present in the meeting despite being invited.

Submissions by the Lead Consultant

The Lead Consultant for Ecoserv Laboratory, Prof. Anthony Gachanja submitted as follows, That;

He is a Professor of Analytical and Environmental Chemistry and lead expert for NEMA.

NEMA contracted him for provision of services for stack emission measurement, ambient air quality assessment and effluent discharge analysis of a wine and spirits distillery plant.

The sampling activities involved stack emission measurement of one stack in the industrial facility, ambient air quality assessment of at least 14 (fourteen) sampling points and effluent analysis at the point of discharge from the industrial facility.

Effluent Discharge Analysis

Sampling was done as per the Standard Operating Procedures.

Composite samples of the effluent were collected for three (3) days within a seven (7) day period. Effluent samples were collected at the last treatment pond, at the point of flow into the sewer line using a 1.5 litre plastic jar. The dates of collection of samples were on 25th January, 28th January and on 1st of February 2021.

A 1 litre grab sample was collected with the hour for 6 hours; all six samples were mixed to make a composite sample in a 10 litre plastic container.

To avoid sample changes in quality during transportation to the laboratory, the sample was transported in an ice-cooler box.

The samples taken were then analysed at a NEMA designated laboratory.

Results

LDK Ltd factory discharge their treated effluent into EPZA sewerage system for further treatment at Kinani Sewerage treatment works.

On effluent analysis, the parameters assessed included PH, temperature, total dissolved solids, biochemical oxygen demand, oil & grease, chemical oxygen demand, colour, ammonia and sulphides. All parameters except colour and sulphides comply.

Only two parameters, colour recorded in the range of 175-320 mg Pt/1 and Sulphides 2-4 mg/1 were found to exceed effluent standards for discharge into the public sewers. These levels will be further reduced through treatment and dilution at the EPZA Sewerage treatment works.

The colour of the effluent is also expected to decrease after treatment and dilution at the EPZA Sewerage treatment works.

Conclusions

The sulphides and colour causing compounds are either in suspension or dissolved in the treated effluent. Therefore, they are not expected to affect the immediate aquatic environment.

Through dilution and further treatment in the sewerage treatment works, the values will be reduced to the regulatory values in the final effluent.

Stack emissions measurement report

The parameters measured at the stack emission included particulate matter, oxides of nitrogen, sulphur oxides, carbon monoxide, carbon dioxide and oxygen. All parameters complied.

Summary for average concentration levels of regulated boiler emissions

The particulate matter emissions recorded were within the NEMA guideline level which is 150 mg/Nm3.

The gaseous emissions including nitrous oxide and sulphur dioxide emissions were within the NEMA limit values.

During the times when the boiler is restarted after shutdown, stack emission with heavy loading of particulates and gaseous emissions will be observed which should clear on stabilization to the normal levels.

The boiler working condition is good and emissions pose no hazards to the environment.

Ambient Air Quality Report

For ambient air quality assessment, the parameters assessed included Particulate matter 2.5 and 10; Oxides of nitrogen, sulphur oxides, hydrogen sulphide, ammonia and volatile organic compounds. The measurements were done at the recommended sampling points around the industrial plant bordering sensitive receptors and at selected points on the boundary walls of sensitive receptors neighbouring but away (not adjacent) from the industrial facility to assess other sources of pollution. All parameters except Particulate Matter complied.

Summary

Sampling was done between 26th January and 18th February 2021 and the area of sampling was less than 1km2.

Wind direction was predominantly northern, blowing from NNW, N, NNE, ENE and E towards West South West, S, SSE, at a maximum speed of 2.4 m/s.

Average temperatures recorded were ranging from a low of 12.1 'c to a high of 30.5'c. The maximum daily range was 18.0 'c -7.6 'c.

Average levels of gases (carbon monoxide, sulphur oxides, volatile organic compounds, hydrocarbons, hydrogen sulphide and ammonia) were all below the NEMA limit levels for property boundary.

Average PM10/PM 2.5 levels recorded were above the NEMA limit levels for ambient air.

Smell/odour compounds detected in some sampling sites can be attributed to the distillery waste water and molasses effluent, plant (trees) within the area, wastewater and waste water treatment plants, textile industry, softeners and construction lubricants.

Conclusions

Ambient air quality at LD/GWG environs monitored for 24h, recorded average concentration levels for gaseous pollutants in compliance with NEMA air quality tolerance levels.

Levels for particular matter (PM10 and PM2.5) were above the NEMA limit levels in over 60% of the days sampled.

The prevailing weather conditions impact on the dispersion of air emissions from point sources.

Levels of particulate matter and gaseous pollutants in ambient air quality will be higher during dry weather compared to wet conditions.

The Lead Consultant further informed the committee that: -

Representatives from the National Environment Management Authority and London Distillers Kenya Limited were present during the collection of samples. However, Erdemann Property Limited was not present.

The laboratory that was used for testing of the samples was the central water-testing laboratory of Water Resource Management Authority laboratory in industrial area.

Boiler is the source point of pollution and emission irrespective of capacity of productivity, if boiler is functional. The boiler recorded pressure, temperature and emission and had flow hence it was working during the collection of samples. The lead consultant however could not confirm whether the company was operational at the time of taking the samples.

The Consultant collected samples through a hole (a sampling pot), collected twelve samples within the sampling point and spent thirty minutes in each sampling pot.

In terms of pollution, amount was measured within six hours and an average value of emissions was done on two separate days in terms of stack emission hence a clear picture of emission and particulate matter (dust).

Air quality is affected by weather hence its crucial to measure humidity and rainfall. Temperature also affects movement of air (air turbulence). The prevailing weather condition is important and there is low temperature at night as air shade strides closer to the area.

A particulate matter of 10 and 2.5 is so small and remain suspended in air for so long, to allow for transportation; the wind direction during sampling moves from Erdemann Property Limited towards the road.

Regarding the variance of results of air quality done at a different time of the year, the Consultant submitted that depending on the time of the year, the wind movement is different and if for instance in August, the general wind direction would be blowing from LDK towards the Greatwall Gardens.

The smell (volatile organic compounds) will be dispersed through diffusion.

The samples collected didn't require control results as they used an infrared laboratory that controlled itself.

Submission by the National Environment Management Authority (NEMA)

Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, the Director General of NEMA submitted as follows, That;

Recommendation 1: LDK invests in state-of-art technologies that contain air pollution mitigation mechanisms, recycles solid waste, and escalates and/or institutes stringent internal self-regulation.

Status

LDK invested in the state-of-art technology as recommended. Further, to ensure improved compliance and also as part of the continuous monitoring process, NEMA monitored and evaluated the performance of the state-of-the-art pollution control technologies.

Some of the pollution control technologies include lowering the amount of heavy fuel oil used in the boiler, management of vent gases, replacement of boiler chimney, acquisition of two new blowers for more aeration and addition of a secondary clarifier.

Ambient air quality measurement done by Ecoserv Laboratory in February 2021 complied with the ambient air quality tolerance limits in the First Schedule of the Environment Management and Coordination (Air Quality) Regulations, 2014 except for the particulate matter concentrations. In addition, wind data showed that it originated Northwards and blew Southwards through LDK.

The stack emissions measurements for the boiler done by Ecoserv Laboratory also complied with the emission limits for controlled and non-controlled facilities in the Fourth Schedule of the Environment Management and Coordination (Air Quality) Regulations, 2014 for the regulated parameters for distillery.

Effluent analysis undertaken by Ecoserv complied with the standards for effluent discharge into public sewers of the Environmental Management and Coordination (Water Quality) Regulations, 2006 except for colour and Hydrogen Sulphide.

Atmospheric Dispersion Modelling whose objective was to evaluate air emissions impacts on surrounding areas of the LDK and to determine the fall out areas was also done.

Recommendation 2: NEMA expand the investigation and monitoring of the industrial pollution issue in Athi River to other industries in the area to ensure protection of the environment and residents of the larger Athi River area and the whole country in general.

Status

NEMA undertook a stakeholder's engagement on proposed land use policy recommendations for mixed-use development across the country and imposed a moratorium to forestall further environmental, planning, security and public health deterioration in 'hotspot areas' within the selected towns and cities.

The Authority undertook an inventory of the various facilities including residential, institutional, social amenities, hospitality, agricultural, mining, commercial and industrial in Mavoko sub-county to appreciate the mixed land use character of the area. NEMA will ensure the facilities listed in the inventory undertake annual environmental audits, acquire effluents discharges and emission licences where applicable.

Recommendation 3: NEMA should ensure due diligence in execution of its mandate to administer environmental impact assessments to forestall such environmental pollution conflicts.

Status

NEMA has proposed policy and legislative recommendations for sustainability in mixed land use in Kenya, which will address such present and future conflicts. The Authority requested the National Assembly to follow up on the guidelines on development of mixed

use area; zoning policy; and the need to repeal the change of user policy as proposed by NEMA for implementation by the Ministry of Lands & Physical Planning.

NEMA reviewed the Environment Management and Coordination (Environment Impact Assessment) Regulations 2006 to include among others the development of integrated environmental impact assessment guidelines to conduct integrated environmental impact assessment study.

Recommendation 4: NEMA should review the conduct of its officers involved in administering environmental impact assessment on the EPL's Great Wall Gardens project.

Status

The Technical Committee confirmed that the processing and review of the Environmental Social Impact Assessment (ESIA) for the Great Wall Gardens (GWG) mixed used development complied with the provision of Environmental Management and Coordination Act, 1999, Environment Impact Assessment Regulations 2003 and administrative Standards Operating Procedures.

LDK appealed to the National Environment Tribunal (NET) and NET ruled in favour of EPL and NEMA confirming that due process was followed in issuing the EIA licenses to GWG.

In addition, NEMA has a policy on regular staff rotation usually after 3 (three) years for all NEMA staff.

Recommendation 5: Act proactively in addressing such pollution related issues in order to stem environmental degradation in line with the precautionary principle in International Environmental Law.

Status

The Authority has undertaken a number of measures including quarterly ambient air quality assessment in urban areas, compliance assistance programme for industries to reduce pollution & enable them comply with environmental regulations, implemented urban rivers regeneration programme and created awareness on environmental management and pollution mitigation.

The Authority has also undertaken a control audit/inspection of the LDK Limited effluent treatment plant to investigate allegations of effluent discharge reported to NEMA incident desk.

The Authority further informed the Committee that: -

i. LDK submitted a report on investment in state of the art pollution control technologies and practices to NEMA vide a letter dated 18th March 2020.
ii. NEMA visited London Distillers Kenya Ltd, confirmed that LDK indeed invested in the state-of-art technologies and was satisfied with its performance.

iii. The Authority urged the Committee to visit the distillers in order to satisfy itself with the performance of the state-of-the-art pollution control technologies.

iv. The London Distillers Kenya Limited also acquisitioned two new boilers to assist in aeration and acts as secondary purifier.

v. Except for the particulate matter concentrations, ambient air quality measurements at LDK was within the emission required in the Fourth Schedule of the Environment Management & Coordination (Air Quality) Regulations, 2014 ambient air quality tolerance limits. However, wind data show that LDK Ltd is not the source of the particulate matter.

vi. Mr. John Rajwayi, Erdemann Property Limited Head of Planning and a representative of Great Wall Gardens homeowners attended a planning meeting that was held at NEMA headquarters on 11th January 2021, where sampling points and methodology of ambient air quality assessment & effluent sample collection were discussed. LDK didn't attend the meeting despite an invite from NEMA.

vii. A technical committee comprising of representatives of London Distillers Kenya Ltd, Erdemann Property Limited and NEMA undertook a site visit on 14th January 2021 to identify ambient air quality measurement and effluent sample collection point.

viii. Erdemann Property Limited was invited during sample collection but they choose not to be part of the process at their own volition.

ix. NEMA followed due process and took an active role in engaging all parties during implementation of the report on environmental pollution.

x. The reports of ambient air quality, stack emissions and effluent analysis were all collected from NEMA by representatives of LDK and EPL on 3rd March 2021.

xi. NEMA couldn't force parties to attend and participate in meetings but has done its part in bringing all parties on board as it implements the recommendations of Parliament and exercises its legal mandate.

xii. NEMA urged London Distillers Kenya Limited and Erdemann Properties Limited to co-exist but assured the Committee that the Authority will periodically monitor and address complaints of environmental pollution accordingly.

Members raised concern that there was a former employee of NEMA that worked for LDK, hence collusion between the Authority and the Distiller that could compromise the report provided by NEMA.

The Director General of NEMA however clarified that the Authority was not aware of any of its former employees that worked for LDK and that it was only LDK who could confirm its employees. He further reiterated that NEMA has no control over where employees that leave the Authority work.

The Chief Administrative Secretary, Ministry of Environment and Forestry, Hon. Mohamed Elmi, EGH, who was in-attendance during the meeting agreed with the submissions by NEMA.

The Chief Administrative Secretary further reiterated that NEMA carries out annual audits and compliance assistance programmes in order to address issues of environmental

pollution to ensure that industries comply with the Environmental Management and Coordination Act.

Submission by Erdemann Property Limited

The representatives of Erdemann Property Limited submitted as follows:

EPL dismissed the report by NEMA as compromised saying the consultant did not involve them;

EPL disputed results lamenting that results were not compliant outside LDK and that samples collected from the sites were diluted/compromised and added that a result was as good as the sample;

EPL wrote to NEMA and indicated that they were not comfortable with proceeding with the collection of samples terming it as exercise in futility. EPL however didn't provide evidence of dilution but merely suspected the results.

EPL also presented to the Committee a photograph taken on 15th February, 2021 showing effluent discharge on to a road that was from LDK.

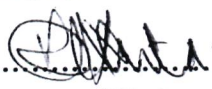
EPL also stated that they did not believe that LDK had installed any state of art technology to deal with pollution, as the company had not made any changes since 2016 when EPL first complained about the pollution.

Committee Resolutions

Following deliberations, the Committee instructed Erdemann Property Limited to share its report on non-compliance to London Distillers Kenya Limited.

MIN. NO.NA/COI/2021/79: ADJOURNMENT

There being no other business, the meeting was adjourned at five minutes past three o'clock (3.05 pm).

Sign.....  **Date**..... 05/05/2021.

(Chairperson)

MINUTES OF THE 13TH SITTING OF THE COMMITTEE ON IMPLEMENTATION HELD ON WEDNESDAY 7TH APRIL, 2021, IN THE COMMITTEE ROOM ON 2ND FLOOR, CONTINENTAL HOUSE, PARLIAMENT BUILDINGS AT 2.30 PM

PRESENT

1. The Hon. Moitalel Ole Kenta, MP - **Chairperson**
2. The Hon. Godfrey Osotsi, MP - **Vice Chairperson**
3. The Hon. (Dr.) James Kipkosgei Murgor, MP
4. The Hon. Johnson Manya Naicca, MP
5. The Hon. Paul Simba Arati, MP
6. The Hon. Charles Ngusya Nguna, MP
7. The Hon. Mukuha Gabriel Kago, MP
8. The Hon. Hassan Oda Hulufo, MP
9. The Hon. Joshua Mbithi Mwalyo, MP
10. The Hon. Owen Yaa Baya, MP
11. The Hon. Peter Kihara, MP
12. The Hon. Feisal Bader, MP
13. The Hon. Jared Okello, MP
14. The Hon. Michael Kingi, MP

APOLOGIES

1. The Hon. Alois Musa Lentoimaga, MP
2. The Hon. John Muchiri Nyaga, M.P
3. The Hon. Richard Onyonka, MP
4. The Hon. Moses Kuria, MP
5. The Hon. Joash Nyamache Nyamoko, MP
6. The Hon. Nelson Koech, MP
7. The Hon. Silvanus Osoro, MP
8. The Hon. Paul Odalo Abuor, MP

IN-ATTENDANCE

National Environment Management Authority (NEMA)

1. Mr. Mamo B. Mamo - Director General
2. Mr. Zephaniah Ouma - Acting Director, Compliance & Enforcement
3. Dr. John Mumbo - Compliance & Enforcement Officer

Ministry of Environment & Forestry

1. Hon. Mohammed Elmi, EGH, MBE - Chief Administrative Secretary
2. Mr. Rodney Omari - Under Secretary

Ecoserv Laboratory

Prof. Anthony Gachanja – Lead Consultant

Erdemann Property Limited

1. Mr. Zeyun Yang - Managing Director
2. Mr. John Rajwayi - Head of Planning

Committee Secretariat

1. Ms. Tracy Chebet Koskei - First Clerk Assistant
2. Mr. Abdirahman G. Hassan - Second Clerk Assistant
3. Mr. Donald Manyala - Research Officer
4. Ms. Jane Serem - Audio Officer

MIN. NO.NA/COI/2021/58: PRELIMINARIES

The Chairperson called the meeting to order at thirty-five minutes past two o'clock and said the Prayer. Introductions were made thereafter. The Agenda for the meeting was adopted, as proposed and seconded by the Hon. Godfrey Osotsi, MP and the Hon. Charles Ngusya Nguna, MP, respectively.

The Chairman noted the absence of London Distillers Kenya Limited (LDK), the company had written to the Speaker of the National Assembly alleging bias by the Committee and indicated that they would not attend the Committee's subsequent meetings.

The Chairman also noted that NEMA had now presented comprehensive documents to the Committee as directed in the previous meeting held on 4th March 2021. In the said meeting, NEMA had only provided the Committee with a summarised report of the assessment of pollution by LDK.

MIN. NO.NA/COI/2021/59: CONFIRMATION OF MINUTES

Confirmations of the Minutes of the previous sitting were deferred to the next sitting.

MIN. NO.NA/COI/2021/60: MEETING WITH THE NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA) AND OTHER PARTIES REGARDING THE IMPLEMENTATION STATUS OF THE REPORT ON INQUIRY INTO COMPLAINTS ON POLLUTION

The meeting was attended by the officials of the National Environment Management Authority, Ministry of Environment and Forestry, Erdemann Property Limited and the Lead Consultant of Ecoserv Laboratory to apprise the Committee on the implementation status of the report of the Departmental Committee on Environment and Natural Resources on its inquiry into complaints of environmental pollution by the London Distillers Kenya Limited.

The Director General, NEMA submitted as follows, That;

i. On 7th August 2019, NEMA engaged the services of SGS Laboratory Services, a NEMA designated and gazetted environmental Laboratory, to carry out ambient air quality levels at six sampling sites adjacent to the boundary lines of London Distillers Kenya Limited facility for particulate matter; Volatile Organic Compounds; Hydrogen Sulphide and Sulphur dioxide.

ii. NEMA undertook a site inspection visit of LDK on 20th February, 2020 to assess the progress LDK made to comply with the recommendations of the Departmental Committee on Environment and Natural Resources and in preparation for the air quality measurement.

iii. The Boiler stack emissions measurements and ambient air quality measurements were undertaken by SGS Limited on 10th March 2020, and from 10th to 28th March, 2020, respectively. The implementation status report was presented to the Committee on 9th June, 2020. The Committee directed NEMA to commission further tests on effluent and air quality at LDK in a letter dated 11th August, 2020.

iv. The Budget for further assessment was approved in September, 2020. The process of procuring a consultant was finalised on 5th January, 2021.

v. Ambient air quality was done from 25th January to 22nd February, 2021; effluent sampling was done on 25th, 28th January and 1st February, 2021, while stack emission measurements at LDK premises were done on 27th, 28th, 29th and 30th January, 2021. The ambient air quality, stack emission and effluent analysis reports were submitted to NEMA on 1st March, 2021.

vi. The Director General submitted that emissions from LDK Ltd comply with the Environmental Management and Coordination (Air Quality) Regulations, 2014 Ambient Air quality tolerance limits. The effluent analysis also shows that substantive compliance with the Environmental Management and Coordination (water quality) Regulations, 2006, Effluent Discharge Standard into the public sewer for parameters measured.

vii. Ambient air quality measurements at LDK Ltd comply with the Environment Management and Coordination (Air Quality) Regulations, 2014 Ambient Air quality Tolerance limits except for the particulate matter (pm) 10 concentrations. However, wind data show that LDK Ltd is not the source of the particulate matter.

viii. Regarding the implementation status of the recommendations of the Departmental Committee on Environment and Natural Resources, the Director General submitted as follows;

On the recommendation that LDK invests in state of art technologies; the Authority reported that LDK has invested in state-of-art technology and the Authority has monitored the performance of the technologies.

On the recommendation that NEMA expand the investigation and monitoring of the industrial pollution issue in Athi River to other industries; the Authority undertook an inventory of the various facilities including residential, institutional, social amenities, hospitality and industrial in Mavoko sub-county to appreciate the mixed user character of the area. The facilities listed in the inventory undertake

annual environmental audits, acquire effluent discharges and emission licences where applicable.

The Managing Director Erdemann Property Limited submitted as follows:

i. That the company was willing to co-exist with LDK, it however insisted that LDK must adhere to existing environmental laws and regulations.
ii. The Managing Director shared report of an analysis of tests done at LDK in November 2019 that showed that LDK was not within acceptable standards of environmental laws. He further presented photographs taken on 15th February, 2021 showing effluent discharge from LDK that was discharged on the road. He added that this matter was reported to NEMA.
iii. The Managing Director also added that during the identification of effluent sample collection points, EPL had requested that samples be taken from two additional points, a request that was not agreed to by NEMA. He pointed out based on that, the report presented to the Committee didn't present the true facts and therefore EPL was not agreeable to it.

The Committee noted that the Ecoserv consultant could not present the report to the Committee due to technological challenges.

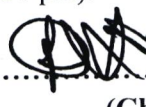
Committee Resolutions

Following deliberations, the Committee made the following resolutions:

i. That Erdemann Property submits a written report to the Committee within 7 days after the meeting.
ii. The Committee to hold a subsequent meeting on Thursday, 22nd April, 2021 to enable the Consultant present the report of the assessment to the Committee and to consider the submissions by EPL.

MIN. NO.NA/COI/2021/61: ADJOURNMENT

There being no other business, the meeting was adjourned at thirty minutes past four o'clock (4.30 pm).

Sign.....  **Date**.....21/04/2021

(Chairperson)

MINUTES OF THE 9TH SITTING OF THE COMMITTEE ON IMPLEMENTATION HELD ON THURSDAY, 4TH MARCH, 2021, IN THE COUNTY HALL, MINI CHAMBER, PARLIAMENT BUILDINGS AT 12.00 PM

PRESENT

1. The Hon. Moitalel Ole Kenta, MP - **Chairperson**
2. The Hon. Godfrey Osotsi, MP - **Vice Chairperson**
3. The Hon. (Dr.) James Kipkosgei Murgor, MP
4. The Hon. Johnson Manya Naicca, MP
5. The Hon. Alois Musa Lentoimaga, MP
6. The Hon. Paul Simba Arati, MP
7. The Hon. Charles Ngusya Nguna, MP
8. The Hon. Mukuha Gabriel Kago, MP
9. The Hon. Hassan Oda Hulufo, MP
10. The Hon. Joshua Mbithi Mwalyo, MP
11. The Hon. John Muchiri Nyaga, M.P
12. The Hon. Owen Yaa Baya, MP
13. The Hon. Peter Kihara, MP
14. The Hon. Michael Kingi, MP

APOLOGIES

1. The Hon. Richard Onyonka, MP
2. The Hon. Moses Kuria, MP
3. The Hon. Joash Nyamache Nyamoko, MP
4. The Hon. Nelson Koech, MP
5. The Hon. Silvanus Osoro, MP
6. The Hon. Jared Okello, MP
7. The Hon. Paul Odalo Abuor, MP
8. The Hon. Feisal Bader, MP

IN-ATTENDANCE

National Environment Management Authority (NEMA)

1. Mr. Mamo B. Mamo - Director General
2. Mr. John Mumbo

Ministry of Environment & Forestry

Mr. Rodney Omari – Under Secretary

London Distillers Kenya Limited

1. Mr. Avin Mohanjalot - Managing Director
2. Ms. Pawan Grehlot
3. Mr. Veima Maumo
4. Mr. Benjamin Lanswen
5. Mr. Crispus Michira

Erdeman Property Limited

1. Mr. John Rajwayi – Head of Planning
2. Mr. John Zegunyung
3. Ms. Ruth Hinga - Legal Officer
4. Mr. Cyrus Maina - Legal Officer

Committee Secretariat

1. Ms. Tracy Chebet Koskei - First Clerk Assistant
2. Mr. Abdirahman G. Hassan - Second Clerk Assistant
3. Mr. Salem Lorot - Legal Counsel II
4. Ms. Jane Serem - Audio Officer

MIN. NO.NA/COI/2021/38: PRELIMINARIES

The Chairperson called the meeting, held pursuant to Standing Order 186 (2) of the National Assembly Standing Orders, to order at ten minutes past twelve o'clock and said the Prayer. Introductions were made thereafter. The Agenda for the meeting was adopted, as proposed and seconded by the Hon. (Dr.) James Murgor, MP and the Hon. Gabriel Kago, MP, respectively.

MIN. NO.NA/COI/2021/39: CONFIRMATION OF MINUTES

Confirmations of the Minutes of the previous sitting were deferred to the next sitting.

MIN. NO.NA/COI/2021/40: MEETING WITH THE NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA) AND OTHER PARTIES REGARDING THE IMPLEMENTATION STATUS OF THE REPORT OF THE DEPARTMENTAL ON ENVIRONMENT AND NATURAL RESOURCES ON ITS INQUIRY INTO COMPLAINTS ON POLLUTION BY LDK

The meeting was attended by the officials of the National Environment Management Authority, Ministry of Environment and Forestry, Erdemann Property Limited and London Distillers Kenya Limited regarding the implementation status of the report of the Departmental Committee on Environment and Natural Resources on its inquiry into complaints of environmental pollution by the London Distillers Kenya Limited.

The Committee in November 2020, directed that NEMA contracts an independent firm, to conduct ambient air quality measurements and effluent testing at the LDK premises and its

environs. The Committee had also directed that NEMA should involve LDK and EPL during the exercise.

The Director General, NEMA, Mr. Mamo B. Mamo submitted as follows:

NEMA procured the services of Ecoserv, a NEMA designated laboratory, for provision of services stack emission measurement, ambient air quality assessment and effluent discharge analysis.

Ambient air quality was done from 25th January to 22nd February, 2021; effluent sampling was done on 25th, 28th January and 1st February, 2021, while stack emission measurements at LDK premises were done on 27th, 28th, 29th and 30th January, 2021. The ambient air quality, stack emission and effluent analysis reports were submitted to NEMA on 1st March, 2021.

The Director General submitted that emissions from LDK Ltd comply with the Environmental Management and Coordination (Air Quality) Regulations, 2014 Ambient Air quality tolerance limits. The effluent analysis also shows that substantive compliance with the Environmental Management and Coordination (water quality) Regulations, 2006, Effluent Discharge Standard into the public sewer for parameters measured.

Ambient air quality measurements at LDK Ltd comply with the Environment Management and Coordination (Air Quality) Regulations, 2014 Ambient Air quality Tolerance limits except for the particulate matter (pm) 10 concentrations. However, wind data show that LDK Ltd is not the source of the particulate matter.

The exceedance of the Particulate Matter (PM) 10 concentrations was not only observed at LDK Ltd but also at Great Wall Gardens 1 and 2 Estates indicating location of these entities is dusty. This may be due to the hot and dusty weather, vehicular emissions, road construction and industrial emissions observed during the measurement.

The high concentration of PM for both LDK Ltd and Great Wall Gardens 1 and 2 shows that the industry and residential estate exist in one micro-environment.

The contribution of other industrial facilities as sources of PM concentration on the Great Wall Garden Estates and the surrounding residential areas should be considered since the fallout points of their PM could be the Industry of the Estate. The DG added that these facilities produce steel, paint, cement and foam.

The stack emissions measurements for LDK Ltd boiler complied with the Environmental Management and Coordination (Air Quality) Regulations, 2014 Ambient Air quality Tolerance Limits for the regulated parameters for distillery.

Hydrogen Sulphide concentrations observed in the Stack Emissions though within the acceptable tolerance limits should be monitored carefully since it may increase with the ageing of the stack.

The effluent analysis complied with the Environmental Management and Coordination (Water Quality) Regulations, 2006 Effluent Discharge Standards into Public Sewer except

for colour and Hydrogen Sulphide. The Director General however added that LDK discharge their treated effluent into EPZA Sewerage system for further treatment at Kinani Sewerage treatment works.

The wind direction during the assessment was observed to blow from North North West (NNW), North (N), North North East (NNE), East North East (NNE) and East towards West South West (WSW), South South East (SSE) indicating that most of the wind originated from the direction of Great Wall Garden Estates and through LDK Ltd. He added that odour was observed at GWG 2 suggesting other sources of emissions.

Ambient Air Quality at the Estate has improved significantly which was confirmed by a resident following measurement undertaken at a house selected in Block E of GWG 2.

During its submission, NEMA provided reports of ambient air quality, stack emissions and effluent analysis prepared by Prof. Anthony Gachanja, of Ecoserv Consultants. The Committee however questioned how the consultant was arrived at and whether Erdemann Properties Ltd and London Distillers Kenya Ltd were involved in the process.

The Director General also submitted actions undertaken by the London Distillers Kenya Limited to comply with the House resolutions regarding the report of the Departmental Committee on Environment and Natural Resources. However, the Committee raised concern that NEMA did not provide any evidence to ascertain whether the actions had indeed been undertaken.

Committee concerns and resolutions

The Committee raised concern that the submission by NEMA was not sufficient as some of the information provided was not accompanied by documentary evidence, especially as regards actions undertaken by LDK in compliance with the recommendations of the Departmental Committee on Environment and Natural Resources.

Following deliberations, the Committee made the following directives:

i. NEMA submits a comprehensive report on the implementation status of the aforementioned report with documentary evidence within four (4) days; and
ii. The Committee would schedule a meeting with NEMA, the London Distillers Kenya Ltd (LDK) and the Erdemann Property Limited, to consider the report by NEMA within fourteen (14) days. The Committee further directed that the report should be agreeable to the aforementioned parties.

MIN. NO.NA/COI/2021/41: ADJOURNMENT

There being no other business, the meeting was adjourned at fifty minutes past twelve o'clock (12.50 pm).

Sign..... **Date** 12/03/2021.

(Chairperson)

APPENDIX III: Report of the Departmental Committee on Environment & Natural Resources on an inquiry into complaints of environmental pollution by London Distillers Kenya Limited

Approved for tabling

BM

SNA

29/8/18

REPUBLIC OF KENYA



Paper Laid on the Table of the House by the Chairperson, Departmental Committee on Environment and Natural Resources on Wednesday 29/08/2018 Afternoon

THE NATIONAL ASSEMBLY

12TH PARLIAMENT – SECOND SESSION - 2018

DEPARTMENTAL COMMITTEE ON ENVIRONMENT AND NATURAL RESOURCES

REPORT ON AN INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED.



DIRECTORATE OF COMMITTEE SERVICES,
CLERK'S CHAMBERS,
PARLIAMENT BUILDINGS,
NAIROBI.

AUGUST, 2018

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LIST OF ABBREVIATION

BOD	Biochemical Oxygen Demand
COD	Chemical Oxygen Demand
EMCA	Environmental Management and Coordination Act
EPL	Erdemann Property Limited
EPZA	Export Processing Zones Authority
LDK	London Distillers Kenya Limited
NEMA	National Environment Management Authority
PCC	Public Complaints Committee

FOREWORD

Industrial pollution is directly linked with industry, in contrast to other pollution sources. This form of pollution is one of the leading causes of pollution worldwide. Because of its size and scope, industrial pollution is a serious problem for the entire planet, especially in nations which are rapidly industrializing. This form of pollution dates back to ancient days, but widespread industrial pollution accelerated rapidly in the 1800s, with the start of the Industrial Revolution. Prominent forms of industrial pollution include water and air pollution. The two forms are equally at the centre of the inquiry at hand.

Erdemann Property Limited (EPL) is based in Nairobi and was founded in 2003. It is a limited Liability Company specializing in property development. EPL operates under the Investment Promotion Centre and was pioneered by a Chinese investor, Mr. Zeyun Yang. EPL provides decent, low-cost shelter to its clients. EPL has built more than 4,000 housing units from the year 2003 to-date.

London Distillers Kenya Limited (LDK) started its operations in the year 1986 in Athi River, Kenya in an area designated as an industrial zone. LDK was allocated its land in 1982. The company has 125 years' experience in liquor manufacturing in other parts of the world. The company has presence in other countries in the East African region as well. LDK head offices are based in Nairobi, with its distillery spread over 350 acres of land in Athi River, the premises that are the source of the complaints.

Erdemann Property Limited, as a representative of the residents and workers in Great Wall Gardens Estate which is located on Shanghai Road, Athi River, Mavoko Sub-County Machakos County, through a letter dated 22nd January, 2018 to the National Environment Management Authority (NEMA) and raised issues regarding environmental pollution through toxic fumes and effluent from London Distillers Kenya Limited which is negatively affecting the lives of the residents of the larger Athi river area.

The residents of Great Wall Garden Estate were requesting the National Environmental Management Authority (NEMA) to thoroughly investigate LDK and firmly ask them to adhere to all measures regarding to air quality and effluent discharge as stipulated in the Air and Water Quality Regulations.

Before this, NEMA through a letter dated 6th February, 2017 had written to London Distillers (K) Limited ordering a closure of the company pursuant to Environmental Management and Coordination Act (EMCA), CAP 387 Part II, Section 3. This was after the company failed to comply with three improvement orders issued to them dated 6th May, 2016, 21st July, 2016 and 8th September, 2016.

Despite the orders issued by NEMA, London Distillers Kenya Limited were yet to reduce the environmental pollution a year later, according to Erdemann Property Limited. The National Assembly, Departmental Committee on Environment and Natural Resources seized the matter after receiving a copy of the said letter by Erdemann Property Limited. The Committee then scheduled meetings with the following entities aimed at gathering evidence on the matter:

a) Erderman Property Limited
b) London Distillers Kenya Limited
c) National Environment Management Authority (NEMA)

The objective of the enquiry was to establish the extent of environmental pollution by London Distillers Kenya Limited and therefore recommend stringent measures that will ensure environmental protection, conservation and mitigation for the benefit of Kenyans.

The Committee equally wrote to the Ministry of Lands and Physical Planning and the Ministry of Environment and Forestry seeking the policy direction on issues surrounding the inquiry and touching on the mandates of the two ministries.

Having reviewed the oral and written evidence submitted to it, the Committee observed that:

1. Families, especially expectant mothers and children, could be suffering from long term health complications from the pollution. It was therefore important to deal with the matter expeditiously to eliminate the threat to lives and investments in the area.

2. A close down order was given to LDK on 6th February, 2017 due to its air pollution and releasing effluent that was not meeting set standards. However, the Distillery reopened but it was not clear whether it had met the expected conditions. There was therefore need to scrutinize the relationship between NEMA and LDK.

3. London Distillers Kenya Limited had been in existence for over 30 years in Kenya and therefore it ought to have invested in technologies that mitigate against air pollution, recycle solid waste, and escalate or institute internal self-regulation.

4. The National Environment Management Authority (NEMA) only acted after complaints were raised by EPL. The Authority needed to act proactively in order to stem environmental degradation in line with the precautionary principle in International Environmental Law.

5. NEMA licensed EPL to develop a residential property in the vicinity of LDK. NEMA knew or ought to have known about the potential conflict of such a decision.

6. Erdermann Property Limited acquired the land adjacent to the LDK fully aware that the area and its environs were zoned for industrial use. The land on which Great Wall Garden Estate by Edermann Property Limited was situated initially belonged to London Distillers but sold off to second parties by the Kenya Commercial Bank. The second users subsequently changed user status from industrial to residential use and subsequently sold to Edermann Property Limited in 2015.

7. The NEMA Director General produced before the Committee environmental audit reports largely commissioned by LDK to prove compliance of LDK with environmental standards. NEMA ought to have provided independently commissioned tests since the authenticity of results from self-initiated compliance tests would not be easy to vouch for.

8. The Report on Air Quality Measurement at London Distillers Limited was received at the Company on 24th March, 2018, days after receiving an invitation to appear before the Committee. This could imply that the report was merely done to exonerate the company from the accusations levelled against it. The report could have been a public relations exercise geared purely at hoodwinking the Committee.

9. London Distillers Limited had an agreement for sewer connection with the Export Processing Zones Authority (EPZA). However, a letter dated 14th January, 2015 indicated the polluting nature of the company, in which the introductory paragraph of the letter stated in part that: "*after rigorous analytical /quality assessment of your pre-treated effluent it is a fact that you are unable to achieve the values of COD and BOD set at 1000mg/l and 500 mg/l respectively as stipulated in the Environmental Management and Coordination (Water Quality) Regulations, 2006 of Legal Notice No.120*". The letter went on to give conditions for connection to the EPZA sewer line which included higher charges for its effluent that did not meet set standards. The company accepted the set conditions.

10. The former Mavoko County Council allowed change of user for the parcel of land owned by EPL from industrial to residential. Such change could have led to the environmental pollution conflict between the two parties.

11. There was need for NEMA to expand the monitoring of the industrial pollution issue in Athi River to other industries in the area to ensure protection of the environment and residents of the larger Athi River area and across the country in general.

12. The Fourth Schedule of the Constitution assigns the National Government the function of developing general principles of land planning, capacity building and technical assistance

to the counties. The counties have been assigned the function of county planning and development which may include; formulating a county policy on physical planning, approving a county policy on physical planning, approving county development plans, monitoring and overseeing the planning function.

13. There was need for counties to create a master plan for land use in the area to avoid the mixed user of land which in the first place generated the environmental pollution conflict.

14. Edermann Property Limited was established in 2003 and started its development activities in Athi River in 2015, by which time London Distillers Kenya Limited was already established within the vicinity. Therefore, Edermann Property Limited engaged in its property development business in the area fully aware of its neighborhood.

15. Despite the complaints by the residents of Great Wall Gardens Estate regarding the pollution emanating from LDKL, the property development company (Edermann Property Limited) was engaged in an ambitious expansion of its housing estate in the same location.

THE HON. KAREKE MBIUKI, M.P
CHAIRPERSON, DEPARTMENTAL COMMITTEE ON ENVIRONMENT AND NATURALRESOURCES.

1.0 PREFACE

1.1 Establishment and Mandate of the Committee

The Departmental Committee on Environment and Natural Resources is one of the fifteen (15) Departmental Committees of the National Assembly established under *Standing Order 216* whose mandates, pursuant to the *Standing Order 216 (5,)* are as follows:

a) **To investigate, inquire into, and report on all matters relating to the mandate, management, activities, administration, operations and estimates of the assigned ministries and departments;**
b) To study the programme and policy objectives of Ministries and departments and the effectiveness of their implementation;
c) To study and review all the legislation referred to it;
d) To study, access and analyze the relative success of the Ministries and departments as measured by the results obtained as compared with their stated objectives;
e) To investigate and inquire into all matters relating to the assigned Ministries and departments as they may deem necessary, and as may be referred to them by the House;
f) To vet and report on all appointments where the Constitution or any law requires the National Assembly to approve, except those under Standing Order No.204 (Committee on appointments);
(fa) To examine treaties, agreements and conventions;
g) To make reports and recommendations to the House as often as possible, including recommendation of proposed legislation;
h) To consider reports of Commissions and Independent Offices submitted to the House pursuant to the provisions of Article 254 of the Constitution; and
i) To examine any questions raised by Members on a matter within its mandate.

The subject matter of the Departmental Committee on Environment and Natural Resources are stated in the Second Schedule of the National Assembly Standing Orders No. 216 (f) as follows: climate change, environment management and conservation, forestry, water resource management, wildlife, mining and natural resources, pollution and waste management.

1.2 Oversight

In executing its mandate, the Committee oversees the following State Departments, namely:

- The Ministry of Water and Sanitation;
- The Ministry of Environment and Forestry;
- The State Department for Wildlife; and
- The State Department for Mining.

1.3 Committee Membership

The Committee on Environment and Natural Resources was constituted by the House in December, 2017 and comprises of the following Members: -

1. **The Hon. Kareke Mbiuki, M.P.** **Chairperson**
2. **The Hon. Sophia Abdi Noor, M.P.** **Vice Chairperson**
3. The Hon. Benjamin Jomo Washiali, M.P., CBS
4. The Hon. David Kangogo Bowen, M.P.
5. The Hon. Francis Chachu Ganya, M.P.
6. The Hon. Ali Wario Guyo, M.P.
7. The Hon. Beatrice Cherono Kones, M.P.
8. The Hon. Charity Kathambi Chepkwony, M.P
9. The Hon. Hilary Kiplang'at Kosgei, M.P.
10. The Hon. Peter Kimari Kihara, M.P
11. The Hon. Benjamin Dalu Tayari, MP.
12. The Hon. Charles Ong'ondo Were, M.P.
13. The Hon. Nasri Sahal Ibrahim, M.P.
14. The Hon. Rossa Buyu. M.P.
15. The Hon. Said Hiribae, M.P.
16. The Hon. Hassan Oda Hulufo, M.P.
17. The Hon. Amin Deddy Mohamed Ali, M.P.
18. The Hon. Rehema Hassan, M.P.
19. The Hon. (Eng.) Paul Musyimi Nzengu, M.P.

Committee Secretariat

1. Ms. Esther Nginyo - Second Clerk Assistant/Lead Clerk
2. Mr. Dennis Mogare Ogechi - Third Clerk Assistant
3. Mr. Salem Lorot - Legal Counsel II
4. Ms. Winnie Kulei - Research officer III
5. Ms. Yunis Amran - Fiscal Analyst III

1.4 Committee Recommendations

The Committee recommends that:

1. The National Environment Management Authority (NEMA) should:

    i. Ensure that the London Distillers Kenya Limited within six (6) months from the date of tabling of this Report, invests in state-of –art technologies that contain air pollution mitigation mechanisms, recycles solid waste, and escalates and/or institutes stringent internal self-regulation. Such technologies can include, but not limited to: physical/chemical methods and biological treatment methods of odour control.

    ii. Expand the investigation and monitoring of the industrial pollution issue in Athi River to other industries in the area to ensure protection of the environment and residents of the larger Athi River area and the whole country in general.

iii. Ensure due diligence in execution of its mandate to administer Environmental Impact Assessments to forestall such environmental pollution conflicts.

iv. Review the conduct of its officers directly involved in administering Environmental Impact Assessment on the EPL's Greatwall Gardens project.

v. Act proactively in addressing such pollution related issues in order to stem environmental degradation in line with the precautionary principle in International Environmental Law.

2. London Distillers Kenya Limited should:

i. Within six (6) months from the date of tabling of this report, invest in state-of –art technologies that contain air pollution, recycles solid waste, and escalates and/or institutes stringent internal self-regulation. Such technologies can include, but not limited to: physical/chemical methods and biological treatment methods of odour control.

ii. Strictly comply with the provisions of the Environmental Management and Coordination Act (No. 8 of 1999), the Environmental Management and Coordination (Water Quality) Regulations, 2006, the Environment Management and Co-Ordination (Air Quality) Regulations, 2014 and any other relevant legislation, including the obligation to keep all necessary environmental records;

iii. Design, construct, operate and maintain structures of the highest standards that ensure safe and healthy disposal of waste.

iv. Implement the culture of reduction, recycling and reuse of waste in daily operations such as waste utilization for energy production.

v. Implement the best structures and use of the best technology toward cleaning of all resultant industrial by-products from its premises before release to the environment.

vi. Implement within six months from the date of tabling of the report the procedures for assessing and reviewing the environment, health and safety policies, procedures, programmes and impact of the industry's activities.

vii. Carry out regular and documented internal and third party audits of the progress made towards environmental protection.

viii. Failure to implement the above recommendations, the factory should be closed and/or be relocated to other suitable areas at the owners cost.

3. Edermann Property Limited should exercise a certain degree of tolerance and co-existence as London Distillers Kenya Limited puts in place state of the art technology in environmental protection and mitigation within the period of six months as directed in this report.

4. The Ministry of Lands and Physical Planning should intensify the capacity building activities to counties and regularly monitor and evaluate progress on the extent of adherence to policies by the county governments.

5. The County Government of Machakos should;

i. Create a master plan for land use in the Athi River area to avoid the mixed user status of land which in the first place generated the environmental pollution conflict.

ii. Ascertain whether due process was followed during processing and approval of the applications submitted by London Distillers Company and Great Wall Estate before their construction. If the process was not properly followed, the officers directly involved in approving the change of user status of the parcel of land occupied by the EPL's Greatwall Gardens project should be held culpable.

iii. Prepare a zoning plan to guide development within this area which is developing very fast. It should enforce strict adherence to the zoning plan.

6. The Ministry of Environment and Forestry should:

i. Ensure an Environmental Audit is undertaken by a NEMA certified independent Lead Expert to confirm and recommend mitigation measures regarding complaints raised by the residents in Athi River. The audit reports should be submitted to the National Assembly within 60 days of tabling of the report.

ii. Ensure that a report is submitted to the National Assembly detailing progress made by NEMA and by extension London Distillers Kenya Limited in complying with the recommendations of this report within 60 days of its tabling.

iii. Cause closure and/or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost in case they fail to implement recommendations under 2 above.

2.0 BACKGROUND INFORMATION

Industrial pollution is directly linked with industry, in contrast to other pollution sources. This form of pollution is one of the leading causes of pollution worldwide. Because of its size and scope, industrial pollution is a serious problem for the entire planet, especially in nations which are rapidly industrializing. This form of pollution dates back to ancient days, but widespread industrial pollution accelerated rapidly in the 1800s, with the start of the Industrial Revolution.

The Industrial Revolution mechanized means of production, allowing for a much greater volume of production, and generating a corresponding increase in pollution. The problem was compounded by the use of fuels like coal, which is notoriously unclean, and a poor understanding of the causes and consequences of pollution.

Prominent forms of industrial pollution include water and air pollution. The two forms are equally at the centre of the inquiry at hand.

The true effects of industrial water pollution have yet to be measured. While individual toxins and pollutants have been measured and laws regulating the individual toxins and pollutants exist, the cumulative effect of the whole picture has yet to be well measured. The potential effects of industrial water pollution could grow to catastrophic levels. Not only does the potential for destruction of fish and other water dwelling creatures exist, but the potential for serious human illness also exists. Additional studies on the toxicity and hazardous waste need to be done in order to determine whether more stringent regulations are necessary in order to save the planet's natural waterways.

Manufacturing industries also release large amount of carbon monoxide, hydrocarbons, organic compounds, and chemicals into the air thereby depleting the quality of air. Such industrial air pollution had adverse effects including:

a) Causing respiratory and heart problems,
b) Contributing to global warming,
c) Acid rain which refers to harmful gases like nitrogen oxides and sulfur oxides are released into the atmosphere during the burning of fossil fuels. When it rains, the water droplets combines with these air pollutants, becomes acidic and then falls on the ground in the form of acid rain. Acid rain can cause great damage to human, animals and crops,
d) Eutrophication, a condition where high amount of nitrogen present in some pollutants gets developed on sea's surface and turns itself into algae and adversely affect fish, plants and animal species,
e) Effect on Wildlife - Just like humans, animals also face some devastating effects of air pollution. Toxic chemicals present in the air can force wildlife species to move

to new place and change their habitat. The toxic pollutants deposit over the surface of the water and can also affect sea animals and depletion of Ozone layer

2.1 Comparative Analysis on Industrial Waste Management Policies.

a. Finland

The Finnish Waste legislation Finnish waste legislation covers all wastes except certain special types of waste such as radioactive wastes, which are covered by separate laws. The waste legislation is largely based on EU legislation, but in some cases includes stricter standards and limits than those applied in the EU as a whole. The purpose of the Waste Act is to support sustainable development by promoting the rational use of natural resources, and preventing and combating the hazard and harm to health and the environment arising from wastes. There are also assigned general duties for producers, manufactures, importers and authorities to minimise generation of waste in all activities and to ensure that waste doesn't significantly hamper or complicate the organisation of waste management, or result in hazard or harm to health or the environment.

The principle of producer responsibility is also an important instrument in Finland to minimise the generation of and to enhance recovery of certain types of wastes. The objective of the Environmental Protection Act is to:

i. prevent the pollution of the environment and to repair and reduce damage caused by pollution, to safeguard a healthy, pleasant ecologically diverse and sustainable environment;
ii. prevent the generation and the harmful effects of waste; to improve and integrate assessment of the impact of activities that pollute the environment;
iii. improve citizens' opportunities to influence decisions concerning the environment; to promote sustainable use of natural resources; and
iv. combat climate change and otherwise support sustainable development.

b. Germany

The objective of the German government's policy on waste is to achieve a recycling based economy that conserves resources and reduces adverse impacts on the environment. The aim is to increase and optimise the efficient use of raw materials, to maximise recovery quotas and to permanently remove from the environment any residual waste that can no longer be used. Waste management legislation is based on European law, German federal law, the regional laws of the federal states and the statutes of the local authority waste management services. It is also based on the precautionary principle, the polluter-pays principle and the principle of co-operation.

The main pillar is the Closed Substance Cycle and Waste Management Act makes industry and the commercial sector to be responsible for the recovery of waste, i.e. they also have to bear the

costs. The enforcement of waste legislation in Germany is mainly the task of the federal states. It is governed by requirements for waste supervision contained in the Closed Substance Cycle and Waste Management Act and supported by requirements on waste recovery and disposal records, transport licenses and specialised waste management companies.

c. United States of America

In the United States, the Environmental Protection Agency (EPA) regulates all waste material under the 1976 Resource Conservation and Recovery Act (RCRA). The RCRA includes provisions on the disposal of solid and hazardous waste materials. This legislation encourages individual states to create comprehensive plans to manage non-hazardous and municipal wastes.

2.2 Complaint Against Environmental Pollution by the London Distillers Kenya Limited.

Erdemann Property Limited was founded in 2003 and is based in Nairobi – Kenya. It is a limited Liability Company specializing in property development. EPL operates under the Investment Promotion Centre and was pioneered by a Chinese investor, Mr. Zeyun Yang. EPL provides decent, low-cost shelter to its clients. EPL has built more than 4,000 housing units from the year 2003 to-date.

London Distillers Kenya Limited started its operations in the year 1986 in Athi River, Kenya in an area designated as an industrial zone. LDK was allocated its land in 1982. The company has 125 years' experience in liquor manufacturing in other parts of the world. The company has presence in other countries in the East African region as well. LDK head offices are based in Nairobi, with its distillery spread over 350 acres of land in Athi River, the premises that are the source of the complaints.

Erdemann Property Limited, as a representative of the residents and workers in Great Wall Gardens Estate which is located on Shanghai Road, Athi River, Mavoko Sub-County Machakos County, through a letter dated 22nd January, 2018 to the National Environment Management Authority (NEMA) and raised issues regarding environmental pollution through toxic fumes and effluent from London Distillers Kenya Limited which is negatively affecting the lives of the residents of the larger Athi river area.

The residents were requesting NEMA to thoroughly investigate LDK and firmly ask them to adhere to all measures regarding air quality and effluent discharge as stipulated in the Air and Water quality regulations.

The National Environment Management Authority on a letter dated 6th February, 2017 had written to London Distillers (K) Limited ordering a closure of the company pursuant to Environmental Management and Coordination Act (EMCA), CAP 387 Part II, Section 3. This was after the

company failed to comply with three improvement orders issued to them dated 6th May, 2016, 21st July, 2016 and 8th September, 2016.

Despite the orders issued by NEMA, London Distillers Kenya Limited was yet to reduce the environmental pollution a year later, according to Erdemann Property Limited.

The National Assembly, Departmental Committee on Environment and Natural Resources seized the matter after receiving a copy of the said letter by Erdemann Property Limited.

The Committee then scheduled meetings with the following entities aimed at gathering evidence on the matter:

a) Erderman Property Limited
b) London Distillers Kenya Limited
c) National Environment Management Authority (NEMA)
d) Residents of Great Wall Gardens.

The Committee equally wrote to the Ministry of Lands and Physical Planning and the Ministry of Environment and Forestry seeking for policy direction on issues surrounding the inquiry and touching on the mandates of the two ministries.

2.3 Legal Basis

The subject matter of this inquiry is governed by the Environment Management and Co-Ordination Act, 1999 and the following regulations anchored on the Act:

a) The Environment Management and Co-Ordination (Air Quality) Regulations, 2014

   The objective of the Regulations is to provide for prevention, control and abatement of air pollution to ensure clean and healthy ambient air. It provides for the establishment of emission standards for various sources such as mobile sources (e.g. motor vehicles) and stationary sources (e.g. industries) as outlined in the Environmental Management and Coordination Act, 1999. It also covers any other air pollution source as may be determined by the Minister in consultation with NEMA. Emission limits for various areas and facilities have been set. The regulations provide the procedure for designating controlled areas, and the objectives of air quality management plans for these areas.

b) The Environmental Management and Coordination, (Water Quality) Regulations 2016

These Regulations shall apply to drinking water, water used for industrial purposes, water used for agricultural purposes, water used for recreational purposes, water used for fisheries and wildlife, and water used for any other purposes.

2.4 Objective of the Inquiry

The Committee instituted the inquiry to:

i. Establish the extent of environmental pollution by London Distillers Kenya Limited.
ii. Recommend stringent measures that will ensure environmental protection, conservation and mitigation for the benefit of Kenyans.

3.0 INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED.

In enquiring into the matter of Complaints of Environmental Pollution by London Distillers Kenya Limited, the Committee scheduled meetings with the following entities aimed at gathering evidence on the matter:

a) Erdermann Property Limited
b) London Distillers Kenya Limited
c) National Environment Management Authority (NEMA)

The Committee equally wrote to the Ministry of Lands and Physical Planning and the Ministry of Environment and Forestry seeking the policy direction on the issues surrounding the inquiry and touching on the mandates of the two ministries.

The evidence gathered is recorded hereunder.

3.1 Submissions by Managing Director, Erdermann Property Limited, Mr. Zeyun Yang

Mr. Zeyun Yang, Managing Director Erdermann Property Limited, appeared before the Committee on Tuesday 20th March, 2018 and submitted that:

1. Erdemann Property Limited's vision was to see a Kenya where every Kenyan is in a position to own or rent a decent house. Its mission was to provide decent and affordable housing for the low and middle income earners. The company had done 4,000 housing units in the country. The Great Wall Gardens site was surrounded by other developments projects too.

2. In the past, EPL had experienced challenges in various projects e.g. financial issues but for the Great Wall Gardens, it had experienced a unique challenge of environmental pollution. Buyers complained of the bad smell in the vicinity.

3. The User of the land EPL bought neighboring LDK was a Residential User. EPL bought the land when its title indicated it was meant for residential purpose only. The User of a parcel of land is defined by the government authorities and specifically the Ministry responsible for Lands.

4. Any claim that the area is strictly industrial does not hold any water as the place is surrounded by several homes.
5. EPL got all the requisite approvals before undertaking the development of the Great Wall Gardens Project and these could be verified by the relevant government bodies and to check any special conditions in the approvals.

6. There are over 15,000 people living in the Athi River area and who were suffering silently as they did not have an avenue to share their suffering.

7. LDK was not meeting the set standards by NEMA and instead was playing games with the authorities by releasing the gas from evening up to morning when it cannot be seen by residents of Athi River.

8. NEMA had indicated that LDK had hired a company of international repute, SGS to conduct compliance tests and revert to them.

9. LDK Pollution
   i) Air/Gas which is also further broken down into three
      - H_2S – Dihydrogen Monosulfide - Hydrogen Sulfide
      - PH_3 – Phosphorous Trihydride - Phosphine
      - NH_3 – Nitrogen Trihydride - Ammonia
   ii) Liquid discharge/effluent
      - EPL collected a sample from the sewer line of LDK on Sunday 18th March, 2018 that was supplied to the Committee.
      - EPL has estimated the amount of discharge from LDK over the years it has been in operation to be over 100,000 metric tonnes based on current discharge which shows a big impact to the environment.
      - The effluent discharged does not meet the standard BOD and COD requirements of waste to be discharged. The standard BOD requirement for waste is 30mg/l or below and Standard COD should be 50mg/l or below.

10. This discharge ends up in River Athi and later Tana River and affects human, animal and plant life all the way to Indian Ocean and this has been happening for over the past 30 years. The area supplied water by these two rivers is a big portion of the population of Kenya.

11. The harm caused by the pollution includes adverse effects on human, livestock, game animals, fish, water animals and plants. Effects are noted on the skin, possibility of getting cancer of the skin or respiratory issues and even death of people and animals.
12. Environmental protection is a priceless cause as the environment should be sustained for future generations. The government bodies should strike a balance between development and environmental sustainability since a destroyed environment would affect tourism which was a backbone of the Kenyan economy.

13. The prayers by Erdemann Property Limited included that:
    i) LDK puts up a proper functional treatment plant for its kind of waste.
    ii) LDK to meet the standards set by the law and NEMA regulations.
    iii) NEMA to ensure compliance with the law and its rules.
    iv) LDK should invite NEMA, The Parliamentary Departmental Committee on Environment and Natural Resources and representatives of the neighbors or local leaders to show them and explain the measures they have put in place to stop or minimize the pollution.
    v) Failure of the above should lead to a shutdown of the distillery until they comply as a permanent solution to the pollution menace brought about by LDK.

3.2 Submissions by Representatives of Residents, Great Wall Gardens

The following representatives of residents appeared before the Committee on Tuesday 20th March, 2018 and made their presentations as indicated below:

1. CPA Charles Wambugu, - Chairman of Home Owners Lecturer/ Homeowner, stated that:
    - He noted the extensive pollution in the area at the point of purchase of his housing unit but was assured by EPL that it would be resolved.
    - The smell emanating from LDK was a nuisance and disrupted sleep.
    - He had researched and learnt that emissions from a distillery could cause central nervous system breakdown, respiratory complications, and cancer.
    - He prayed that the LDK be compelled to contain the pollution to acceptable standards internationally.

2. Roselyne Kagiri, Homeowner, Great Wall Gardens, stated that:
    - She moved into Great Wall Gardens in September, 2017
    - She had a 10-year old child who she one time noted to heave in the morning as if to vomit as a result of the smell.
    - The Smell affected women, especially the expectant ones and this could lead to complications
    - There were also slum dwellers who had no voice who were suffering and needed help of the Committee for a healthier environment
    - Had to re-adjust her lifestyle - by 5p.m. the windows and doors have to be closed and up to 9a.m. the following day
    - LDK should not be allowed to continue doing wrong simply because they had been doing wrong for the past over 30 years.

3. Jesse Charagu – Lawyer/ Homeowner, stated that:
    - It was difficult to explain to the children why the smell was persistent in the morning and evening

- There was an aspect of negligence as the law of strict liability provides that if you keep anything in your compound that is likely to cause mischief to others, you have a responsibility to keep it under check (this can refer to a pet and now in this case, the smell/discharge). The law therefore presumes that you are answerable and the responsibility was squarely yours. Hence strict liability is on LDK to contain its waste
- EMCA Act was put in the recent years but this does not exonerate one from taking responsibility.
- The foul smell in the early morning and evening cannot allow jogging as you will experience bloated stomach in a short distance of running.

4. Joseph Ng'ang'a – Industrialist/ Homeowner, stated that:
   - He runs a factory in Kariobangi and has employed about 30 staff. In Kariobangi, there are several industries but there was no such blatant pollution.
   - He was grateful to EPL for taking the lead and LDK should be tasked to either contain their waste or be shut down.
   - Fears that LDK could bribe or compromise the authorities
   - Other factories would also start blatantly polluting the environment if nothing was done to LDK.

3.3 Submissions by the National Environment Management Authority (NEMA)

The Director General, NEMA, Prof. Geoffrey Wahungu appeared before the Committee Tuesday 20th March, 2018 and informed it that:

1. London Distillers Kenya Limited (LDK) was established in 1982 on plots LR.No.12867/16, 18, and 19. & 20. This was before EMCA and NEMA was established. However, it was built in an area marked for industrial development. Its activities involve recycling of molasses into alcoholic beverages which lessens the environmental impacts of molasses as its evidenced elsewhere.

2. On 21st October 2015 Edermann Property Limited submitted an environmental impact assessment study report for issuance of EIA license for the Great Wall Gardens Estate by the Authority. It was issued with an EIA license No. NEMA/EIA/PSL/2534.

3. The Authority had since received several complaints of environmental pollution by London Distillers Kenya Limited (LDK) from proprietors of Edermann Property Limited as indicated below:
   a) 19/4/2016: The Authority investigated allegations of environmental pollution by London Distillers Kenya Limited and noted that:
      - The facility was connected to the EPZA sewer line;
      - There had been cases of vandalism of metallic joints from their feeder sewer line before discharge to the EPZA main sewer on 19/4/2016.

b) 6/5/2016: The Authority issued an improvement order to the facility advising them to:
   - secure their feeder sewer line to avoid vandalism;
   - rehabilitate sites affected by discharge from the vandalism activities;
   - Submit effluent analysis report for the pretreated waste water.

c) 21/7/2016: The Authority issued another improvement order to the facility directing them to:
   - Submit the effluent analytical report of the pre-treated waste water;
   - Submit stack emission measurement report, fast-track commissioning of the clarifier for their waste water pre-treatment plant;
   - Ensure all waste water is pretreated before discharge into the environment or the EPZA sewer line.

d) 29/7/2016: London Distillers Kenya Limited (LDK) submitted responses to the above improvement orders.

e) 8/9/2016: The Authority advised the proponent to:
   i) cease operations whenever feeder sewer line malfunctioned i.e. it is in-operational;
   ii) submit stack emission measurements for boilers;
   iii) Indicate measures they intended to institute to comply with the Effluent Discharge Licence limits.

f) 8/9/2016: The Authority requested the proponent to submit stack emission measurements for their boilers;

g) 26/10/2016: London Distillers Kenya Limited submitted their stack emission report to the Authority.

h) 8/12/2016: The Authority received complaints of environmental pollution by London Distillers Kenya Limited (LDK) from Edermann Property Limited.

i) 21/1/2017: The Authority requested the proponent to submit Emission Compliance Plan for the facility.

j) 6/2/2017: The Authority issued closure order to London Distillers Kenya Limited (LDK) after failing to fully comply with the improvement orders issued earlier.

k) 28/2/2017: Environmental Inspectors inspected the facility to confirm compliance with the closure order and recommended that all effluent discharges be through the waste water treatment plant.

l) 13/3/2017: The Authority lifted the closure after observing that the facility management had:
   i) Repaired the sections of the vandalised sewer line;
   ii) Submitted effluent analytical report;
   iii) Submitted stack emission measurement report;
   iv) Installed a clarifier at the effluent treatment plant to enhance its operations
   v) Contracted a NEMA licensed transporter for their waste.

m) 20/3/2017: London Distillers Kenya Limited (LDK) confirmed receipt of the letter lifting the closure order.

n) 22/1/2018: The Authority received complaints of air pollution by London Distillers Kenya Limited from Erdermann Property Limited who are adjacent neighbours.

o) 31/1/2018: The Authority received a response from London distillers on allegations of their environmental pollution by Erdermann property Limited. London Distillers Kenya Limited reported that the Erdermann Property Limited constructed houses on industrial plots LR.No.12867/9-13 &17 which are adjacent to it - an industrial enterprise.

p) 8/2/2018: The Authority advised London Distillers Kenya Limited (LDK) to submit:
   i) stack emission reports;
   ii) Ambient air quality measurements within the facility along the waste water reticulation system as well as along the boundary lines between 5 am and 9 am in the morning and after 6 pm in the evening.
   iii) An emission Compliance Plan for the fugitive emissions within the premises.
   iv) Apply for the stack emission license within Twenty-one (21) days from the date of that letter.

q) 9/2/2018: Environmental Inspectors inspected the London Distillers Kenya Limited and reported no cases of non-compliance to environmental requirements.

r) 5/3/2018: London Distillers Kenya Limited submitted their preliminary stack emission measurement report awaiting the final one in 21 days.

s) 19/3/2018: The Authority received an invitation from Parliamentary Committee on Environment to provide brief on London Distillers Kenya Limited.

4. As per the Air Quality Regulations, 2014, facilities located within industrial areas are expected to persevere with the recommended ambient air quality standards for industrial areas and vice versa for industries intending to operate within residential areas in order to co-exist.

5. In the case of London Distillers Kenya Limited, other neighbours include Mavuno Church about 300meters and other upcoming 5 residential estates.

3.3 Submissions by the Ministry of Lands

The Committee wrote a letter Ref: No. NA/DCS/ENR/2018 (024) dated 11th April, 2018 to the Ministry of Lands request for information on the the policy on change of user, the interface between the ministry and the county government in the implementation of the policy, possible solutions to the issues raised and policy directions and best practices to be applied for similar cases across the country. In its response, the ministry submitted as follows, that;

1. On the policy for change of user, it was defined as a development application involving any alteration in the use, purpose or level of activity within any land, space or building that involves material change which does not conform to the existing plans and policies. The basis for approval of development applications including change of user is an approved development plan, zoning plan and policies and regulations contained therein;
2. The Physical Planning Act, 286 Section 31 on development application states that any person requiring development permission shall make an application in the form prescribed in the Fourth Schedule, to the planning authority responsible for the area in which the land concerned is situated. It further provides that such application shall be accompanied by such plans and particulars as are necessary to indicate the purposes of the development, and in particular shall show the proposed use and density;
3. The procedure for change of user comprises of: pre-application which involves consultation with a registered and practicing Physical Planner; Submission of duly filled development application to the respective County Government planning department; Consideration of the submitted application for approval after circulation by the planning authority to various departments for sectoral comments/opinions; decision making based on the submitted comments and communication of the decision to the applicant within 30 days of the decision being made. The process has an appeal mechanism if the applicant is not satisfied by the decision of the approving authority through respective physical planning liaison committee;
4. On the interface between the Ministry and County Governments on the development control process, development Control as a Physical Planning function by the National

Government was devolved to the County Governments. Under Article 186(2) and (3) of the Constitution and the 4th schedule sections (21) and (32), the National Government is mandated to among others; Provide general principles of land planning and co-ordination of planning by counties including guidelines on Development Control and offer capacity building and technical assistance to the counties. However, the day to day development control activities including change of user are undertaken by county governments from inception to approval;

5. On the findings on The London Distillers Company and Great Wall Estate matter, the two were located off Mombasa road just after the interchange to Namanga. The area was outside the approved development Plan for Mavoko Town. However from the ministry's records, the LR.NO.12867 seemed to have been planned through a subdivision of the mother title, in this case the approved plan was the basis for guiding developments within these parcels. From records parcels LR.NO.s 12867 /1-30 seemed to have been amalgamated then subdivided and a Change of User done. Plots allocated for industrial use included LR.NOs 12867/9-20 and LR.NOs 12867/20-30 were allocated for residential use.
6. The ministry therefore recommended as follows, that:
    i. Further interrogation of the matter through Machakos County Government is required to ascertain whether due process was followed during processing and approval of the applications leading to London Distillers Company and Great Wall Estate.

    ii. The Physical Planning Act provides for applications which are likely to cause pollution such as industrial to seek approval from NEMA through environmental impact assessment reports, it is therefore important to find whether this applied to London Distillers Company

    iii. An Environmental Audit should be undertaken by a NEMA certified Lead Expert to confirm and recommend mitigation measures regarding complains raised by the applicants

    iv. A zoning plan should be prepared by the Machakos County Government to guide development within this are which is developing very fast.

3.4 Submissions by the Managing Director, London Distillers Kenya Limited, Mr. Alvin Galot

The Managing Director, London Distillers Kenya Limited, Mr. Alvin Galot, appeared before the Committee on Tuesday 27th March, 2018 and informed it that:

1. London Distillers Kenya Limited (LDK) was aware of a complaint levelled against it by Erdermann Property Limited dated 22nd January, 2018.

2. LDK was not a polluter of the environment. The activities carried out by LDK in its premises were not environmentally harmful to its own staff, some of whom reside within the factory premises, nor did its activities affect other neighbours or workers as alleged by the Great wall Garden Estate workers.

3. LDK regularly submits itself to the compliance measures established by the National Environment Management Authority (NEMA).

4. Erdemann Properties Limited had not established an evidence based case against LDK save for wild allegations and arrogating to itself the role NEMA.

5. Erdermann Properties Limited made unfounded allegations against NEMA and LDK, acted in bad faith and was not honest in their complaint. This was demonstrated by copying their letter dated 5th February 2018, to the Presidency, the Cabinet Secretary for Environment and Natural resources, the Governor of Machakos, the Clerk to the National Assembly as well a total of 22 other players including the media.

6. LDK was a responsible corporate citizen which pays its taxes, employs Kenyans and through them, benefits their families. LDK was the only company in Kenya that has a robust climate change policy, embraces green energy through solar equipment and biogas plant. It has regenerated the environment through tree planting and proper waste management processes.

7. London Distillers Kenya Limited started its operations in the year 1986 in Athi River in an area designated as industrial zone, long before Erdermann Properties Limited, Hillcrest Park, the Kraal among other recent arrivals like Mavuno Church, Everest Park Estate, Safaricom Staff Pension Scheme, City Carton residents, and Jam City Estate Residents. It is located in premises zoned off for industrial and ancillary purposes as per the title documents which also apply to the surrounding premises.

8. LDK was allocated its land in 1982 but doesn't not know when Edermann Properties gained access to the land they occupy and whether they ever subjected themselves to change of user from industrial to housing. Subsequent subdivision of land in this area had yielded into an untidy semblance of mixture of land use including industrial, residential and agricultural.

9. LDK had endured complaints from similar actors in the past. On 16th of January, 2006 and 3rd of February 2006 E.H.S Resource Centre filed a complaint with the Public Complaints Committee (PCC) on the Environment under PCC Recommendation No: 115/2006.

10. One of the findings and recommendations of the PCC no 115/2006 was that Mavoko Municipal Council as it was then known should cease, in the absence of a Master Development Plan, granting individual change of user permits in areas where there is likely to be conflict where such permits are granted.

11. The Export Processing Zones authority has a sewer line to which industries connect upon payment of a fee and observance of certain standards. The EPZA then directs the effluent in their sewer line to their final treatment plant before final discharge into the environment.

12. On 6th February, 2017, the National Environment Management Authority issued a closure Order for LDK because as they said, they had received numerous complaints from the public about environmental pollution. The letter referred to ground inspections carried out on 6th May of 2016, 21st July, 2016 and 8th September, 2016. The letter alleged that LDK had failed to comply with the orders.

13. The NEMA letter of closure failed to disclose the fact that LDK responded on May 19th to the issues raised in the May 6th 2016 inspection vide letter Ref LDK/AD/584/16 received at the NEMA County offices on 24th May 2016 with the promise of compliance and a copy of third party analysis report from SGS and gave a programme for continuing improvement of the management of the effluent discharge.

14. The NEMA closure letter failed to disclose the fact that LDK had responded to their inspection report of 6th July 2016 vide their letter dated 27th July, 2016, in which LDK appended copies of the latest quarterly third party analysis reports from SGS, internal effluent analysis records, licensed garbage/waste handlers and a work plan to addressing issues raised in the improvement order.

15. In responding to the closure order, LDK pointed out the fact that as a result of their earlier letters and actions, the NEMA inspectors who visited on 28th of February 2017, had noted that that LDK had complied with all the improvement orders issued. LDK confirmed that all the improvements procedures were in place to effect the orders. They appealed against the closure through their heir letter dated March 7, 2017 and referenced LDK/MG/184/17.

16. On March 13th 2017, NEMA wrote a letter lifting the closure order for LDK in which they confirmed that the organization had undertaken the following: 1) Repaired sections of the damaged sewer line, 2) Submitted effluent analysis Report to NEMA, 3) Submitted Stack emission analysis report to NEMA, 4) had installed clarifiers at the effluent treatment plant and lastly, 5) contracted a NEMA approved/licensed waste transporter – Kinca Trading Company to collect and discharge waste water that had leaked/spilled from the sewer system.

17. NEMA then made additional recommendations on: 1) Installation of sludge drying beds to manage the environmental impacts of sludge, 2) Ensuring no spillage at entry points of the sewer system and all illegal discharges of waste water are controlled, 3) Submission of Quarterly effluent analysis report for the pre-treated waste water before discharge to the sewer line, and lastly, 5) Strict adherence to Environmental Management Plan (EMP) and periodic consultations with environmental experts and full implementation of the Audit reports.

18. On 20th March 2017 in response to the lifting of the closure order, LDK confirmed that the management team was in the process of implementing the recommendations and

keeping track of appropriate checklists. This letter also attached a work-plan to implement the proposed recommendations.

19. LDK was making serious investments in environmental conservation including tree planting. Over ten thousand trees had been planted to green the area.

20. LDK had invested over USD 1,205, 432.81 in the solar energy in a bid to manage carbon emissions.

21. LDK had as of 7th December 2016 concluded an agreement with PRAJ Industries Limited to upgrade technology, design, engineering and supply of equipment worth USD 1,250,000.
22. He concluded that Industries world over emit effluent which, if not treated, can be harmful. LDK was aware of this and continued to work with the regulator to ensure that its activities were not harmful to the environment.

3.5 Inspection Visit to Edermann Property Limited (Great Wall Gardens Estate).

The Committee conducted an inspection visit to Edermann Property Limited (Great Wall Gardens Estate) on 3rd May, 2018. During the inspection visit, the Committee met with the management and residents of Edermann Property Limited (Great Wall Gardens Estate). In a meeting, after a tour of the estate, the following were highlighted:

1. The management complained of a bad odour coming from the London Distillers Kenya Limited (Athi River Plant) which had forced them to move their reporting time to work for the workers in the estate from 7am to 8am.
2. The offensive odour had been limited on the inspection day and 3 days prior to the visit.
3. Initially the odour was not strong but it had increased in intensity over time. Edermann Property Limited management had made efforts to visit the distillery in 2015 and were informed that they were installing systems to clear the smell.
4. The residents feared for their health and hoped that the company could control their waste to avoid pollution and hence health related issues.
5. The residents informed the Committee that they were not informed that the distillery was not effectively managing its waste before they purchased their houses in the estate.

At the end of the visit, the Committee Members observed that despite the complaints by the residents of Great Wall Gardens Estate regarding the pollution emanating from LDKL, the company (Edermann Property Limited) was engaged in an ambitious expansion of its housing estate in the same location.

3.6 Inspection Visit to London Distillers Limited (Athi River Plant).

The Committee conducted an inspection visit to London Distillers Limited (Athi River Plant) on 3rd May, 2018. The visit was done in two phases on the material day. First, the Committee visited the vicinity of London Distillers Limited (Athi River Plant) at 4.30 am to ascertain the veracity of the allegations of early morning odour in the vicinity of the plant and later made a tour of the plant and held a meeting with the company's management at 10 am.

The areas in the plant that were visited included:

(i) The Distillery
(ii) The Production Line
(iii) The Molasses Tanks
(iv) The Waste Analysis Laboratory
(v) The Biogas Plant
(vi) The Effluent Treatment Plant

At the end of the visit, the Committee members observed that:

1. The Molasses Tanks and the Biogas Plant were located just next to the wall separating the plant from the Great Wall Gardens Estate, the probable source of the odour that the residents were complaining about.

2. There was a strong stench emanating from the Biogas Plant and the Effluent Treatment Plant (ETP) which needed urgent measures to curb.

3. The LDK needed to come up with an improvement plan and a technology to contain the offensive odour emanating from its operations and waste.

4. There were many other housing estates in the vicinity other than the Great Wall Gardens Estate.

5. The Committee lacked the technical knowhow to test samples at various points in the plant. However, the samples were collected.

3.7 Submission from the Governor, Machakos County

The Committee paid a courtesy visit to the Machakos Governor, H.E Alfred Mutua, on 3rd May, 2018 with respect to the allegations of pollution by LDK Limited. The governor informed it that:

1. There were many industries in Athi River area, London Distillers Kenya Limited being one of them.

2. The distillery had been shut down following a court order but was later reopened under unclear circumstances. Attempts to implement the Court Order by the Machakos County Government were thwarted by NEMA. Hitherto, NEMA had been reluctant to act to implement the court orders.
3. The County Government of Machakos was concerned with the high pollution levels which were causing the Ukambani region to have the highest cancer levels in the country due to pollution of Athi and Nairobi Rivers.
4. The Committee could help county governments by engaging NEMA and instituting measures to reduce pollution by industries and stamping their authority.
5. The Machakos County Government was planning a rezoning exercise especially along Mombasa road to curb such environmental conflicts between residents and industries.

At the end of the visit it was resolved that the Machakos County Government would prepare and submit to the Committee a report on the matter of pollution by the London Distillers Kenya Limited within one month.

4.0 COMMITTEE OBSERVATIONS

Having reviewed the oral and written evidence submitted to it, the Committee observed that:

1. Families, especially expectant mothers and children, could be suffering from long term health complications from the pollution. It was therefore important to deal with the matter expeditiously to eliminate the threat to lives and investments in the area.
2. A close down order was given to LDK on 6th February, 2017 due to its air pollution and releasing effluent that was not meeting set standards. However, the Distillery reopened but it was not clear whether it had met the expected conditions. There was therefore need to scrutinize the relationship between NEMA and LDK.
3. London Distillers Kenya Limited had been in existence for over 30 years in Kenya and therefore it ought to have invested in technologies that mitigate against air pollution, recycle solid waste, and escalate or institute internal self-regulation.
4. The National Environment Management Authority (NEMA) only acted after complaints were raised by EPL. The Authority needed to act proactively in order to stem environmental degradation in line with the precautionary principle in International Environmental Law.
5. NEMA licensed EPL to develop a residential property in the vicinity of LDK. NEMA knew or ought to have known about the potential conflict of such a decision.
6. Erdermann Property Limited acquired the land adjacent to the LDK fully aware that the area and its environs were zoned for industrial use. The land on which Great Wall Garden Estate by Edermann Property Limited was situated initially belonged to London Distillers but sold off to second parties by the Kenya Commercial Bank. The second users subsequently changed user status from industrial to residential use and subsequently sold to Edermann Property Limited in 2015.
7. The NEMA Director General produced before the Committee environmental audit reports largely commissioned by LDK to prove compliance of LDK with environmental standards. NEMA ought to have provided independently commissioned tests since the authenticity of results from self-initiated compliance tests would not be easy to vouch for.
8. The Report on Air Quality Measurement at London Distillers Limited was received at the Company on 24th March, 2018, days after receiving an invitation to appear before the Committee. This could imply that the report was merely done to exonerate the company from the accusations levelled against it. The report could have been a public relations exercise geared purely at hoodwinking the Committee.
9. London Distillers Limited had an agreement for sewer connection with the Export Processing Zones Authority (EPZA). However, a letter dated 14th January, 2015 indicated the polluting nature of the company, in which the introductory paragraph of the letter stated in part that: "*after rigorous analytical /quality assessment of your pre-treated effluent it is a fact that you are unable to achieve the values of COD and BOD set at 1000mg/l and 500 mg/l respectively as stipulated in the Environmental Management and Coordination (Water Quality) Regulations, 2006 of Legal Notice No.120*". The letter went on to give conditions for connection to the EPZA sewer line which included higher charges for its effluent that did not meet set standards. The company accepted the set conditions.

10. The former Mavoko County Council allowed change of user for the parcel of land owned by EPL from industrial to residential. Such change could have led to the environmental pollution conflict between the two parties.
11. There was need for NEMA to expand the monitoring of the industrial pollution issue in Athi River to other industries in the area to ensure protection of the environment and residents of the larger Athi River area and across the country in general.
12. The Fourth Schedule of the Constitution assigns the National Government the function of developing general principles of land planning, capacity building and technical assistance to the counties. The counties have been assigned the function of county planning and development which may include; formulating a county policy on physical planning, approving a county policy on physical planning, approving county development plans, monitoring and overseeing the planning function.
13. There was need for counties to create a master plan for land use in the area to avoid the mixed user of land which in the first place generated the environmental pollution conflict.
14. Edermann Property Limited was established in 2003 and started its development activities in Athi River in 2015, by which time London Distillers Kenya Limited was already established within the vicinity. Therefore, Edermann Property Limited engaged in its property development business in the area fully aware of its neighbourhood.
15. Despite the complaints by the residents of Great Wall Gardens Estate regarding the pollution emanating from LDKL, the property development company (Edermann Property Limited) was engaged in an ambitious expansion of its housing estate in the same location.

5.0 COMMITTEE RECOMMENDATIONS

The Committee recommends that:

1. The National Environment Management Authority (NEMA) should:

    i. Ensure that the London Distillers Kenya Limited within six (6) months from the date of tabling of this Report, invests in state-of –art technologies that contain air pollution mitigation mechanisms, recycles solid waste, and escalates and/or institutes stringent internal self-regulation. Such technologies can include, but not limited to: physical/chemical methods and biological treatment methods of odour control.

    ii. Expand the investigation and monitoring of the industrial pollution issue in Athi River to other industries in the area to ensure protection of the environment and residents of the larger Athi River area and the whole country in general.

    iii. Ensure due diligence in execution of its mandate to administer Environmental Impact Assessments to forestall such environmental pollution conflicts.

    iv. Review the conduct of its officers directly involved in administering Environmental Impact Assessment on the EPL's Greatwall Gardens project.

    v. Act proactively in addressing such pollution related issues in order to stem environmental degradation in line with the precautionary principle in International Environmental Law.

2. London Distillers Kenya Limited should:

    i. Within six (6) months from the date of tabling of this report, invest in state-of –art technologies that contain air pollution, recycles solid waste, and escalates and/or institutes stringent internal self-regulation. Such technologies can include, but not limited to: physical/chemical methods and biological treatment methods of odour control.

    ii. Strictly comply with the provisions of the Environmental Management and Coordination Act (No. 8 of 1999), the Environmental Management and Coordination (Water Quality) Regulations, 2006, the Environment Management and Co-Ordination (Air Quality) Regulations, 2014 and any other relevant legislation, including the obligation to keep all necessary environmental records;

    iii. Design, construct, operate and maintain structures of the highest standards that ensure safe and healthy disposal of waste.

    iv. Implement the culture of reduction, recycling and reuse of waste in daily operations such as waste utilization for energy production.

    v. Implement the best structures and use of the best technology toward cleaning of all resultant industrial by-products from its premises before release to the environment.

vi. Implement within six months from the date of tabling of the report the procedures for assessing and reviewing the environment, health and safety policies, procedures, programmes and impact of the industry's activities.

vii. Carry out regular and documented internal and third party audits of the progress made towards environmental protection.

viii. Failure to implement the above recommendations, the factory should be closed and/or be relocated to other suitable areas at the owners cost.

3. Edermann Property Limited should exercise a certain degree of tolerance and co-existence as London Distillers Kenya Limited puts in place state of the art technology in environmental protection and mitigation within the period of six months as directed in this report.

4. The Ministry of Lands and Physical Planning should intensify the capacity building activities to counties and regularly monitor and evaluate progress on the extent of adherence to policies by the county governments.

5. The County Government of Machakos should;

   i. Create a master plan for land use in the Athi River area to avoid the mixed user status of land which in the first place generated the environmental pollution conflict.

   ii. Ascertain whether due process was followed during processing and approval of the applications submitted by London Distillers Company and Great Wall Estate before their construction. If the process was not properly followed, the officers directly involved in approving the change of user status of the parcel of land occupied by the EPL's Greatwall Gardens project should be held culpable.

   iii. Prepare a zoning plan to guide development within this area which is developing very fast. It should enforce strict adherence to the zoning plan.

6. The Ministry of Environment and Forestry should:

   i. Ensure an Environmental Audit is undertaken by a NEMA certified independent Lead Expert to confirm and recommend mitigation measures regarding complaints raised by the residents in Athi River. The audit reports should be submitted to the National Assembly within 60 days of tabling of the report.

   ii. Ensure that a report is submitted to the National Assembly detailing progress made by NEMA and by extension London Distillers Kenya Limited in complying with the recommendations of this report within 60 days of its tabling.

   iii. Cause closure and/or relocation of London Distillers Kenya Limited Athi River Factory within six months and at their own cost in case they fail to implement recommendations under 2 above.

SIGNED: .....

THE HON. KAREKE MBIUKI, M.P.
CHAIRPERSON,
DEPARTMENTAL COMMITTEE ON ENVIRONMENT AND NATURAL RESOURCES

DATE: ..... 28TH AUGUST 2018 .....

APPENDIX IV

SUBMISSIONS FROM THE NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

Mr. Emejen

To note CNA's comment and bring to the attention of the committee.

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Mobile Lines: 0724-253 398, 0723-363 010, 0735-013 046
Telkom Wireless: 020-2101370, 020-2183718
Incident Lines: 0786-101100, 0741-101100

P.O. Box 67839, 00200
Popo Road, Nairobi, Kenya
E-mail: dgnema@nema.go.ke
Website: www.nema.go.ke

19/07/21

NEMA/7/7/Vol. V **15th July 2021**

Clerk of the National Assembly
The National Assembly
P. O. Box 41842-00100
NAIROBI

(1) DC-Scrutiny Committee

This matter has now been brought to closure. Any other pending matter to be dealt with by relevant GOK agencies including County Govt Nairobi

CNA 19/7/21

Dear

INSPECTION VISIT BY THE SELECT COMMITTEE ON IMPLEMENTATION TO CONSIDER IMPLEMENTATION STATUS OF THE REPORT ON INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED CONDUCTED ON 09TH JULY 2021

Reference is made to your letter Ref.NA/DAASC/COL/2021/77 dated 1st July 2021 on the above subject.

Please find attached a report on the above subject matter. This follows a site inspection conducted on the 09th July 2021 by the Select Committee on Implementation to assess the progress made in implementing house resolutions recommendations but specifically to inspect the State of the Art Technologies installed to control environmental pollution. At the end of the meeting, the Chair informed participants to submit reports on any pending matter by 16th July 2021.

Yours

MAMO B. MAMO
DIRECTOR GENERAL

NATIONAL ASSEMBLY
RECEIVED
19 JUL 2021
DEPUTY CLERK
P. O. Box 41842 NAIROBI

P.T.O

B. Tracy Chebet
Inform the committee as per CNA comments
19/7/21

Copy

Cabinet Secretary,
Ministry of Environment and Forestry
NHIF Building, 12th Floor,
P. O. Box 41842-00100
NAIROBI

Principal Secretary,
Ministry of Environment and Forestry
NHIF Building, 12th Floor,
P. O. Box 41842-00100
NAIROBI

Chief Administrative Secretary,
Ministry of Environment and Forestry
NHIF Building, 12th Floor,
P. O. Box 41842-00100
NAIROBI

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

INSPECTION VISIT BY THE SELECT COMMITTEE ON IMPLEMENTATION TO CONSIDER IMPLEMENTATION STATUS OF THE REPORT ON INQUIRY INTO COMPLAINTS OF ENVIRONMENTAL POLLUTION BY LONDON DISTILLERS KENYA LIMITED CONDUCTED ON 09TH JULY 2021

A. Introduction

The Select Committee On Implementation conducted an inspection visit on 09th July 2021 at the London Distiller Kenya Limited (LDK) following inquiry into complaints of Environmental Pollution. The committee was accompanied by Erdemann Property Limited (EPL) and Officers from the National Environment Management Authority (NEMA) led by the Ag Director Compliance and Enforcement.

B. Purpose

The purpose of the visit was to assess the progress made in implementing the recommendations of the report by the Department Committee on Environment and Natural Resources on inquiry into complaints of environmental pollution and specifically to inspect the state of the art technologies installed to control environmental pollution.

C. Agenda

1. Meeting with the Management of London Distillers Kenya Limited at the LDK Premises in Athi River.
2. A tour to the Company premises to inspect the pollution control intervention technologies implemented by LDK.
3. Lunch Break and Departure.

D. Meeting.

The Chairperson of the Committee Members visiting LDK, Hon. Godfrey Otsotsi, the Deputy Chair of the Select Committee on Implementation Committee, called the meeting to order. The Chair started with prayer followed with self-introduction of those present in the meeting. This was followed by short remarks from the Honourable members of Parliament in the Committee, LDK, NEMA and finally EPL.

E. Site Visit Of The Facility To Inspect The Pollution Control Interventions Implemented.

The site visit inspection established that the State Of the Art Technologies (Annex 1) are operational and functional. The following sites were inspected:

i. Boiler Chimney
ii. Covered drains
iii. Biogas plant
iv. Effluent treatment Bonds
    a. Blowers at the Aeration pond
    b. Aerobic ponds
v. Effluent discharge and Sample collection point

In addition, LDK had made further improvements:

No.	State of the Art Technology / Intervention	Further Improvement Done
1.	Boiler Chimney	A ladder is being installed to enable stack emission measurement from the Chimney by Inspectors at any time.
2	Biogas Plant	a. The efficiency of the biogas utilization has been improved from 40% to 60% to optimize on biogas (Methane) produced to avoid accumulation in tanks which may occasionally leak and cause a nuisance. b. The Gas Fare has been automated to burn excess methane in case of boiler-shut down or malfunction.
3	Climate change	a. The bamboo tree farm provides sinks to mitigate against climate change. b. The utilization of methane from the biogas plant reduce climate change since methane has a high Global Warming Potential.

F. Emission License for the Boiler

An Emission License (attached) for the Boiler at LDK Ltd has been issued after compliance with the Emission Limits for Controlled and Non-Controlled Facilities in the Fourth Schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2014 for the regulated parameters for distillery.

G. Opportunities for further improvement for LDK

1. The Boiler Chimney is new and compliant to the Emissions Standards of Air Quality Regulations 2014. In order to take care of depreciation which comes with aging of the Chimney, LDK should consider investing in Emission Control Technologies.
2. Continual monitoring ambient air quality at Biogas Plant Environment to ensure they *remain below* the required Air Quality Standard of the EMC(Air Quality) Regulations 2014 for distiller plants.

H. Opportunities for Air Pollution Control at EPL

Erdemann Property Limited should control smoke from chimney and odour emitted from the pumping station of the Great Wall Gardens Septic Tank, both located at the EPL Lukenya Park. This will reduce odour and particulate matter in the surrounding environment.

This should be reported in Annual Environment Audit Reports.

I. Recommendations

1. *Sulphur Content in Imported Oil*

   There is need for a policy to regulate the Sulphur Content in imported oil. This will provide a level ground or baseline for industries to invest in emission control technologies depending on their use against the quality of the oil.

2. *Industrial Ecology (Circular Economy)*

   Opportunities exist for the surrounding facilities including EPL to benefit from the excess biogas which at the moment is being burnt through gas flaring, and soft water produced at the distillery to substitute / supplement hard-water. LDK can utilize treated effluent for agriculture irrigation.

   (NB: When Methane is burnt, carbon dioxide and water vapour is discharges which are odourless)

Date: 15th July 2021

Signature: .....

Director General, NEMA

APPENDIX VII

SUBMISSIONS BY THE MINISTRY OF LANDS AND PHYSICAL PLANNING

THE NATIONAL ASSEMBLY
RECEIVED
09 JUN 2021
DIRECTOR
PUBLIC APPROPRIATIONS / SELECT COMMITTEES
Sign

RECEIVED
CLERK'S OFFICE
P. O. Box 41842, NAIROBI

HARAMBEE

MINISTRY OF LANDS AND PHYSICAL PLANNING

RESPONSE TO THE NATIONAL ASSEMBLY SELECT COMMITTEE ON IMPLEMENTATION

Honourable Chair,

Pursuant to a letter Ref. NA/DAASC/COI/2021 (52) dated May 6, 2021, the Committee requested the Cabinet Secretary Ministry of Lands and Physical Planning to report on the implementation status of the report of the Departmental Committee on Environment & Natural Resources on its inquiry into complaints of environmental pollution by London Distillers Kenya Limited.

Honourable Chair, I wish to respond as follows:

1.0 Background and Context

Honourable Chair,

The National Assembly Departmental Committee on Environment & Natural Resources conducted an inquiry following numerous complaints by the residents of Greatwall Garden Estate in Athi River on environmental pollution by London Distillers Kenya Limited. The residents accused the distiller of polluting the environment through toxic emissions and dumping of raw waste into the Athi River. They accused the distiller of failure to put in place appropriate technology in the management of waste.

The Committee in its report on the inquiry noted that the National Environment Management Authority (NEMA) licensed the development of the residential estate near the distiller despite the fact that the authority knew very well the potential conflict of such a decision. The Committee also noted that the developers of the estate (Erdemann Property Limited) acquired the land adjacent to the distiller fully aware that the area and its environs were zoned for industrial use.

Honourable Chair,

In its recommendations, the Committee directed the distiller, NEMA, the County Government of Machakos, Ministry of Environment & Forestry and Ministry of Lands & Physical Planning to intervene and stop the pollution. It directed the distiller to among other things to strictly maintain high environmental

standards and ensure safe and healthy disposal of waste pursuant to the Environmental Management & Coordination Act (No. 8 of 1999), the Environmental Management & Co-ordination (Water Quality) Regulations, 2006 and the Environmental Management & Co-ordination (Air Quality) Regulations, 2014. The Committee gave the distiller six (6) months to put in place technology for waste management or stop operations and directed NEMA to ensure compliance.

The County Government of Machakos was directed to among other things create a master plan for land use in Athi River area to avoid mixed user status of land, which created concerns over sustainable land use. The report further directed the Ministry of Environment and Forestry to ensure that an environmental audit is undertaken by NEMA by a certified lead expert to confirm and recommend mitigation measures regarding complaints raised by the residents of Athi River.

On its part, the Ministry of Lands & Physical Planning was directed to intensify the capacity building activities to counties and regularly monitor and evaluate progress on the extent of adherence to policies by the county governments.

1.1 Implementation Status

Honourable Chair,

Section 8, Part 2 of the Fourth Schedule to the Constitution of Kenya, 2010 mandates counties to undertake county planning and development. Under Sections 21 and 32, Part 1 of the Fourth Schedule to the Constitution, the National Government is mandated to provide general principles of land use planning and coordination of planning by counties (including giving guidelines on development control) and capacity building and technical assistance to counties. Further, in Article 67(2) (h), the function of the National Land Commission is to monitor and have oversight responsibilities over land use planning throughout the country. Planning therefore is a concurrent function of both the National Government, County Governments and the National Land Commission.

Counties in operationalisation of their assigned functions under the Constitution undertake respective County Land use Planning and Development controls. The National Land Commission on the other hand is charged with the responsibility of monitoring and providing oversight over Land Use Planning in the country.

Honourable Chair,

The Ministry in the discharge of its mandate has formulated the National Land Use Policy (Sessional Paper No. 1 of 2017) and National Spatial Plan 2015-2045 to provide general principles to guide physical and land use planning across the country. County specific policies such as County Integrated Strategic Plans and County Spatial Plans are required to conform to these policies.

The Physical and Land Use Planning Act (No. 13 of 2019) was enacted to inter alia make provisions for the planning, use, regulation and development of land. Counties are required to adhere to the provisions of the Act in this regard. The Ministry is in the process of formulating regulations to operationalize the Act. In the interim, the Regulations under the repealed Physical Planning Act (Cap. 286) continue to apply in the enforcement of physical and land use planning standards and development controls.

Honourable Chair, on capacity building for counties, the Ministry has engaged the counties as follows:

i) Provided advisories on the preparation of physical and land use plans and enforcement of development controls
ii) Provided technical assistance to counties (on request) in the process of preparation of their county specific Physical and Land use Plans by deploying Physical Planning Officers to the counties.
iii) Convened several county level forums to sensitize stakeholders on Physical and Land use Planning Policies and the Laws.

Honourable Chair, I am glad to report that the County Government of Machakos has prepared an Integrated Strategic Urban Development Plan covering Athi River town where London Distillers Kenya Limited is located.

Honourable Chair, I submit.

Farida Karoney, EGH
CABINET SECRETARY

June 7, 2021