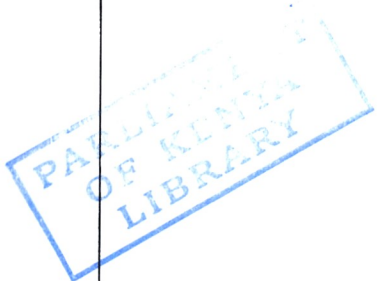


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REPUBLIC OF KENYA



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. Mwakalele Oluo

CLERK AT THE TABLE:

James Gino

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

Handwritten: Tabled on 30/9/2021

September, 2021

Handwritten signature: J. Gino

Table of Contents

APPENDICES	4
LIST OF ABBREVIATIONS.....	5
CHAIRPERSON’S FOREWORD.....	6
EXECUTIVE SUMMARY	7
1.0 PREFACE	11
1.1 Establishment and Mandate of the Committee	11
1.2 Committee Membership.....	12
1.3 Committee Secretariat.....	14
2.0 BACKGROUND	15
2.1 Introduction.....	15
3.0 SUBMISSIONS BY STAKEHOLDERS.....	19
3.1 Submissions by the Management of London Distillers Kenya Limited.....	19
3.2 Submissions by Erdemann Properties Limited.....	22
3.3 Submissions by the Ministry of Environment and Forestry	25
3.4 Submissions by the National Environment Management Authority	29
3.4.1 Brief on Activities undertaken on the recommendations of the Report...30	
3.4.2 Compliance Status by LDK.....	32
3.4.3 Policy and Legislative Recommendations for Sustainability in Mixed Land Use in Kenya	32
3.4.4 Implementation Actions Undertaken by NEMA.....	33
3.4.5 Implementation Actions Undertaken by LDK	33
3.5 Submissions by the Lead Consultant, Ecoserv Laboratory	38
3.5.1 Effluent Discharge Analysis.....	38
3.5.2 Stack emissions measurement report.....	39
3.5.3 Ambient Air Quality Report.....	39
3.6 Inspection visit by the Ministry of Environment & Forestry	41
3.7 Submi	
ssion by the Ministry of Lands and Physical Planning	42
3.8 Inspection Visit by the Committee to London Distiller Kenya Limited	43
3.9 Submissions by Stakeholders following the Field Visit.....	45
3.9.1 Submission by the National Environment Management Authority (NEMA).....	45

3.9.2	Submission by London Distillers Kenya Limited (LDK)	47
3.9.3	Submission by Greatwall Gardens Limited (GWG)	47
3.9.4	Submissions by the Expert for Erdemann Property Limited, Dr Patrick Ajwang.....	48
3.10	Analysis of financial documents on the Investment on the State of the Art Technology.....	50
3.11	Committee Observations during the Inspection Visit.....	52
4.0	IMPLEMENTATION STATUS OF HOUSE RECOMMENDATIONS	54
5.0.	COMMITTEE OBSERVATIONS.....	66
6.0	COMMITTEE RECOMMENDATIONS.....	68

APPENDICES

- | | |
|---------------------|---|
| APPENDIX I | Adoption List |
| APPENDIX II | Minutes of the Committee |
| APPENDIX III | Report of the Departmental Committee on Environment & Natural Resources on an inquiry into complaints of environmental pollution by London Distillers Kenya Limited |
| APPENDIX IV | Submissions from the National Environment Management Authority |
| APPENDIX V | Submissions by Erdemann Property Limited |
| APPENDIX VI | Submissions by London Distillers Kenya Limited |
| APPENDIX VII | Submissions by the Ministry of Lands and Physical Planning |

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 inspections; 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. Alois Lentoimaga, MP
Samburu North Constituency
Jubilee Party

Hon. (Dr.) James Murgor, MP
Keiyo North 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 Simba Arati, MP
Dagoretti North Constituency
Orange Democratic Movement

Hon. Feisal Abdalla Bader, MP
Msambweni Constituency
Independent

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

Hon. John Muchiri Nyagah, MP
Manyatta Constituency
Jubilee Party

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

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

Hon. Nelson Koech, MP
Belgut Constituency
Jubilee Party

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

Hon. Peter Kimari, MP
Mathioya Constituency
Jubilee Party

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

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

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

Hon. Gabriel Kago Mukuha, MP
Githunguri Constituency
Jubilee Party

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

Hon. Jared Okello, MP
Nyando Constituency
Orange Democratic Movement

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

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 Management 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 consultant 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/l and Sulphides 2-4 mg/l 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 Huluhufo, 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • The Open manholes had now been covered with heavy sheet metal
4.	Effluent Treatment Ponds	<ul style="list-style-type: none"> • Blowers had been installed to reduce on pungent smell and enhance aeration • Ponds restructured into aerobic ponds
5.	Effluent Discharge and Sample Collection Point	<ul style="list-style-type: none"> • 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 m³ 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 <i>Dated 9th June, 2020</i>	LDK SUBMISSION <i>Dated 28th April, 2021</i>
Installation of Ultra-modern production plant	Kshs. 250 million	Kshs. 127,483,049.55 <i>Dated 7th December, 2016, 10th January, 2019, 10th May, 2019;</i>
Replacement of Boiler	Kshs. 2, 450,000	Kshs. 2,969,150 <i>Dated 26th July, 2019, 5th December, 2019; 31st January, 2020</i>
Two aeration blowers	Kshs. 2, 400,000	Kshs. 1,396,300 <i>Dated 11th July, 2018</i>
Aeration pipes	Kshs. 222, 560	Kshs. 174,792.28 <i>Dated 14th December, 2019 & 27th September, 2019</i>
Manhole + Reticulation line covers	Kshs. 390,000	Kshs. 394,400 <i>Dated 2nd September, 2019</i>
Air Quality Monitoring gadget	Kshs. 342, 200	Kshs. 342,200 <i>Dated 6th June, 2018</i>
Second clarifier	Kshs. 4,500, 000	Kshs. 8,264,000 <i>Dated 28th September, 2016 & 3rd October, 2017</i> <i>3rd August, 2017</i>
Sludge Drying bed	Kshs. 430,000	Kshs. 498,800 <i>Dated 10th September, 2018</i>
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